



Water-Data Report 2009

13290450 SNAKE RIVER AT HELLS CANYON DAM, IDAHO-OREGON STATE LINE

Middle Snake-Powder Basin
Brownlee Reservoir Subbasin

LOCATION.--Lat 45°15'05", long 116°41'50" referenced to North American Datum of 1927, in SE ¼ SE ¼ sec.33, T.3 S., R.49 E., Wallowa County, OR, Hydrologic Unit 17050201, Oregon, Wallowa-Whitman National Forest, Squirrel Prairie quad., on left bank 0.2 mi upstream from Hells Canyon Creek, 0.4 mi downstream from Deep Creek, 0.6 mi downstream from Hells Canyon Dam, 15.5 mi northeast of Homestead, Oregon, and at mile 247.0.

DRAINAGE AREA.--73,300 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1965 to current year.

REVISED RECORDS.--WDR ID-78-2: 1969-70, 1972-76, WDR ID-79-2: 1972-73(m).

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft above NGVD of 1929 (levels by Idaho Power Company).

COOPERATION.--Discharge records furnished by Idaho Power and reviewed by U.S. Geological Survey beginning October 2001.

REMARKS.--Station equipment includes satellite telemetry. Flow regulated by many reservoirs above station, with a total usable capacity of more than 10,000,000 acre-feet, the most effective of which is Brownlee Reservoir 38 mi upstream (see sta 13289700). Diurnal fluctuations caused by Hells Canyon powerplant. Diversions above station for irrigation of about 3,820,000 acres, of which 742,000 acres are irrigated by withdrawals from ground water (1966 determination).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s Jan. 2, 1997, gage height, 86.17 ft; minimum, 1,580 ft³/s Mar. 19, 1967, gage height, 59.9 ft; minimum daily, 4,360 ft³/s May 8, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 41,100 ft³/s June 8; minimum daily, 8,290 ft³/s Aug. 15.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	16,100	9,110	8,720	8,670	10,900	9,030	11,300	25,300	20,600	25,800	13,400	9,140
2	16,400	9,160	8,660	8,640	14,600	12,600	15,400	24,500	23,600	25,400	10,600	12,600
3	15,800	9,050	8,640	9,190	12,700	13,600	13,800	25,900	21,200	27,200	13,500	12,000
4	10,600	9,030	8,700	13,900	11,500	16,900	17,700	25,900	24,900	26,800	11,400	9,890
5	9,310	9,010	8,640	12,900	14,500	18,400	20,000	29,500	29,800	24,900	11,300	9,770
6	12,100	9,020	8,620	14,100	14,600	16,400	19,100	30,700	37,800	22,700	8,600	9,590
7	10,700	9,020	8,610	14,300	11,200	19,600	16,200	27,000	40,200	23,500	8,710	8,990
8	13,200	9,010	8,640	15,100	13,700	12,900	20,400	25,800	41,100	24,000	8,410	13,500
9	17,600	9,010	8,640	15,800	15,800	16,500	21,900	23,900	35,200	25,300	9,480	13,500
10	15,200	9,010	8,680	15,200	13,800	20,500	20,500	12,900	30,900	19,400	11,400	13,400
11	12,700	9,020	8,760	9,960	15,600	18,200	19,100	15,900	26,100	18,900	11,200	14,900
12	17,200	9,060	8,650	14,300	17,200	17,600	22,700	13,800	26,900	17,500	12,300	13,900
13	9,010	9,070	8,620	14,800	12,800	15,100	24,300	19,000	24,800	17,800	9,370	13,300
14	9,100	8,880	11,700	17,900	9,440	12,600	23,700	23,200	25,400	20,100	8,400	14,200
