

Figure 48. Location of surface-water and water-quality stations in the Snake River Basin including the Grande Ronde River, Asotin Creek, Tucannon River, and Palouse River Basins.

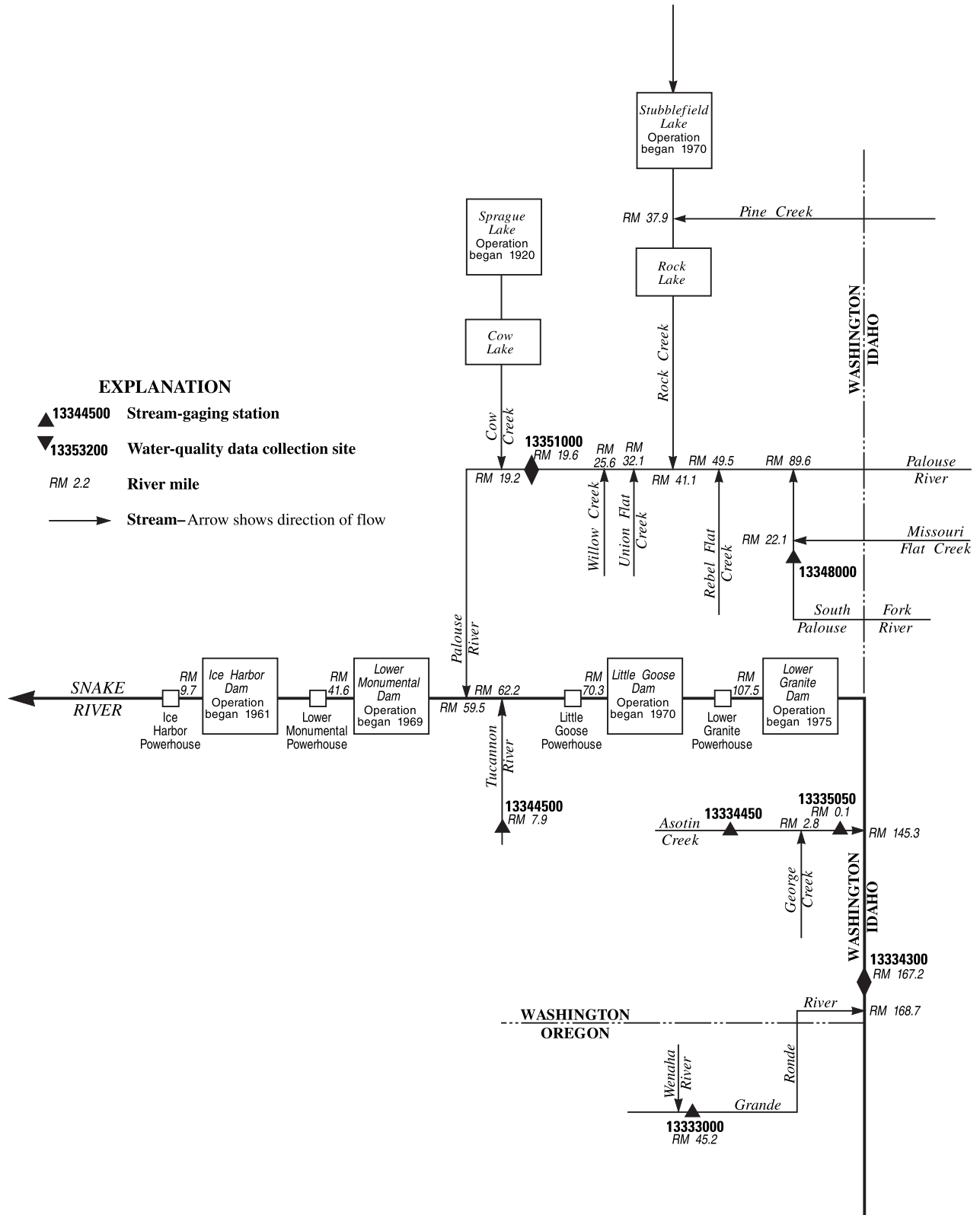


Figure 49. Schematic diagram showing surface-water and water-quality stations in the Snake River Basin including the Grande Ronde River, Asotin Creek, Tucannon River, and Palouse River Basins.

GRANDE RONDE RIVER BASIN

13333000 GRANDE RONDE RIVER AT TROY, OR

LOCATION---Lat 45°56'45", long 117°27'00", in NE 1/4 NW 1/4 sec.4, T.5 N., R.43 E., Wallowa County, Hydrologic Unit 17060106, on left bank, on upstream side of bridge at Troy, 100 ft downstream from Wenaha River, and at mile 45.3.

DRAINAGE AREA--3,275 mi².

PERIOD OF RECORD--August 1944 to current year. Monthly discharge only August 1944, published in WSP 1317.

REVISED RECORDS--WSP 1397: 1946(M), 1948-50.

GAGE--Water-stage recorder. Datum of gage is 1,585.98 ft above NGVD of 1929. Aug. 17, 1944, to Sept. 30, 1949, nonrecording gage at datum 10.85 ft lower. Oct. 1, 1949, to Sept. 5, 1963, water-stage recorder at datum 1.15 ft higher. Sept. 6, 1963 to Oct. 19, 1994, water-stage recorder at site 500 ft downstream, at present datum.

REMARKS--No estimated daily discharges. Records fair. Flow slightly regulated by Wallowa Lake and small reservoirs. Diversions for irrigation upstream from station, chiefly in vicinity of LaGrande, Enterprise, and Wallowa; transbasin diversions for irrigation from Big Sheep Creek and tributaries in Imnaha River Basin to Wallowa River Basin, and from South Fork Catherine Creek to the Powder River Basin. U.S. Geological Survey satellite telemeter and National Weather Service telemeter at station.

AVERAGE DISCHARGE--59 years (water years 1945-2003), 3,060 ft³/s, 2,217,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 51,800 ft³/s Feb. 9, 1996, gage height, 13.76 ft, from rating curve extended above 20,000 ft³; minimum discharge, 321 ft³/s Nov. 25, 1993; result of freezeup, but may have been less during period of ice effect that day.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 1	0000	9,420	7.09	Mar. 23	0100	11,000	7.64
Mar. 16	0400	12,800	8.07	May 31	0300	*13,300	*8.25

