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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

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IDAHO PUBLIC
UTILITIES COMMISSI
M Walters

IN THE MATTER OF THE APPLICATION OF IDAHO POWER) COMPANY FOR AUTHORITY TO RATEBASE THE INVESTMENT) REQUIRED FOR THE REBUILD OF THE SWAN FALLS HYDRO) ELECTRIC FACILITY)	CASE NO. IPC-90-2 COMMENTS OF IDAHO CONSUMER AFFAIRS, INC.

COMES NOW, Idaho Consumer Affairs, Inc. (ICA) by and through its intervenor representative, Mr. Harold C. Miles, 316 Fifteenth Ave. South, Nampa, Idaho 83651 submits the following comments and data information for this Commission's consideration relative to Case No. IPC-E-90-2 in compliance with the IPUC's notice of August 23, 1990.

We have made a breakdown of the water flows at the Murphy, Idaho USGS gague for the water years 1961 through 1989, the years we deem most appropriate since they more accurately reflect the impact on the Snake River flows of high lift irrigation pumping since 1961. We used the following catagories of Snake River flows:

Swan Falls Agreement flows of 3,900 cfs; April 1st through October 31st to be able to generate 7.97 MW of electricity at 26.2 ft of head.

Minimum daily flow average for these 29 water years of 5826 cfs capable of generating 11.90 MW. However, when we computed the generating capability for each individual year the result was 11.97 MW at the 26.2 head, for a gain of .07 MW.

Maximum daily flow average for these 29 water years was computed to generate 47.93 MW, at 22.0 ft of head; computed on an annual basis we lost .34 MW.

There were 12 years out of the 29 when the average minimum daily flows were below 5,600 cfs, but this average was greatly influenced by the summer irrigation flow, April 1st through October 31st.

There was only one year (1988) when the maximum daily flow wasn't sufficient to generate the 25 MW rated generation capacity of the proposed Swan Falls rebuild plant.

The result of this very preliminary study might indicate it would be wise for IPC to consider rebuilding this structure to accommodate additional generating units later date, or install one or two more 12.5 MW inits now, since we don't know if the 25 ft dam will allow larger than 12.5 MW units to be installed. (ICA exhibit #1) #401

We don't presume to be out-engineering IPC who have competent hydro electrical engineers. Perhaps they anticipate recapturing the spilled water at the Swan Falls dam in their Brownlee Reservoir. However, since IPC is required to draw down Brownlee Reservoir for spring flood control, a requirement of their FERC license, either modification of this flood control requirement, which in our view is now non-essential due to the building of the Federal dams on the Columbia and Snake Rivers since the bad flood on the lower Columbia River at Vanport, Washington in about 1926, or more generating units in IPC's upstream dams below Shoshone Falls seems reasonable. Therefore, we offer the opinion that hydro generated electricity is going to become more valuable every year in the fast developing Western states, probably more valuable than some agricultural crops irrigated by high lift water pumped from the Snake River, especially if irrigation electrical rates are based on full cost of service in IPC's territory, and not a subsidized rate as in the past.

Electricity is a product for sale just the same as potatoes, sugar or wheat, and the Southwest is a viable market for any temporary surplus IPC power which can be sold above the full cost of production by IPC. This will be especially true by the time the Swan Falls dam is completed, in view of the fact IPC at times purchases or exchanges BPA power; also the Canadian Entitlement Allocation Agreement between BPA and Canada will expire at the end of this decade. This reduction in Canadian power to the Northwest will make all hydro generated power even more desirable and valuable. And since we believe it is imperative to make use of our opportunities to generate power from a non-polluting renewable resource, now is the time to take advantage of all cfs flows in this reach of the Snake River. The construction of hydro generating facilities is not likely to become any less expensive per KW of generating capacity in the forseeable future, when computed on an annualized basis over the life of a well constructed hydro plant, 80 to 100 years. Hydro power will be much less expensive than thermal power, which this commission and IPC have stated in the past is our option in the forseeable future; however, in this regard we feel they are not putting enough emphasis on conservation possibilities. A run of the river hydro plant will be far less environmentally damaging than a coal plant, and its output far more marketable anywhere in the Northwest or Southwest.

We feel there have been many lost opportunities for hydro generation on the Snake River from American Falls to and including Hells Canyon in the past, and we are concerned that no more of these opportunities be lost.

Mr. C. E. Bissel of IPC on March 31, 1982 applied for a water permit to the Idaho Department of Water Resources (IDWR) for 6550 cfs additional to the already decreed 9450 cfs, making a total of 16,000 cfs for the Swan Falls Dam rebuild, application # 02-7379. (ICA's exhibit ~~#2~~ #402 page 2). However since the average maximum daily flow for the water years 1961 through 1989 was 27,945 cfs, we feel IPC even then wasn't considering the full hydraulic potential of this reach of the Snake River in its Swan Falls rebuild plans.

Of even more concern to us than the hydraulic capacity of the Swan Falls Dam rebuild is the future of IPC's water rights for this facility. It is indisputable that IPC very foolishly compromised its decreed or licensed water rights of 9,450 cfs to provide water pumped from the Snake River for high lift agricultural irrigation projects resulting in diminishing summer Snake River stream flows, as the USGS' water records measured at its Murphy gague over the past 29 water years will show. (Judicial notice of these records is requested, a copy of which has been furnished the IPC and the IPUC; also see ICA's exhibit ~~#2~~ #402 page 2)

The revision of the former agricultural policy 32C to Policy D adopted by the Idaho Water Resource Board, IWRB, published December 12, 1986, from which we quote in part, "Idaho Code Section 42-203C limits the rate of new development in the basin above the Murphy gauging station to 80,000 acres in any four year period. Therefore, the maximum development to the year 2020 assuming no water supply constraint is 700,000 acres. (ICA exhibit ~~#3~~ #403). In addition, the "public interest criteria" adopted by the IWRB in the past and by the many agricultural development interests, weilding such strong political power in the Idaho Legislature much too strongly slanted toward additional agricultural development to believe that this development will not occur and the water to irrigate these acres will come from the Snake River or the Snake River Plain acquifer. In fact, we feel and our feeling is shared by others that the agricultural interests in Idaho, particularly the

well organized agricultural development interests, want to control all the water in all of Idaho's streams "in perpetuity". Hence, we feel IPC's hydro water rights could be in jepordy.

We call the commission's attention to a proposal we found floating around in a IWRD meeting Mr. Miles recently attended which was after the adoption of the "State Water Plan" by the IWRB, published December 12, 1986, and subsequently adopted by the Idaho Legislature, which gives it the force of law, as we understand it. We quote, in part from this printed proposal, "All existing and future rights to the use of water for power purposes, however appropriated or evidenced, are and shall be subject to the condition that such uses will not conflict with depletions in the flow of the waters of the natural stream and its tributary sources from which such water is or may be used for power purposes, and will not permit or interfere with the subsequent upstream diversion and use of such waters for other beneficial purposes."; endquote. (see ICA exhibit #4/01) Since the RS9032 proposed Act did not define its term "beneficial purposes", we assume it meant agricultural use. Therefore, singling out water for power purposes (or hydropower generation) in the proposed ACT indicates to us that hydropower is not very high on this proposal's list of beneficial uses. Also, it appears the author or authors of this proposed Act, attorney's for the IPUC didn't believe it had become Idaho law so far, do not regard Policy 1C of the Idaho State Water Plan, "Beneficial Use of Water" to include hydropower generation, nearly as high as agricultural use, which incidentally is a very high consumptive use of water.

As mentioned at the prehearing conference for Case No. IPC-E-90-2 on August 22nd, Mr. Miles pointed out some of the restrictions in the IDWR Director's order of April 10, 1989, stated in the issued permit #02-7374, which IPC applied for on March 31, 1982. He read condition #5 into the record, but we would like to again quote it, "The water right acquired under this permit shall be junior and subordinate to all rights (emphasis added) to the use of water from the Snake River and sources tributary thereto upstream from Swan Falls dam within the Sate of Idaho that are iniated later in time than the priority date of this permit and shall not

give rise to any right or claim against future rights to the use of water within the state of Idaho iniated later in time than the priority of the permit," end quote. (see IPC's application for Swan Falls Rebuild, attatchment #2) Although conditions #8 and 9 apparantly limit the permit to the terms of the Swan Falls agreement, we wonder why restriction #5 was inserted in the permit in the first place if it was not intended to impair the use of the 3,900 and 5,600 cfs mentioned in the Swan Falls agreement at a later date.

Therefore, the question of sufficient water to activate the Swan Falls rebuild generators to produce the 25 MW of power may be in question. Will water to operate this plant have to be be bought from irrigators? (Sort of rough on IPC's ratepayers If IPC has to buy back water it allowed irrigators to purloin from them in the first place, don't you think?)

When about 170,000 acres of irrigated land in IPC's territory were set aside in 1985, according IPC's Vice-President, Logan Lanham's testimony to Congress, in 1987, (see Congressional Record of November 9, 1987, (which we incorporate into this statement of position by reference), in our opinion it is <u>not in the public interest</u> to put any more new land from the public domain into additional agricultural development if water to irrigate it is going to come either from the Snake River or pumped from the Snake River plain acquifer, least of all in low water years.

In conclusion, it appears to us either Idaho Water law has to be modified to more specifically state or be interpreted to mean that hydro electrical generation located on Idaho streams, where these hydro plants will not cause environmental damage that cannot be reasonably mitigated, are also beneficial users of water, and are in the <u>public interest</u>. However since an event is not likely to occur in the near future, the IPUC should set irrigation class rates to reflect the full cost of service for all classes of customers and inverted rates for new electric space heat customers, at least. In addition, based on the low Snake River flows for the water years of 1988 and 1989 and the first nine months of the 1990 water year, the IPUC should impose a moritorium on new electrical irrigation hook-ups similar to the one imposed in the low water year of 1977.

We feel the IPUC staff is better qualified to review the construction contracts that will be let for this project than we, as well as the quality of the construction work to be done, consequently we leave these matters to their good judgment.

We do have a concern that the recreational facilities as proposed in the application are not entirely adequate, and since we have observed many people visiting and using the Swan Falls facilities go down stream as well as using the grassy picnic area near the present residences, as well as the boat launching facilities downstream from the dam, we recommend that additional picnic facilities and rest rooms be provided in the shaded area downstream from the dam.

At this point, we move for the adoption of the the exhibits included with this statement and the inclusion of this statement and exhibits in the record of this case.

Respectfully submitted,

IDAHO CONSUMER AFFAIRS, INC.

Harold C. Miles

By: Harold C. Miles-Chairman
Energy and Natural Resources Committee

Dated at: Nampa, Idaho
August 27, 1990

This is to certify that On August 27, 1990 we hand delivered seven copies and the original of this document to the Secretary of the IPUC along with a copy of the USGS water records at the Murphy gague for the water years 1961 through 1989, and two copies of this document and a copy of the USGS water records at the Murphy gague for the water years 1961 through 1989. Also, we mailed a copy of this document, first class postage paid to all the parties of record, per the list furnished us by the secretary of the IPUC.

Harold C. Miles

Harold C. Miles

Dated at: Nampa, Idaho
August 27, 1990

Water Year

Case #IPC-E-90-2
Swan Falls Dam Rebuild

1961
$\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 7.97 \text{ MW}$

$\frac{5{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 12.05 \text{ MW}$

$\frac{15{,}300 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} = 26.24 \text{ MW}$

1962
$\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 7.97 \text{ MW}$

$\frac{6{,}770 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 13.83 \text{ MW}$

$\frac{21{,}700 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} = 37.22 \text{ MW}$

1963
$\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 7.97 \text{ MW}$

$\frac{6{,}590 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 13.46 \text{ MW}$

$\frac{28{,}000 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} = 48.03 \text{ MW}$

1964
$\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 7.97 \text{ MW}$

$\frac{6{,}740 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 13.77 \text{ MW}$

$\frac{31{,}000 \text{ CFS} \times 22 \text{ ft} \times .92 \text{ Ef}}{11.8} = 53.17 \text{ MW}$

1965
$\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 7.97 \text{ MW}$

$\frac{6{,}590 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 13.46 \text{ MW}$

$\frac{38{,}300 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} = 65.69 \text{ MW}$

1966
$\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 7.97 \text{ MW}$

$\frac{6{,}210 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 12.69 \text{ MW}$

Swan Falls Dam Rebuild

Water Year 1966 cont'd

20,000 CFS X 22.0 ft X .92 Ef / 11.8 = 34.31 MW

1967

3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

6,420 CFS X 26.2 ft X .92 Ef / 11.8 = 13.11 MW

24,000 CFS X 22.0 ft X .92 Ef / 11.8 = 41.17 MW

1968

3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

5,440 CFS X 26.2 ft X .92 Ef / 11.8 = 11.11 MW

47,300 CFS X 22.0 ft X .92 Ef / 11.8 = 81.13 MW

1969

3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

6,760 CFS X 26.2 ft X .92 Ef / 11.8 = 13.81 MW

28,600 CFS X 22.0 ft X .92 Ef / 11.8 = 49.06 MW

1970

3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

6,510 CFS X 26.2 ft X .92 Ef / 11.8 = 13.30 MW

26,400 CFS X 22.0 ft X .92 Ef / 11.8 = 45.28 MW

1971

3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

7,030 CFS X 26.2 ft X .92 Ef / 11.8 = 14.36 MW

35,000 CFS X 22.0 ft X .92 Ef / 11.8 = 60.03 MW

1972

3900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

Water year

Case # IPC-E-90-2

Swan Falls Dam Rebuild

1972 Cont'd $\frac{7{,}050 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 14.40 MW

$\frac{31{,}700 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 54.37 MW

1973 $\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 7.97 MW

$\frac{5{,}040 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 10.30 MW

$\frac{21{,}900 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 37.56 MW

1974 $\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 7.97 MW

$\frac{5{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 12.05 MW

$\frac{31{,}800 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 54.55 MW

1975 $\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 7.97 MW

$\frac{5{,}710 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 11.66 MW

$\frac{28{,}200 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 48.37 MW

1976 $\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 7.97 MW

$\frac{5{,}420 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 11.07 MW

$\frac{47{,}300 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 81.13 MW

1977 $\frac{3{,}900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 7.97 MW

$\frac{5{,}120 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 10.46 MW

$\frac{19{,}200 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8} =$ 32.92 MW

Water Year

Swan Falls Dam Rebuild

1978 3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

5,270 CFS X 26.2 ft X .92 Ef / 11.8 = 10.77 MW

19,100 CFS X 22.0 ft X .92 Ef / 11.8 = 32.76 MW

1979 3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

5,000 CFS X 26.2 ft X .92 Ef / 11.8 = 10.21 MW

24,400 CFS X 22.0 ft X .92 Ef / 11.8 = 49.39 MW

1980 3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

5,580 CFS X 26.2 ft X .92 Ef / 11.8 = 11.40 MW

29,000 CFS X 22.0 ft X .92 Ef / 11.8 = 49.74 MW

1981 3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

4,530 CFS X 26.2 ft X .92 Ef / 11.8 = 9.25 MW

20,500 CFS X 22.0 ft X .92 Ef / 11.8 = 37.46 MW

1982 3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

4,530 CFS X 26.2 ft X .92 Ef / 11.8 = 9.25 MW

47,300 CFS X 22.0 ft X .92 Ef / 11.8 = 81.13 MW

1983 3,900 CFS X 26.2 ft X .92 Ef / 11.8 = 7.97 MW

6,360 CFS X 26.2 ft X .92 Ef / 11.8 = 12.99 MW

Case # IPC-E-90-2

Swan Falls Dam Rebuild

Water Year		
1983 Cont'd	32,400 CFS X 22.0 ft X .92 Ef / 11.8 =	55.57 MW
1984	3,900 CFS X 26.2 ft X .92 Ef / 11.8 =	7.97 MW
	5,990 CFS X 26.2 ft X .92 Ef / 11.8 =	12.24 MW
	35,300 CFS X 22.0 ft X .92 Ef / 11.8 =	60.55 MW
1985	3,900 CFS X 26.2 ft X .92 Ef / 11.8 =	7.97 MW
	4,940 CFS X 26.2 ft X .92 Ef / 11.8 =	10.09 MW
	23,900 CFS X 22.0 ft X .92 Ef / 11.8 =	40.99 MW
1986	3,900 CFS X 26.2 ft X .92 Ef / 11.8 =	7.97 MW
	6,180 CFS X 26.2 ft X .92 Ef / 11.8 =	12.62 MW
	33,700 CFS X 22.0 ft X .92 Ef / 11.8 =	57.80 MW
1987	3,900 CFS X 26.2 ft X .92 Ef / 11.8 =	7.97 MW
	5,360 CFS X 26.2 ft X .92 Ef / 11.8 =	10.95 MW
	21,200 CFS X 22.0 ft X .92 Ef / 11.8 =	36.36 MW
1988	3,900 CFS X 26.2 ft X .92 Ef / 11.8 =	7.97 MW
	5,320 CFS X 26.2 ft X .92 Ef / 11.8 =	10.87 MW
	11,800 CFS X 22.0 ft X .92 Ef / 11.8 =	20.24 MW

Case # IPC-E-90-2

Swan Falls Dam Rebuild

Water Year 1989

$\frac{3,900 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 7.97 \text{ MW}$

$\frac{5,710 \text{ CFS} \times 26.2 \text{ ft} \times .92 \text{ Ef}}{11.8} = 11.60 \text{ MW}$

$\frac{16,100 \text{ CFS} \times 22.0 \text{ ft} \times .92 \text{ Ef}}{11.8}$ 27.62 MW

Note: Average for last twenty nine Water years:

Swan Falls Agreement	7.97 MW
Minimum Daily Flow	11.97 MW
Maximum Daily Flow	48.27 MW

The reason for the difference between the head of 26.2 ft + 22.0 ft is when both generators will be operating the head is reduced from 26.2 ft. to 22.0 ft according to IPC's electrical engineers in charge of this Project. Harold Miles

CFS = Cubic ft. per second
Ft = Height or Head
Ef = Efficiency

Form 202
3/78

Ident. No. 02-7379

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant Idaho Power Company Phone 383-2200

   Post office address P O Box 70, Boise, Idaho 83707

2. Source of water supply Snake River which is a tributary of Columbia River

3. Location of point of diversion is _____ ¼ of _____ ¼ of Section 18 Township 2S

   Range 1 E B.M. Ada County, additional points of diversion if any: _____

   Lots 10 and 11, Section 18, T 2S, R 1 E, BM, Ada and Owyhee Counties

4. Water will be used for the following purposes:

   Amount 6550 cfs (cfs or acre-feet per annum) for power generation purposes from Jan 1 to Dec 31 (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

   a. 6550 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Power plant, replacement of existing spillway, and upgrading the existing powerhouse to serve as a dam with discontinuance of its present operation.

   b. Height of storage dam 25 feet, active reservoir capacity 900 acre-feet; total reservoir capacity 900 acre-feet, materials used in storage dam: _____

   Period of year when water will be diverted to storage Jan 1 (Month/Day) to Dec 31 (Month/Day) inclusive.

   c. Proposed well diameter is NA inches; proposed depth of well is NA feet.

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years).*

8. Description of proposed uses:
   a. If water is not for irrigation:
      (1) Give the place of use of water: Lot 11 _____ of Section 18 Township 2S

      Range 1E B.M.

      (2) Amount of power to be generated: 17,835 horsepower under 24 feet of head.

      (3) List number of each kind of livestock to be watered NA

      (4) Name of municipality to be served NA, or number of families to be supplied with domestic water NA.

      (5) If water is to be used for other purposes describe: NA

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Total number of acres to be irrigated _____

c. Describe any other water rights used for the same purposes as described above. Water Right No. 02-2032, Old No 14362 (4,000 cfs, priority - 7/29/19); Water License, August 4, 1911, signed by A E Robinson (1840 cfs, priority - 1/17/00) Water License dated August 6, 1911 signed by A E Robinson (1460 cfs, priority 4/17/00); CT Decree - Trade Dollar vs Cruzen, et al, (2150 cfs - priority 1/17/00).

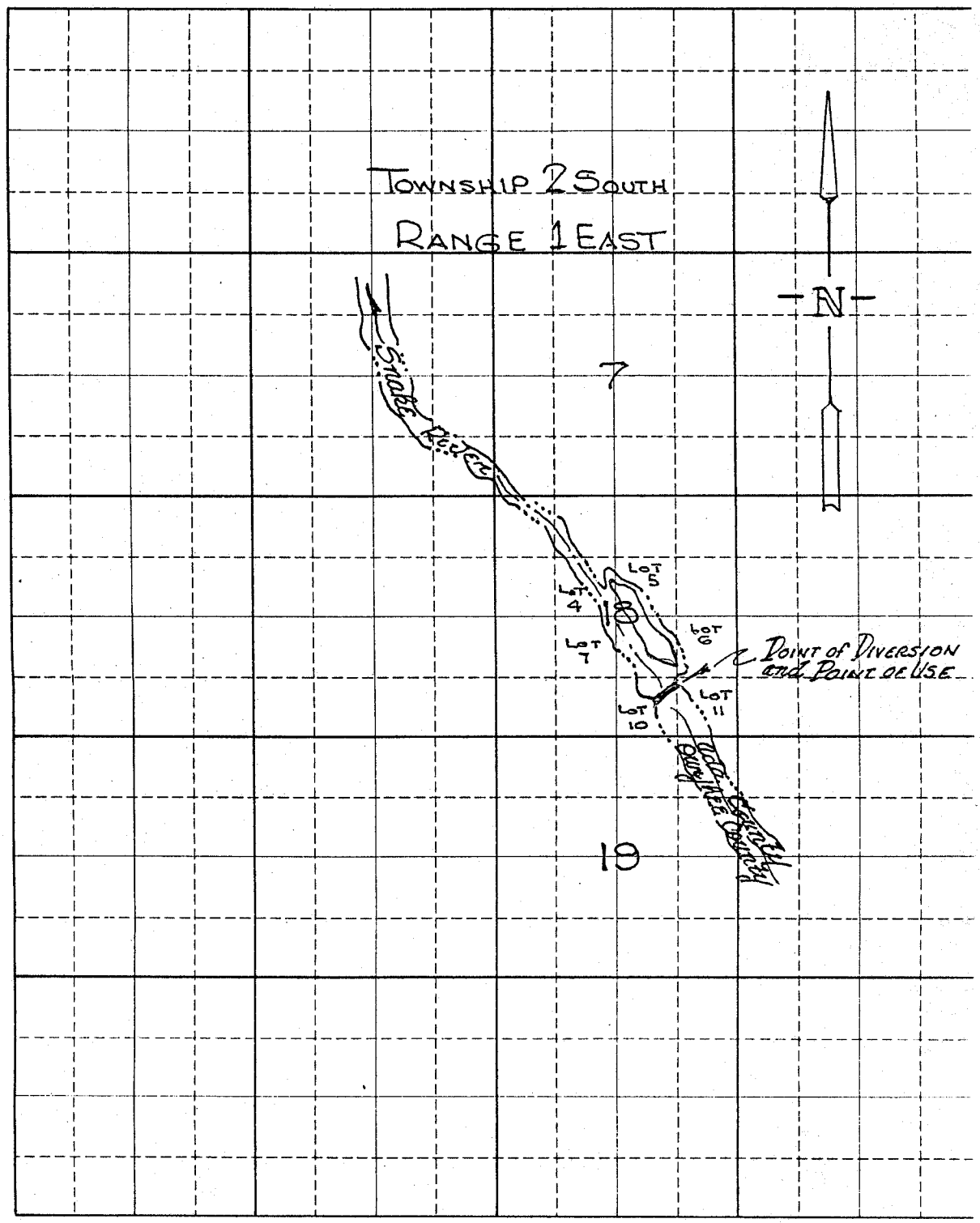
9. a. Who owns the property at the point of diversion Idaho Power Company

b. Who owns the land to be irrigated or place of use NA

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing _____

10. Remarks This application is for water to be used in Idaho Power Company's planned rehabilitating, reconstructing, rennovating, and upgrading of its Swan Falls Project. Power generation is to be increased from 10 MW to 25 MW without raising the dam or reservoir surface elevation. To do this, Idaho Power Company will utilize 16,000 cfs total, 9,450 cfs of which is already under license or decree.

