

Water-Data Report 2009

13094000 SNAKE RIVER NEAR BUHL, ID

Upper Snake Basin
Upper Snake-Rock Subbasin

LOCATION.--Lat 42°39'57", long 114°42'44" referenced to North American Datum of 1983, in NW ¼ NW ¼ sec.9, T.9 S., R.15 E., Twin Falls County, ID, Hydrologic Unit 17040212, Niagara Springs quad., on left bank 2 mi downstream from Niagara Springs, 3.8 mi upstream from outlet of Clear Lakes, 6 mi northeast of Buhl, and at mile 596.8.

DRAINAGE AREA.--22,990 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1946 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,951.9 ft above NGVD of 1929 (stadia levels). Dec. 12, 1946 to July 13, 1965, at datum 1.00 ft higher. Prior to Jan. 17, 1947, nonrecording gage 40 ft upstream.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by American Falls Reservoir 116.8 mi upstream. Diurnal fluctuation caused by hydroelectric plants upstream. No diversions except by small ranch ditches between this station and station at Milner, where at times practically entire flow is diverted during irrigation seasons. Diversions above station for irrigation of about 2,030,000 acres, of which about 542,000 acres are irrigated by withdrawals from ground water; about 230,000 acres are irrigated below station. In addition, about 26,000 acres are irrigated above station by diversions from Salmon Falls Creek. Considerable water leaks into the Snake River Plain aquifer upstream, some of which returns above the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,100 ft³/s June 22, 1997, gage height, 14.65 ft; minimum, 1,360 ft³/s Apr. 13, 2005, gage height, 0.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,700 ft³/s April 17, gage height 10.20 ft; minimum, 1,790 ft³/s May 30, gage height 1.25 ft.