Minimum discharge, 438 ft³/s Aug. 21, 22.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	632	584	600	770	8930	1780	7430	5320	9880	2280	557	521
2	658	579	598	776	7110	1650	7380	5190	8350	2080	557	515
3	668	590	595	916	5660	1580	6930	5220	7360	1840	585	507
4	673	613	583	1020	4710	1530	6390	5340	6520	1640	588	510
5	681	631	611	1130	3890	1500	5940	5510	5990	1550	611	514
6	677	641	624	1090	3170	1770	5570	5260	5900	1470	650	502
7	664	649	581	953	2630	2640	5300	5060	6030	1400	626	491
8	657	722	570	878	2330	5420	4970	4820	6080	1390	602	527
9	650	770	586	804	2120	5420	4940	4550	6200	1400	584	571
10	642	739	578	759	2040	6200	5090	4340	5700	1240	559	580
11	643	714	624	777	1910	6510	5540	4240	5280	1160	540	600
12	633	692	663	793	1770	8020	5800	4320	4810	1110	531	587
13	632	691	685	840	1700	9980	6260	4520	4630	1030	511	570
14	634	695	810	890	1780	11100	6300	4670	4550	993	488	577
15	629	686	852	937	1840	11100	5970	5190	4420	937	481	559
16	624	684	871	902	1950	12000	5560	5260	4330	891	483	553
17	620	689	817	855	2130	10000	5330	4970	4180	840	477	587
18	623	664	748	824	2210	8490	5110	4660	4030	797	473	596
19	622	648	695	797	2180	7370	4800	4300	4520	753	464	591
20	622	649	626	783	2120	6670	4580	3990	4710	700	454	589
21	620	644	645	782	2190	6250	4590	3880	3810	680	450	580
22	617	661	672	786	2840	7880	4950	4020	3160	667	457	581
23	608	686	667	926	3110	10100	5420	4620	2770	633	509	579
24	604	677	624	1030	2760	8680	5840	5950	2510	622	595	564
25	613	652	556	1040	2380	7740	6340	8370	2430	605	558	543
26	606	618	597	1390	2170	8340	6290	8930	2350	606	542	539
27	599	593	671	3450	2080	8020	5980	8580	2320	627	539	528
28	607	597	777	3270	1920	7280	5630	8950	2430	620	531	525
29	643	603	778	2620	---	6580	5540	10300	2440	605	534	530
30	654	605	786	4470	---	6080	5440	11300	2390	595	528	536
31	626	---	781	8450	---	6200	---	12100	---	576	513	---
TOTAL	19681	19666	20871	45708	81630	203880	171210	183730	140080	32337	16577	16552
MEAN	635	656	673	1474	2915	6577	5707	5927	4669	1043	535	552
MAX	681	770	871	8450	8930	12000	7430	12100	9880	2280	650	600
MIN	599	579	556	759	1700	1500	4580	3880	2320	576	450	491
AC-FT	39040	39010	41400	90660	161900	404400	339600	364400	277800	64140	32880	32830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2003, BY WATER YEAR (WY)

	873	1229	1962	2177	3188	4338	6322	7327	5635	2136	837	760
MEAN	873	1229	1962	2177	3188	4338	6322	7327	5635	2136	837	760
MAX	2559	3766	7212	6280	14390	11520	11390	13820	11610	4951	1385	1291
(WY)	1960	1996	1996	1974	1996	1972	1997	1948	1974	1975	1984	1984
MIN	528	618	673	702	769	888	2257	2368	1501	520	438	409
(WY)	1988	1988	2003	1979	1977	1977	1968	1977	1992	1977	1992	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1945 - 2003
ANNUAL TOTAL	946487	951922	
ANNUAL MEAN	2593	2608	
HIGHEST ANNUAL MEAN			3060
LOWEST ANNUAL MEAN			5253
HIGHEST DAILY MEAN	19100	Apr 14	1136
LOWEST DAILY MEAN	502	Sep 26	42200
ANNUAL SEVEN-DAY MINIMUM	514	Sep 23	344
ANNUAL RUNOFF (AC-FT)	1877000		361
10 PERCENT EXCEEDS	6540		2217000
50 PERCENT EXCEEDS	1190		7420
90 PERCENT EXCEEDS	590		1620
			686

13334300 SNAKE RIVER NEAR ANATONE, WA

LOCATION.--Lat 46°05'50", long 116°58'36", in SE 1/4 SE 1/4 NE 1/4 sec.12, T.7 N., R.46 E., Asotin County, Hydrologic Unit 17060103, on left bank 1.2 mi downstream from Grande Ronde River, 7.8 mi east of Anatone, 22 mi south of Clarkston, and at mile 167.2.

DRAINAGE AREA.--92,960 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1958 to current year.

REVISED RECORDS.--WDR WA-76-1: 1974 and 1975.

GAGE.--Water-stage recorder. Datum of gage is 806.78 ft above NGVD of 1929.