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

C. E. Bissell
(Applicant) C E Bissell
Vice President - Power Plant
Construction and Operations

POLICY 5D - Snake River Agriculture

IT IS THE POLICY OF IDAHO THAT APPROPRIATED WATER HELD IN TRUST BY THE STATE PURSUANT TO POLICY 5B, LESS THE AMOUNT OF WATER NECESSARY TO PROVIDE FOR PRESENT AND FUTURE DCMI USES AS SET FORTH IN POLICY 5C, SHALL BE AVAILABLE FOR REALLOCATION TO MEET NEW AND SUPPLEMENTAL IRRIGATION REQUIREMENTS WHICH CONFORM TO IDAHO CODE 42-203A, 203B, 203C, AND 203D.

This policy allows for new and supplemental agricultural development through the reallocation of water held in trust by the state. The 1982 State Water Plan allocated water for a minimum level of new irrigation development of 850,000 acres plus supplemental water for 225,000 acres by the year 2020 over that which existed in 1975. This policy rescinds the 1982 allocations since there are no acres specified in that the type, location, and amount of use is unknown as is the effect of the evaluation called for in Policy 5B prior to reallocation.

During the eight-year period from 1975 to 1983, about 140,000 acres of new development occurred within the basin. While the amount of new acreage varied significantly from year to year, the average was approximately 17,500 acres. Data are not available to estimate the number of acres that received supplemental water during this period.

Idaho Code Section 42-203C limits the rate of new development in the basin above Murphy gauging station to 80,000 acres in any four year period. Therefore, the maximum development to the year 2020 above Murphy gauging station assuming no water supply constraint is 700,000 acres. Criteria placed on the reallocation of hydropower rights, limits on the rate of new development, plus the requirement that approval of new storage projects that divert water between November 1 and April 1 from the Snake River between Milner Dam and Murphy gauging station must mitigate the impact of diversions on hydropower generation (Policy 5I), will undoubtedly limit development to less than 700,000 acres.

Received by JP Date 3/31/82 Time 3:00

Preliminary check by JG Fee $ 9,275.00 22840

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Priority reduced to _____ Reason _____

Protests filed by: South Board of Control, Owyhee Project by Roderick B. Wood, Attorney

protest withdrawn 10/26/82

Copies of protests forwarded by jp

Hearing held by _____ Date _____

Recommended for approval denial by DBS

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. _____, and said application is hereby _____.

1. Approval of said application is subject to the following limitations and conditions:

   a. SUBJECT TO ALL PRIOR WATER RIGHTS.

   b. Proof of construction of works and application of water to beneficial use shall be submitted on or before _____, 19____.

   c. Other: _____

2. Denial of said application is for the following reasons: _____

Witness my hand this _____ day of _____ 19____.

_____
Director

RS 9032

AN ACT

FORMALLY IMPLEMENTING THE PROVISIONS OF IDAHO CONSTITUTION, ARTICLE 15, SECTION 3 TO THE EFFECT THAT THE STATE MAY REGULATE AND LIMIT THE USE OF WATER RIGHTS FOR POWER PURPOSES BY AMENDING SECTION 42-205, IDAHO CODE BY THE ADDITION OF A NEW SUBPARAGRAPH (4) TO PROVIDE THAT ALL RIGHTS TO THE USE OF WATER FOR POWER PURPOSES ARE SUBORDINATED TO SUBSEQUENT DEPLETIONS IN STREAM FLOWS FOR OTHER BENEFICIAL PURPOSES.

Be it enacted by the Legislature of the State of Idaho:

Section 1. That Section 42-205, Idaho Code, be, and the same is hereby amended by addition thereto of a NEW SUBSECTION, to be known and designated as subsection (4), and to read as follows:

42-205(4) SUBORDINATION OF WATER RIGHTS FOR POWER PURPOSES TO DEPLETION FOR OTHER BENEFICIAL PURPOSES. It is the intent of the legislature to subordinate the use of water for power purposes under the police power of the state for the optimum use of water resources in the public interest. (All existing and future rights to the use of water for power purposes, however appropriated or evidenced, are and shall be subject to the condition that such uses will not conflict with depletions in the flow of the waters of the natural stream and its tributary sources from which such water is or may be used for power purposes, and will not prevent or interfere with the subsequent upstream diversion and use of such waters for other beneficial purposes.

Section 2. An emergency existing therefore, which emergency is hereby declared to exist, this act shall be in full force and effect on and after its passage and approval.

Water Year 1961

13-1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E., at dam on Snake River, 1 mile downstream from Bruneau River and 7 miles southeast of Grand View. Records available, March 1952 to September 1961. Remote registering water-stage recorder in channel leading to Grand View Irrigation District Canal. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft is controlled storage. Water is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co.

Month-end elevations and total contents at 12 p.m., October 1960 to September 1961

Date	Elevation (feet)	Contents (acre-feet)
Oct. 31, 1960	2,453.95	242,200
Nov. 30	2,453.16	236,500
Dec. 31	2,453.60	239,700
Jan. 31, 1961	2,454.21	244,200
Feb. 28	2,454.28	244,700
Mar. 31	2,454.45	245,900
Apr. 30	2,453.73	240,600
May 31	2,454.12	243,500
June 30	2,453.97	242,400
July 31	2,454.54	246,600
Aug. 31	2,454.65	247,400
Sept. 30	2,454.59	246,900

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant and 7½ miles northeast of Murphy.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1961.

Gage.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher.

Extremes.--Maximum discharge during year, 15,300 cfs Oct. 15 (gage height, 6.32 ft); minimum, 5,270 cfs Apr. 18 (gage height, 3.15 ft); minimum daily, 5,980 cfs July 20.

1912-61: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 1,630,000 acres above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.970	9.380	8.740	8.450	7.110	8.510	7.140	6.970	6.310	6.370	6.590	7.060
2	7.960	9.230	7.200	8.190	7.870	8.560	7.060	6.910	6.260	6.370	6.590	7.230
3	8.040	9.460	7.550	8.100	7.640	7.900	7.520	*6.800	6.290	6.310	6.510	7.490
4	8.240	9.400	7.580	7.350	7.840	8.220	7.640	6.800	6.310	6.260	6.570	7.520
5	8.680	8.850	8.710	8.510	8.880	7.230	8.040	6.850	6.310	6.090	6.820	7.400
6	8.770	6.940	9.520	8.130	8.160	7.720	8.100	6.770	6.260	6.010	6.710	7.320
7	9.850	8.540	8.420	7.840	8.220	7.320	8.190	6.650	6.260	6.030	6.680	7.260
8	8.390	9.550	8.650	8.390	8.130	7.580	7.870	6.590	6.650	6.030	6.620	7.170
9	7.660	9.320	8.300	7.490	8.130	7.980	7.690	6.510	6.910	6.010	6.620	7.380
10	7.690	9.490	7.870	8.910	*8.160	6.940	7.320	6.540	6.850	6.120	6.590	7.780
11	8.680	9.550	8.740	8.100	8.130	7.030	8.240	6.590	7.000	6.260	6.650	8.190
12	8.940	8.590	8.040	7.520	8.130	8.240	7.870	6.590	*6.570	6.150	7.060	7.550
13	*10.200	7.080	8.070	8.040	8.360	6.910	7.030	6.570	6.710	6.260	7.290	8.100
14	10.300	8.650	8.710	8.100	8.510	*7.520	7.170	6.590	7.060	6.090	7.290	7.690
15	10.300	9.700	8.650	7.520	8.100	7.030	7.030	6.910	6.710	6.030	7.030	8.010
16	9.170	9.490	8.910	6.940	7.810	7.030	7.030	6.650	6.880	6.030	6.800	7.520
17	7.980	*9.610	9.030	8.130	8.360	7.840	7.140	6.650	6.770	6.010	6.740	8.070
18	9.320	9.550	9.060	8.040	8.240	8.010	*7.060	6.650	6.650	6.010	6.770	8.220
19	8.910	8.800	*8.650	7.640	8.270	8.360	7.640	6.680	*6.450	6.010	6.880	8.070
20	9.140	6.940	8.850	8.100	8.040	6.970	7.140	6.680	6.480	*5.980	6.820	8.360
21	9.380	8.130	8.540	7.720	8.300	7.200	7.110	6.680	6.510	6.030	6.770	8.770
22	9.140	9.670	8.770	7.550	8.240	7.520	7.110	6.540	6.590	6.260	6.770	*8.100
23	8.620	9.730	9.730	7.490	8.300	7.460	7.080	6.540	6.800	6.150	6.800	7.870
24	7.960	9.260	9.140	8.590	8.300	7.690	7.380	6.450	6.590	6.150	6.880	8.100
25	9.260	8.190	8.100	7.640	7.580	8.240	7.080	6.340	6.800	6.090	7.640	8.040
26	9.030	9.120	8.070	8.160	7.400	7.380	7.080	6.310	6.510	6.230	6.850	8.130
27	9.060	8.100	7.660	7.550	7.980	8.330	7.140	6.310	6.430	6.570	7.000	8.010
28	8.910	8.420	8.820	8.100	8.680	7.030	7.170	6.290	6.430	7.030	6.740	7.810
29	9.260	9.670	8.590	7.930	-	7.380	7.380	6.310	6.400	7.030	6.770	7.720
30	7.260	9.670	8.510	7.980	---------	7.930	7.030	6.310	6.400	6.430	7.080	7.400
31	9.140	---------	8.540	8.070	---------	7.960	---------	6.310	---------	6.400	*7.060	---------
Total	274.210	268.080	263.720	246.270	226.870	237.020	221.480	204.340	197.150	192.800	211.990	233.340
Mean	8,845	8,936	8,507	7,944	8,102	7,646	7,383	6,592	6,572	6,219	6,838	7,778
Ac-ft	543,900	531,700	523,100	488,500	450,000	470,100	439,300	405,300	391,000	382,400	420,500	462,800

Calendar year 1960: Max 12,400 Min 6,770 Mean 8,343 Ac-ft 6,056,000
Water year 1960-61: Max 10,300 Min 5,980 Mean 7,609 Ac-ft 5,509,000

* Discharge measurement made on this day.

Water Year 1962

SNAKE RIVER MAIN STEM

13-1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E., at dam on Snake River, 1 mile downstream from Bruneau River and 7 miles southeast of Grand View. Records available, March 1952 to September 1962. Remote registering water-stage recorder in channel leading to Grand View Irrigation District Canal. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft is controlled storage. Water is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co.

Month-end elevations and total contents at 12 p.m., October 1961 to September 1962

Date	Elevation (feet)	Contents (acre-feet)
Oct. 31, 1961	2,454.49	246,200
Nov. 30	2,454.16	243,800
Dec. 31	2,454.42	245,700
Jan. 31, 1962	2,454.67	247,600
Feb. 28	2,454.16	243,800
Mar. 31	2,455.00	250,000
Apr. 30	2,454.96	249,700
May 31	2,454.53	246,500
June 30	2,454.10	243,300
July 31	2,454.47	246,100
Aug. 31	2,453.66	240,100
Sept. 30	2,454.02	242,700

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant and 7½ miles northeast of Murphy.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher.

Extremes.--Maximum discharge during year, 21,700 cfs May 3 (gage height, 8.23 ft); minimum, 6,230 cfs Jan. 27 (gage height, 3.31 ft); minimum daily, 6,770 cfs Sept. 9.

1912-62: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) above station.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,380	8,360	7,750	7,980	8,220	8,240	14,500	15,600	12,300	7,640	7,690	7,290
2	7,520	8,560	7,490	7,960	8,190	9,970	14,300	19,400	10,400	7,140	8,100	6,880
3	8,450	8,590	7,610	7,660	7,380	9,550	14,300	19,300	11,800	7,110	7,660	6,770
4	7,900	8,540	7,580	7,810	7,520	9,610	13,200	16,000	13,600	7,110	7,720	*7,980
5	7,870	8,540	8,300	7,870	8,040	9,610	13,900	19,100	13,200	7,110	7,780	9,550
6	8,040	8,560	8,100	7,750	*8,070	9,580	14,000	15,000	11,900	7,060	7,900	8,770
7	8,190	8,540	8,040	7,840	8,070	9,140	13,700	12,300	*9,970	6,910	7,810	7,290
8	7,400	8,590	7,840	7,750	8,040	10,900	14,100	12,400	9,290	6,970	8,650	7,140
9	7,780	8,540	7,780	7,660	8,160	*9,140	12,200	11,500	8,650	6,910	8,190	6,710
10	8,560	8,540	7,960	8,450	9,200	11,200	12,300	13,100	8,590	7,060	7,110	7,460
11	8,480	8,510	8,010	8,240	14,000	11,000	11,900	8,970	7,460	7,030	7,380	8,160
12	8,390	8,390	7,720	7,980	16,200	10,700	12,400	12,400	9,200	7,000	7,580	8,970
13	8,650	8,240	7,400	7,380	15,300	10,200	*11,900	11,700	8,510	6,970	7,400	9,140
14	8,880	8,220	7,720	7,750	14,800	9,760	11,700	10,600	8,160	6,940	7,930	9,060
15	8,540	8,270	7,780	7,960	11,400	9,910	11,600	11,500	8,130	6,850	8,040	8,390
16	8,540	8,420	7,980	8,560	9,820	10,500	11,800	12,700	8,270	6,740	7,690	7,290
17	8,360	8,360	7,840	7,380	10,400	9,730	12,200	11,400	8,510	6,740	7,840	8,770
18	8,300	8,330	7,550	7,400	8,010	10,500	12,000	9,000	9,490	7,580	7,580	8,820
19	8,390	8,220	7,870	7,640	9,550	10,100	11,300	10,300	10,200	7,060	7,200	8,620
20	8,480	8,240	8,360	7,720	7,720	10,300	10,200	7,750	10,200	7,030	7,610	8,590
21	8,330	8,270	8,710	7,290	7,610	11,000	10,700	9,170	10,200	7,000	7,200	8,620
22	8,590	8,240	7,960	8,190	7,290	12,100	9,060	9,820	8,850	7,000	7,690	8,510
23	8,540	8,540	7,400	7,720	7,780	11,600	9,760	10,200	9,460	6,970	7,720	8,740
24	8,540	8,300	8,190	8,200	8,160	13,000	*11,000	9,580	9,120	*6,970	7,580	9,670
25	8,770	8,240	7,930	7,600	8,560	13,400	9,430	12,200	8,970	7,030	8,070	9,350
26	9,060	8,270	8,100	7,350	9,400	12,400	9,230	13,600	8,910	7,290	7,580	9,200
27	8,850	*8,360	8,010	7,060	9,550	13,100	9,120	11,700	8,330	7,080	7,900	8,940
28	9,000	8,590	7,660	7,030	8,910	15,800	8,850	14,800	8,240	6,910	8,450	9,350
29	7,660	8,330	*7,200	7,080	-	15,900	10,800	15,400	8,540	6,940	8,560	9,380
30	8,560	8,040	7,810	7,380	----------	15,300	12,000	14,800	8,300	7,200	8,480	9,670
31	8,390	----------	7,840	7,980	----------	12,300	----------	12,100	----------	7,580	8,360	----------
Total	258,390	251,740	243,490	239,620	265,350	345,540	353,450	393,390	286,750	218,930	242,450	253,080
Mean	8,335	8,391	7,855	7,730	9,477	11,150	11,780	12,690	9,558	7,062	7,821	8,436
Ac-ft	512,500	499,300	483,000	475,300	526,300	685,400	701,100	780,300	568,800	434,200	480,900	502,000

Calendar year 1961: Max 9,060 Min 5,980 Mean 7,465 Ac-ft 5,405,000
Water year 1961-62: Max 19,400 Min 6,710 Mean 9,184 Ac-ft 6,649,000

* Discharge measurement made on this day.

Water Year 1963

13-1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E., at dam on Snake River, 1 mile downstream from Bruneau River, 7 miles southeast of Grand View, and 492.0 miles upstream from mouth of Snake River. Records available, March 1952 to September 1963. Remote registering water-stage recorder. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft is controlled storage. Water is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co. Figures given herein represent total contents.

Month-end elevations and contents at 2400, October 1962 to September 1963

Date	Elevation (feet)	Contents (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)
Oct. 31, 1962	2,454.14	243,600	Apr. 30, 1963	2,454.51	246,400
Nov. 30	2,454.05	243,000	May 31	2,454.27	244,600
Dec. 31	2,454.43	245,700	June 30	2,454.29	244,700
Jan. 31, 1963	2,453.72	240,500	July 31	2,454.46	246,000
Feb. 28	2,453.85	241,500	Aug. 31	2,454.47	246,100
Mar. 31	2,454.46	246,000	Sept. 30	2,454.44	245,800

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant, 7½ miles northeast of Murphy, and 453.5 miles upstream from mouth.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher.

Extremes.--Maximum discharge during year, 28,000 cfs June 23 (gage height, 10.09 ft); minimum, 6,340 cfs July 8 (gage height, 3.38 ft); minimum daily, 6,590 cfs ~~May 26, July 17~~.

1912-63: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.490	9.730	9.790	9.230	15.400	8.820	7.350	8.480	8.330	9.430	7.140	7.870
2	10.200	13.100	9.260	9.820	17.400	8.130	7.260	8.620	8.360	9.320	7.200	7.930
3	10.400	13.000	9.200	9.120	17.400	7.550	7.230	8.800	11.900	8.390	7.400	8.220
4	10.300	7.930	10.100	9.120	14.000	7.690	7.260	8.740	10.800	7.400	7.400	8.240
5	10.600	6.770	11.000	9.120	14.600	8.650	7.900	8.450	10.700	7.550	7.750	8.190
6	9.490	9.380	9.970	9.140	11.900	9.400	7.610	8.220	12.600	7.030	7.980	8.190
7	8.800	9.850	9.970	9.350	9.380	*9.460	7.870	7.810	15.400	6.820	7.720	8.190
8	9.820	9.760	9.350	9.260	8.850	10.100	8.850	*6.940	20.000	6.620	7.810	8.160
9	9.910	10.800	9.460	9.140	9.320	9.700	8.220	7.140	20.600	7.400	7.520	8.220
10	*10.400	10.400	9.380	9.230	8.800	9.090	9.460	7.140	21.500	7.430	8.130	8.270
11	9.940	10.400	9.140	a 9.650	8.100	8.540	9.910	7.140	22.700	6.680	7.720	8.040
12	10.000	8.880	8.910	a 8.850	9.260	9.940	10.800	7.900	23.200	6.910	6.940	8.160
13	10.300	9.120	9.820	a 8.550	9.230	9.260	10.200	9.910	23.600	6.740	8.010	7.980
14	10.100	9.850	9.320	a 8.250	8.680	9.580	10.600	14.900	24.500	6.940	8.390	8.450
15	9.940	10.600	9.520	a 8.650	8.540	8.560	9.940	18.500	23.700	6.710	7.640	8.070
16	9.430	10.200	9.350	8.330	8.270	8.650	9.760	18.200	21.100	6.650	7.640	7.960
17	10.500	10.300	9.030	8.590	8.540	8.940	10.900	16.300	*22.700	6.590	7.610	8.680
18	10.500	9.230	9.140	8.940	8.010	8.620	10.400	*15.200	25.200	6.680	7.080	9.170
19	10.400	9.260	9.170	a 9.050	8.560	7.900	9.520	14.000	24.700	7.000	7.640	10.200
20	11.000	9.320	9.320	a 8.850	8.710	8.070	8.540	10.400	24.000	7.430	7.460	9.550
21	11.000	9.200	9.260	a 8.700	8.480	8.070	7.460	13.800	24.500	7.140	7.260	9.230
22	11.300	8.910	8.770	*a 8.350	8.510	8.160	8.560	9.430	27.100	*7.110	6.940	9.520
23	11.400	8.940	8.740	8.850	8.450	8.100	7.520	8.070	26.900	7.260	7.350	8.910
24	11.200	9.230	9.000	8.590	8.420	7.400	7.690	7.000	25.400	7.230	7.380	9.640
25	11.000	9.520	9.520	8.390	7.960	7.380	8.940	8.160	22.500	7.080	8.190	9.170
26	10.900	9.320	9.060	8.040	7.980	7.960	8.770	6.590	19.200	7.140	8.160	9.090
27	11.700	9.170	9.290	8.160	8.040	7.550	8.070	7.660	18.900	6.910	7.930	9.430
28	11.000	*9.970	8.800	8.300	8.800	7.870	7.980	8.040	17.500	6.650	7.060	9.490
29	10.600	9.290	8.740	8.190	-	7.690	9.200	8.540	15.400	6.770	*7.980	9.520
30	10.600	9.490	8.590	9.140	----------	7.350	8.540	9.120	14.900	7.870	7.660	9.260
31	10.600	----------	8.510	9.490	----------	7.350	----------	8.770	----------	7.400	7.660	----------
Total	322.820	290.920	288.480	274.440	279.590	261.530	262.310	307.970	587.890	224.280	235.750	261.000
Mean	10,410	9,697	9,306	8,853	9,985	8,436	8,744	9,935	19,600	7,235	7,605	8,700
Ac-ft	640,300	577,000	572,200	544,300	554,600	518,700	520,300	610,800	1,166,000	444,900	467,600	517,700

Calendar year 1962: Max 19,400 Min 6,710 Mean 9,591 Ac-ft 6,944,000
Water year 1962-63: Max 27,100 Min 6,590 Mean 9,855 Ac-ft 7,134,000

* Discharge measurement made on this day.
a No gage-height record.