15	9,070	8,770	12,000	16,600	8,980	9,860	21,600	23,400	26,000	19,000	8,290	14,800
16	9,070	8,760	11,600	17,600	10,500	16,100	25,200	23,600	26,300	19,700	9,460	16,100
17	9,060	8,770	14,300	17,100	11,000	10,900	26,000	21,800	24,600	20,200	11,500	15,200
18	9,020	8,780	13,400	13,600	15,500	11,700	27,200	23,000	24,900	20,600	13,100	15,200
19	9,060	8,800	15,400	14,000	11,300	14,300	29,400	19,200	24,500	17,200	14,000	14,400
20	9,140	8,790	16,600	16,700	13,300	15,700	29,800	22,500	22,800	19,300	17,200	9,390
21	9,110	8,780	10,300	16,900	9,490	14,700	32,600	24,600	19,600	16,200	16,100	14,300
22	9,040	8,780	13,600	15,000	8,830	10,900	36,100	23,800	32,800	15,700	14,300	14,800
23	9,030	8,800	11,900	13,900	8,860	15,800	34,700	24,100	34,500	14,500	12,000	15,200
24	9,140	8,780	9,910	14,900	9,480	10,900	34,900	22,300	30,700	13,500	11,200	14,700
25	9,070	8,790	8,900	11,900	9,010	10,800	34,800	22,900	25,700	13,900	13,300	12,600
26	9,060	8,750	10,700	16,000	9,470	14,700	31,800	23,800	27,800	14,400	14,400	15,500
27	9,030	8,620	9,910	16,300	12,600	16,200	29,500	21,200	27,400	13,800	14,600	14,200
28	9,000	8,610	8,770	12,200	11,100	13,700	24,300	24,800	28,800	17,500	10,500	12,100
29	8,990	8,610	9,150	12,900	---	11,600	24,100	24,500	29,000	15,800	9,920	10,600
30	9,030	8,630	8,710	15,400	---	15,600	26,400	22,100	29,200	15,300	9,050	10,600
31	9,110	---	8,660	15,400	---	11,200	---	21,400	---	15,100	10,500	---
Total	339,050	266,280	318,090	441,160	337,760	444,590	734,500	712,300	843,100	601,000	357,490	388,370
Mean	10,940	8,876	10,260	14,230	12,060	14,340	24,480	22,980	28,100	19,390	11,530	12,950
Max	17,600	9,160	16,600	17,900	17,200	20,500	36,100	30,700	41,100	27,200	17,200	16,100
Min	8,990	8,610	8,610	8,640	8,830	9,030	11,300	12,900	19,600	13,500	8,290	8,990
Ac-ft	672,500	528,200	630,900	875,000	669,900	881,800	1,457,000	1,413,000	1,672,000	1,192,000	709,100	770,300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	14,530	14,320	16,840	21,250	22,950	26,980	28,890	26,160	23,590	14,080	11,430	13,710
Max	24,140	28,630	30,410	50,150	58,220	66,340	65,830	68,840	59,080	25,550	19,860	24,960
(WY)	(1972)	(1985)	(1984)	(1997)	(1997)	(1986)	(2006)	(1984)	(1984)	(1983)	(1997)	(1997)
Min	8,941	8,482	8,696	11,860	10,290	10,600	7,371	6,401	5,868	6,901	6,583	6,887
(WY)	(2002)	(2004)	(2003)	(2003)	(2005)	(1991)	(1988)	(1977)	(1992)	(1977)	(1992)	(1977)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1966 - 2009	
Annual total	5,314,120		5,783,690			
Annual mean	14,520		15,850		19,530	
Highest annual mean					36,560	1984
Lowest annual mean					9,746	1992
Highest daily mean	28,500	Jun 6	41,100	Jun 8	98,100	Jan 2, 1997
Lowest daily mean	8,570	Jul 12	8,290	Aug 15	4,360	May 8, 1977
Annual seven-day minimum	8,640	Nov 27	8,640	Nov 27	5,330	Jun 4, 1992
Annual runoff (ac-ft)	10,540,000		11,470,000		14,150,000	
10 percent exceeds	21,200		25,900		36,100	
50 percent exceeds	14,400		14,200		15,600	
90 percent exceeds	8,800		8,790		8,820	