REMARKS.--No estimated daily discharges. Records good. Diversions upstream from station for irrigation of about 4,090,000 acres, of which about 750,000 acres are irrigated by withdrawals from ground water. Flow regulated by many reservoirs upstream from station with a total usable capacity of more than 10,000,000 acre-feet, the most effective of which is Brownlee Reservoir 117.8 mi upstream. Diurnal fluctuations caused by Hells Canyon powerplant. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--45 years (water years 1958-2003), 35,280 ft³/s, 25,560,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 195,000 ft³/s June 18, 1974, gage height, 24.45 ft; minimum discharge, 6,010 ft³/s Sept. 2, 1958, gage height, 1.29 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 156,000 ft³/s May 31, gage height, 20.53 ft; minimum discharge, 10,800 ft³/s Oct. 13 gage height, 2.84 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20,300	12,900	13,100	13,800	37,600	20,500	33,900	37,700	131,000	28,200	16,000	13,600
2	17,000	12,600	13,200	13,600	37,400	15,400	39,200	32,100	117,000	24,500	17,600	16,100
3	16,500	12,500	13,200	13,600	36,600	20,500	41,800	31,300	104,000	24,300	13,100	18,100
4	16,100	12,400	13,000	13,800	34,000	21,400	37,100	31,700	92,500	24,300	13,000	18,000
5	17,100	12,600	12,700	14,100	30,900	21,500	35,200	34,600	84,100	23,900	16,100	17,800
6	15,400	13,000	12,600	14,400	28,800	20,500	34,000	38,500	80,400	20,700	16,800	17,500
7	12,800	13,300	12,700	14,700	27,600	20,000	32,900	36,500	79,000	22,700	19,500	15,700
8	17,200	13,500	12,500	14,700	27,200	24,300	30,900	38,300	77,800	20,900	19,900	17,000
9	16,500	13,900	12,200	15,300	22,700	24,200	31,000	36,600	77,200	19,300	19,500	16,100
10	18,000	14,100	12,000	17,300	18,100	22,700	31,300	35,500	76,400	18,700	18,900	13,300
11	17,200	14,000	11,900	13,000	21,000	27,800	32,900	34,300	74,300	19,800	19,200	12,900
12	13,800	13,800	12,000	12,700	22,000	31,000	34,700	36,400	70,400	23,000	17,900	15,200
13	11,500	13,700	12,600	13,000	21,400	35,900	34,600	40,800	66,300	18,400	13,900	14,500
14	12,600	13,600	13,100	14,000	19,800	35,200	38,700	42,200	59,200	16,400	15,700	13,400
15	12,900	13,600	13,500	15,500	19,000	34,900	42,400	44,000	57,700	16,000	14,900	16,400
16	12,900	13,500	13,800	18,500	18,100	36,100	40,400	49,900	57,700	16,700	16,100	17,200
17	12,900	13,500	14,000	20,900	18,800	35,400	38,500	53,700	56,600	17,000	12,100	15,000
18	13,000	13,400	13,800	17,600	21,100	37,900	34,300	53,200	54,900	16,300	13,800	16,600
19	13,000	13,300	13,300	15,400	23,300	34,600	30,700	46,700	49,100	16,800	17,500	18,100
20	13,000	13,400	13,300	16,900	22,800	29,900	31,800	40,000	49,300	15,000	16,800	17,700
21	13,000	13,300	12,600	18,900	21,400	25,700	32,900	38,800	49,500	17,800	14,500	16,100
22	13,000	13,300	12,700	18,800	23,200	25,400	37,400	40,800	41,600	19,000	12,200	19,400
23	13,000	13,600	12,700	17,100	23,100	30,800	38,800	50,300	45,200	19,800	12,700	19,800
24	12,900	13,700	12,700	16,100	22,400	32,900	41,900	60,000	42,200	18,000	13,100	18,600
25	13,000	13,900	12,600	16,600	23,300	29,700	41,900	76,200	37,400	15,400	14,800	18,100
26	13,000	13,700	12,500	14,300	20,300	32,100	43,400	88,200	35,000	14,200	24,300	17,200
27	13,000	13,300	12,400	16,900	19,800	32,700	42,700	98,700	30,300	15,000	17,400	15,900
28	13,000	13,100	12,500	24,300	20,100	33,300	41,400	103,000	28,800	14,300	17,500	12,900
29	13,100	13,000	13,400	27,400	---	26,500	38,400	114,000	27,300	15,100	15,300	13,300
30	13,200	13,000	14,300	28,300	---	29,300	40,000	125,000	27,300	16,800	13,100	14,200
31	13,200	---	14,200	33,900	---	28,100	---	147,000	---	18,100	13,300	---
TOTAL	443,100	400,500	401,100	535,400	681,800	876,200	1,105,100	1,736,000	1,879,500	586,400	496,500	485,700
MEAN	14,290	13,350	12,940	17,270	24,350	28,260	36,840	56,000	62,650	18,920	16,020	16,190
MAX	20,300	14,100	14,300	33,900	37,600	37,900	43,400	147,000	131,000	28,200	24,300	19,800
MIN	11,500	12,400	11,900	12,700	18,100	15,400	30,700	31,300	27,300	14,200	12,100	12,900
AC-FT	878,900	794,400	795,600	1,062,000	1,352,000	1,738,000	2,192,000	3,443,000	3,728,000	1,163,000	984,800	963,400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

MEAN	21,210	21,880	24,730	29,220	33,190	39,530	48,630	66,280	71,370	30,460	17,990	19,320
MAX	31,540	36,960	41,630	71,930	72,520	90,400	88,700	118,700	134,200	63,860	29,140	31,730
(WY)	(1985)	(1985)	(1965)	(1997)	(1965)	(1972)	(1974)	(1984)	(1984)	(1982)	(1997)	(1997)
MIN	13,090	13,350	12,940	16,140	15,780	18,680	18,880	20,610	16,850	12,830	9,765	10,180
(WY)	(2002)	(2003)	(2003)	(2001)	(2001)	(1977)	(1977)	(1977)	(1992)	(1977)	(1992)	(1992)

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1958 - 2003
ANNUAL TOTAL	8,929,500	9,627,300	
ANNUAL MEAN	24,460	26,380	35,280
HIGHEST ANNUAL MEAN			59,030
LOWEST ANNUAL MEAN			18,050
HIGHEST DAILY MEAN	84,200	May 31	191,000
LOWEST DAILY MEAN	11,300	Sep 8	6,630
ANNUAL SEVEN-DAY MINIMUM	12,300	Dec 6	7,150
ANNUAL RUNOFF (AC-FT)	17,710,000		25,560,000
10 PERCENT EXCEEDS	44,800		73,700
50 PERCENT EXCEEDS	18,200		25,600
90 PERCENT EXCEEDS	12,900		15,100

SNAKE RIVER MAIN STEM

13334300 SNAKE RIVER NEAR ANATONE, WA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to May 1984, October 1985 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1959 to May 1984, April 1986 to current year.

INSTRUMENTATION.--Temperature recorder since October 1959.

REMARKS.--Records poor. Records rounded to the nearest half degree. Prior to October 1990, records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.5°C (rounded) Aug. 26, 28, 1991, Aug. 2-4, 1994, Aug. 14, 1998; minimum, 0.0°C several days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.5°C Jul. 28-30, Aug. 1, 17; minimum, 3.5°C Jan 8, 9, 11, 12, Feb. 7, 9-14, 24-27.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	18.0	16.5	17.5	9.0	8.0	8.5	6.0	5.5	6.0	4.5	4.0	4.0			
2	17.5	16.0	16.5	9.0	8.0	8.5	5.5	5.5	5.5	5.0	4.5	4.5			
3	16.5	16.0	16.5	9.0	8.0	8.5	5.5	5.5	5.5	5.5	5.0	5.0			
4	17.0	16.0	16.5	9.0	8.0	8.5	5.5	5.5	5.5	5.5	5.0	5.5			
5	17.5	16.5	17.0	9.0	8.0	8.5	6.0	5.5	5.5	5.5	5.0	5.0			
6	17.5	16.0	16.5	9.0	8.0	8.5	6.0	5.5	5.5	5.0	4.0	4.5			
7	17.0	15.5	16.0	9.0	8.0	8.5	5.5	5.5	5.5	4.5	4.0	4.0			
8	17.0	16.0	16.5	9.0	8.5	9.0	6.0	5.0	5.5	4.0	3.5	3.5			
9	17.0	16.0	16.5	9.0	8.5	9.0	5.5	5.0	5.5	4.0	3.5	4.0			
10	16.5	15.5	16.0	9.0	8.5	9.0	5.5	5.0	5.0	4.5	4.0	4.0			
11	15.5	14.5	15.5	9.0	8.5	8.5	5.5	5.0	5.0	4.5	3.5	4.0			
12	15.5	14.0	14.5	9.0	8.5	8.5	6.0	5.5	5.5	4.5	3.5	4.0			
13	15.0	12.5	13.5	9.0	8.5	8.5	6.0	5.5	5.5	4.5	4.0	4.5			
14	14.5	13.0	13.5	9.5	8.5	8.5	6.0	5.5	6.0	5.0	4.5	5.0			
15	14.5	13.0	14.0	9.0	8.0	8.5	6.5	6.0	6.5	5.0	4.5	5.0			
16	14.5	13.5	14.0	8.5	8.0	8.0	6.5	6.0	6.5	4.5	4.0	4.5			
17	14.5	13.0	13.5	9.0	8.0	8.5	6.0	5.5	6.0	4.5	4.0	4.5			
18	14.0	13.0	13.5	8.5	8.0	8.5	5.5	5.0	5.0	4.5	4.0	4.5			
19	14.0	13.0	13.0	9.0	8.5	8.5	5.0	4.5	4.5	5.0	4.0	4.5			
20	13.5	13.0	13.0	9.0	8.5	8.5	5.0	4.5	4.5	4.5	4.0	4.5			
21	14.0	13.0	13.5	9.5	8.5	9.0	4.5	4.0	4.5	4.5	4.0	4.5			
22	14.0	13.0	13.5	9.0	8.5	8.5	5.0	4.5	5.0	4.5	4.5	4.5			
23	13.5	12.5	13.0	9.0	8.5	9.0	5.5	4.5	5.0	5.0	4.5	4.5			
24	13.0	12.0	12.5	8.5	8.0	8.5	5.0	4.5	4.5	5.0	4.5	4.5			
25	12.5	11.5	12.0	8.0	7.0	7.5	5.0	4.0	4.5	5.5	4.5	5.0			
26	12.0	11.0	11.5	7.0	6.5	7.0	4.5	4.0	4.5	5.5	5.0	5.5			
27	11.5	11.0	11.0	6.5	6.0	6.5	5.0	4.0	4.5	6.0	5.5	6.0			
28	11.5	11.0	11.0	7.0	6.0	6.0	5.0	4.5	5.0	6.0	5.5	5.5			
29	11.0	10.5	11.0	6.5	6.0	6.0	5.5	4.5	5.0	5.5	5.0	5.0			
30	10.5	9.0	10.0	6.0	6.0	6.0	4.5	4.5	4.5	5.5	5.0	5.0			
31	9.5	8.5	9.0	---	---	---	4.5	4.0	4.5	6.0	5.5	6.0			
MONTH	18.0	8.5	13.9	9.5	6.0	8.2	6.5	4.0	5.2	6.0	3.5	4.7			