Water year 1964

13-1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E., at dam on Snake River, 1 mile downstream from Bruneau River, 7 miles southeast of Grand View, and 492.0 miles upstream from mouth of Snake River. Records available, March 1952 to September 1964. Remote registering water-stage recorder. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft is controlled storage. Water is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co. Figures given herein represent total contents.

Month-end elevations and contents at 2400, October 1963 to September 1964

Date	Elevation (feet)	Contents (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)
Oct. 31, 1963	2,454.26	244,500	Apr. 30, 1964	2,454.55	246,600
Nov. 30	2,454.13	243,500	May 31	2,454.25	244,400
Dec. 31	2,454.11	243,400	June 30	2,454.62	247,200
Jan. 31, 1964	2,454.23	244,300	July 31	2,454.29	244,700
Feb. 29	2,454.29	244,700	Aug. 31	2,454.68	247,600
Mar. 31	2,454.48	246,100	Sept.30	2,454.33	245,000

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant, 7½ miles northeast of Murphy, and 453.5 miles upstream from mouth.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1964.

Gage.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher.

Extremes.--Maximum discharge during year, 31,000 cfs June 25 (gage height, 10.67 ft); minimum, 6,400 cfs Oct. 4 (gage height, 3.41 ft); minimum daily, 6,740 cfs July 19.

1912-64: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) above station.

Discharge, in cubic feet per second, water year October 1963 to September 1964

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,380	9,730	9,970	9,490	9,170	7,960	11,600	17,600	9,350	9,610	6,770	8,480
2	9,320	8,940	10,000	9,260	8,940	8,330	11,800	17,700	9,260	9,000	6,940	8,480
3	8,970	9,550	9,820	9,140	8,880	8,800	12,700	17,600	* 8,220	8,190	8,240	8,650
4	8,540	9,490	9,760	9,320	9,090	8,820	10,500	20,300	7,720	8,040	7,460	9,430
5	8,740	9,550	10,900	9,200	8,850	9,060	9,790	20,800	9,700	7,840	7,260	8,540
6	8,330	9,350	8,910	9,730	9,060	10,000	9,820	21,700	9,520	7,810	8,480	8,450
7	8,330	9,140	9,550	9,320	8,390	9,120	9,640	21,900	10,600	7,550	7,230	8,240
8	8,510	9,380	10,500	9,380	8,300	8,540	9,170	20,900	11,600	7,000	7,200	*8,330
9	8,450	9,380	10,100	9,090	8,770	8,300	8,620	21,100	12,600	7,640	7,690	8,450
10	8,540	9,290	9,520	8,850	9,350	9,060	* 8,650	18,900	14,300	7,110	7,200	8,300
11	*9,030	9,320	9,880	8,680	9,090	8,680	8,770	18,200	16,300	7,000	7,290	8,680
12	8,850	9,200	9,550	9,030	8,970	*8,850	9,610	18,000	13,700	7,140	7,610	7,980
13	9,640	10,000	9,850	8,970	9,060	8,480	9,200	16,300	16,200	6,910	7,380	8,540
14	9,140	10,100	9,670	9,580	8,970	8,010	9,060	15,600	18,800	6,940	7,400	7,900
15	8,540	10,000	9,700	8,800	8,420	7,780	9,580	13,900	17,800	7,460	7,640	7,690
16	9,000	9,910	a 9,820	8,800	8,390	8,970	9,000	16,300	19,000	7,110	7,380	8,240
17	9,230	9,820	a10,100	9,140	8,480	9,200	9,350	14,700	20,100	7,380	7,580	8,240
18	8,910	10,300	a 9,540	8,560	8,800	9,030	9,460	16,300	24,700	6,850	7,580	8,130
19	9,060	10,100	a 9,740	8,800	8,770	9,170	17,400	15,100	24,000	6,740	7,350	8,240
20	9,320	9,790	a 9,530	9,550	9,290	9,850	18,600	14,300	26,800	6,820	7,400	8,420
21	8,590	9,670	a 9,510	10,300	9,490	9,200	17,400	11,700	23,500	6,800	7,400	8,480
22	9,320	9,970	a 9,830	11,100	9,060	8,850	16,700	11,200	28,900	*6,800	7,490	9,030
23	8,970	9,850	*a10,000	10,400	9,120	9,230	16,900	11,600	29,400	6,820	8,010	8,680
24	9,550	9,880	9,610	9,820	8,710	9,090	17,900	11,900	29,600	6,820	7,400	9,200
25	9,320	9,790	9,550	9,490	8,620	9,260	19,100	10,800	*30,500	7,140	7,430	8,880
26	9,970	9,910	9,730	9,140	8,680	9,120	18,900	12,200	29,000	6,940	7,580	8,940
27	9,550	*9,970	9,790	8,770	8,330	9,000	19,800	9,580	20,800	6,770	7,320	9,060
28	9,580	9,610	9,200	8,970	9,200	9,120	*19,100	11,200	17,300	6,940	6,910	9,120
29	9,430	9,850	9,520	*9,170	9,230	9,200	18,300	9,640	11,000	7,610	7,640	8,880
30	8,850	10,100	9,820	9,430	----------	9,380	18,400	10,500	8,330	8,480	7,200	9,260
31	9,200	----------	9,640	9,290	----------	10,600	----------	9,700	----------	7,960	7,490	----------
Total	280,160	290,940	302,610	288,570	257,480	278,060	394,820	477,220	528,600	229,220	230,950	256,940
Mean	9,037	9,698	9,762	9,309	8,879	8,970	13,160	15,390	17,620	7,394	7,450	8,565
Ac-ft	555,700	577,100	600,200	572,400	510,700	551,500	783,100	946,600	1,048,000	454,700	458,100	509,600

Calendar year 1963: Max 27,100 Min 6,590 Mean 9,777 Ac-ft 7,078,000
Water year 1963-64: Max 30,500 Min 6,740 Mean 10,430 Ac-ft 7,568,000

* Discharge measurement made on this day.
a No gage-height record.

Water Year 1965

13-1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E., at dam on Snake River, 1 mile downstream from Bruneau River, 7 miles southeast of Grand View, and 492.0 miles upstream from mouth of Snake River. Records available, March 1952 to September 1965. Remote registering water-stage recorder. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft is controlled storage. Water is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co. Figures given herein represent total contents.

Month-end elevations and contents at 2400, October 1964 to September 1965

Date	Elevation (feet)	Contents (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)
Oct. 31, 1964	2,454.0	242,600	Apr. 30, 1965	2,454.1	243,300
Nov. 30	2,454.0	242,600	May 31	2,454.0	242,600
Dec. 31	2,454.0	242,600	June 30	2,454.0	242,600
Jan. 31, 1965	2,454.0	242,600	July 31	2,454.0	242,600
Feb. 28	2,454.1	243,300	Aug. 31	2,454.0	242,600
Mar. 31	2,454.0	242,600	Sept.30	2,454.0	242,600

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant, 7½ miles northeast of Murphy, and 453.5 miles upstream from mouth.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1965.

Gage.--Water-stage recorder (digital). Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher.

Extremes.--Maximum discharge during year, 38,300 cfs Dec. 24 (gage height, 12.30 ft, from floodmark); minimum, 6,340 cfs Aug. 4 (gage height, 3.38 ft); minimum daily, 6,590 cfs July 18.

1912-65: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,140	11,100	11,200	11,700	20,400	21,000	9,150	22,500	11,000	10,100	7,900	8,220
2	8,810	11,200	11,800	11,200	19,800	23,300	10,000	22,200	10,900	10,200	7,750	9,050
3	8,900	12,500	11,900	12,400	18,700	22,800	9,190	23,400	12,200	11,200	8,010	8,960
4	9,470	12,400	12,100	11,100	16,500	*23,800	11,200	24,100	14,500	9,860	8,220	9,530
5	9,620	11,700	11,800	11,100	18,100	22,500	10,200	23,700	13,400	13,300	8,450	8,270
6	9,530	11,900	11,000	11,900	17,600	21,800	11,500	20,000	12,200	15,200	8,270	7,090
7	9,140	a11,900	11,300	12,000	18,800	22,700	11,800	21,500	10,900	10,600	9,020	8,510
8	9,260	a11,500	11,200	12,000	18,800	22,900	12,900	21,100	11,600	9,680	8,900	*9,350
9	9,110	a11,500	10,200	11,700	18,900	22,400	14,100	23,000	11,100	9,560	8,330	8,960
10	9,080	a11,800	10,900	11,400	19,200	22,000	13,900	21,300	10,900	8,960	8,420	9,200
11	9,290	a11,300	11,300	11,100	19,200	21,500	15,100	23,100	10,600	7,670	7,780	9,080
12	9,590	a11,700	11,000	12,000	18,100	22,600	17,700	20,100	10,500	7,670	7,980	9,440
13	9,560	a11,400	11,000	12,100	18,200	21,800	21,900	15,200	11,200	8,930	8,450	8,720
14	10,300	*a11,500	10,800	11,500	18,400	22,600	21,500	16,400	11,600	8,070	8,990	9,230
15	10,000	11,300	9,440	11,400	18,600	19,900	*23,000	15,600	11,800	7,750	8,870	8,690
16	9,860	11,200	9,770	12,300	17,900	20,200	20,700	11,300	12,100	7,350	8,450	8,780
17	9,770	11,200	10,500	12,800	17,900	21,500	21,900	13,700	12,200	7,610	8,810	9,470
18	9,680	10,700	10,100	11,500	17,700	20,400	21,800	* 12,000	11,900	6,590	8,480	9,560
19	9,800	12,100	10,600	11,300	18,000	19,700	20,700	11,500	11,700	6,650	9,650	10,400
20	9,860	11,500	10,300	11,700	18,400	14,800	20,500	9,650	10,800	7,260	7,260	11,200
21	9,920	11,700	11,500	13,000	20,400	12,700	20,900	9,950	10,600	7,380	10,600	10,400
22	10,000	11,500	11,200	12,900	18,200	13,600	21,100	9,890	10,800	*7,170	9,650	11,000
23	10,500	11,500	a25,500	14,000	20,200	14,500	21,000	11,900	9,500	8,420	9,410	10,400
24	10,600	11,900	a35,000	15,900	20,100	14,500	21,100	11,600	9,680	7,520	9,680	10,300
25	10,400	11,900	a31,200	15,500	21,600	14,700	21,600	12,500	9,350	7,430	9,590	10,200
26	10,700	12,400	*a19,000	*14,900	22,800	13,800	22,100	12,000	9,410	7,960	9,560	9,770
27	11,100	10,400	16,200	14,300	23,200	12,500	22,500	11,500	10,000	7,260	9,350	10,100
28	11,000	12,100	16,800	16,500	22,000	11,600	22,500	11,600	*11,200	8,040	9,140	9,980
29	10,900	11,400	14,400	21,900	------	10,800	21,900	11,300	11,300	7,720	8,540	9,590
30	11,200	11,800	14,000	20,500	------	11,700	23,000	10,500	10,300	7,870	7,230	9,770
31	11,400	------	10,900	22,000	------	9,100	------	9,710	------	7,840	9,110	------
TOTAL	307,490	348,000	423,910	415,600	537,700	569,700	536,440	493,800	335,240	268,820	269,850	283,220
MEAN	9,919	11,600	13,670	13,410	19,200	18,380	17,880	15,930	11,170	8,672	8,705	9,441
AC-FT	609,900	690,200	840,800	824,300	1,067M	1,130M	1,064M	979,400	664,900	533,200	535,200	561,800

CALENDAR YEAR 1964 MAX 35,000 MIN 6,740 MEAN 10,990 AC-FT 7,976M
WATER YEAR 1964-65 MAX 35,000 MIN 6,590 MEAN 13,120 AC-FT 9,501M

* Discharge measurement made on this day.
a No gage-height record.
M Expressed in thousands.

Water Year 196

SNAKE RIVER MAIN STEM

13-1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E. on left bank, at dam on Snake River, 1 mile downstream from Bruneau River, 7 miles southeast of Grand View, and at mile 492.0. Records available, March 1952 to September 1966. Remote registering water-stage recorder. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft is controlled storage. Water is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co. Figures given herein represent total contents.

Month-end elevations and contents at 2400, October 1965 to September 1966

Date	Elevation (feet)	Contents (acre-feet)	Date	Elevation (feet	Contents (acre-feet
Oct. 31, 1965	2,454.23	244,300	Apr. 30, 1966	2,454.52	246,400
Nov. 30	2,451.42	224,200	May 31	2,454.84	248,800
Dec. 31	2,454.76	248,200	June 30	2,454.62	247,200
Jan. 31, 1966	2,454.70	247,800	July 31	2,454.56	246,700
Feb. 28	2,454.30	244,800	Aug. 31	2,454.48	246,100
Mar. 31	2,454.51	246,400	Sept. 30	2,454.39	245,400

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant, 7½ miles northeast of Murphy, and at mile 453.5.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, graphic water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher. Oct. 1, 1935, to Mar. 15, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 20,000 cfs Jan. 7 (gage height, 7.87 ft); minimum, 5,490 cfs June 7 (gage height, 3.13 ft); minimum daily, 6,210 cfs May 12.

1912-66: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) 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	9,740	12,400	12,700	15,500	15,400	14,500	8,620	7,390	6,270	6,430	7,370	7,810
2	9,890	12,600	15,200	15,400	15,400	14,600	8,650	7,260	6,720	6,460	7,900	8,010
3	9,980	12,600	13,300	15,400	14,700	14,800	8,330	7,370	6,280	6,530	7,590	8,540
4	10,100	13,200	14,000	15,300	14,600	15,800	10,800	7,200	6,750	6,520	7,460	8,070
5	9,830	12,700	13,900	15,400	14,100	15,600	11,000	7,150	6,340	6,530	7,230	8,010
6	10,500	12,200	13,700	15,400	13,300	15,700	11,200	6,720	7,060	6,550	8,070	8,630
7	9,770	13,000	16,600	17,300	14,200	14,100	10,600	6,610	6,530	6,550	7,750	8,630
8	10,000	12,200	19,200	17,200	15,600	14,900	10,600	6,350	6,690	6,450	7,690	8,510
9	9,770	13,300	17,200	17,300	14,400	15,400	10,000	6,250	7,080	6,390	7,320	7,750
10	9,440	13,100	19,000	15,600	15,600	13,600	7,600	6,260	7,060	6,390	7,140	7,200
11	10,100	12,500	18,300	16,100	15,400	10,700	6,920	6,230	7,040	6,370	7,060	8,160
12	10,500	12,300	18,200	16,600	15,300	10,100	10,200	6,210	7,060	6,400	6,970	8,570
13	10,000	13,900	18,000	16,500	14,500	10,200	9,850	7,720	7,160	6,420	6,970	7,660
14	11,000	13,100	17,400	17,300	14,900	9,980	8,750	6,710	7,410	6,370	6,970	7,840
15	10,100	13,100	17,200	17,700	15,500	11,500	8,630	6,580	6,980	6,400	6,970	8,690
16	11,000	12,500	17,700	18,500	15,500	10,200	6,930	6,560	6,970	7,230	7,260	8,720
17	11,700	12,400	17,900	17,300	15,500	10,300	6,900	6,550	7,050	7,070	7,350	8,990
18	12,500	13,900	17,500	18,200	15,500	10,300	6,730	6,520	7,370	6,780	7,490	9,290
19	11,900	13,700	18,200	17,200	15,500	10,100	6,620	6,520	7,000	6,590	7,350	8,240
20	11,900	13,600	18,100	17,200	15,500	14,000	6,730	6,590	6,450	6,560	7,320	8,930
21	12,200	13,500	17,000	16,800	15,500	13,700	7,550	6,680	6,450	6,500	7,290	8,750
22	11,800	13,900	18,000	15,800	15,600	12,900	9,540	6,580	6,430	6,560	7,110	8,870
23	12,700	11,800	18,200	14,400	15,500	12,900	8,910	6,570	6,470	6,590	7,060	8,630
24	12,000	12,900	17,800	16,100	15,500	11,800	7,710	6,370	6,540	6,640	7,170	8,660
25	13,000	14,700	16,200	17,100	15,600	11,100	7,550	6,300	6,480	7,140	7,550	8,630
26	12,900	14,500	17,900	15,900	15,700	10,000	7,470	6,280	6,470	6,870	7,460	8,600
27	12,500	11,800	16,400	15,500	14,100	10,100	6,900	6,250	6,440	7,430	7,430	8,540
28	12,600	11,700	16,800	15,500	14,400	8,140	7,120	6,270	6,490	7,730	7,520	8,480
29	12,300	13,200	16,900	15,900	------	7,800	7,550	6,300	6,470	6,950	7,640	8,540
30	12,600	11,600	16,300	15,400	------	8,510	7,420	6,300	6,420	6,990	7,900	8,690
31	12,700	------	15,600	15,400	------	8,540	------	6,290	------	7,350	7,640	------
TOTAL	347,020	387,900	520,400	506,200	422,300	371,870	253,380	204,940	201,930	207,740	229,000	252,640
MEAN	11,190	12,930	16,790	16,330	15,080	12,000	8,446	6,611	6,731	6,701	7,387	8,421
AC-FT	688,300	769,400	1,032M	1,004M	837,600	737,600	502,600	406,500	400,500	412,000	454,200	501,100

CALENDAR YEAR	1965	MAX	35,000	MIN	6,590	MEAN	13,600	AC-FT	9,850M			
WATER YEAR	1965-66	MAX	19,200	MIN	6,210	MEAN	10,700	AC-FT	7,746M			

M Expressed in thousands

Water Year 1967

13-1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E., on left bank, at dam on Snake River, 1 mile downstream from Bruneau River, 7 miles southeast of Grand View, and at mile 492.0. Records available, March 1952 to September 1967 (discontinued). Remote registering water-stage recorder. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft is controlled storage. Water is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co. Figures given herein represent total contents.

Month-end elevations and contents at 2400, October 1966 to September 1967

Date	Elevation (feet)	Contents (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)
October 1966	2,454.30	244,800	April 1967	2,454.50	246,300
November	2,454.21	244,200	May	2,454.58	246,900
December	2,454.00	242,600	June	2,454.75	248,200
January 1967	2,454.10	243,300	July	2,454.57	246,800
February	2,454.17	243,900	August	2,454.40	245,500
March	2,454.40	245,500	September	2,454.80	248,500

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant, 7½ miles northeast of Murphy, and at mile 453.5.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, graphic water-stage recorder at site 3½ miles upstream at datum 9.79 ft higher. Oct. 1, 1935, to Mar. 15, 1965, graphic water-stage recorder, at present site and datum.

Extremes.--Maximum discharge during year, 24,000 cfs June 20 (gage height, 8.87 ft); minimum, 5,430 cfs Feb. 20 (gage height, 3.15 ft); minimum daily, 6,420 cfs Apr. 22.

1912-67: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) above station.

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,080	8,680	9,090	7,900	9,060	8,900	7,330	7,520	8,550	15,900	7,130	7,780
2	9,020	9,240	9,210	7,900	9,150	8,220	7,260	8,340	8,610	14,100	7,310	7,270
3	9,050	9,200	9,070	7,600	8,610	9,460	7,860	8,430	8,600	11,300	7,160	7,270
4	9,650	9,170	9,000	8,400	7,930	7,100	9,020	8,000	8,580	10,100	6,920	7,710
5	9,050	9,210	9,030	8,400	8,480	8,150	8,420	7,120	8,860	9,960	6,960	7,780
6	9,620	9,290	8,670	8,400	8,580	7,920	8,380	6,710	9,830	9,760	7,220	7,430
7	8,840	8,970	8,500	8,100	8,230	8,190	8,220	6,970	10,800	9,000	6,930	7,650
8	9,170	9,130	8,660	8,100	7,740	6,930	7,880	6,790	11,100	8,760	7,120	8,210
9	9,250	8,910	8,960	8,100	7,980	7,740	7,430	7,920	11,400	8,970	7,200	8,510
10	8,710	8,600	9,020	8,500	7,480	7,890	9,080	7,480	11,900	9,840	7,270	8,630
11	8,740	9,220	8,740	8,200	8,090	8,120	8,490	6,850	11,700	9,790	7,620	8,190
12	8,970	9,170	8,540	7,780	7,740	7,950	6,600	7,930	11,700	9,900	7,810	8,250
13	9,090	9,340	8,660	8,080	7,560	8,080	8,050	7,340	11,200	8,060	7,140	8,180
14	9,200	9,140	8,660	8,110	8,100	8,680	7,420	7,970	11,200	7,160	7,180	8,520
15	10,100	9,190	8,740	8,300	8,650	8,550	7,860	7,530	10,300	7,410	7,460	8,480
16	9,690	8,990	8,630	8,490	8,550	7,730	6,550	7,040	12,800	6,590	7,090	8,600
17	9,570	8,910	8,530	8,910	7,450	6,790	6,500	7,370	11,100	6,590	7,690	8,880
18	9,630	8,930	8,590	8,590	7,840	7,400	7,320	7,360	11,300	6,560	8,150	8,730
19	9,600	8,770	8,720	8,610	7,390	8,120	7,020	7,390	16,200	6,580	6,730	8,670
20	9,550	9,000	8,730	8,410	7,710	7,720	7,510	7,360	23,000	6,550	7,120	7,870
21	9,360	8,920	8,410	8,280	7,820	8,050	7,400	7,260	22,300	6,720	6,750	8,270
22	9,630	8,860	8,930	8,380	7,590	7,980	6,420	7,200	22,100	6,870	7,020	8,460
23	9,430	8,800	8,780	8,580	7,940	7,960	6,840	7,480	21,200	6,600	7,300	8,630
24	9,750	8,820	8,510	10,800	8,270	8,070	6,930	8,880	17,800	6,800	7,630	9,190
25	9,650	8,670	8,130	9,170	7,440	7,490	7,940	9,550	18,200	7,110	7,070	9,090
26	9,860	8,790	7,770	9,030	8,050	7,390	6,680	9,490	14,400	6,560	7,280	7,350
27	9,750	8,530	8,100	8,820	8,360	7,860	7,230	8,950	14,000	6,940	6,880	8,880
28	9,520	8,620	8,600	8,810	8,670	9,670	7,110	7,950	13,600	6,880	7,410	8,290
29	9,560	8,740	8,600	8,660	------	8,080	7,040	8,720	12,900	6,680	7,490	8,340
30	9,530	8,840	8,300	8,450	------	8,250	7,470	8,890	14,000	6,730	7,780	8,680
31	9,010	------	8,300	8,870	------	7,870	------	8,330	------	6,640	7,760	------
TOTAL	290,630	268,650	268,180	262,730	226,460	248,310	225,260	242,120	399,230	257,410	225,580	247,790
MEAN	9,375	8,955	8,651	8,475	8,088	8,010	7,509	7,810	13,310	8,304	7,277	8,260
MAX	10,100	9,340	9,210	10,800	9,150	9,670	9,080	9,550	23,000	15,900	8,150	9,190
MIN	8,710	8,530	7,770	7,600	7,390	6,790	6,420	6,710	8,550	6,550	6,730	7,270
AC-FT	576,500	532,900	531,900	521,100	449,200	492,500	446,800	480,200	791,900	510,600	447,400	491,500

CAL YR 1966: TOTAL 3,477,460 MEAN 9,527 MAX 18,500 MIN 6,210 AC-FT 6,897,000
WAT YR 1967: TOTAL 3,162,350 MEAN 8,664 MAX 23,000 MIN 6,420 AC-FT 6,272,000

Water Year 1968

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant, 7½ miles northeast of Murphy, and at mile 453.5.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, graphic water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher. Oct. 1, 1935, to Mar. 15, 1965, graphic water-stage recorder, at present site and datum.