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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	2,100	2,200	2,350	2,190	2,220	2,160	1,950	12,700	1,900	14,400	2,530	3,490
2	2,120	2,250	2,340	2,350	2,220	2,180	1,940	13,300	2,210	13,300	2,510	3,470
3	2,160	2,220	2,300	2,420	2,220	2,270	1,950	13,500	3,350	13,000	2,550	3,510
4	2,260	2,210	2,270	2,390	2,200	2,210	1,960	13,900	4,430	13,300	2,530	3,160
5	2,320	2,190	2,280	2,420	2,200	2,160	1,940	14,000	4,620	13,300	2,550	2,430
6	2,300	2,150	2,320	2,380	2,230	2,140	1,930	13,900	4,570	13,100	2,550	2,310
7	2,310	2,140	2,330	2,360	2,220	2,110	1,940	12,500	4,630	10,100	2,630	2,340
8	2,230	2,140	2,330	2,380	2,210	2,100	2,040	11,600	4,600	7,460	2,720	2,370
9	2,200	2,160	2,310	2,360	2,210	2,090	2,960	12,200	4,530	6,260	2,770	2,400
10	2,130	2,210	2,260	2,360	2,210	2,080	4,310	12,200	4,440	6,010	2,780	2,360
11	2,070	2,410	2,250	2,340	2,210	2,080	6,680	11,800	4,440	5,330	2,590	2,320
12	2,070	2,390	2,280	2,370	2,210	2,070	7,770	10,600	4,480	5,370	2,260	2,330
13	2,050	2,330	2,320	2,360	2,200	2,070	8,990	9,060	4,370	6,080	2,170	2,370
14	2,010	2,300	2,290	2,290	2,180	2,070	9,790	7,280	4,430	6,160	2,150	2,430
15	1,970	2,280	2,260	2,230	2,180	2,070	10,300	6,740	4,500	6,100	2,210	2,390
16	2,000	2,340	2,280	2,210	2,170	2,070	13,900	6,640	4,400	5,730	2,290	2,370
17	1,980	2,380	2,260	2,200	2,180	2,060	18,800	6,260	4,910	5,540	2,330	2,340
18	1,950	2,410	2,260	2,180	2,150	2,050	18,800	6,410	6,660	5,370	2,300	2,320
19	1,920	2,430	2,290	2,190	2,110	2,050	18,800	5,230	7,780	5,370	2,180	2,340
20	1,920	2,380	2,290	2,190	2,100	2,050	18,700	4,200	9,240	5,380	2,780	2,340
21	1,910	2,380	2,270	2,200	2,100	2,050	17,500	3,310	11,300	5,410	3,440	2,420
22	1,930	2,360	2,320	2,210	2,080	2,040	17,100	3,010	13,000	5,420	3,420	2,380
23	1,900	2,400	2,300	2,240	2,110	1,940	16,600	2,400	17,000	5,400	3,460	2,330
24	1,880	2,390	2,280	2,250	2,100	1,880	14,400	2,140	18,800	5,470	3,560	2,320
25	1,980	2,400	2,290	2,260	2,050	1,850	13,800	2,070	18,500	5,450	3,440	2,330
26	2,570	2,390	2,340	2,250	2,080	1,890	13,500	2,010	18,000	5,160	3,430	2,330
27	2,990	2,400	2,310	2,220	2,110	1,930	14,300	1,940	17,000	4,530	3,410	2,320
28	3,070	2,380	2,330	2,220	2,150	2,030	14,200	1,930	16,500	3,920	3,400	2,370
29	2,940	2,380	2,320	2,210	---	2,000	13,800	1,880	16,800	3,630	3,430	2,340
30	2,550	2,380	2,360	2,220	---	1,980	13,200	1,820	15,700	3,420	3,480	2,370
31	2,280	---	2,360	2,220	---	1,950	---	1,820	---	2,840	3,540	---
Total	68,070	69,380	71,350	70,670	60,610	63,680	303,850	228,350	257,090	217,310	87,390	74,900
Mean	2,196	2,313	2,302	2,280	2,165	2,054	10,130	7,366	8,570	7,010	2,819	2,497
Max	3,070	2,430	2,360	2,420	2,230	2,270	18,800	14,000	18,800	14,400	3,560	3,510
Min	1,880	2,140	2,250	2,180	2,050	1,850	1,930	1,820	1,900	2,840	2,150	2,310
Ac-ft	135,000	137,600	141,500	140,200	120,200	126,300	602,700	452,900	509,900	431,000	173,300	148,600