13334450 ASOTIN CREEK BELOW CONFLUENCE NEAR ASOTIN, WA

LOCATION.--Lat 46°16'25", long 117°17'29", in SW 1/4 NW 1/4 sec.10, T.9 N., R.44 E., Asotin County, Hydrologic Unit 17060103, on left bank 0.1 mi downstream from confluence of North Fork and South Forks of Asotin Creek, at upstream side of county road bridge 11 mi southwest of Asotin, and at mile 14.6.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--January 2001 to current year.

REVISED RECORDS.--WDR WA-02-1: 2001 (maximum gage height).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,810 ft above NGVD of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. No regulation. No diversions. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--2 years (water years 2002-03) 56.3 ft³/s, 7.36 in/yr, 40,790 acre ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 539 ft³/s Apr. 14, 2002, gage height 3.17 ft; minimum discharge, 20 ft³/s Sept. 18, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 332 ft³/s Mar. 16, gage height, 2.66 ft; minimum daily discharge, 21 ft³/s Aug. 30 to Sept. 6.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	25	29	33	132	43	131	110	105	37	29	21
2	27	25	29	34	109	41	128	113	95	37	29	21
3	27	25	29	39	90	42	116	124	86	36	32	21
4	29	26	29	42	78	41	107	127	80	36	30	21
5	28	26	30	46	68	41	100	122	75	35	28	21
6	27	26	30	43	60	44	95	115	73	34	27	21
7	27	27	30	39	55	47	89	111	71	34	26	22
8	27	30	29	39	53	47	87	106	68	38	25	33
9	27	29	29	37	52	48	88	101	66	35	25	33
10	27	28	30	36	50	62	90	99	63	34	25	28
11	27	28	30	35	47	90	101	101	61	33	24	26
12	26	28	30	36	45	162	108	106	59	33	25	25
13	26	29	32	37	45	228	122	111	60	33	25	25
14	26	28	45	39	46	265	123	123	56	33	24	25
15	26	28	44	38	44	270	117	139	54	33	24	24
16	26	28	41	37	45	308	110	129	52	33	24	25
17	26	28	38	38	44	232	108	118	51	32	24	27
18	26	28	34	37	43	179	102	110	50	31	24	27
19	27	28	33	36	42	150	97	101	50	31	24	26
20	27	29	33	36	43	133	96	99	49	31	24	25
21	27	29	32	37	44	121	101	102	48	31	23	25
22	27	29	32	38	48	156	113	105	46	31	24	25
23	27	29	32	49	48	203	116	117	44	31	28	25
24	27	29	31	52	44	171	127	141	43	30	25	24
25	27	28	31	51	45	147	129	163	42	30	24	24
26	26	29	31	59	45	132	123	156	41	31	23	24
27	26	29	33	82	45	118	113	143	40	31	23	23
28	27	29	34	75	43	108	107	138	39	30	22	24
29	27	29	34	66	---	100	109	133	38	30	22	24
30	26	29	34	70	---	98	107	129	38	30	21	24
31	25	---	35	93	---	110	---	119	---	29	21	---
TOTAL	829	838	1,013	1,429	1,553	3,937	3,260	3,711	1,743	1,013	774	739
MEAN	26.7	27.9	32.7	46.1	55.5	127	109	120	58.1	32.7	25.0	24.6
MAX	29	30	45	93	132	308	131	163	105	38	32	33
MIN	25	25	29	33	42	41	87	99	38	29	21	21
AC-FT	1,640	1,660	2,010	2,830	3,080	7,810	6,470	7,360	3,460	2,010	1,540	1,470
CFSM	0.26	0.27	0.31	0.44	0.53	1.22	1.04	1.15	0.56	0.31	0.24	0.24
IN.	0.30	0.30	0.36	0.51	0.56	1.41	1.17	1.33	0.62	0.36	0.28	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
MEAN	25.8	28.6	32.4	36.9	38.8	74.6	94.9	114	64.5	31.5	25.0	24.2
MAX	26.7	29.3	32.7	46.1	55.5	127	126	133	98.7	32.7	26.3	25.6
(WY)	(2003)	(2002)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2003)	(2001)	(2002)
MIN	24.8	27.9	32.0	23.8	25.3	30.8	49.7	88.3	36.8	30.8	23.8	22.4
(WY)	(2002)	(2003)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2002)	(2002)	(2001)

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 2001 - 2003
ANNUAL TOTAL	20,304	20,839	
ANNUAL MEAN	55.6	57.1	56.3
HIGHEST ANNUAL MEAN			57.1
LOWEST ANNUAL MEAN			55.5
HIGHEST DAILY MEAN	382	308	382
LOWEST DAILY MEAN	21	21	21
ANNUAL SEVEN-DAY MINIMUM	21	21	21
ANNUAL RUNOFF (AC-FT)	40,270	41,330	40,790
ANNUAL RUNOFF (CFSM)	0.53	0.55	0.54
ANNUAL RUNOFF (INCHES)	7.26	7.45	7.36
10 PERCENT EXCEEDS	116	120	118
50 PERCENT EXCEEDS	30	36	33
90 PERCENT EXCEEDS	25	25	25

13335050 ASOTIN CREEK AT ASOTIN, WA

LOCATION.--Lat 46°20'27", long 117°03'18", in SW ¼ SW ¼ sec.16, T.10 N., R.46 E., Asotin County, Hydrologic Unit 17060103, on right bank near mouth, at upstream side of bridge on State Highway 129, at Asotin, and at mile 0.1.