Extremes.--Maximum discharge during year, 20,400 cfs June 20 (gage height, 7.80 ft); minimum, 5,490 cfs Apr. 18 (gage height, 3.20 ft); minimum daily, 6,040 cfs May 13.
1912-68: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) above station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,620	11,100	11,600	13,300	10,600	13,900	7,650	6,610	7,430	6,520	7,010	8,950
2	9,600	11,300	11,700	12,600	10,300	12,100	7,350	6,370	7,200	6,530	7,360	7,990
3	8,970	11,200	12,500	12,700	10,600	10,500	7,580	6,340	6,790	6,940	7,340	7,270
4	10,200	11,400	11,800	12,600	10,700	10,600	8,480	6,780	6,670	7,000	7,270	8,990
5	10,200	11,700	11,800	12,700	11,000	12,300	8,460	6,470	6,640	6,620	7,060	9,020
6	9,310	11,900	12,300	12,500	14,300	12,800	7,900	6,530	7,250	6,970	7,250	8,420
7	10,700	12,300	12,200	12,500	8,790	13,200	7,660	6,510	9,300	6,700	7,230	8,560
8	10,900	11,500	11,600	12,100	10,600	12,100	7,860	6,450	8,960	6,630	7,310	7,710
9	9,610	12,000	13,400	12,100	10,100	9,400	7,520	6,450	8,980	6,480	7,140	8,380
10	10,600	11,800	12,600	11,900	12,100	7,000	7,840	6,460	9,800	6,460	7,460	8,480
11	9,300	11,800	12,200	12,300	12,100	7,160	8,090	6,420	10,400	6,480	6,940	8,490
12	10,100	11,900	12,700	14,300	12,200	7,360	7,780	6,440	8,840	6,500	7,420	8,430
13	10,900	11,600	13,200	12,000	12,200	7,020	7,340	6,040	9,010	6,520	7,350	8,410
14	9,370	12,200	12,600	12,200	12,000	7,520	6,830	6,050	9,240	6,660	8,400	8,290
15	9,930	11,600	11,700	10,500	11,500	7,800	6,850	6,270	8,510	7,230	9,950	8,220
16	10,700	11,700	11,700	12,200	10,900	7,660	7,170	6,300	9,650	7,200	9,030	8,080
17	9,660	11,200	12,100	13,300	11,400	7,630	7,650	6,270	9,450	7,150	8,980	8,430
18	10,500	11,100	13,600	13,400	12,600	7,660	6,820	6,330	13,500	6,580	9,280	8,240
19	10,000	11,500	13,100	12,100	14,000	7,430	6,940	6,480	17,600	6,620	10,100	8,400
20	10,000	11,400	12,800	11,700	11,700	7,570	7,100	6,970	18,500	6,720	11,400	8,340
21	10,200	11,500	13,300	10,400	13,400	7,580	6,990	6,590	13,100	6,540	11,900	9,140
22	10,400	11,600	13,200	10,800	14,400	7,560	6,910	6,570	10,000	6,550	11,900	9,600
23	10,400	11,400	13,200	11,000	15,800	7,380	6,890	6,620	8,860	6,540	11,900	9,260
24	10,500	11,700	13,200	10,700	14,500	7,270	6,810	6,670	7,760	6,610	11,500	9,040
25	10,500	12,100	12,600	10,400	14,300	7,250	6,850	6,790	6,820	7,040	10,500	10,600
26	10,800	11,300	12,100	10,400	15,200	7,270	7,000	6,810	6,710	6,830	9,600	9,760
27	10,800	10,600	12,900	10,900	15,100	7,370	6,950	6,780	6,620	7,170	10,100	8,950
28	10,700	10,900	13,400	11,100	14,700	7,400	6,910	6,640	6,610	6,850	9,840	9,360
29	10,600	10,900	13,300	11,400	14,800	7,550	6,940	6,580	6,570	6,830	9,140	9,810
30	11,300	10,600	12,700	11,400	------	7,510	6,760	6,590	6,500	6,960	9,090	9,670
31	11,200	------	13,200	11,000	------	7,250	------	6,880	------	6,750	9,050	------
TOTAL	316,570	344,800	390,300	368,500	361,890	270,100	219,880	202,060	273,270	209,180	275,800	262,290
MEAN	10,210	11,490	12,590	11,890	12,480	8,713	7,329	6,518	9,109	6,748	8,897	8,743
MAX	11,300	12,300	13,600	14,300	15,800	13,900	8,480	6,970	18,500	7,230	11,900	10,600
MIN	8,620	10,600	11,600	10,400	8,790	7,000	6,760	6,040	6,500	6,460	6,940	7,270
AC-FT	627,900	683,900	774,100	730,900	717,800	535,700	436,100	400,800	542,000	414,900	547,000	520,200

CAL YR 1967: TOTAL 3,386,560 MEAN 9,278 MAX 23,000 MIN 6,420 AC-FT 6,717,000
WTR YR 1968: TOTAL 3,494,640 MEAN 9,548 MAX 18,500 MIN 6,040 AC-FT 6,932,000

Water Year 1969

13-1725. Snake River near Murphy, Idaho

LOCATION.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., Ada County, on right bank 4.2 miles downstream from Swan Falls powerplant, 7.5 miles northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 sq mi, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level. Prior to Sept. 7, 1914, non-recording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 miles upstream at datum 9.79 ft higher.

AVERAGE DISCHARGE.--56 years, 10,730 cfs (7,774,000 acre-ft per year); 15-year base period (1952-67), 10,070 cfs.

EXTREMES.--Current year: Maximum discharge, 28,600 cfs Apr. 25 (gage height, 10.08 ft); minimum, 6,710 cfs July 8, 13; minimum gage height, 3.39 ft July 13; minimum daily, 6,760 cfs Aug. 17.
Period of record: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

REMARKS.--Records excellent. Flow regulated by American Falls Reservoir 260.5 miles upstream (see sta 13-0765). Diurnal fluctuation caused by hydroelectric plants upstream. At times, practically entire flow is diverted at Milner during irrigation seasons. Surface-water diversions and ground-water withdrawals for irrigation of about 2,140,000 acres (1960 determination) above station.

REVISIONS (WATER YEARS).--WSP 1737: 1933(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.5	6,650
4.0	8,100
6.0	14,300
8.0	20,800
9.5	26,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,130	11,900	10,300	12,800	16,700	16,100	23,600	23,600	9,420	9,310	7,850	7,970
2	9,310	12,300	11,500	12,200	16,300	15,200	24,500	18,800	9,090	8,940	7,510	8,430
3	9,190	12,500	11,700	13,700	16,900	16,100	22,800	17,700	8,910	8,240	7,450	7,920
4	9,530	13,200	11,000	14,900	17,600	16,100	22,000	18,400	9,240	7,370	7,100	7,820
5	9,400	13,100	12,900	15,600	18,600	16,000	20,400	19,500	9,360	7,570	6,950	7,580
6	9,510	12,600	12,400	13,500	18,000	15,500	15,800	17,400	8,580	6,900	7,520	8,110
7	9,900	12,600	12,300	16,800	15,800	15,800	17,500	18,600	8,750	6,870	7,920	7,960
8	9,580	12,000	12,400	12,500	17,800	16,200	15,100	17,300	8,270	7,130	7,400	7,960
9	9,370	14,300	11,300	16,100	17,400	15,700	12,300	14,400	8,520	8,260	7,170	8,120
10	9,550	11,900	12,000	15,000	15,100	15,800	15,100	11,100	9,510	8,350	7,570	8,130
11	9,540	13,500	12,000	14,200	17,300	15,300	13,900	13,500	9,690	7,880	7,290	8,300
12	9,560	11,700	11,800	15,300	15,700	15,700	14,100	10,600	10,300	6,850	8,280	8,550
13	9,870	13,900	13,400	18,400	16,100	16,400	14,800	13,000	9,950	7,140	7,760	8,260
14	9,620	12,800	12,600	19,100	16,500	15,400	13,400	10,100	9,930	6,860	7,260	7,850
15	9,650	13,300	12,500	20,100	16,600	15,400	14,700	11,100	9,510	6,850	6,900	8,160
16	10,200	12,400	12,400	19,400	17,200	16,400	12,900	11,400	9,050	6,920	6,870	8,810
17	10,600	12,600	12,500	16,800	15,200	15,700	11,000	11,200	9,080	7,100	6,760	8,490
18	11,000	12,300	13,700	17,900	16,700	16,400	9,640	10,800	8,340	7,380	7,120	8,750
19	10,900	11,200	13,900	18,300	16,200	16,100	9,920	9,160	8,340	6,930	6,910	8,670
20	11,900	12,200	12,100	17,400	16,100	16,500	11,600	10,700	8,400	7,370	7,110	8,690
21	12,000	11,400	12,300	20,500	16,200	18,400	12,000	10,700	7,990	6,910	7,230	8,960
22	12,200	10,900	12,300	24,300	15,900	17,900	13,500	10,700	8,000	6,920	7,200	9,820
23	12,500	11,100	12,400	23,600	16,900	17,000	17,300	9,520	8,070	7,370	7,420	9,980
24	12,000	12,700	12,500	19,600	15,900	16,800	23,800	9,600	8,400	7,330	7,190	10,100
25	11,800	11,200	12,200	17,700	15,400	19,400	26,000	9,710	8,280	7,060	7,120	9,880
26	11,200	10,600	13,900	18,500	16,400	20,300	22,500	9,310	8,680	6,930	7,040	10,300
27	11,100	11,400	13,900	20,600	16,600	20,900	19,700	9,480	10,700	6,970	7,130	9,700
28	11,600	11,500	13,700	20,100	16,200	22,300	22,900	9,050	9,400	7,580	7,000	9,210
29	11,600	11,400	13,100	18,400	------	22,000	22,400	9,050	9,650	7,680	7,050	8,960
30	11,800	12,600	12,900	18,700	------	19,000	24,400	9,280	9,320	7,360	7,330	9,170
31	11,700	------	13,000	17,700	------	19,600	------	9,440	------	7,910	7,650	------
TOTAL	326,810	367,100	386,900	539,700	463,300	531,400	519,560	394,200	270,730	230,240	226,060	260,610
MEAN	10,540	12,240	12,480	17,410	16,550	17,140	17,320	12,720	9,024	7,427	7,292	8,687
MAX	12,500	14,300	13,900	24,300	18,600	22,300	26,000	23,600	10,700	9,310	8,280	10,300
MIN	9,130	10,600	10,300	12,200	15,100	15,200	9,640	9,050	7,990	6,850	6,760	7,580
AC-FT	648,200	728,100	767,400	1,070M	918,900	1,054M	1,031M	781,900	537,000	456,700	448,400	516,900

CAL YR 1968 : TOTAL 3,523,780 MEAN 9,628 MAX 18,500 MIN 6,040 AC-FT 6,989,000
WTR YR 1969 : TOTAL 4,516,610 MEAN 12,370 MAX 26,000 MIN 6,760 AC-FT 8,959,000

Water Year 1970

SNAKE RIVER MAIN STEM

13172500 Snake River near Murphy, Idaho

LOCATION.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., Ada County, on right bank 4.2 miles downstream from Swan Falls powerplant, 7.5 miles northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 sq mi, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level. Prior to Sept. 7, 1914, non-recording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 miles upstream at datum 9.79 ft higher.

AVERAGE DISCHARGE.--57 years, 10,730 cfs (7,774,000 acre-ft per year); 15-year base period (1952-67), 10,070 cfs.

EXTREMES.--Current year: Maximum discharge, 26,400 cfs May 24 (gage height, 9.88 ft); minimum, 5,920 cfs July 20 (gage height, 2.84 ft); minimum daily, 6,510 cfs July 17.
Period of record: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

REMARKS.--Records excellent. Flow regulated by American Falls Reservoir 260.5 miles upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. At times, practically entire flow is diverted at Milner during irrigation seasons. Surface-water diversions and ground-water withdrawals for irrigation of about 2,140,000 acres (1960 determination) above station.

REVISIONS (WATER YEARS).--WSP 1737: 1933(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 16 to Jan. 26, Apr. 17 to June 22, July 31 to Aug. 20)

3.0	5,270
4.0	8,100
6.0	14,300
8.0	20,800
9.5	26,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,950	9,860	9,190	9,910	11,600	7,520	7,000	17,100	17,600	13,100	7,140	8,310
2	8,930	10,100	9,780	9,660	12,000	7,330	7,810	14,800	18,100	19,400	7,170	8,210
3	8,610	9,240	10,900	9,660	12,700	7,760	7,000	14,700	17,200	21,200	7,110	8,360
4	9,170	10,100	10,600	9,590	11,700	8,030	7,090	14,100	16,400	20,000	7,350	8,010
5	9,490	9,850	10,300	9,980	11,000	7,140	8,100	14,100	17,700	15,500	7,260	8,370
6	9,890	9,050	10,500	11,100	11,600	9,990	8,040	13,900	12,200	8,870	7,260	8,600
7	9,970	9,780	10,100	11,000	11,700	9,730	7,140	12,700	9,410	9,350	7,520	10,100
8	9,980	9,200	8,970	10,700	11,300	9,420	8,780	12,400	8,390	8,250	7,090	9,310
9	9,730	10,100	10,000	10,400	11,000	8,820	9,560	14,000	8,360	8,570	7,020	9,230
10	9,670	9,080	10,700	11,600	11,000	9,400	11,500	15,900	8,100	7,350	7,130	9,200
11	9,940	9,430	10,200	10,800	11,700	9,820	13,800	17,800	10,000	6,510	7,080	8,610
12	10,000	9,990	10,100	11,500	14,400	9,060	13,200	21,600	10,700	6,540	7,450	9,380
13	9,650	10,300	9,870	12,000	14,700	8,960	12,800	23,700	9,680	7,720	7,740	9,120
14	9,840	8,960	9,700	11,700	14,700	8,520	12,500	17,700	10,200	6,740	7,590	8,940
15	9,030	9,500	9,750	12,900	14,700	8,520	11,300	20,200	18,100	6,650	7,340	9,220
16	9,550	9,570	9,780	13,800	11,200	8,720	13,600	18,400	21,300	6,570	7,180	9,910
17	9,620	9,650	9,710	13,400	14,400	8,530	19,300	17,800	24,600	6,510	7,060	9,500
18	9,830	9,750	9,350	13,500	11,100	8,780	19,100	14,900	24,400	6,650	7,040	9,460
19	9,830	9,780	9,350	13,500	11,100	8,360	17,500	16,200	23,100	6,680	7,050	9,430
20	10,100	9,780	9,690	13,300	11,200	7,200	15,600	14,500	20,800	6,540	7,010	9,370
21	9,790	9,750	9,510	13,300	11,300	7,060	14,000	15,100	18,400	6,970	6,970	9,750
22	10,400	9,750	9,790	13,500	10,800	7,840	14,000	15,700	16,900	6,650	7,010	9,700
23	10,800	9,740	9,680	16,500	11,100	8,220	12,900	20,300	16,300	6,680	6,970	10,300
24	10,300	9,530	9,470	16,000	9,990	8,300	10,800	23,400	11,000	6,710	6,990	9,810
25	10,200	9,230	9,630	16,200	11,000	7,110	9,710	19,300	10,900	6,740	6,990	9,880
26	10,400	9,190	10,000	12,900	8,060	7,400	9,470	19,400	8,100	6,770	6,960	10,100
27	9,570	9,420	9,770	14,000	7,420	8,750	9,440	22,000	8,960	6,970	7,010	9,890
28	10,400	9,300	9,590	17,000	7,470	8,270	9,860	21,000	8,130	7,350	7,040	10,000
29	10,400	9,300	9,630	15,900	------	8,450	13,000	22,300	9,200	6,970	7,060	9,880
30	10,200	9,280	9,480	13,100	------	8,600	17,400	19,400	12,400	6,970	7,030	9,860
31	9,690	------	9,150	11,400	------	8,130	------	18,900	------	7,140	7,140	------
TOTAL	303,930	287,560	304,240	389,800	321,940	259,740	351,300	543,300	426,630	274,620	221,760	279,810
MEAN	9,804	9,585	9,814	12,570	11,500	8,379	11,710	17,530	14,220	8,859	7,154	9,327
MAX	10,800	10,300	10,900	17,000	14,700	9,990	19,300	23,700	24,600	21,200	7,740	10,300
MIN	8,610	8,960	8,970	9,590	7,420	7,060	7,000	12,400	8,100	6,510	6,960	8,010
AC-FT	602,800	570,400	603,500	773,200	638,600	515,200	696,800	1,078M	846,200	544,700	439,900	555,000

CAL YR 1969	TOTAL 4,331,530	MEAN 11,870	MAX 26,000	MIN 6,760	AC-FT 8,592,000
WTR YR 1970	TOTAL 3,964,630	MEAN 10,860	MAX 24,600	MIN 6,510	AC-FT 7,864,000

Water Year 1971

SNAKE RIVER MAIN STEM

13172500 Snake River near Murphy, Idaho

LOCATION.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., Ada County, on right bank 4.2 miles downstream from Swan Falls powerplant, 7.5 miles northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 sq mi, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level. Prior to Sept. 7, 1914, non-recording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 miles upstream at datum 9.79 ft higher.

AVERAGE DISCHARGE.--58 years, 10,820 cfs (7,839,000 acre-ft per year); 15-year base period (1952-67), 10,070 cfs.

EXTREMES.--Current year: Maximum discharge, 35,000 cfs Apr. 28 (gage height, 12.21 ft); minimum, 6,430 cfs July 13 (gage height, 3.14 ft); minimum daily, 7,030 cfs July 25.
Period of record: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

REMARKS.--Records excellent. Major regulation by American Falls Reservoir 260.5 miles upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres of which about 701,000 acres are by withdrawals from ground water (1966 determination).

REVISIONS (WATER YEARS).--WSP 1737: 1933(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.4	6,970	8.0	20,400
4.0	8,320	10.0	27,300
6.0	13,900	12.0	34,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,890	12,400	12,600	15,400	18,500	10,900	24,800	29,000	17,600	23,300	7,160	8,240
2	10,000	12,700	13,100	15,400	18,400	12,200	28,500	28,700	19,100	21,700	7,100	8,960
3	9,890	10,300	13,300	15,500	18,900	12,600	28,600	28,500	18,300	21,900	7,130	8,050
4	9,540	10,300	12,600	15,500	18,800	12,500	27,700	28,000	23,700	20,700	7,270	7,990
5	9,280	10,300	13,700	13,800	17,200	13,400	25,300	27,900	22,800	19,600	7,290	8,620
6	9,810	10,200	14,200	11,900	17,000	14,600	25,900	27,900	23,500	14,200	7,320	8,530
7	9,750	10,800	13,500	12,900	17,000	12,900	25,100	29,200	23,800	15,200	7,260	8,860
8	9,540	11,300	14,100	14,700	17,200	13,400	27,700	29,800	24,700	14,300	7,260	8,820
9	9,510	11,500	17,500	15,500	17,300	13,000	26,800	30,200	23,500	13,400	7,290	9,190
10	9,330	11,900	15,500	16,000	18,600	13,800	28,900	30,100	21,500	13,900	7,500	9,130
11	9,810	11,500	15,500	14,000	18,200	12,900	30,000	30,100	19,900	11,100	7,450	9,450
12	10,500	12,700	13,100	15,500	16,900	13,000	29,900	30,500	19,000	10,700	7,330	8,370
13	12,500	11,200	13,900	16,800	18,200	13,200	30,700	31,100	17,700	8,720	7,430	8,580
14	11,900	11,500	14,300	15,600	17,800	13,800	30,300	30,000	18,100	7,160	7,480	8,810
15	10,900	13,400	14,300	15,100	18,300	13,500	29,500	31,100	18,800	7,570	7,470	8,730
16	12,500	12,500	14,000	15,400	18,300	12,600	29,200	30,300	17,400	8,460	7,470	8,340
17	12,200	12,300	13,900	22,000	18,100	12,900	29,100	30,700	19,200	7,270	7,280	9,030
18	12,200	12,600	14,900	28,100	17,900	13,100	26,600	28,600	20,000	7,370	7,410	8,710
19	12,200	12,600	13,900	32,900	18,700	13,700	29,100	28,600	17,500	7,270	7,550	8,580
20	13,000	12,600	14,200	30,400	17,900	14,100	30,800	28,400	14,400	7,140	7,420	8,950
21	12,500	12,800	14,700	26,500	17,500	13,800	29,800	25,800	14,200	7,110	7,420	9,210
22	12,400	12,500	13,600	20,000	17,600	13,300	29,000	27,100	15,800	7,130	7,540	9,920
23	13,000	11,900	12,400	20,300	17,300	16,000	28,100	27,000	16,800	7,230	7,150	9,980
24	13,200	13,200	14,500	19,600	17,500	13,100	28,200	27,200	14,200	7,130	7,140	9,590
25	12,400	13,400	13,900	19,000	15,600	19,400	29,200	25,300	14,800	7,030	7,380	9,540
26	12,700	13,400	14,000	18,400	13,500	14,700	29,300	19,900	15,800	7,280	7,610	9,170
27	13,000	12,500	15,200	18,200	13,500	17,500	33,300	20,200	17,500	7,500	7,320	9,410
28	12,400	13,600	15,400	18,100	12,800	16,800	33,600	21,900	18,000	7,520	7,320	9,860
29	12,300	12,700	15,300	19,300	------	18,900	31,800	20,900	20,700	7,500	7,370	9,830
30	13,000	12,700	15,400	18,600	------	16,800	31,600	19,500	21,300	7,310	7,680	9,800
31	13,000	------	15,300	18,000	------	21,800	------	17,700	------	7,190	8,130	------
TOTAL	354,150	363,300	441,800	568,400	484,500	444,200	868,400	841,200	569,600	340,890	228,930	270,250
MEAN	11,420	12,110	14,250	18,340	17,300	14,330	28,950	27,140	18,990	11,000	7,385	9,008
MAX	13,200	13,600	17,500	32,900	18,900	21,800	33,600	31,100	24,700	23,300	8,130	9,980
MIN	9,280	10,200	12,400	11,900	12,800	10,900	24,800	17,700	14,200	7,030	7,100	7,990
AC-FT	702,500	720,600	876,300	1,127M	961,000	881,100	1,722M	1,669M	1,130M	676,200	454,100	536,000

CAL YR 1970 TOTAL 4,228,150 MEAN 11,580 MAX 24,600 MIN 6,510 AC-FT 8,387,000
WTR YR 1971 TOTAL 5,775,620 MEAN 15,820 MAX 33,600 MIN 7,030 AC-FT 11,460,000

Water Year 1972

SNAKE RIVER MAIN STEM

13172500 Snake River near Murphy, Idaho

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, on right bank 4.2 miles downstream from Swan Falls powerplant, 7.5 miles northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 sq mi, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level. Prior to Sept. 7, 1914, non-recording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 miles upstream at datum 9.79 ft higher.