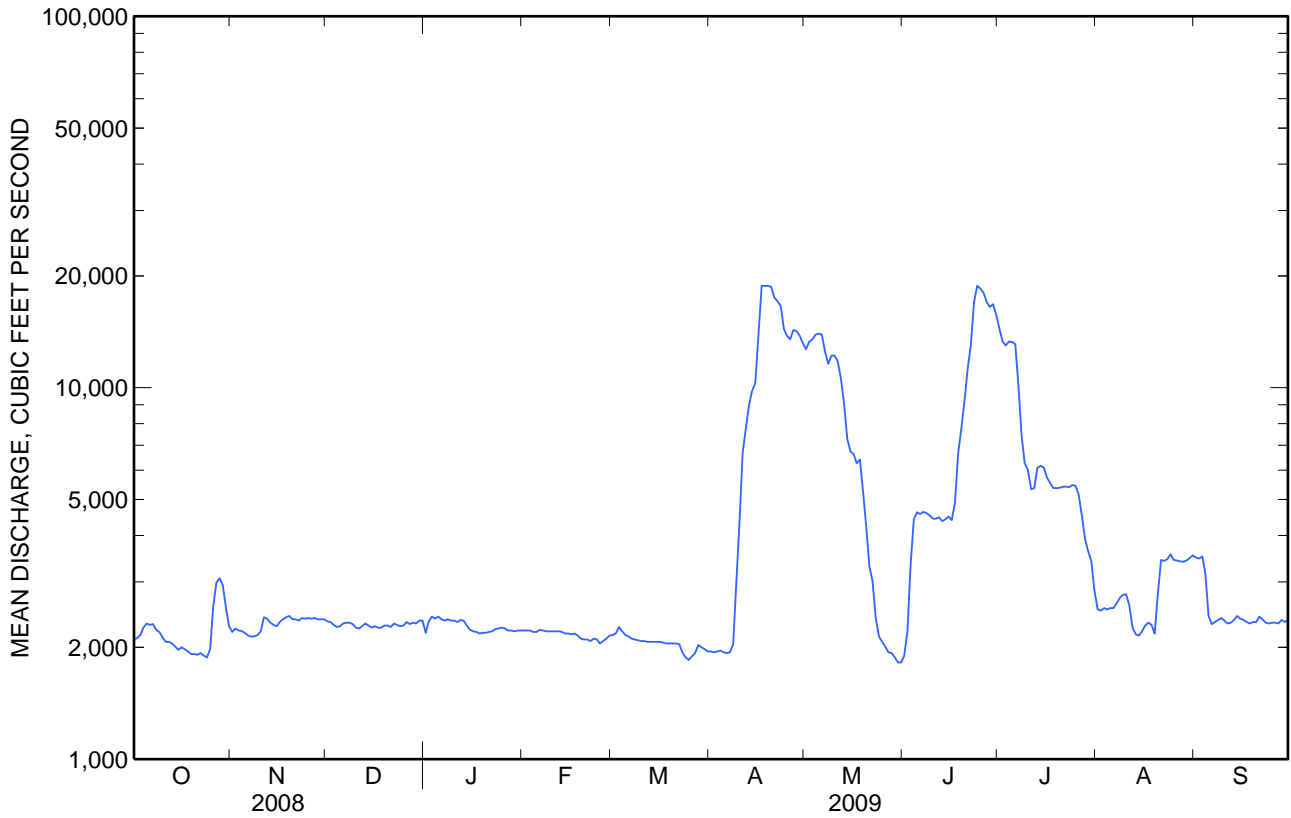
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	4,087	4,496	5,050	5,536	5,624	5,770	6,933	6,352	6,148	3,079	2,807	3,032
Max	12,260	14,760	13,350	15,950	19,570	21,110	20,570	19,590	26,480	7,917	5,811	8,770
(WY)	(1985)	(1985)	(1984)	(1984)	(1997)	(1997)	(1971)	(1984)	(1997)	(1983)	(1997)	(1997)
Min	1,959	1,921	1,651	1,920	1,879	1,545	1,550	1,633	1,623	1,663	1,739	1,863
(WY)	(2004)	(2008)	(2006)	(2004)	(2005)	(1991)	(1990)	(1992)	(2002)	(2004)	(2004)	(2005)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1947 - 2009	
Annual total	860,560		1,572,650			
Annual mean	2,351		4,309		4,908	
Highest annual mean					11,620	1984
Lowest annual mean					1,860	2004
Highest daily mean	5,400	Jul 22	18,800	Apr 17	36,100	Jun 21, 1997
Lowest daily mean	1,520	Apr 1	1,820	May 30	1,370	Apr 2, 1990
Annual seven-day minimum	1,520	Mar 30	1,900	May 26	1,370	Apr 2, 1990
Annual runoff (ac-ft)	1,707,000		3,119,000		3,555,000	
10 percent exceeds	3,880		12,600		11,200	
50 percent exceeds	2,110		2,340		3,020	
90 percent exceeds	1,750		2,040		1,960	