DRAINAGE AREA.--323 mi².

PERIOD OF RECORD.--March 1991 to current year.

REVISED RECORDS.--WDR WA-93-1: 1992(M,m). WDR WA-96-1: 1991(M).

GAGE.--Water-stage recorder. Datum of gage is 742.57 ft above NGVD of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair, and those above 300 ft³/s, which are poor. Several diversions for irrigation. Miscellaneous data from January through September 1989 are available in the Spokane Field Office.

AVERAGE DISCHARGE.--12 years (water years 1992-2003), 103 ft³/s, 4.34 in/yr, 74,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,050 ft³/s Jan. 1, 1997, gage height, 7.50 ft, from high-water mark, from rating curve extended above 550 ft³/s, on basis of slope-area measurement of peak flow; minimum daily discharge, 17 ft³/s Aug. 6, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 587 ft³/s Mar. 16, gage height, 3.69 ft; minimum discharge, 25 ft³/s July 30 and Aug. 1-2.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	42	44	53	204	87	215	163	121	46	30	31
2	42	43	45	53	179	84	216	167	110	46	31	31
3	41	43	44	58	155	84	204	179	103	44	39	30
4	44	43	44	63	139	82	189	192	97	43	41	30
5	42	43	44	68	127	81	178	192	91	43	35	31
6	39	44	44	69	117	87	169	186	88	42	35	31
7	39	44	44	66	109	99	161	175	85	41	33	32
8	38	47	44	64	103	104	153	163	81	46	33	46
9	39	49	44	62	97	115	153	151	78	43	32	46
10	e40	46	44	61	93	156	156	143	76	41	32	41
11	39	45	45	60	89	165	170	140	73	39	32	39
12	39	45	46	59	86	227	184	158	70	38	32	37
13	40	46	48	61	85	323	217	160	72	38	33	37
14	39	47	61	64	87	373	217	162	69	38	32	37
15	40	45	69	65	85	395	206	175	65	38	e31	37
16	40	45	61	65	84	467	198	167	62	37	e32	38
17	39	44	60	64	84	394	194	154	60	36	e33	39
18	40	44	55	63	84	304	188	143	57	36	e32	39
19	40	45	52	62	84	256	173	132	59	35	e30	37
20	39	45	51	62	83	233	163	128	62	34	e29	36
21	40	45	51	63	84	221	163	127	61	34	e31	36
22	40	45	50	64	93	241	178	125	59	33	e34	36
23	40	45	50	73	97	312	182	131	58	32	38	36
24	41	45	50	83	90	268	190	146	55	33	36	36
25	41	44	50	83	90	238	202	170	54	32	33	36
26	41	44	50	89	93	226	195	171	51	37	32	35
27	42	44	51	119	93	210	185	156	49	38	31	35
28	42	44	53	121	90	195	171	150	48	34	32	35
29	44	44	53	113	---	182	169	144	47	32	31	35
30	43	44	53	115	---	174	165	141	45	31	31	36
31	42	---	54	142	---	185	---	137	---	31	31	---
TOTAL	1,257	1,339	1,554	2,307	2,904	6,568	5,504	4,828	2,106	1,171	1,017	1,081
MEAN	40.5	44.6	50.1	74.4	104	212	183	156	70.2	37.8	32.8	36.0
MAX	44	49	69	142	204	467	217	192	121	46	41	46
MIN	38	42	44	53	83	81	153	125	45	31	29	30
AC-FT	2,490	2,660	3,080	4,580	5,760	13,030	10,920	9,580	4,180	2,320	2,020	2,140
CFSM	0.13	0.14	0.16	0.23	0.32	0.66	0.57	0.48	0.22	0.12	0.10	0.11
IN.	0.14	0.15	0.18	0.27	0.33	0.76	0.63	0.56	0.24	0.13	0.12	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2003, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	37.8	49.3	86.4	105	140	159	189	212	134	55.4	35.4	35.4	35.4
MAX	51.4	74.0	235	435	420	367	382	442	429	90.2	49.0	43.1	43.1
(WY)	(2000)	(1999)	(1999)	(1997)	(1996)	(1999)	(1996)	(1997)	(1999)	(1999)	(1999)	(1998)	(1998)
MIN	25.9	30.7	33.4	28.1	35.6	57.9	82.8	58.1	35.5	26.5	23.8	25.3	25.3
(WY)	(1999)	(1994)	(1993)	(1993)	(1993)	(2001)	(1992)	(1992)	(1992)	(1994)	(1994)	(1994)	(1994)

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1991 - 2003
ANNUAL TOTAL	31,437	31,636	
ANNUAL MEAN	86.1	86.7	103
HIGHEST ANNUAL MEAN			197
LOWEST ANNUAL MEAN			44.6
HIGHEST DAILY MEAN	724	467	3,000
LOWEST DAILY MEAN	33	29	17
ANNUAL SEVEN-DAY MINIMUM	35	31	21
ANNUAL RUNOFF (AC-FT)	62,360	62,750	74,730
ANNUAL RUNOFF (CFSM)	0.27	0.27	0.32
ANNUAL RUNOFF (INCHES)	3.62	3.64	4.34
10 PERCENT EXCEEDS	177	184	227
50 PERCENT EXCEEDS	50	53	51
90 PERCENT EXCEEDS	39	33	32

e Estimated

13344500 TUCANNON RIVER NEAR STARBUCK, WA

LOCATION.--Lat 46°30'17", long 118°03'55", in NE 1/4 SW 1/4 sec.21, T.12 N., R.38 E., Columbia County, Hydrologic Unit 17060107, on right bank, 180 ft downstream from County road bridge, 0.5 mi downstream from Smith Hollow, 3.0 mi east of Starbuck, 3.3 mi downstream from Pataha Creek, and at mile 7.9.

DRAINAGE AREA.--431 mi².

PERIOD OF RECORD.--November 1914 to September 1917, August 1928 to September 1931, October 1958 to September 1990, October 1994 to current year. Monthly discharge only for October and November 1914, published in WSP 1317.

REVISED RECORDS.--WSP 1347: 1930.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 735.9 ft above NGVD of 1929, from plane-table survey. Nov. 8, 1914, to Sept. 30, 1917, nonrecording gage at site 2.8 mi upstream at different datum. Aug. 9, 1928, to Sept. 30, 1931, nonrecording gages at site 2.5 mi upstream at various datums.