AVERAGE DISCHARGE.--59 years, 10,910 cfs (7,904,000 acre-ft per year); 15-year base period (1952-67), 10,070 cfs.

EXTREMES.--Current year: Maximum discharge, 31,700 cfs Mar. 3 (gage height, 11.15 ft); minimum, 6,890 cfs Aug. 20 (gage height, 3.26 ft); minimum daily, 7,050 cfs July 19, 20.
Period of record: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

REMARKS.--Records excellent. Major regulation by American Falls Reservoir 260.5 miles upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres of which about 701,000 acres are by withdrawals from ground water (1966 determination).

REVISIONS (WATER YEARS).--WSP 1737: 1933(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,200	19,800	20,100	17,600	17,700	25,700	26,100	18,900	11,000	13,300	7,600	8,270
2	13,000	21,800	20,100	17,700	17,500	20,600	25,300	18,400	10,900	11,300	7,400	8,340
3	14,500	21,200	20,000	18,000	17,000	22,700	26,000	19,500	10,400	9,830	7,360	8,010
4	17,400	20,800	18,800	18,100	15,900	28,400	27,100	19,400	9,940	8,640	7,620	8,540
5	17,200	21,900	19,600	16,500	16,000	22,800	26,100	18,100	11,500	7,330	7,620	8,840
6	15,600	21,900	17,900	15,000	15,000	21,100	25,600	16,900	11,300	7,440	7,580	8,540
7	17,500	21,400	18,500	15,600	16,100	23,500	24,600	16,600	13,800	7,530	7,400	9,780
8	17,200	21,700	17,700	16,500	17,000	23,800	24,500	17,900	16,700	7,420	7,600	8,760
9	17,500	22,100	17,900	16,600	17,500	22,700	25,100	17,100	19,200	7,330	7,600	9,890
10	17,700	20,800	17,400	15,400	16,700	22,900	25,600	15,800	23,100	7,440	7,550	8,510
11	19,300	21,000	18,000	16,000	17,400	24,500	26,800	13,900	25,700	7,420	7,510	9,730
12	18,400	19,400	17,700	14,100	18,000	25,100	26,100	15,100	25,700	7,420	7,440	10,500
13	18,500	18,100	18,400	14,900	19,100	24,700	27,600	13,100	25,600	7,330	7,600	10,300
14	18,100	17,100	18,300	16,800	18,600	22,700	27,900	13,400	25,300	7,250	7,580	10,200
15	18,300	15,500	16,700	15,200	18,400	18,800	27,900	15,500	24,600	7,200	8,030	10,100
16	17,600	15,800	16,200	16,300	19,600	18,100	28,700	17,200	21,300	7,220	7,580	10,300
17	19,000	18,500	15,300	18,000	19,200	16,700	29,200	15,700	20,700	7,160	8,180	10,300
18	19,500	20,800	16,400	16,900	19,200	17,200	28,800	13,400	20,100	7,100	7,550	10,700
19	19,300	20,300	17,600	20,300	20,500	18,200	27,400	11,600	19,800	7,050	8,340	10,300
20	20,000	21,400	18,000	25,800	20,000	17,700	26,400	12,100	17,600	7,050	7,800	10,200
21	20,300	21,300	16,700	20,400	19,100	18,400	25,900	13,800	15,500	7,080	8,420	10,300
22	20,400	20,300	16,900	22,700	19,200	18,600	25,400	16,900	16,200	7,100	8,320	9,730
23	20,400	19,500	17,100	25,200	19,600	20,700	24,100	20,300	16,300	7,330	8,220	9,910
24	19,400	19,100	17,900	24,700	18,300	21,300	23,400	18,100	16,100	7,270	7,780	9,780
25	20,000	19,400	18,300	20,800	19,500	23,400	23,200	15,800	13,600	7,290	8,420	9,730
26	20,600	20,100	17,300	19,600	19,200	25,000	23,600	18,700	13,200	7,440	7,970	10,500
27	21,200	19,300	17,200	20,200	19,600	25,300	22,000	19,900	13,200	7,400	8,320	10,600
28	21,100	19,500	16,700	18,600	20,400	25,100	21,800	18,200	13,600	7,290	8,370	10,700
29	22,400	19,600	16,200	17,300	25,700	26,000	19,600	18,100	15,800	7,290	8,440	11,100
30	22,800	19,500	14,100	18,000	------	27,900	19,500	17,900	15,800	7,270	8,760	10,900
31	19,200	------	17,900	17,200	------	27,800	------	13,700	------	7,380	8,440	------
TOTAL	573,600	598,900	546,900	566,000	537,000	697,400	761,300	511,000	513,540	239,900	244,400	293,360
MEAN	18,500	19,960	17,640	18,260	18,520	22,500	25,380	16,480	17,120	7,739	7,884	9,779
MAX	22,800	22,100	20,100	25,800	25,700	28,400	29,200	20,300	25,700	13,300	8,760	11,100
MIN	10,200	15,500	14,100	14,100	15,000	16,700	19,500	11,600	9,940	7,050	7,360	8,010
AC-FT	1,138M	1,188M	1,085M	1,123M	1,065M	1,383M	1,510M	1,014M	1,019M	475,800	484,800	581,900

CAL YR 1971 TOTAL 6,335,770 MEAN 17,360 MAX 33,600 MIN 7,030 AC-FT 12,570,000
WTR YR 1972 TOTAL 6,083,300 MEAN 16,620 MAX 29,200 MIN 7,050 AC-FT 12,070,000

M Expressed in thousands.

Water Year 1973

13172500 Snake River near Murphy, Idaho

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 sq mi (108,500 sq km), approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) above mean sea level. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

AVERAGE DISCHARGE.--60 years, 10,940 cfs (309.8 cu m/s) 7,926,000 acre-ft/yr (9,770 cu hm/yr); 15-year base period (1952-67), 10,070 cfs (285.2 cu m/s).

EXTREMES.--Current year: Maximum discharge, 21,900 cfs (620 cu m/s) Oct. 20 (gage height, 8.25 ft or 2.515 m); maximum gage height, 8.42 ft (2.566 m); minimum discharge, 5,040 cfs (143 cu m/s) July 14, (gage height, 2.80 ft or 0.853 m); minimum daily, 5,910 cfs (167 cu m/s) July 6, 12.
Period of record: Maximum discharge, 47,300 (1,340 cu m/s) cfs June 22, 1918 (gage height, 13.95 ft or 4.242 m, site and datum then in use); minimum recorded, 3,900 cfs (110 cu m/s) July 9, 1949 (gage height, 2.53 ft or 0.771 m); minimum daily, 5,440 cfs (154 cu m/s) Aug. 4, 1914.

REMARKS.--Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 sq hm) of which about 701,000 acres (284,000 sq hm) are by withdrawals from ground water (1966 determination).

REVISIONS (WATER YEARS).--WSP 1737: 1933(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Feb. 24)

3.0	5,560	8.0	20,400
4.0	8,240	10.0	27,300
6.0	13,900		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11,200	19,000	13,900	18,100	17,600	17,700	11,300	11,600	7,440	6,060	6,720	7,060
2	12,100	18,200	16,800	18,300	16,600	18,200	12,200	12,600	7,430	6,170	6,740	7,380
3	11,100	18,700	19,500	17,200	15,300	19,200	14,000	9,600	7,430	6,150	6,660	8,700
4	11,700	19,100	19,400	17,400	15,400	16,700	13,200	9,400	7,450	6,110	6,830	8,050
5	12,000	19,000	18,900	17,100	15,400	17,800	13,200	9,130	7,390	6,060	6,800	8,300
6	12,700	18,700	18,000	14,200	16,500	18,500	12,800	9,060	7,420	5,910	6,830	8,580
7	14,800	17,900	17,500	13,700	16,600	17,800	13,800	7,320	7,170	5,920	6,700	8,010
8	17,400	18,100	15,400	16,800	16,500	17,400	14,600	7,920	7,420	5,930	6,650	7,790
9	18,200	19,000	16,800	18,000	18,100	16,800	13,300	8,160	7,200	5,940	6,730	7,490
10	18,300	18,500	17,600	14,600	19,000	17,300	14,400	7,580	7,230	5,920	6,730	7,880
11	19,100	17,100	17,400	15,200	19,000	15,800	14,300	7,930	6,750	5,920	6,640	8,150
12	18,600	16,800	17,800	15,900	19,000	15,500	15,000	7,700	6,700	5,910	6,540	7,550
13	18,700	17,800	17,500	16,700	18,900	15,500	14,400	7,840	6,670	5,960	6,460	8,110
14	17,700	18,900	17,000	18,300	18,400	15,600	16,200	7,690	6,710	6,020	6,270	8,090
15	19,200	19,100	16,300	18,600	17,300	15,900	15,900	7,970	6,830	6,200	6,540	7,820
16	19,900	18,800	16,100	17,200	16,400	15,900	18,700	7,820	7,670	6,070	6,410	7,990
17	19,300	18,600	16,200	16,900	16,900	16,900	20,600	7,520	8,370	6,210	6,200	8,890
18	19,600	18,600	15,500	19,400	16,700	16,000	19,000	7,780	8,320	6,150	6,200	8,200
19	19,600	18,600	16,400	19,800	15,500	17,000	18,500	7,320	7,940	6,150	6,320	8,420
20	21,100	18,500	16,100	19,400	15,200	16,300	13,700	7,800	7,730	6,250	6,610	8,550
21	20,300	18,800	17,600	19,000	15,300	15,900	15,300	7,860	7,350	6,690	6,710	8,860
22	20,200	18,300	17,800	18,600	15,300	15,400	14,900	8,280	7,200	6,870	6,680	8,620
23	19,400	17,800	18,000	19,100	15,500	15,600	14,700	7,910	6,640	7,170	6,740	8,640
24	19,400	17,400	20,300	19,200	15,400	15,500	14,400	7,510	6,740	7,130	6,830	10,100
25	18,900	17,100	20,500	17,100	15,400	15,500	14,000	7,790	6,780	7,360	6,560	9,910
26	16,600	17,300	19,800	16,200	16,000	14,400	10,900	7,740	6,600	7,030	6,840	9,500
27	12,300	18,000	19,700	17,400	16,700	14,400	10,300	7,460	6,500	6,990	7,200	10,300
28	10,900	16,800	19,400	16,200	17,300	12,200	10,500	8,070	6,210	6,800	7,330	9,290
29	13,000	18,100	18,800	15,600	------	12,100	10,500	7,350	6,050	6,820	7,090	8,470
30	16,400	17,500	19,700	15,300	------	11,500	12,200	7,410	6,070	6,830	6,860	9,460
31	17,400	------	18,500	14,800	------	10,900	------	7,470	------	6,760	7,100	------
TOTAL	517,100	546,100	550,200	531,300	467,200	491,200	426,800	254,590	213,410	197,460	207,520	254,160
MEAN	16,680	18,200	17,750	17,140	16,690	15,850	14,230	8,213	7,114	6,370	6,694	8,472
MAX	21,100	19,100	20,500	19,800	19,000	19,200	20,600	12,600	8,370	7,360	7,330	10,300
MIN	10,900	16,800	13,900	13,700	15,200	10,900	10,300	7,320	6,050	5,910	6,200	7,060
AC-FT	1,026M	1,083M	1,091M	1,054M	926,700	974,300	846,600	505,000	423,300	391,700	411,600	504,100

CAL YR 1972 TOTAL 5,977,300 MEAN 16,330 MAX 29,200 MIN 7,050 AC-FT 11,860,000
WTR YR 1973 TOTAL 4,657,040 MEAN 12,760 MAX 21,100 MIN 5,910 AC-FT 9,237,000

M Expressed in thousands.

Water Year 1974

13172500 Snake River near Murphy, Idaho

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 sq mi (108,500 sq km), approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) above mean sea level. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

AVERAGE DISCHARGE.--61 years, 10,990 cfs (311.2 cu m/s) 7,962,000 acre-ft/yr (9,820 cu hm/yr); 15-year base period (1952-67), 10,070 cfs (285.2 cu m/s).

EXTREMES.--Current year: Maximum discharge, 31,800 cfs (901 cu m/s) Apr. 24 (gage height, 11.06 ft or 3.371 m); minimum discharge, 5,740 cfs (163 cu m/s) July 21 (gage height, 3.07 ft or 0.936 m); minimum daily, 5,900 cfs (167 cu m/s) July 21.

Period of record: Maximum discharge, 47,300 (1,340 cu m/s) cfs June 22, 1918 (gage height, 13.95 ft or 4.242 m, site and datum then in use); minimum recorded, 3,900 cfs (110 cu m/s) July 9, 1949 (gage height, 2.53 ft or 0.771 m); minimum daily, 5,440 cfs (154 cu m/s) Aug. 4, 1914.

REMARKS.--Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 sq hm) of which about 701,000 acres (284,000 sq hm) are by withdrawals from ground water (1966 determination).

REVISIONS (WATER YEARS).--WSP 1737: 1933(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 30, 31, Jan. 19, 31, Feb. 2 to June 15, June 24 to July 7)

3.0	5,560	8.0	20,400
4.0	8,240	10.0	27,300
6.0	13,900	11.0	30,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,940	9,270	10,900	12,000	13,100	16,500	22,400	25,300	16,400	15,000	6,080	7,000
2	9,130	9,880	10,700	11,400	13,500	15,700	25,200	24,500	17,400	15,500	6,300	6,970
3	8,700	9,430	10,500	10,200	14,200	15,200	25,400	24,000	16,600	15,500	6,410	7,000
4	8,270	9,690	11,000	10,200	13,800	16,900	24,800	22,100	17,100	14,000	6,570	7,030
5	8,510	9,770	11,400	11,600	14,700	17,800	25,100	22,700	16,700	14,500	6,650	7,460
6	9,000	9,880	11,600	12,000	15,000	19,600	25,400	23,000	16,200	15,400	7,190	7,540
7	8,760	11,000	11,400	10,900	14,500	20,500	25,200	23,300	16,200	13,300	6,680	7,480
8	9,020	10,100	11,600	11,600	15,300	20,400	24,700	23,700	15,800	12,400	6,730	7,430
9	8,860	10,300	12,400	11,600	15,800	24,300	24,900	23,200	16,500	9,290	6,650	7,430
10	9,770	10,400	12,600	11,000	16,000	23,800	22,600	23,200	16,500	9,510	7,000	7,510
11	9,910	10,800	12,800	11,900	14,600	23,900	22,800	23,000	16,500	7,860	7,210	7,760
12	9,770	9,670	12,600	11,200	14,800	24,100	24,300	23,100	16,500	8,700	7,300	7,700
13	9,850	10,800	13,100	10,100	15,500	23,600	24,200	24,000	15,700	7,970	7,270	7,950
14	9,690	10,400	11,400	11,500	15,900	24,800	27,100	22,400	15,100	7,970	7,190	8,140
15	9,430	10,200	11,800	12,000	15,400	25,600	27,600	22,000	14,700	7,400	6,650	8,300
16	9,190	10,100	11,700	14,100	15,400	25,800	26,800	21,300	12,000	6,810	6,680	8,730
17	9,880	10,200	11,800	14,600	15,400	28,200	25,100	20,300	10,300	6,220	6,920	8,730
18	9,530	10,500	11,800	14,900	14,800	27,500	24,900	18,600	12,200	6,240	6,870	8,890
19	9,370	10,500	11,900	15,200	16,200	27,300	24,500	18,200	11,600	6,300	6,730	8,590
20	8,840	10,300	11,900	13,500	19,500	26,100	27,800	16,800	11,600	6,160	6,760	8,510
21	9,290	10,500	12,000	13,600	16,700	26,300	26,000	17,300	11,700	5,900	6,970	8,490
22	9,050	10,500	12,000	12,500	14,500	25,400	25,200	16,200	11,600	5,920	6,950	8,860
23	9,720	10,500	12,000	11,800	13,700	24,000	28,100	16,700	12,900	6,300	6,920	8,650
24	9,290	10,500	12,100	11,600	13,500	23,400	29,000	16,200	15,500	6,380	6,920	8,510
25	9,210	10,900	11,800	12,500	15,000	23,900	25,900	16,700	15,500	6,300	7,190	8,810
26	9,270	10,500	12,000	12,600	16,600	21,100	25,100	15,700	15,500	6,220	7,210	8,380
27	9,640	10,400	11,300	12,000	16,100	16,000	25,500	15,600	15,200	6,190	7,050	8,270
28	9,290	11,200	11,500	10,900	17,700	13,600	25,000	15,800	14,600	6,160	6,920	8,270
29	8,920	10,900	10,400	11,800	------	15,900	22,800	16,400	14,600	6,160	6,760	8,300
30	9,640	10,300	13,300	12,300	------	14,700	27,200	14,200	14,800	6,190	6,840	8,430
31	9,000	------	13,300	13,400	------	20,800	------	14,800	------	5,970	6,950	------
TOTAL	286,740	309,390	366,600	376,500	427,200	672,700	760,600	620,300	443,500	273,720	212,520	241,120
MEAN	9,250	10,310	11,830	12,150	15,260	21,700	25,350	20,010	14,780	8,830	6,855	8,037
MAX	9,910	11,200	13,300	15,200	19,500	28,200	29,000	25,300	17,400	15,500	7,300	8,890
MIN	8,270	9,270	10,400	10,100	13,100	13,600	22,400	14,200	10,300	5,900	6,080	6,970
AC-FT	568,700	613,700	727,200	746,800	847,400	1,334M	1,509M	1,230M	879,700	542,900	421,500	478,300

CAL YR 1973 TOTAL 4,006,370 MEAN 10,980 MAX 20,600 MIN 5,910 AC-FT 7,947,000
WTR YR 1974 TOTAL 4,990,890 MEAN 13,670 MAX 29,000 MIN 5,900 AC-FT 9,899,000

M Expressed in thousands.

Water Year 1975

13172500 Snake River near Murphy, Idaho

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 sq mi (108,500 sq km), approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) above mean sea level. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

AVERAGE DISCHARGE.--62 years, 11,040 cfs (312.7 cu m/s) 7,998,000 acre-ft/yr (9,840 cu hm/yr); 15-year base period (1952-67), 10,070 cfs (285.2 cu m/s).

EXTREMES.--Current year: Maximum discharge, 28,200 cfs (799 cu m/s) Apr. 14 (gage height, 10.27 ft or 3.130 m); minimum discharge, 5,580 cfs (158 cu m/s) Aug. 1 (gage height, 3.01 ft or 0.917 m); minimum daily, 5,710 cfs (162 cu m/s) Aug. 1.
Period of record: Maximum discharge, 47,300 (1,340 cu m/s) cfs June 22, 1918 (gage height, 13.95 ft or 4.242 m, site and datum then in use); minimum recorded, 3,900 cfs (110 cu m/s) July 9, 1949 (gage height, 2.53 ft or 0.771 m); minimum daily, 5,440 cfs (154 cu m/s) Aug. 4, 1914.

REMARKS.--Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 sq hm) of which about 701,000 acres (284,000 sq hm) are by withdrawals from ground water (1966 determination).