13094000 SNAKE RIVER NEAR BUHL, ID—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1965, March 1976, November 1990 to September 1991, August 1992 to November 2002, July to September 2003, April to September 2004, April to September 2006, April to September 2007, April to September 2008, April to September 2009.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June to September 1993, June to September 1994, July to November 1996, June to September 1997, February to October 1998, May to September 1999, May to September 2000, December 2001 to November 2002, June to September 2003, April to September 2004 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 23.2°C July 19, 21-23, 26, 28, 1998; minimum, 4.0°C Mar. 7, 2002.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 1 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Time	Baro- metric pres- sure, mm Hg (00025)	Temper- ature, air, deg C (00020)	Instan- taneous dis- charge, ft ³ /s (00061)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduc- tance, wat unf lab, μS/cm @ 25 degC (90095)	Specif- ic conduc- tance, wat unf lab, μS/cm @ 25 degC (00095)	Temper- ature, water, deg C (00010)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Alti- tude of land surface feet (72000)	Drain- age area, mi ² (81024)
Apr 16...	1115	690	9.0	14,700	12.6	8.2	--	520	496	8.7	32	2,952	22,990
May 12...	1100	682	16.0	10,900	--	--	--	432	479	13.7	20	2,952	22,990
Jun 16...	1245	685	22.0	4,470	10.9	8.0	--	506	493	18.3	E16	2,952	22,990
Jul 15...	1100	690	25.0	6,090	11.2	8.2	--	456	449	20.3	E13	2,952	22,990
Aug 17...	0915	690	15.5	2,260	11.0	8.3	--	605	591	16.8	E16	2,952	22,990
Sep 16...	1045	690	23.0	2,420	6.4	8.2	8.3	619	611	16.9	E11	2,952	22,990

13094000 SNAKE RIVER NEAR BUHL, ID—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Gage height, feet (00065)	Stream width, feet (00004)	Number of sampling points, count (00063)	Purpose site visit, code (50280)	Sample purpose code (71999)	Sampler type, code (84164)
Apr 16...	8.53	230	10	Fixed frequency SW	SW Network	US DH-95 plastic
May 12...	7.06	230	10	Fixed frequency SW	SW Network	US D-95 plastic
Jun 16...	3.71	220	10	Fixed frequency SW	SW Network	US DH-95 plastic
Jul 15...	4.74	220	10	Fixed frequency SW	SW Network	US DH-95 plastic
Aug 17...	1.81	230	10	Fixed frequency SW	SW Network	US D-95 plastic
Sep 16...	1.97	230	10	Fixed frequency SW	SW Network	US D-95 plastic

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 3 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Sam-pling method, code (82398)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf infl pt titr., field, mg/L as CaCO3 (00419)	Bicar-bonate, wat unf infl pt titr., field, mg/L (00450)	Carbon-ate, wat unf infl pt titr., field, mg/L (00447)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
Apr 16...	Multiple verticals	--	--	--	--	--	--	--	--	--	--
May 12...	EWI	--	--	--	--	--	--	--	--	--	--
Jun 16...	EWI	--	--	--	--	--	--	--	--	--	--
Jul 15...	EWI	--	--	--	--	--	--	--	--	--	--
Aug 17...	EWI	--	--	--	--	--	--	--	--	--	--
Sep 16...	EWI	57.6	22.5	5.51	36.8	202	206	244	4	34.0	.67

13094000 SNAKE RIVER NEAR BUHL, ID—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 4 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Silica, water, flt'd, mg/L as SiO ₂ (00955)	Sulfate water, flt'd, mg/L (00945)	Ammonia + org-N,		Nitrate + nitrite		Ortho- phos- phate, water, flt'd, mg/L as P (00671)	Phos- phorus, water, unflt'd, mg/L as P (00665)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	Sus- pended sedi- ment concen- tration mg/L (80154)
			water, unflt'd mg/L as N (00625)	water, flt'd, mg/L as N (00608)	water flt'd, mg/L as N (00631)	water, flt'd, mg/L as N (00631)				
Apr										
16...	--	--	.84	.054	.490	.015	.195	M14	118	
May										
12...	--	--	.56	.025	.361	.011	.094	M13	46	
Jun										
16...	--	--	.60	E.014	.954	.028	.156	M22	70	
Jul										
15...	--	--	.45	.021	.790	.038	.107	34	53	
Aug										
17...	--	--	.60	<.020	1.81	.039	.124	39	25	
Sep										
16...	32.7	59.9	.48	.038	2.19	.061	.118	34	21	