REMARKS.--Records good. Many small diversions for irrigation upstream from station. Water temperatures and sediment records October 1962 to June 1970. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--47 years (water years 1915-17, 1929-31, 1959-90, 1995-2003), 171 ft³/s, 123,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,980 ft³/s Dec. 22, 1964, gage height, 9.84 ft, from rating curve extended above 2,500 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 15 ft³/s July 11, 12, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb 1	----	*939	*1.85	No other peak greater than base discharge.			

Minimum discharge, 43 ft³/s, Aug. 1.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	79	87	108	e830	185	348	239	224	72	47	52
2	75	82	87	107	e640	178	393	247	204	71	49	52
3	75	83	87	118	e510	174	371	253	195	72	60	54
4	80	83	87	124	423	166	321	259	177	71	68	54
5	79	84	87	131	355	162	297	252	170	71	61	54
6	75	85	87	131	304	171	284	241	165	72	70	56
7	72	86	87	126	260	210	269	233	162	73	67	55
8	71	97	87	121	235	293	250	224	156	72	68	66
9	70	104	87	116	217	316	244	214	147	73	62	79
10	70	98	89	113	199	347	248	205	141	70	56	75
11	71	92	92	110	195	419	256	201	132	67	57	72
12	72	90	94	108	174	512	265	212	126	66	54	68
13	74	92	95	114	167	567	286	215	122	67	55	67
14	74	94	110	116	174	556	301	217	118	68	53	66
15	73	93	140	115	160	538	295	235	115	67	50	64
16	73	89	121	114	157	545	277	230	111	71	52	67
17	73	88	120	112	162	539	263	214	104	66	53	72
18	74	87	110	110	167	533	252	210	99	64	52	68
19	74	87	104	108	164	463	237	203	96	61	49	65
20	74	87	100	106	164	420	229	197	92	59	48	64
21	75	87	98	108	166	377	228	189	95	59	49	65
22	74	87	97	118	186	379	243	184	94	58	51	65
23	76	88	94	134	202	475	249	194	93	56	57	63
24	78	89	93	136	200	461	257	216	87	54	56	63
25	78	87	92	136	199	426	280	271	83	54	52	60
26	78	86	93	143	196	393	273	280	80	53	50	59
27	79	87	98	203	199	363	258	248	76	54	48	61
28	80	87	103	223	190	333	242	236	76	54	50	61
29	85	87	109	201	---	311	237	242	74	53	53	61
30	85	87	106	258	---	297	238	241	75	49	52	61
31	81	---	107	421	---	300	---	240	---	47	51	---
TOTAL	2,342	2,652	3,048	4,389	7,195	11,409	8,191	7,042	3,689	1,964	1,700	1,889
MEAN	75.5	88.4	98.3	142	257	368	273	227	123	63.4	54.8	63.0
MAX	85	104	140	421	830	567	393	280	224	73	70	79
MIN	70	79	87	106	157	162	228	184	74	47	47	52
AC-FT	4,650	5,260	6,050	8,710	14,270	22,630	16,250	13,970	7,320	3,900	3,370	3,750

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2003, BY WATER YEAR (WY)

MEAN	83.0	108	161	212	261	248	274	294	200	83.8	60.6	70.2
MAX	125	186	673	635	1,057	717	668	986	599	203	114	108
(WY)	(1960)	(1996)	(1965)	(1974)	(1996)	(1972)	(1917)	(1974)	(1974)	(1974)	(1974)	(1972)
MIN	51.7	60.0	66.8	49.3	84.0	103	114	93.9	58.9	32.9	21.5	42.2
(WY)	(1930)	(1930)	(1915)	(1930)	(1931)	(1977)	(1977)	(1977)	(1930)	(1930)	(1931)	(1931)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1915 - 2003

ANNUAL TOTAL	52,303	55,510	
ANNUAL MEAN	143	152	171
HIGHEST ANNUAL MEAN			327
LOWEST ANNUAL MEAN			89.6
HIGHEST DAILY MEAN	680	Apr 15	830
LOWEST DAILY MEAN	46	Aug 16	47
ANNUAL SEVEN-DAY MINIMUM	50	Aug 15	50
ANNUAL RUNOFF (AC-FT)	103,700		110,100
10 PERCENT EXCEEDS	262		296
50 PERCENT EXCEEDS	115		98
90 PERCENT EXCEEDS	57		56

e Estimated

13348000 SOUTH FORK PALOUSE RIVER AT PULLMAN, WA

LOCATION.--Lat 46°43'57", long 117°10'48", in NE ¼ NE ¼ sec.6, T.14 N., R.45 E., Whitman County, Hydrologic Unit 17060108, on right bank at State Street crossing in Pullman, 600 ft upstream from Missouri Flat Creek, and at mile 22.2.

DRAINAGE AREA.--132 mi².

PERIOD OF RECORD.--February 1934 to September 1942, December 1959 to September 1981, May 2001 to current year. Chemical analyses water years 1974, 1978 to June 1980.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,326.3 ft above NGVD of 1929. Prior to March 19, 1934, nonrecording gage at site 30 ft upstream.