REVISIONS (WATER YEARS).--WSP 1737: 1933(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.0	5,560	8.0	20,400
4.0	8,240	10.0	27,300
6.0	13,900	11.0	30,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,860	12,400	11,800	14,200	13,900	15,700	20,100	25,200	20,700	9,320	5,710	7,070
2	9,130	12,500	12,200	14,000	13,800	16,900	22,400	25,300	21,600	8,140	6,250	7,520
3	9,160	12,700	12,800	13,500	14,200	18,700	22,200	25,000	20,100	6,610	6,360	8,180
4	9,020	12,400	13,100	13,900	14,900	16,900	19,100	22,600	19,800	6,950	6,540	8,420
5	8,700	12,500	14,000	14,100	14,600	16,400	17,200	20,900	19,800	7,110	7,240	8,540
6	7,940	12,700	14,800	15,000	14,900	16,100	15,700	23,800	20,700	7,760	6,720	8,070
7	9,810	13,000	13,100	15,000	14,800	16,700	20,200	23,900	18,800	7,360	6,330	7,970
8	9,670	12,900	13,700	17,000	14,800	17,300	18,800	23,600	19,400	7,860	5,870	6,730
9	9,350	11,900	12,800	15,100	14,800	15,700	18,800	24,100	19,400	7,980	6,170	7,960
10	9,590	11,200	13,300	15,300	14,800	15,300	18,500	25,100	18,300	6,630	6,800	7,380
11	9,910	10,600	12,500	15,100	15,300	13,800	18,200	26,200	17,900	7,220	6,560	7,280
12	10,500	10,600	13,400	14,700	15,900	12,600	18,300	25,600	17,300	7,400	6,520	7,460
13	10,500	10,800	14,100	14,700	15,600	12,400	19,600	25,800	17,100	7,880	6,290	7,440
14	10,900	10,700	13,800	14,500	16,300	11,900	25,200	23,200	14,300	7,170	6,420	7,730
15	10,600	11,000	13,800	14,700	17,900	12,100	26,700	22,400	13,200	7,420	6,340	8,260
16	10,600	10,800	13,700	14,700	16,000	15,200	26,300	21,700	10,100	7,030	6,280	9,120
17	11,300	11,300	14,600	14,700	15,200	13,500	25,400	24,400	12,100	6,600	6,530	8,260
18	10,400	12,100	14,000	14,600	15,300	13,100	25,700	25,900	11,300	6,610	6,540	8,130
19	10,400	15,100	13,400	14,500	15,400	15,600	26,400	25,500	11,000	6,390	6,620	8,110
20	10,900	15,100	13,200	14,500	15,300	20,000	25,900	24,500	11,800	6,240	7,480	8,500
21	10,500	10,600	14,300	14,700	13,200	22,200	26,100	24,400	9,350	6,390	7,110	8,700
22	10,800	11,800	13,000	14,700	13,100	21,900	26,100	23,700	11,200	6,380	7,210	9,470
23	10,400	10,300	13,000	14,700	15,400	21,700	25,300	24,900	12,200	6,320	7,200	9,390
24	10,800	12,400	12,500	14,100	15,300	21,100	25,700	23,700	16,200	6,280	7,050	8,880
25	10,400	11,400	11,400	13,900	14,900	21,100	25,100	22,600	14,700	6,230	7,380	9,300
26	10,800	12,400	11,500	13,900	14,400	22,600	23,700	22,100	14,700	6,170	7,270	9,120
27	12,200	12,000	15,700	14,000	14,600	24,100	24,900	23,100	13,400	5,930	7,290	9,030
28	12,600	11,900	14,500	14,400	14,900	22,300	23,700	23,100	8,830	5,910	6,940	9,190
29	12,400	12,000	15,000	13,700	------	22,500	23,900	21,700	9,810	5,890	7,030	9,070
30	12,800	12,200	15,000	13,800	------	22,400	25,700	21,400	8,750	5,770	7,180	9,040
31	12,300	------	13,900	13,900	------	20,600	------	20,900	------	5,750	7,180	------
TOTAL	323,240	359,300	417,900	449,600	419,500	548,400	680,900	736,300	453,840	212,700	208,410	249,320
MEAN	10,430	11,980	13,480	14,500	14,980	17,690	22,700	23,750	15,130	6,861	6,723	8,311
MAX	12,800	15,100	15,700	17,000	17,900	24,100	26,700	26,200	21,600	9,320	7,480	9,470
MIN	7,940	10,300	11,400	13,500	13,100	11,900	15,700	20,900	8,750	5,750	5,710	6,730
AC-FT	641,100	712,700	828,900	891,800	832,100	1,088M	1,351M	1,460M	900,200	421,900	413,400	494,500

CAL YR 1974 TOTAL 5,128,600 MEAN 14,050 MAX 29,000 MIN 5,900 AC-FT 10,170,000
WTR YR 1975 TOTAL 5,059,410 MEAN 13,860 MAX 26,700 MIN 5,710 AC-FT 10,040,000

M Expressed in thousands.

Water Year 1976

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank, 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 mi² (108,500 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) above mean sea level. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 hm²) of which about 701,000 acres (284,000 hm²) are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--63 years, 11,100 ft³/s (314.4 m³/s) 8,042,000 acre-ft/yr (9,920 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft³/s (1,340 m³/s) June 22, 1918 (gage height, 13.95 ft or 4.242 m, site and datum then in use); minimum recorded, 3,900 ft³/s (110 m³/s) July 9, 1949 (gage height, 2.53 ft or 0.771 m); minimum daily, 5,420 ft³/s (153 m³/s) July 17, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,700 ft³/s (841 m³/s) Apr. 12, 13 (gage height, 10.70 ft or 3.261 m); minimum discharge, 5,350 ft³/s (152 m³/s) July 17 (gage height, 2.92 ft or 0.890 m); minimum daily, 5,420 ft³/s (153 m³/s) July 17.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.9	5,300	8.0	20,400
4.0	8,240	10.0	27,300
6.0	13,900	11.0	30,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8960	12600	13800	15400	15900	19700	24600	26200	20000	5900	6660	7840
2	9240	12800	15600	15200	16100	18900	25200	25800	20800	5530	8040	7730
3	9040	12400	17200	15500	16600	17000	25100	24700	19200	5660	7000	7240
4	9080	12600	17600	15300	16500	17200	24700	26600	16700	5710	7350	6700
5	9110	12600	16000	16300	16300	17400	25800	25600	16400	5570	8230	6830
6	9090	12600	17000	16900	16300	17800	25900	24200	15400	5560	8380	7100
7	10000	11800	17000	17600	14300	15400	25900	25300	13200	5590	7910	7440
8	9980	12500	17200	16500	16200	11400	26400	26100	17300	5630	7390	8090
9	10900	12000	17300	15100	17100	10500	27300	26700	17200	5610	6840	7640
10	10300	12500	17600	16500	17200	10500	28100	26600	15600	5640	6920	7390
11	11400	12500	17200	18500	17000	10300	28200	25600	16600	5650	7010	8820
12	12400	12500	16800	15200	16200	11200	28900	25400	18800	5660	7020	10100
13	15300	12700	17000	15100	16900	10800	29500	24400	18500	5660	7020	10200
14	14200	12200	16500	16300	16500	10400	28700	24900	18000	5640	6490	10500
15	12800	11900	16600	13600	17000	14400	28800	25900	18800	5670	5980	10200
16	12800	11000	13000	16000	17200	17100	28400	25500	19400	5580	7950	11000
17	14200	12200	13200	17100	16200	19200	28900	24700	18600	5420	8140	10900
18	13600	13700	15500	16700	16500	22600	28500	25300	16800	5450	9460	11100
19	12700	12800	13200	15700	17100	24200	27300	24600	15700	5440	8750	10400
20	13600	12500	14600	16400	15700	24800	28000	23500	14400	5510	8580	10900
21	13500	13400	15100	15600	16100	22400	27300	22100	12800	5620	8660	10700
22	12800	15400	15300	15400	16400	23000	25800	22400	12000	5740	8540	10500
23	12600	15400	16100	15900	16500	23100	25700	23200	10800	6120	8660	10900
24	11000	15500	16500	15700	16300	23100	25800	23000	11900	5980	8900	11100
25	11400	15700	16500	15600	16900	23200	25300	22400	12200	5980	8650	11000
26	12800	15600	16300	15800	16400	24400	23700	23000	9550	5830	8530	11100
27	12200	15500	16300	15800	16800	23300	25800	22100	8470	5950	8350	11200
28	14100	16800	16300	15800	17600	23900	27600	21900	6730	6070	8260	11000
29	13600	16800	15500	15800	18500	24000	28100	22700	6650	6130	7350	11000
30	12900	15600	16900	15800	---	25000	27600	22200	6440	6390	7290	10600
31	13200	---	15800	15900	---	24600	---	20900	---	6540	7940	---
TOTAL	368800	404100	496500	494000	480300	580800	806900	753500	444940	178430	242250	287220
MEAN	11900	13470	16020	15940	16560	18740	26900	24310	14830	5756	7815	9574
MAX	15300	16800	17600	18500	18500	25000	29500	26700	20800	6540	9460	11200
MIN	8960	11000	13000	13600	14300	10300	23700	20900	6440	5420	5980	6700
AC-FT	731500	801500	984800	979800	952700	1152000	1600000	1495000	882500	353900	480500	569700

CAL YR 1975 TOTAL 5228370 MEAN 14320 MAX 26700 MIN 5710 AC-FT 10370000
WTR YR 1976 TOTAL 5537740 MEAN 15130 MAX 29500 MIN 5420 AC-FT 10980000

Water Year 1977

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 mi² (108,500 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) above mean sea level. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 hm²) of which about 701,000 acres (284,000 hm²) are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--64 years, 11,070 ft³/s (313.5 m³/s) 8,020,000 acre-ft/yr (9,890 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft³/s (1,340 m³/s) June 22, 1918 (gage height, 13.95 ft or 4.242 m, site and datum then in use); minimum recorded, 3,900 ft³/s (110 m³/s) July 9, 1949 (gage height, 2.53 ft or 0.771 m); minimum daily, 5,120 ft³/s (145 m³/s) June 30, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,200 ft³/s (544 m³/s) Dec. 4 (gage height, 7.55 ft or 2.301 m); minimum discharge, 5,040 ft³/s (143 m³/s) June 29, 30, July 2 (gage height, 2.70 ft or 0.823 m); minimum daily, 5,120 ft³/s (145 m³/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10300	12000	14600	11900	12300	10300	7780	6270	7110	5270	5710	6730
2	10800	12100	13900	12100	12400	10600	8140	6190	6840	5270	5920	6760
3	9750	13100	15800	12300	11700	10600	9240	6300	6160	5480	6000	6700
4	11300	12000	18400	11900	11800	11100	9000	6570	6050	5530	6050	6520
5	11300	11900	17200	12200	11700	11200	9350	6950	6050	6080	6080	6160
6	11800	12300	17300	11800	11200	11300	8460	7050	6220	6050	5970	5840
7	12500	11900	15900	11500	11400	11700	7240	6760	6350	5970	5870	6520
8	13500	11400	15700	11600	11300	10700	7590	7000	7670	5950	6030	6300
9	12500	12400	15700	11900	11300	11700	6380	7160	6240	5820	6190	6600
10	12300	12500	15700	11600	11200	11200	5920	7510	6650	5710	6300	6730
11	13300	12300	14200	11600	10900	11500	7380	6810	7480	5630	6240	6490
12	13200	11300	14300	11400	10900	11300	6410	7050	7510	5630	6270	6540
13	14700	11400	13700	11700	12000	10900	7270	7050	7590	5610	6110	6570
14	14700	11900	13000	11400	11100	10000	7110	6890	7590	5320	6050	6490
15	13300	12600	13600	11100	11800	11500	6380	6600	7540	5300	6030	6540
16	13400	12400	13300	11100	11300	11100	6620	6270	7430	5300	5950	6430
17	13000	12900	11600	11200	11100	10100	6840	6030	7270	5370	5920	6540
18	13100	12100	12700	11200	11300	9880	6870	6000	6760	5480	5740	6920
19	13200	12400	12400	11600	11300	9800	6700	6130	6680	5370	5790	7000
20	12400	12800	12300	12600	9770	8380	6320	6540	6380	5350	5740	6600
21	12000	12500	12800	11800	9510	7480	6570	7000	6130	5450	5690	7300
22	11600	12400	12100	11800	9720	8920	6620	6780	6190	5450	5660	7130
23	11400	12700	11600	11900	10100	10200	6600	6650	6160	5530	5790	7130
24	11600	13700	11600	11900	10200	10100	6540	6680	6030	5430	5950	7510
25	11400	12700	11700	12000	9930	9590	6870	7300	5950	5760	5820	7300
26	11400	11900	12700	12100	9640	9100	6650	8650	5740	6030	6760	7240
27	11400	13500	11900	12700	9910	8730	5950	7570	5500	6160	6780	7430
28	11400	15200	12000	12100	9910	8620	6080	7300	5270	6460	6760	7700
29	11600	14900	12700	12200	---	9990	6240	7110	5190	6080	6730	7620
30	12000	14700	12000	12300	---	9320	6270	7000	5120	5790	6700	7700
31	11800	---	11700	12200	---	9100	---	7130	---	5740	6730	---
TOTAL	377950	377900	424100	366700	306690	316010	211390	212300	194850	175370	189330	205040
MEAN	12190	12600	13680	11830	10950	10190	7046	6848	6495	5657	6107	6835
MAX	14700	15200	18400	12700	12400	11700	9350	8650	7670	6460	6780	7700
MIN	9750	11300	11600	11100	9510	7480	5920	6000	5120	5270	5660	5840
AC-FT	749700	749600	841200	727300	608300	626800	419300	421100	386500	347800	375500	406700

CAL YR 1976	TOTAL	5448290	MEAN	14890	MAX	29500	MIN	5420	AC-FT	10810000		
WTR YR 1977	TOTAL	3357630	MEAN	9199	MAX	18400	MIN	5120	AC-FT	6660000		

Water Year 1978

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 mi² (108,500 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 hm²) of which about 701,000 acres (284,000 hm²) are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--65 years, 11,040 ft³/s (312.7 m³/s) 7,998,000 acre-ft/yr (9,860 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft³/s (1,340 m³/s) June 22, 1918, gage height, 13.95 ft (4.252 m), site and datum then in use; minimum recorded, 3,900 ft³/s (110 m³/s) July 9, 1949, gage height, 2.53 ft (0.771 m); minimum daily, 5,120 ft³/s (145 m³/s) June 30, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,100 ft³/s (541 m³/s) Apr. 22, gage height, 7.62 ft (2.323 m); minimum discharge, 4,860 ft³/s (138 m³/s) July 17, gage height, 2.73 ft (0.832 m); minimum daily, 5,270 ft³/s (149 m³/s) July 17.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 22)

2.8	5,040	6.0	13,900
4.0	8,240	8.0	20,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7480	7910	8300	8000	8840	9370	12200	15000	10700	5460	6290	6860
2	7030	7790	8310	8190	8970	9510	11000	15000	8680	5470	6030	6850
3	7030	7810	8280	8080	8810	9850	11000	14400	7540	5550	5690	6840
4	7570	7780	8050	8110	9160	10200	10100	12500	7240	5430	5750	6830
5	7700	7810	8130	8030	8940	9800	10500	11900	7270	6110	5940	6980
6	7700	7480	8550	8190	8430	10200	10400	10700	6680	6340	6110	8450
7	7480	7670	8240	8240	8350	10600	11400	14800	7400	6880	6290	8800
8	7540	7870	8380	7590	9430	10400	14500	14200	7210	7160	5900	9440
9	7350	7660	8360	7920	10900	9960	12900	13400	7080	6610	6140	9490
10	7380	7850	8210	8410	9450	10100	13500	13900	6840	7000	6020	9500
11	7430	7750	8320	8490	8650	10900	13700	13100	7050	5800	5720	10400
12	8050	7810	8030	8410	9640	10300	13300	11600	8000	5630	5790	9650
13	7970	7650	8270	8650	8190	9800	13900	11300	8030	5910	5810	10600
14	7970	7600	8420	8050	8650	10900	13600	11900	7430	6170	5990	12900
15	7950	7490	9140	8110	8050	10100	11800	12700	7430	5830	6360	11400
16	8000	7860	10400	8760	9050	9750	12000	13500	7430	5620	6780	11000
17	7760	8180	9890	10500	8300	10400	11700	12100	6700	5270	6580	8510
18	7730	8100	9070	10800	8970	10400	12000	9320	5950	5560	7170	8950
19	7890	8100	7800	9100	8680	10400	12100	10200	6600	5380	7640	9070
20	7780	7680	8190	8300	8140	10700	11400	8760	6970	5410	7610	9540
21	7590	7920	8430	8840	8300	11400	15800	9320	6390	5380	7530	9730
22	7920	7960	7970	8050	9080	11000	17600	9800	6800	5390	7670	10000
23	8050	8010	8270	7970	8840	11900	16700	12300	6810	5510	7480	10100
24	7650	8150	7860	8620	9320	12400	16700	11800	6540	6420	6910	10100
25	7670	8380	8190	9160	9270	12300	16000	11400	6030	5760	7120	10000
26	7970	8640	8000	9100	9130	11600	16000	11900	6000	5720	6810	10000
27	7840	8390	8300	8920	9350	10700	15200	12600	5590	5880	7030	9920
28	7920	8610	8140	8920	9880	11600	15600	11900	5960	5750	6870	8840
29	7950	8620	8320	8840	---	12000	15400	11900	5780	5730	6790	9630
30	7700	8360	8410	8730	---	11000	15100	11500	5780	5890	6910	8480
31	7700	---	8190	8860	---	11400	---	11100	---	5960	7050	---
TOTAL	238750	238890	260420	265940	250770	330940	403100	375800	209910	181980	203780	278860
MEAN	7702	7963	8401	8579	8956	10680	13440	12120	6997	5870	6574	9295
MAX	8050	8640	10400	10800	10900	12400	17600	15000	10700	7160	7670	12900
MIN	7030	7480	7800	7590	8050	9370	10100	8760	5590	5270	5690	6830
AC-FT	473600	473800	516500	527500	497400	656400	799500	745400	416400	361000	404200	553100

CAL YR 1977 TOTAL 2915740 MEAN 7988 MAX 12700 MIN 5120 AC-FT 5783000
WTR YR 1978 TOTAL 3239140 MEAN 8874 MAX 17600 MIN 5270 AC-FT 6425000

Water Year 1979

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 mi² (108,500 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 hm²) of which about 701,000 acres (284,000 hm²) are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--66 years, 11,030 ft³/s (312.4 m³/s) 7,991,000 acre-ft/yr (9,850 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft³/s (1,340 m³/s) June 22, 1918, gage height, 13.95 ft (4.252 m), site and datum then in use; minimum recorded, 3,900 ft³/s (110 m³/s) July 9, 1949, gage height, 2.53 ft (0.771 m); minimum daily, 5,000 ft³/s (142 m³/s) July 2, 6, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,400 ft³/s (691 m³/s) Jan. 13, gage height, 9.44 ft (2.877 m); minimum discharge, 4,640 ft³/s (131 m³/s) July 3, gage height, 2.58 ft (0.786 m); minimum daily, 5,000 ft³/s (142 m³/s) July 2, 6.

24400
4640
29040 ÷ 2 = 14,520 average

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.7	4970	8.0	20200
4.0	8590	9.0	23100
6.0	14300		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8820	12700	11900	12400	15500	13300	17800	8990	7640	5630	5910	8140
2	8990	12600	11600	12700	15500	14500	17500	8960	7500	5000	6320	8120
3	8340	11900	11800	11400	15500	14800	16900	9160	7200	5220	6270	8400
4	6910	11300	12700	12600	15500	14100	14300	8540	6700	5050	6240	8510
5	7060	11800	13000	12900	15500	13500	10800	7720	6500	5220	6130	8790
6	8680	11200	12400	13600	15500	13600	11800	7610	6500	5000	6070	8400
7	9390	12500	13300	11500	15700	15100	11800	8140	6600	5020	6050	7580
8	9560	12000	12800	11600	16000	13600	13400	8030	6600	5050	6130	6990
9	9300	11200	12100	12900	16500	16100	16400	7890	6700	5050	6050	7360
10	8790	11400	8820	11900	15600	16300	18800	9420	6700	5080	6070	7020
11	9640	10900	10300	13100	15500	15100	17700	8760	6450	5080	6970	7240
12	9100	11000	12400	15800	14800	15200	16500	7750	6300	5110	8880	7300
13	10600	11900	12600	22800	15500	15500	17000	7530	6500	5050	9930	7410
14	10100	11500	11300	17800	12600	15400	16700	7130	6300	5080	10700	7410
15	9870	11600	13200	15700	15200	15900	16100	7500	6240	5110	10400	7080
16	11200	12700	12300	15900	12200	16000	16100	7920	6210	5080	9390	8340
17	10400	12200	11500	15900	15600	15700	15300	6970	6180	5460	9190	9330
18	10400	12700	10600	15300	14000	15900	14900	6880	6100	5490	9560	8880
19	10500	12400	11800	14900	12700	15900	14600	6910	6830	5330	8960	8170
20	10500	12600	12700	15500	13200	15900	13500	7330	7640	5440	8090	7830
21	10500	12900	11800	15000	13100	15900	12100	7610	6940	5440	7100	7330
22	10400	13000	11600	14000	12500	17100	13300	8230	6710	5440	8230	7530
23	10400	13000	11900	14600	12900	16900	13400	7470	6520	5800	7860	8170
24	10300	13000	12700	14300	13300	15700	13400	7610	6660	5800	7950	7830
25	9960	12200	12700	13900	13300	17600	13400	7470	6520	5740	7750	7890
26	9610	11700	12000	13800	12900	17600	13400	7860	6440	5710	7920	8570
27	9270	11900	13000	13600	13000	18000	12500	7360	6460	6130	7720	8170
28	10400	12700	12900	14000	13000	18300	12200	7160	6240	6270	7720	8340
29	11100	12500	12500	13800	---	18800	9780	7330	6160	6210	7810	8430
30	12100	13600	12400	14000	---	18500	11000	7580	5800	5960	8000	8090
31	12000	---	10900	14700	---	17900	---	7640	---	5910	8060	---
TOTAL	304210	364600	373520	441900	402100	493700	432380	242460	197840	167960	239430	238650
MEAN	9813	12150	12050	14250	14360	15930	14410	7821	6595	5418	7724	7955
MAX	12100	13600	13300	22800	16500	18800	18800	9420	7640	6270	10700	9330
MIN	6910	10900	8820	11400	12200	13300	9780	6880	5800	5000	5910	6990
AC-FT	603400	723200	740900	876500	797600	979300	857600	480900	392400	333100	474900	473400

CAL YR 1978 TOTAL 3543410 MEAN 9708 MAX 17600 MIN 5270 AC-FT 7028000
WTR YR 1979 TOTAL 3898750 MEAN 10680 MAX 22800 MIN 5000 AC-FT 7733000

Water Year 1980

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 mi² (108,500 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 hm²) of which about 701,000 acres (284,000 hm²) are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--67 years, 11,010 ft³/s (311.8 m³/s) 7,977 acre-ft/yr (9,840 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft³/s (1,340 m³/s) June 22, 1918, gage height, 13.95 ft (4.252 m), site and datum then in use; minimum recorded, 3,900 ft³/s (110 m³/s) July 9, 1949, gage height, 2.53 ft (0.771 m); minimum daily, 5,000 ft³/s (142 m³/s) July 2, 6, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,000 ft³/s (821 m³/s) June 5, gage height, 10.95 ft (3.338 m); minimum, 5,580 ft³/s (158 m³/s) July 16, gage height, 2.92 ft (0.890 m).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 20 to May 29)

2.9	5520	8.0	20200
4.0	8590	11.0	29200
6.0	14300		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8060	8910	8140	8480	7220	8430	7550	9220	22400	6180	6270	7160
2	8230	8960	8310	7610	7130	8430	7530	13100	23700	6520	6350	7270
3	8170	8910	8450	7970	7220	7860	7160	13000	24400	6550	6270	6880
4	8170	9930	8760	7860	7380	7860	7890	11000	26200	6180	6160	7270
5	8120	9250	8030	7830	7020	7860	7950	8430	27600	6380	6300	8000
6	8170	9190	8230	8450	7380	8030	8200	9500	27400	6380	6380	7270
7	8340	9100	8650	7780	7530	8570	12700	9960	28200	6550	6300	7190
8	8200	9080	8710	7950	7610	8620	13600	9300	28000	7890	6410	7130
9	8280	9020	8680	7690	8170	8570	11500	8510	27400	6710	6320	7550
10	8310	8200	7830	7830	8480	8820	13800	9530	27100	6410	6320	8370
11	8280	7410	7240	8620	7690	8200	13700	9840	26400	6100	6320	9980
12	8000	7640	8230	8450	7050	8230	12800	11900	23000	5910	6240	9730
13	8090	8570	8590	8480	7300	8030	12000	13000	20200	5710	6160	10400
14	8030	8880	8650	8370	7160	7380	11300	15100	16600	5690	6130	9900
15	7810	8200	7970	11900	7440	7500	11400	17000	15900	5690	6070	9250
16	8310	8280	7920	13000	7470	7720	11600	17100	14900	5690	6020	10200
17	8570	8740	7890	12200	7190	8570	12200	17300	12300	5770	6160	9810
18	8510	8650	8000	10500	8930	7530	9840	17800	11200	5850	6210	9980
19	8960	8060	8590	10200	10400	7360	9900	16400	13000	5740	6490	9270
20	9080	8430	8570	9670	10200	8000	7950	14500	11400	5740	6990	9500
21	8960	8850	8570	7670	10200	8930	7220	14000	11300	5770	6910	9420
22	10000	8280	8540	8480	10200	8820	8260	13900	10300	5770	6770	9560
23	9810	8430	7830	8540	9670	8140	8450	13000	8430	5740	6630	9420
24	9330	8880	8280	8450	8930	8400	8200	12800	9560	5740	6800	9330
25	9420	8880	8480	8400	8200	8450	8260	14800	8590	5800	6710	9960
26	9100	8880	7810	8430	8480	8590	8370	18900	7950	5820	6710	9300
27	8960	8990	7780	8400	7690	8310	8030	19300	7410	5960	6660	9500
28	8960	8570	8450	7780	7950	7970	8260	22400	6770	6070	6550	8540
29	8990	8850	8060	7550	8430	7190	7950	22500	6490	6270	6440	7860
30	9050	8400	7500	8200	---	7810	7890	23900	6600	6440	6410	8140
31	8990	---	8170	8280	---	7750	---	22200	---	6350	6600	---
TOTAL	267260	260420	254910	271020	235720	251930	291460	449190	510700	189370	199060	263140
MEAN	8621	8681	8223	8743	8128	8127	9715	14490	17020	6109	6421	8771
MAX	10000	9930	8760	13000	10400	8930	13800	23900	28200	7890	6990	10400
MIN	7810	7410	7240	7550	7020	7190	7160	8430	6490	5690	6020	6880
AC-FT	530100	516500	505600	537600	467600	499700	578100	891000	1013000	375600	394800	521900

CAL YR 1979 TOTAL 3639010 MEAN 9970 MAX 22800 MIN 5000 AC-FT 7218000
WTR YR 1980 TOTAL 3444180 MEAN 9410 MAX 28200 MIN 5690 AC-FT 6832000

Water Year 1981

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 mi^2 (108,500 km^2), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream (see sta 13076500). Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 hm^2) of which about 701,000 acres (284,000 hm^2) are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--68 years, 10,980 ft^3/s (311.0 m^3/s) 7,955,000 acre-ft/yr (9,810 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s (1,340 m^3/s) June 22, 1918, gage height, 13.95 ft (4.252 m), site and datum then in use; minimum, 3,650 ft^3/s (103 m^3/s) July 7, 1981, gage height, 2.22 ft (0.677 m); minimum daily, 4,530 ft^3/s (128 m^3/s) June 28, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,500 ft^3/s (581 m^3/s) June 16, gage height, 8.10 ft (2.469 m); minimum, 3,650 ft^3/s (103 m^3/s) July 7, gage height, 2.22 ft (0.677 m); minimum daily, 4,530 ft^3/s (128 m^3/s) June 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8440	8920	10400	10300	9090	7670	9490	12700	16800	4580	5610	7130
2	8550	9090	10300	9860	9200	8920	10400	10000	18000	4610	5630	6880
3	8270	10900	10300	9970	9320	8440	10400	7650	18200	4610	5800	6660
4	8150	11100	11100	9920	9290	7820	10400	7310	18300	4830	5830	7230
5	7930	10400	10900	9830	9320	6610	10300	6780	17900	5140	5880	7250
6	8210	12500	10900	10100	9170	7200	10300	5970	17500	5380	5690	6910
7	7960	11500	11000	9860	8980	7250	11000	5550	16900	5140	5630	7930
8	8040	10700	10600	10100	8660	8070	12800	5440	16800	5020	5610	7540
9	7870	9740	10500	9920	8810	7650	9890	5470	16100	5190	5440	7240
10	7730	8950	9600	9690	8950	8040	8950	5660	16500	5000	5610	7910
11	8130	8690	9920	9720	8750	7480	9260	5860	17700	5110	5770	8370
12	7870	8830	9940	9830	7310	7820	9030	6470	19200	5250	6020	9030
13	7900	8640	10000	9890	6970	8210	8920	7080	19700	5690	5940	9080
14	8180	10400	10100	10000	7930	7760	8860	5660	19500	5220	5580	9250
15	8070	9740	10100	9940	8580	7900	8690	5580	19500	5000	5610	8880
16	8150	9400	10400	9920	8550	7170	8860	5550	19500	5380	5690	8760
17	9060	10100	10300	10800	8550	7900	7480	5660	14400	5160	5860	8750
18	9320	9690	10600	9770	8550	7930	7670	6360	8950	5190	5810	8650
19	9000	10100	9830	9720	8640	7960	7220	6720	7730	5300	5820	7860
20	9060	9830	9800	9970	8410	7620	7760	6520	6660	5300	5930	8180
21	9260	10200	10000	10300	7590	8440	8270	7650	6220	5410	5990	8590
22	9690	11300	10400	9890	8070	8320	10700	7960	6080	5330	5870	8460
23	9600	11100	10400	9770	7760	6640	12700	7390	5970	5380	6070	8510
24	9370	10500	10100	9860	7960	6330	12700	8070	5610	5380	6350	9710
25	9490	10900	10700	9400	8040	6970	13600	7560	5610	5410	6340	8800
26	8950	10300	10900	9830	7700	7620	15600	7060	5440	5550	6260	8390
27	8890	9460	11100	10100	7340	7000	14900	7310	4910	6220	6200	9770
28	9520	10300	9570	9830	7530	8270	14300	9230	4530	6470	6110	9790
29	9350	11100	10100	9370	---	10100	13000	13200	4580	5630	6160	9040
30	9350	10700	10000	8660	---	10000	12700	14800	4610	5580	6530	8980
31	9350	---	10200	8980	---	9230	---	15600	---	5610	6730	---
TOTAL	268710	305080	320060	305100	235220	244340	316150	239820	379400	164070	183370	249530
MEAN	8668	10170	10320	9842	8401	7882	10540	7736	12650	5293	5915	8318
MAX	9690	12500	11100	10800	9320	10100	15600	15600	19700	6470	6730	9790
MIN	7730	8640	9570	8660	6970	6330	7220	5440	4530	4580	5440	6660
AC-FT	533000	605100	634800	605200	466600	484600	627100	475700	752500	325400	363700	494900

CAL YR 1980 TOTAL 3555440 MEAN 9714 MAX 28200 MIN 5690 AC-FT 7052000
WTR YR 1981 TOTAL 3210850 MEAN 8797 MAX 19700 MIN 4530 AC-FT 6369000

Water Year 1982

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi (6.8 km) downstream from Swan Falls powerplant, 7.5 mi (12.1 km) northeast of Murphy, and at mile 453.5 (729.7 km).

DRAINAGE AREA.--41,900 mi^2 (108,500 km^2), approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft (692.253 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi (5.6 km) upstream at datum 9.79 ft (2.984 m) higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi (419.1 km) upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres (1,050,000 hm^2) of which about 701,000 acres (284,000 hm^2) are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--69 years, 11,000 ft^3/s (311.5 m^3/s) 7,970,000 acre-ft/yr (9,830 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s (1,340 m^3/s) June 22, 1918, gage height, 13.95 ft (4.252 m), site and datum then in use; minimum, 3,650 ft^3/s (103 m^3/s) July 7, 1981, gage height, 2.22 ft (0.677 m); minimum daily, 4,530 ft^3/s (128 m^3/s) June 28, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 25,900 ft^3/s (733 m^3/s) May 13; minimum, 4,910 ft^3/s (139 m^3/s) Jan. 12, gage height, 2.83 ft (0.863 m); minimum daily, 5,970 ft^3/s (169 m^3/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8610	9630	9320	9970	8490	12500	20600	23000	18400	9090	6580	10100
2	8660	9430	9030	8270	8750	13200	22400	23000	20300	8980	7130	9140
3	8640	9490	9170	8150	9060	14000	22900	23000	21200	9350	6900	8970
4	8690	9260	8860	9030	8610	14200	22900	22900	20900	8980	7060	9300
5	9000	9030	8810	8920	8350	13000	23700	22500	20200	9520	6300	9110
6	8720	9000	8830	7730	8350	12000	22800	23000	20000	10200	7070	8850
7	9060	8920	8890	8100	7840	9770	22800	24200	19300	11500	7470	8990
8	9720	8920	10100	8720	8410	10700	23000	24800	19100	15300	7420	9210
9	9520	8920	9170	7960	8380	12700	23000	24200	18800	11900	7670	9160
10	9520	8920	8950	8180	9090	13100	21600	25200	17000	13700	7740	9670
11	10100	8980	8580	9060	8520	12500	21400	25500	14200	14500	7500	9540
12	10300	8950	9150	8270	9350	13000	22600	25700	11200	14600	7370	9340
13	10900	9170	8640	9150	8410	13200	24200	25900	9430	13100	6760	9510
14	9260	9570	8580	8610	9290	13100	23600	25300	9060	13200	7090	9740
15	10400	8950	8410	8610	10100	13000	23600	24600	7870	12800	6960	10700
16	10100	8920	8750	9230	14000	13600	25200	24400	9570	10800	7150	10700
17	9720	8950	9350	8690	19500	13700	25400	24400	9350	8580	8280	10900
18	10300	9570	8700	8610	21900	13000	25300	24700	10000	8150	9770	10700
19	10300	9030	9260	8640	16300	12300	25300	24500	9520	8350	6560	10700
20	9940	8920	10200	8920	14600	12000	24400	24500	9600	7030	6950	10600
21	9660	8980	12800	8890	16100	11800	25600	24300	10100	6640	6760	10800
22	9940	9000	11900	9090	18300	11600	24700	22900	10000	7060	7370	10800
23	10000	9000	9970	8720	18900	11000	24400	23000	9350	6010	8440	10800
24	10100	9630	9430	8920	15200	10100	24300	22600	10600	6140	8440	10700
25	9540	9970	8720	8980	12000	9100	24100	22300	9920	5970	8390	10700
26	10400	9890	7870	8780	12000	9200	24000	21600	8750	6010	8110	10800
27	9800	9630	9290	8240	11500	9770	24000	20400	9770	6190	7900	10800
28	9800	9260	9260	9170	12000	14600	23700	17400	9230	6120	8370	10800
29	9720	9490	8980	8720	---	15800	23000	17800	9170	6120	8790	10900
30	9460	9430	8010	8860	---	19800	22900	18200	8720	6830	9640	11000
31	9150	---	8410	8380	---	20300	---	19000	---	6450	9570	---
TOTAL	299030	276810	285390	269570	333300	397640	707400	714800	390610	289170	237510	303030
MEAN	9646	9227	9206	8696	11900	12830	23580	23060	13020	9328	7662	10100
MAX	10900	9970	12800	9970	21900	20300	25600	25900	21200	15300	9770	11000
MIN	8610	8920	7870	7730	7840	9100	20600	17400	7870	5970	6300	8850
AC-FT	593100	549100	566100	534700	661100	788700	1403000	1418000	774800	573600	471100	601100

CAL YR 1981	TOTAL	3178230	MEAN	8707	MAX	19700	MIN	4530	AC-FT	6304000
WTR YR 1982	TOTAL	4504260	MEAN	12340	MAX	25900	MIN	5970	AC-FT	8934000

Water Year 1983

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi downstream from Swan Falls powerplant, 7.5 mi northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 mi^2, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi upstream at datum 9.79 ft higher.

REMARKS.-- Records excellent. Major regulation by American Falls Reservoir 260.5 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres of which about 701,000 acres are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--70 years, 11,080 ft^3/s, 8,027,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s June 22, 1918, gage height, 13.95 ft, site and datum then in use; minimum, 3,650 ft^3/s July 7, 1981, gage height, 2.22 ft; minimum daily, 4,530 ft^3/s June 28, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,400 ft^3/s May 6, gage height, 12.06 ft; minimum, 5,850 ft^3/s July 24, 25, gage height, 3.02 ft; minimum daily, 6,360 ft^3/s July 27,

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.2	6350	6.0	14400
3.5	7190	9.0	23200
4.0	8600	12.0	32200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12000	18200	18300	18700	17100	16000	19100	24100	22900	17300	6610	9150
2	12000	17700	19500	18800	16700	16300	18400	25800	24900	18000	7160	9020
3	11800	17900	19300	18800	16400	17400	17700	25400	24300	17200	7450	8990
4	11300	18400	17800	18200	16000	18100	19500	25100	23300	18500	7540	8950
5	11500	18300	19800	19400	16400	17200	19600	25600	23000	19900	7070	8980
6	11300	18800	19500	19600	16800	16400	19700	30600	22900	20900	7100	9030
7	11300	19600	19100	19900	16200	15500	20400	31200	22800	20100	8120	9340
8	11200	18800	19200	20500	16100	15200	20400	30400	23300	17800	8080	10100
9	11400	18800	18500	20200	15000	15200	20100	30500	23000	14800	7830	9520
10	11500	18100	18300	19600	15500	14400	19100	30100	23200	14400	7930	8910
11	13200	18800	18400	19200	16000	13700	19200	29100	23700	13100	8960	8930
12	11800	18200	18500	18200	16000	13900	19000	29700	24200	12900	9960	9020
13	13200	18200	18500	18400	16000	14200	18600	30800	25000	12900	9030	9230
14	12600	17700	18600	18800	17200	15900	17000	31000	25200	14800	8470	9660
15	10500	18000	18900	18800	18600	16400	16600	29900	26200	16500	9290	9680
16	12100	18100	19500	18400	16900	16400	15400	28900	26200	16100	9240	9700
17	16100	18400	19400	17100	16700	16200	16800	28100	26700	16700	8840	9090
18	16000	20400	19500	16000	16100	13800	17200	26700	26400	16200	8450	9290
19	15900	20300	19500	17000	15900	13200	16600	25100	25900	15700	8180	9320
20	15700	20300	19300	18400	16000	12000	16900	25300	23900	14100	8370	9240
21	14800	19900	19300	18300	16000	9800	17200	25200	21500	12900	8680	10100
22	16200	19600	19500	18200	15900	10400	18000	24400	18700	9480	9840	10600
23	16200	19900	21300	18400	16000	10800	18600	23300	19100	7990	10400	10900
24	16200	19200	19400	18100	16000	11100	19600	23300	19300	6600	11400	10900
25	16200	19000	19800	17400	16000	13200	19700	23000	18300	7070	10800	10800
26	16200	19000	18700	17500	16000	13700	20300	22100	16100	6440	11000	10800
27	16200	19200	16900	17800	16000	16200	20100	21700	15500	6360	10900	10800
28	16200	18800	18300	17200	16100	16800	21600	21500	15000	6610	12000	10700
29	16400	18300	17500	17600	---	19300	23000	22100	15900	6530	9710	10500
30	19000	18300	18400	17300	---	18600	24300	22200	16600	6870	9670	10400
31	18200	---	17900	17200	---	18200	---	23100	---	6530	9430	---
TOTAL	434200	564200	586400	569000	455600	465500	569700	815300	663000	411280	277510	291650
MEAN	14010	18810	18920	18350	16270	15020	18990	26300	22100	13270	8952	9722
MAX	19000	20400	21300	20500	18600	19300	24300	31200	26700	20900	12000	10900
MIN	10500	17700	16900	16000	15000	9800	15400	21500	15000	6360	6610	8910
AC-FT	861200	1119000	1163000	1129000	903700	923300	1130000	1617000	1315000	815800	550400	578500

CAL YR 1982 TOTAL 5280480 MEAN 14470 MAX 25900 MIN 5970 AC-FT 10470000
WTR YR 1983 TOTAL 6103340 MEAN 16720 MAX 31200 MIN 6360 AC-FT 12110000

Water Year 1984

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW1/4 NE1/4 SE1/4 sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi downstream from Swan Falls powerplant, 7.5 mi northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 mi2, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi upstream at datum 9.79 ft higher.

REMARKS.-- Records good. Major regulation by American Falls Reservoir 260.5 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres of which about 701,000 acres are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--71 years, 11,190 ft3/s, 8,107,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft3/s June 22, 1918, gage height, 13.95 ft, site and datum then in use; minimum, 3,650 ft3/s July 7, 1931, gage height, 2.22 ft; minimum daily, 4,530 ft3/s June 25, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,300 ft3/s June 16, gage height, 12.35 ft; minimum, 5,600 ft3/s Aug. 23, gage height, 2.93 ft; minimum daily, 5,990 ft3/s Aug. 23.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.0	5800	8.0	20200
4.0	8600	10.0	26800
6.0	14400	12.3	35100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11100	23700	20700	22700	23200	12200	20500	28600	29800	19000	13100	8830
2	11000	22400	19700	22500	23200	12900	20400	27600	28100	18000	13500	9000
3	11400	19700	18900	22200	23100	11600	21400	27700	29400	16900	14700	9060
4	12300	17800	19300	22200	22700	11100	21400	29100	28600	16200	14300	9420
5	13000	18000	19600	22700	21400	12100	21600	30400	27400	14600	13300	7800
6	12000	18200	17700	23600	20100	12300	21500	30900	26000	15700	13200	10000
7	12500	17400	19600	23400	19400	12300	22300	29500	30200	15800	12500	9910
8	13200	18200	18700	23900	19100	11400	22400	29700	30800	15700	9300	9420
9	13700	18200	20500	24700	17900	11300	22600	28100	32100	14500	8970	9950
10	13500	19000	21500	24800	16000	13300	23300	28100	32600	13600	8490	9700
11	13400	20400	23500	24700	15500	13700	23400	28000	34300	13800	7780	9130
12	14000	20100	22800	24700	13200	14600	25000	26700	34400	12800	7730	9210
13	16400	20200	22400	24500	14700	14300	26400	27400	34400	9620	7280	9620
14	16400	20300	22800	24200	13900	11100	25000	29500	34000	9200	8230	9900
15	16400	20100	22500	24300	16200	11500	26300	28600	34000	9200	8000	10500
16	13900	20100	22000	23800	15400	13300	27200	30600	34600	8180	7840	11700
17	16100	20700	21900	23600	15400	13100	28200	33100	35100	7600	5260	10800
18	17100	22100	22100	22700	15500	14300	30100	34800	34900	7220	7630	10700
19	17500	22500	23100	23600	13400	13900	30500	34900	34800	6940	9420	10600
20	18300	22400	23800	22300	12700	13900	28100	34800	34600	6240	9510	9550
21	19000	22800	22200	22100	10600	14400	26300	34700	32600	7300	9000	10600
22	19700	22000	21400	22100	10300	16800	23000	34500	33300	6880	8600	9660
23	20500	21400	18400	22100	11000	14200	23000	34500	32600	8460	5990	10200
24	20800	23100	18700	22100	12900	15700	22900	34500	32200	10000	8460	11300
25	20800	22000	19600	22100	11200	15100	24500	34500	31000	10100	8890	13200
26	23100	20700	20600	23500	12100	15100	30700	34500	30400	9420	9400	10400
27	23200	21000	21200	23800	12200	13900	31900	34200	27700	9200	10100	10900
28	24700	20900	21300	23200	12200	12900	32000	33200	22000	9280	9280	12500
29	23600	21800	21400	23200	12300	17500	30800	33900	18800	9230	9370	11000
30	23100	21500	22000	23200	---	20000	29900	32000	19700	9740	9400	11000
31	23700	---	21800	23400	---	20400	---	31100	---	11800	9110	---
TOTAL	525400	618700	651700	720900	456800	430200	762600	968700	922400	352210	302640	305950
MEAN	16950	20620	21020	23250	15750	13880	25420	31250	30750	11360	9763	10200
MAX	24700	23700	23800	24800	23200	20400	32000	34900	35100	19000	14700	13200
MIN	11000	17400	17700	22100	10300	11100	20400	26700	18800	6240	5990	7800
AC-FT	1042000	1227000	1293000	1430000	906100	853300	1513000	1921000	1830000	698600	600300	606900

CAL YR 1983	TOTAL	6314340	MEAN	17300	MAX	31200	MIN	6360	AC-FT12524000			
WTR YR 1984	TOTAL	7018230	MEAN	19180	MAX	35100	MIN	5990	AC-FT13921000			

Note.--No gage-height record Dec. 10 to Jan. 18, May 24, 25, Aug. 15.

Water Year 1985

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW1/4 NE1/4 SE1/4 sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi downstream from Swan Falls powerplant, 7.5 mi northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 mi^2, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi upstream at datum 9.79 ft higher.