REMARKS.--Records fair. Minor diversions for domestic use above station. Slight regulation caused by pondage at Robinson Park Dam on headwaters and by Moscow sewage disposal plant on Paradise Creek. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--31 years (water years 1935-42, 1961-81, 2002-03), 39.2 ft³/s, 4.03 in/yr, 28,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,570 ft³/s Jan. 21, 1972, gage height, 9.46 ft; minimum, 0.1 ft³/s Sept. 23, 1942, gage height, 0.50 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1910, 9.5 ft Feb. 26, 1948, discharge, 5,000 ft³/s. Flood of Jan. 24, 1959, reached a stage of 6.5 ft from floodmarks, discharge, 1,860 ft³/s. Flood of Dec. 22, 1933, reached a stage of 6.0 ft from gage readings furnished by Washington State University, discharge, 1,800 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 940 ft³/s Jan. 31, gage height, 4.81 ft; minimum discharge, 1.6 ft³/s Aug. 2.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	e4.5	5.4	14	e520	45	94	38	18	3.9	2.0	3.4
2	5.3	5.0	5.7	19	e460	47	97	37	16	3.5	1.9	3.3
3	5.5	5.2	6.1	34	e420	51	89	38	15	3.4	14	3.4
4	7.0	5.2	5.9	24	e320	53	79	39	14	3.6	8.0	3.3
5	6.2	5.2	5.9	23	e260	50	75	39	13	3.5	4.1	3.2
6	5.4	5.4	6.1	17	e200	55	71	36	11	3.3	4.0	3.9
7	5.0	5.6	6.0	15	e160	65	69	36	10	3.5	3.5	6.7
8	5.0	13	e6.0	13	e120	100	63	33	9.6	8.1	5.5	16
9	4.1	9.9	e5.5	12	e100	252	58	31	9.5	4.6	4.9	15
10	4.2	10	e5.5	12	e80	406	55	29	9.6	3.5	4.6	7.5
11	5.0	7.2	e6.0	11	e60	396	54	29	8.0	3.2	4.4	6.3
12	5.0	6.8	e8.0	12	e50	328	58	61	7.7	3.5	4.4	5.5
13	4.9	7.0	e10	17	39	198	62	57	9.0	3.1	3.9	5.0
14	4.9	10	e16	18	48	156	54	36	7.7	3.3	6.2	5.1
15	5.1	7.7	e18	18	48	219	49	31	7.1	3.3	3.4	5.3
16	5.4	6.4	e16	16	58	402	46	28	6.7	2.5	3.0	5.1
17	5.2	6.9	e13	14	77	183	51	27	6.6	2.3	2.9	4.8
18	5.2	6.5	10	13	76	135	50	27	6.0	2.2	3.8	5.5
19	5.0	7.7	8.6	e12	77	114	44	26	5.8	2.5	3.0	5.1
20	5.3	6.7	8.0	e10	66	101	41	24	5.7	2.4	2.8	4.0
21	e5.2	6.4	7.1	e13	78	97	39	24	5.6	2.6	3.0	4.2
22	5.2	6.3	6.5	e17	125	295	38	23	6.0	2.7	3.3	4.6
23	5.6	7.7	7.0	e30	90	259	37	22	6.0	2.7	4.0	4.2
24	e5.5	8.0	6.6	e45	62	147	38	21	5.5	2.4	4.3	4.0
25	5.5	6.0	5.8	57	54	135	53	23	4.8	2.5	4.2	4.5
26	5.5	5.7	6.5	79	51	295	51	23	4.6	2.4	4.0	4.2
27	5.7	5.6	12	78	49	176	61	21	4.5	2.3	3.4	4.4
28	e5.0	5.4	13	48	47	133	47	18	4.5	2.4	3.1	4.3
29	e4.5	5.0	14	45	---	114	44	17	4.2	2.4	3.2	5.7
30	e4.0	5.0	13	130	---	103	42	20	4.1	2.0	3.1	5.2
31	e4.0	---	17	600	---	98	---	23	---	1.9	3.0	---
TOTAL	159.7	203.0	280.2	1,466	3,795	5,208	1,709	937	245.8	95.5	128.9	162.7
MEAN	5.15	6.77	9.04	47.3	136	168	57.0	30.2	8.19	3.08	4.16	5.42
MAX	7.0	13	18	600	520	406	97	61	18	8.1	14	16
MIN	4.0	4.5	5.4	10	39	45	37	17	4.1	1.9	1.9	3.2
AC-FT	317	403	556	2,910	7,530	10,330	3,390	1,860	488	189	256	323
CFSM	0.04	0.05	0.07	0.36	1.03	1.27	0.43	0.23	0.06	0.02	0.03	0.04
IN.	0.05	0.06	0.08	0.41	1.07	1.47	0.48	0.26	0.07	0.03	0.04	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2003, BY WATER YEAR (WY)

	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	4.34	9.09	35.1	83.7	112	119	58.3	23.5	10.2	3.70	2.98	3.29																																																										
MAX	9.43	40.9	219	401	360	313	137	58.4	40.5	7.81	8.89	6.03																																																										
(WY)	(1976)	(1974)	(1974)	(1974)	(1972)	(1969)	(1969)	(1975)	(1971)	(1975)	(1972)	(1972)																																																										
MIN	1.08	1.44	2.70	1.77	10.5	14.0	8.20	5.75	1.52	0.86	0.50	0.49																																																										
(WY)	(1940)	(1940)	(1937)	(1937)	(1977)	(1977)	(1977)	(1934)	(1940)	(1940)	(1940)	(1942)																																																										

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1934 - 2003

ANNUAL TOTAL	15,235.5	14,390.8	
ANNUAL MEAN	41.7	39.4	39.2
HIGHEST ANNUAL MEAN			111
LOWEST ANNUAL MEAN			7.73
HIGHEST DAILY MEAN	584	600	3,200
LOWEST DAILY MEAN	2.7	1.9	0.30
ANNUAL SEVEN-DAY MINIMUM	2.9	2.1	0.31
ANNUAL RUNOFF (AC-FT)	30,220	28,540	28,370
ANNUAL RUNOFF (CFSM)	0.32	0.30	0.30
ANNUAL RUNOFF (INCHES)	4.29	4.06	4.03
10 PERCENT EXCEEDS	105	97	97
50 PERCENT EXCEEDS	10	8.0	8.3
90 PERCENT EXCEEDS	4.0	3.4	1.8

e Estimated

PALOUSE RIVER BASIN

13351000 PALOUSE RIVER AT HOOPER, WA

LOCATION.--Lat 46°45'31", long 118°08'52", in NE 1/4 SE 1/4 sec.27, T.15 N., R.37 E., Whitman County, Hydrologic Unit 17060108, on left bank 150 ft downstream from bridge on State Highway 26 at Hooper, 0.3 mi upstream from Cow Creek, 3.5 mi downstream from right bank tributary, 6.0 mi downstream from Willow Creek, and at mile 19.6.

DRAINAGE AREA.--2,500 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to August 1897 (gage heights only), September 1897 to December 1899, April 1900 to April 1907, June 1908 to July 1912, March 1913 to March 1916, February 1951 to current year. Prior to 1904 sometimes published as "near Hooper."

REVISED RECORDS.--WSP 1287: 1897-1904, 1910(M), 1915-16(M). WSP 1447: 1910. WSP 1934: Drainage area. WSP 1447: 1906(M). WSP 1567: 1908-09(M).

GAGE.--Water-stage recorder. Datum of gage is 1,040.8 ft above NGVD of 1929. Apr. 1 to Aug. 31, 1897, nonrecording gage at site 2.5 mi upstream at different datum. Sept. 9, 1897, to March 1916, various nonrecording gages at site 1.5 mi upstream from present site at different datums. Feb. 8 to Mar. 28, 1951, nonrecording gage at present site and datum.