REMARKS.-- Estimated daily discharges: June 18-21. Records good. Major regulation by American Falls Reservoir 260.5 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres of which about 701,000 acres are by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--72 years, 11,240 ft^3/s, 8,143,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s June 22, 1918, gage height, 13.95 ft, site and datum then in use; minimum, 3,650 ft^3/s July 7, 1981, gage height, 2.22 ft; minimum daily, 4,530 ft^3/s June 28, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,900 ft^3/s Oct. 25, gage height, 9.18 ft; minimum, 4,540 ft^3/s June 23, gage height, 2.65 ft; minimum daily, 4,940 ft^3/s June 24.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.7	4670	6.0	14000
4.0	8250	8.0	20000
		10.0	26700

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12000	22900	22800	19300	19200	15700	20200	13600	12200	5490	7560	8360
2	12100	22300	22300	19300	19000	14400	22400	11400	15500	5560	8110	8860
3	11500	21900	21500	18800	18200	14000	22000	9510	15600	5510	7910	8860
4	10900	21700	21700	18700	18400	14900	22500	8880	14600	5710	8000	9560
5	11300	20800	19500	17500	19400	13100	21700	8580	14300	5550	7680	8480
6	13100	20300	18700	17500	19800	12500	22800	9400	13000	6590	6690	8790
7	15900	21400	19500	18500	19500	11500	22900	10300	9750	6150	6990	9110
8	16000	20900	19300	18400	19400	11900	22100	11200	7460	6070	7530	10300
9	15900	20900	18700	18600	18800	12200	22000	11300	7590	5800	7060	11300
10	15900	20900	15000	19000	17100	11900	23100	11300	7100	6910	6700	11300
11	15900	20900	13300	18700	17000	12300	21700	13300	7340	7030	6130	12000
12	16000	20900	14500	18600	17000	13900	20800	18300	8150	6360	7160	11700
13	17400	21600	14400	18700	17100	15700	21100	20400	7150	5600	7790	11500
14	18200	20800	14400	18500	17100	16500	20200	20400	9130	5780	7400	11100
15	19200	21000	14300	18500	16900	17300	21600	19800	8500	6830	6290	10900
16	19500	21200	12500	18600	17100	17600	21700	20000	6280	6720	6200	10800
17	21100	21100	9960	18800	17100	17800	20400	20900	6530	6050	7430	10900
18	22300	21200	12700	19300	16800	18100	20300	18200	7880	6610	7370	11200
19	22000	21100	11700	19000	16800	14700	19500	15800	5800	6400	7600	10600
20	21800	21000	12800	19000	16500	13100	19500	15300	5600	6160	7650	10200
21	22300	21000	11400	19000	16500	13800	18600	14100	5310	6810	7900	10300
22	22200	21500	13400	19000	17000	15700	18600	14200	5750	6650	7380	10500
23	22300	21600	15200	19300	17300	15800	18700	12300	5160	6930	7530	10500
24	21300	21700	15300	19400	18500	15800	18100	10300	4940	6980	7510	10400
25	23000	21700	15500	18900	16600	15900	16100	8080	5050	6950	7580	9770
26	21500	21900	17500	17800	16700	15900	17000	7260	5420	6860	7580	10200
27	22600	20900	20300	17500	16200	17200	16900	7630	6390	7610	8220	10300
28	22200	21100	17800	17800	15700	18700	15800	8470	5610	7480	7960	10200
29	22100	22400	18000	19400	---	20100	15400	8480	5400	7010	8340	9750
30	22200	22400	19300	19100	---	19600	14200	9470	5510	7690	7000	9980
31	22600	---	19300	19200	---	19100	---	10300	---	6700	7160	---
TOTAL	572300	641000	512560	579700	492700	476700	597900	398460	244000	200550	229410	307720
MEAN	18460	21370	16530	18700	17600	15380	19930	12850	8133	6469	7400	10260
MAX	23000	22900	22800	19400	19800	20100	23100	20900	15600	7690	8340	12000
MIN	10900	20300	9960	17500	15700	11500	14200	7260	4940	5490	6130	8360
AC-FT	1135000	1271000	1017000	1150000	977300	945500	1186000	790300	484000	397800	455000	610400

CAL YR 1984 TOTAL 6948290 MEAN 18980 MAX 35100 MIN 5990 AC-FT13782000
WTR YR 1985 TOTAL 5253000 MEAN 14390 MAX 23100 MIN 4940 AC-FT10419000

Water Year 1986

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.--Lat 43°17'31", long 116°25'12", in NW¼NE¼SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi downstream from Swan Falls powerplant, 7.5 mi northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.--41,900 mi^2, approximately.

PERIOD OF RECORD.--August to October 1912, August 1913 to current year.

REVISED RECORDS.--WSP 1737: 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 2,271.17 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi upstream at datum 9.79 ft higher.

REMARKS.-- Estimated daily discharges: Jan. 1 to Feb. 26. Records good. Major regulation by American Falls Reservoir, 260.5 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres, of which about 701,000 acres are irrigated by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.--73 years, 11,300 ft^3/s, 8,187,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s June 22, 1918, gage height, 13.95 ft, site and datum then in use; minimum, 3,650 ft^3/s July 7, 1981, gage height, 2.22 ft; minimum daily, 4,530 ft^3/s June 28, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 33,700 ft^3/s Feb. 21; minimum, 4,750 ft^3/s July 18, gage height, 2.73 ft; minimum daily, 6,180 ft^3/s July 18.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.0	5480	8.0	20000
4.0	8250	10.0	26700
6.0	14000	12.0	34000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10500	10100	15500	13000	15500	20000	28300	23800	21800	8870	6490	8770
2	10300	10400	15900	13400	15000	20100	30800	24200	20600	9080	6510	8910
3	10000	10300	15800	12700	14000	20500	31100	23900	20700	7760	6610	9340
4	9920	10300	15000	12100	13500	19500	30500	24800	21000	8420	7200	9020
5	9560	10400	12600	12400	13200	18700	30400	24000	19900	8620	7190	9130
6	9380	12200	12700	12500	12200	19700	30200	24100	19500	8500	7380	9100
7	9700	11600	9580	12200	12000	19900	29600	25300	21100	9130	7220	9130
8	9800	11400	8930	12600	11800	20400	29800	24600	20800	9150	7360	9480
9	10300	10900	11500	12500	11900	24600	25700	27000	22200	8780	7610	9870
10	10000	10800	11800	12200	10500	28300	22900	27200	22600	7880	7390	9620
11	10000	11300	11200	12100	12700	27600	21900	27500	24000	6840	7270	9910
12	10500	10600	10300	11900	12500	27400	23400	28300	24600	6950	7420	9850
13	10100	11100	10700	11900	13200	27700	24000	27500	24800	6770	7650	10600
14	10000	12300	9840	12000	15000	28200	23000	27700	23000	6660	6860	10300
15	10200	9630	10600	12200	16000	28500	24900	27100	23500	7150	7320	10100
16	11200	10400	12300	14000	18000	28300	26600	25900	23700	7440	7690	10100
17	11100	14500	13700	14300	20500	24000	26800	26900	24900	7580	7290	10600
18	10700	13500	12600	15000	25500	20400	26400	26500	24000	6180	8190	10500
19	10100	12700	10900	14100	29000	16100	26900	26300	22500	6840	7370	10400
20	10200	12600	11200	13600	33500	15700	27000	26100	21700	6750	8210	10200
21	10200	10800	12300	14100	33700	15700	25800	25900	21900	7390	8610	10400
22	9950	11400	11600	13500	24700	20600	26000	23400	21900	6590	8800	10700
23	10000	12000	12000	12400	20500	27800	26000	21200	21900	7040	8460	11100
24	10000	11600	12600	12100	23500	29700	23100	20000	22100	7080	7480	11000
25	10200	11100	11600	12900	25800	30000	21100	21400	21300	6690	7790	10900
26	10500	11900	12000	12800	22000	29600	24300	23000	17900	6950	8540	12800
27	10700	12300	13300	12700	20800	30000	23700	23300	15600	7500	8570	12100
28	10400	12100	14000	12900	20600	29600	23400	23300	13300	7810	8220	13700
29	10300	12800	12900	12500	---	30100	25200	23500	11100	7950	8230	14500
30	9880	16000	13200	13900	---	30000	25200	22000	10300	7570	8330	15800
31	9720	---	13500	15000	---	30600	---	22700	---	7770	7840	---
TOTAL	315410	349030	381650	401500	517100	759300	784000	768400	624200	235690	237100	317930
MEAN	10170	11630	12310	12950	18470	24490	26130	24790	20810	7603	7648	10600
MAX	11200	16000	15900	15000	33700	30600	31100	28300	24900	9150	8800	15800
MIN	9380	9630	8930	11900	10500	15700	21100	20000	10300	6180	6490	8770
AC-FT	625600	692300	757000	796400	1026000	1506000	1555000	1524000	1238000	467500	470300	630600

CAL YR 1985	TOTAL	4573230	MEAN	12530	MAX	23100	MIN	4940	AC-FT	9071000
WTR YR 1986	TOTAL	5691310	MEAN	15590	MAX	33700	MIN	6180	AC-FT	11289000

Water Year 1987

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.—Lat 43°17'31", long 116°25'12", in NW¼ NE ¼ SE ¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi downstream from Swan Falls powerplant, 7.5 mi northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.—41,900 mi², approximately.

PERIOD OF RECORD.—August to October 1912, August 1913 to current year.

REVISED RECORDS.—WSP 1737: 1933(M).

GAGE.—Water-stage recorder. Datum of gage is 2,271.17 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi upstream at datum 9.79 ft higher.

REMARKS.—No estimated daily discharges. Records good. Major regulation by American Falls Reservoir, 260.5 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres, of which about 701,000 acres are irrigated by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.—74 years, 11,290 ft³/s, 8,180,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 47,300 ft³/s June 22, 1918, gage height, 13.95 ft, site and datum then in use; minimum, 3,650 ft³/s July 7, 1981, gage height, 2.22 ft; minimum daily, 4,530 ft³/s June 28, 1981.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 21,200 ft³/s Oct. 31, gage height, 8.40 ft; minimum, 4,920 ft³/s Mar. 23, gage height, 2.79 ft; minimum daily, 5,360 ft³/s June 25.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.5	4140	6.0	14000
3.0	5480	8.0	20000
4.0	8250	10.0	26700

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14700	20600	18600	17800	10000	8910	11900	8070	7270	5420	6040	8010
2	15700	19000	17400	17600	10000	8760	9510	7900	7430	5380	8200	7730
3	15900	17300	18600	18300	12000	9290	9630	8330	6180	6410	6680	7540
4	16400	15300	18400	18800	9700	8140	7260	7450	7460	6770	6330	8010
5	17500	14000	18500	17900	10300	7600	8030	7280	6350	5960	6960	7640
6	16900	9900	19000	17600	12300	10700	7420	7440	6830	5610	6330	7840
7	17300	9840	18300	17800	12800	9560	6990	6480	6450	6260	6830	8100
8	17100	10400	17800	18000	12900	8120	7920	6540	6830	6640	6330	8740
9	17100	13500	17400	18000	13000	8230	7490	5960	8360	5610	6420	8330
10	17000	16100	17900	18100	11300	8850	7650	5970	7070	6250	7100	8370
11	17400	15900	18000	17900	8700	9940	7740	6620	6780	6440	7190	8340
12	17900	15900	18000	17500	7920	9810	9230	5940	8130	7340	7050	8530
13	18800	17000	18000	16900	7690	7930	8980	6340	7090	6590	6600	8270
14	18400	16600	18400	18100	6740	7360	9920	6040	7220	7720	6880	8190
15	17800	16700	18400	17800	8060	10200	9940	6330	5930	6790	7300	8200
16	17900	16600	18600	17100	8620	8870	8890	6210	5940	6640	6990	8330
17	18000	16400	18000	16800	8900	9460	7370	6110	5730	6350	7340	8280
18	18500	16300	17900	15000	9510	8270	7680	6490	5410	7100	7300	9060
19	18600	15800	18000	14700	9640	6270	7950	7760	6030	6740	7570	8460
20	18800	16000	18300	14400	9990	7820	6640	8160	5910	8660	6540	9100
21	19300	16200	18800	13300	9660	9530	8760	8200	6400	8470	7280	9130
22	18700	16600	19100	12900	8870	7710	8000	6380	5390	8460	6330	9210
23	18700	17100	18800	11400	9270	6180	6740	7670	5740	8270	6670	9030
24	18800	17700	18100	11900	9550	7570	7090	7080	6670	7910	7360	9120
25	19200	17900	18200	11600	9910	7310	7530	7040	5360	7140	6760	8930
26	19200	18900	18800	11700	8920	7720	7030	8060	5940	7360	6880	8780
27	19200	18300	18100	12100	9160	6930	7040	7510	5950	7310	6110	8760
28	19300	18200	18000	12100	9180	9230	6950	7710	5370	7250	6960	8760
29	19300	18900	18000	11000	---	10400	7180	7730	6440	5920	7310	8920
30	19600	19100	18100	11300	---	10400	6920	7670	6440	6830	8110	8880
31	20700	---	17700	10800	---	8900	---	7370	---	6040	8370	---
TOTAL	559700	488040	565200	476200	274590	265970	241380	219840	194100	211640	216120	254590
MEAN	18050	16270	18230	15360	9807	8580	8046	7092	6470	6827	6972	8486
MAX	20700	20600	19100	18800	13000	10700	11900	8330	8360	8660	8370	9210
MIN	14700	9840	17400	10800	6740	6180	6640	5940	5360	5380	6040	7540
AC-FT	1110000	968000	1121000	944500	544600	527600	478800	436100	385000	419800	428700	505000

CAL YR 1986 TOTAL 6258060 MEAN 17150 MAX 33700 MIN 6180 AC-FT 12410000
WTR YR 1987 TOTAL 3967370 MEAN 10870 MAX 20700 MIN 5360 AC-FT 7869000

1988 Water Year

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.—Lat 43°17'31", long 116°25'12", in NW¼ NE¼ SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi downstream from Swan Falls powerplant, 7.5 mi northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.—41,900 mi², approximately.

PERIOD OF RECORD.—August to October 1912, August 1913 to current year.

REVISED RECORDS.—WSP 1737: 1933(M).

GAGE.—Water-stage recorder. Datum of gage is 2,271.17 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi upstream at datum 9.79 ft higher.

REMARKS.—No estimated daily discharges. Records good. Major regulation by American Falls Reservoir, 260.5 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres, of which about 701,000 acres are irrigated by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.—75 years, 11,240 ft³/s, 8,143,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 47,300 ft³/s June 22, 1918, gage height, 13.95 ft, site and datum then in use; minimum, 3,650 ft³/s July 7, 1981, gage height, 2.22 ft; minimum daily, 4,530 ft³/s June 28, 1981.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 11,800 ft³/s Oct. 22, gage height, 5.25 ft; minimum, 4,410 ft³/s Dec. 13, gage height, 2.60 ft; minimum daily, 5,320 ft³/s June 23, 25.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.5	4140	4.0	8250
3.0	5480	6.0	14000

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8870	9270	8930	7930	8390	8420	6820	6070	8030	5990	5750	6750
2	9220	8990	8340	7900	8660	8000	7080	7280	8420	5980	6290	6760
3	9210	9150	9340	8610	7830	9030	6970	7010	8500	5900	5570	6830
4	9120	8560	9820	7820	7600	7990	7170	7690	7280	6000	6280	7510
5	8950	9030	9800	8100	7990	8150	7600	7140	7700	6050	6070	7150
6	9320	8350	8480	7910	8070	8410	7670	6170	7650	5590	6040	7110
7	9120	8590	6480	7720	7950	8290	6940	7110	7130	6000	5830	6750
8	8470	8720	8500	8010	7710	7870	6760	8430	6740	6010	6770	6850
9	8800	9610	9600	8250	8010	7760	7920	8360	6770	5960	6020	7400
10	8810	9240	9440	8290	8060	6390	7850	6980	6690	6040	6140	7000
11	9210	9940	9900	7690	8320	7900	7610	7500	6170	5830	6230	6860
12	8950	8800	9820	7390	8450	8170	7230	7310	6090	5430	6420	7030
13	9190	7910	7220	9150	8410	7350	7350	6830	5910	6380	6220	7880
14	9590	8880	5440	8290	8090	6950	7520	6330	5970	5950	6110	7890
15	9300	8810	7420	8290	8640	7690	7120	6070	6410	5790	6120	6910
16	9380	8320	8650	7740	7700	7320	6990	6300	6060	5870	6200	7470
17	9460	8590	7780	8530	7850	7480	7510	6330	5920	6120	6740	6740
18	9780	8680	8720	8030	8220	7220	6910	7300	6160	5990	6620	7340
19	9780	9150	8170	7920	7730	7220	8390	6910	6030	5860	5960	7330
20	9760	8450	8550	7730	7990	7710	8030	6390	5710	6000	6370	7370
21	9790	8480	8210	8370	8070	7160	8610	6820	6090	5500	6160	7620
22	11400	8410	7570	7530	8100	8040	7580	6120	5660	5780	6320	8230
23	11400	8760	7900	8130	8080	7910	7800	5860	5320	6010	6540	7920
24	10100	8920	8290	7760	8100	7570	8100	6200	5440	5930	6960	8610
25	10200	8430	8230	8060	7640	7260	7640	6330	5320	5690	6610	8360
26	10200	8770	8090	7890	7860	7510	7210	6670	5610	6070	7040	7530
27	9900	8160	8340	7910	8230	7120	7970	6280	6310	5880	6030	7520
28	9710	9770	7720	8010	8070	6710	7280	5500	5520	6160	6970	7480
29	9510	9590	8160	8220	8070	7680	6550	6200	6240	6180	6110	7630
30	9970	8970	7850	8220	---	8190	6960	6700	5980	6010	7100	7980
31	9810	---	8230	7980	---	7220	---	8630	---	5450	6080	---
TOTAL	296280	265300	258990	249380	233890	237690	223140	210820	192830	183400	195670	221810
MEAN	9557	8843	8355	8045	8065	7667	7438	6801	6428	5916	6312	7394
MAX	11400	9940	9900	9150	8660	9030	8610	8630	8500	6380	7100	8610
MIN	8470	7910	5440	7390	7600	6390	6550	5500	5320	5430	5570	6740
AC-FT	587700	526200	513700	494600	463900	471500	442600	418200	382500	363800	388100	440000

CAL YR 1987 TOTAL 3175000 MEAN 8699 MAX 18800 MIN 5360 AC-FT 6298000
WTR YR 1988 TOTAL 2769200 MEAN 7566 MAX 11400 MIN 5320 AC-FT 5493000

1989 Water Year

SNAKE RIVER MAIN STEM

13172500 SNAKE RIVER NEAR MURPHY, ID

LOCATION.—Lat 43°17'31", long 116°25'12", in NW¼ NE¼ SE¼ sec.35, T.1 S., R.1 W., Ada County, Hydrologic Unit 17050103, on right bank 4.2 mi downstream from Swan Falls powerplant, 7.5 mi northeast of Murphy, and at mile 453.5.

DRAINAGE AREA.—41,900 mi², approximately.

PERIOD OF RECORD.—August to October 1912, August 1913 to current year.

REVISED RECORDS.—WSP 1737: 1933(M).

GAGE.—Water-stage recorder. Datum of gage is 2,271.17 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1914, nonrecording gage, and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder at site 3.5 mi upstream at datum 9.79 ft higher.

REMARKS.—No estimated daily discharges. Records good. Station equipment includes satellite telemetry. Major regulation by American Falls Reservoir, 260.5 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. Diversions above station for irrigation of about 2,590,000 acres, of which about 701,000 acres are irrigated by withdrawals from ground water (1966 determination).

AVERAGE DISCHARGE.—76 years. 11,200 ft³/s, 8,114,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 47,300 ft³/s June 22, 1918, gage height, 13.95 ft, site and datum then in use; minimum. 3,650 ft³/s July 7, 1981, gage height, 2.22 ft; minimum daily, 4,530 ft³/s June 28, 1981.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 16,100 ft³/s Mar. 11, gage height, 6.77 ft; minimum, 5,160 ft³/s May 23, gage height, 2.85 ft; minimum daily, 5,710 ft³/s July 9.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 5 to Aug. 23)

3.0	5480	5.0	11100
4.0	8250	6.0	14000
		7.0	17000

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7600	8080	8160	7700	7680	9590	9320	6600	6970	5980	6640	8130
2	7810	8310	8540	7460	7770	8770	8460	6620	7240	5740	6810	6500
3	7620	8140	8420	7920	8740	8810	7810	7110	6770	5850	7040	7720
4	7710	8790	7850	8510	7570	9880	8890	7060	6470	5930	6590	7520
5	7840	8860	7600	7590	8460	10300	8660	6300	6700	6090	6660	7660
6	7790	8730	8170	7870	7200	9460	7970	6740	6820	6660	6750	7500
7	7510	8530	7850	7610	6830	8690	9410	6440	7670	6260	6690	9160
8	7490	7770	8460	7560	7150	10300	8300	6610	7340	6220	7020	8170
9	7750	7800	8380	7210	7100	10300	10800	6950	6930	5710	7120	8000
10	7830	8850	8240	8120	7370	11700	8260	7070	6760	5730	6530	7910
11	7590	8850	8250	8090	7770	15300	8800	7370	6280	5820	6660	8420
12	7700	8850	7820	7810	7710	11400	9100	8190	6400	6100	7770	8210
13	7890	8870	8050	8120	7210	12300	9710	8710	6540	6340	6900	7910
14	7430	8900	8000	7810	6520	11500	9410	8250	6650	6480	7500	8820
15	7230	8010	8010	7770	8410	10600	8520	6850	6440	6300	7950	8860
16	8000	8480	8080	7490	8230	8990	8920	7670	6310	6510	7840	8420
17	8050	8230	8170	7360	8340	9360	9350	7680	6040	7160	7910	8370
18	7720	8500	8110	7710	8210	8790	9180	8240	6050	6610	6390	8080
19	8300	8370	7540	8270	8290	8470	8960	7870	6390	6890	6770	8020
20	8110	8200	7740	7880	10500	9190	8980	7770	5930	6850	7310	9240
21	8290	8040	8360	7510	11600	8730	8830	7910	6130	6100	7320	9030
22	8900	8390	8030	7480	10500	8320	8920	7470	6510	6150	7580	8950
23	8220	8440	7860	7540	9860	7980	8430	6710	6330	6370	7650	8970
24	7510	8390	7890	7460	9200	8590	8790	6920	6160	6400	7490	8850
25	7860	9100	8320	8190	9580	9140	8860	6450	6280	6270	8780	8680
26	8230	9230	7400	7860	8890	8610	8580	6900	6650	6560	7790	8610
27	7780	8860	7860	7690	9490	10500	8530	6410	6880	6550	7380	8830
28	8440	8620	8740	7590	9950	9720	8010	6460	7390	6200	8750	8410
29	8850	8030	8670	7550	---	8930	6890	6880	6060	7050	9110	8970
30	8490	8160	7860	7390	---	9170	5830	6810	5960	6860	8680	8620
31	8250	---	7730	7670	---	9640	---	7110	---	6510	8190	---
TOTAL	245790	254380	250160	239790	236130	303030	260480	222130	197050	196250	229570	250540
MEAN	7929	8479	8070	7735	8433	9775	8683	7165	6568	6331	7405	8351
MAX	8900	9230	8740	8510	11600	15300	10800	8710	7670	7160	9110	9240
MIN	7230	7770	7400	7210	6520	7980	5830	6300	5930	5710	6390	6500
AC-FT	487500	504600	496200	475600	468400	601100	516700	440600	390800	389300	455400	496900

CAL YR 1988 TOTAL 2698960 MEAN 7374 MAX 9230 MIN 5320 AC-FT 5353000
WTR YR 1989 TOTAL 2885300 MEAN 7905 MAX 15300 MIN 5710 AC-FT 5723000