REMARKS.--Records good except for estimated daily discharges which are fair. Diversions upstream from station for irrigation and municipal use. U. S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--65 years (water years 1898-99, 1901-06, 1909-11, 1914-15, 1952-2003), 608 ft³/s, 440,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,500 ft³/s Feb. 4, 1963, gage height, 19.13 ft, from rating curve extended above 18,000 ft³/s on basis of slope-area measurement of peak flow; no flow part or all of each day June 25, 1910, Aug. 1-17, Aug. 28 to Sept. 4, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb 2	0345	*6,640	*11.35	Mar 23	1600	4,170	9.81
Mar 17	0100	4,030	9.70				

Minimum discharge, 15 ft³/s, Aug. 1, 2, gage height, 2.73 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	e58	92	203	5,320	705	1,420	587	282	60	16	27
2	47	e62	90	218	5,890	638	1,370	556	298	57	16	28
3	48	e64	89	239	3,040	619	1,370	541	329	55	17	26
4	53	e68	91	260	2,100	613	1,270	526	285	55	22	25
5	53	e70	92	332	1,680	628	1,140	522	263	52	20	26
6	52	e74	94	374	1,350	607	1,060	528	244	52	18	26
7	54	77	93	345	1,120	599	980	529	228	52	18	28
8	55	80	93	353	958	644	918	508	215	44	27	31
9	56	83	94	296	845	814	853	506	202	42	25	34
10	54	90	95	256	783	1,440	795	474	189	39	22	30
11	56	95	98	236	723	2,390	761	444	178	39	20	29
12	60	97	103	229	666	2,430	733	432	168	36	17	33
13	62	105	107	211	619	2,170	738	466	162	38	18	39
14	62	110	116	218	590	1,920	757	505	153	38	21	37
15	62	109	129	226	586	1,830	732	474	154	39	19	35
16	62	105	149	241	602	2,900	687	415	149	37	17	33
17	62	101	201	269	634	3,610	661	386	139	37	19	38
18	62	103	245	264	1,070	2,570	655	370	129	35	19	35
19	62	110	232	247	1,030	1,970	664	358	112	34	18	35
20	64	106	211	228	1,050	1,620	645	341	96	34	17	34
21	64	99	181	234	963	1,410	596	404	90	34	17	34
22	65	95	161	239	1,060	1,400	563	400	88	33	19	36
23	64	94	143	252	1,920	3,480	539	368	87	31	18	34
24	62	93	140	378	1,580	3,430	529	346	81	29	21	33
25	65	98	137	603	1,110	2,480	529	335	79	27	22	32
26	66	97	137	531	915	2,200	561	317	77	24	24	35
27	67	95	139	914	830	3,090	593	314	70	26	24	36
28	69	93	142	1,460	766	2,520	674	325	71	24	21	36
29	70	95	164	967	---	2,030	686	304	67	22	25	38
30	e60	94	182	766	---	1,760	607	282	63	22	26	33
31	e56	---	197	1,640	---	1,550	---	282	---	19	27	---
TOTAL	1,839	2,720	4,237	13,229	39,800	56,067	24,086	13,145	4,748	1,166	630	976
MEAN	59.3	90.7	137	427	1,421	1,809	803	424	158	37.6	20.3	32.5
MAX	70	110	245	1,640	5,890	3,610	1,420	587	329	60	27	39
MIN	45	58	89	203	586	599	529	282	63	19	16	25
AC-FT	3,650	5,400	8,400	26,240	78,940	111,200	47,770	26,070	9,420	2,310	1,250	1,940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2003, BY WATER YEAR (WY)

MEAN	68.1	146	449	1,028	1,729	1,832	1,282	629	254	83.2	33.7	38.8
MAX	151	349	2,198	4,602	5,744	6,660	4,127	1,560	982	291	97.4	116
(WY)	(1960)	(1956)	(1974)	(1974)	(1996)	(1910)	(1913)	(1975)	(1990)	(1902)	(1997)	(1997)
MIN	17.7	39.6	36.9	46.6	162	216	203	102	41.6	3.72	0.058	3.90
(WY)	(1916)	(1905)	(1915)	(1915)	(1994)	(1977)	(1977)	(1992)	(1992)	(1968)	(1968)	(1967)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1898 - 2003

ANNUAL TOTAL	234,284	162,643	
ANNUAL MEAN	642	446	608
HIGHEST ANNUAL MEAN			1,595
LOWEST ANNUAL MEAN			106
HIGHEST DAILY MEAN	5,280	5,890	27,800
LOWEST DAILY MEAN	24	16	0.00
ANNUAL SEVEN-DAY MINIMUM	27	18	0.00
ANNUAL RUNOFF (AC-FT)	464,700	322,600	440,600
10 PERCENT EXCEEDS	2,030	1,190	1,630
50 PERCENT EXCEEDS	164	137	179
90 PERCENT EXCEEDS	40	26	31

e Estimated

13351000 PALOUSE RIVER AT HOOPER, WA—Continued
(National Water-Quality Assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-71, 1993-current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1961 to September 1971, August 1993 to September 1994, April 2002 to current year.

WATER TEMPERATURE: October 1961 to September 1971, August 1993 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1961 to September 1971, October 1992 to September 1999; November 2000 to March 2001 (discontinued).

INSTRUMENTATION.--Water-quality monitor since August 1993. Electronic data logger with sixty-minute recording interval except for period Nov. 15, 1994 to Oct. 20, 1995, when the recording interval was seventy-two minutes.

REMARKS.--Specific conductance record excellent for the period except Aug. 5 to 18, which is good; and Apr. 1, May 19, June 2, 4, Sept. 29, which is fair. Temperature record excellent. In October 1996, station became a Central Columbia Plateau National Water-Quality Assessment Program (NAWQA) surface-water quality trend site.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 447 microsiemens Aug. 14, 1994, but may have been higher during periods of missing record; minimum recorded, 131 microsiemens observed May 6, 2002, but may have been lower during periods of missing record.

WATER TEMPERATURE: Maximum recorded 32.5°C (rounded) July 24, 1994, but may have been higher during periods of missing record; minimum recorded, 0.0°C for several days during winter months.

SEDIMENT CONCENTRATION: Maximum daily mean, 10,100 mg/L Feb. 8, 1996; minimum daily mean, 1 mg/L Jan. 4, 2001.

SEDIMENT DISCHARGE: Maximum daily, 527,000 tons Feb. 9, 1996; minimum daily, 0.04 tons Aug. 16, 20, 1994.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 380 microsiemens Sept. 27; Minimum 88 microsiemens Feb. 2.

WATER TEMPERATURE: Maximum 28.7°C July 21; minimum, 0.2°C Nov. 2.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	360	353	357	342	334	337	327	322	323	297	293	295
2	360	357	358	350	338	344	333	327	329	302	297	300
3	361	356	359	355	344	348	335	332	333	306	299	301
4	359	356	357	360	345	352	336	333	334	315	301	309
5	358	356	357	358	346	352	336	332	334	314	291	304
6	360	357	358	356	346	352	337	333	335	304	288	295
7	362	359	360	359	350	355	341	337	338	300	288	293
8	362	358	360	359	346	352	343	340	342	300	250	273
9	360	354	357	359	349	354	343	339	341	257	250	252
10	358	354	356	364	352	359	340	334	337	260	257	259
11	359	354	356	365	354	360	337	332	334	260	258	259
12	357	352	354	366	358	363	336	331	334	262	259	261
13	353	347	351	367	357	362	336	331	333	274	262	267
14	349	343	346	371	366	369	334	332	333	285	274	280
15	345	341	344	371	357	364	337	334	335	286	284	285
16	345	341	343	358	349	353	339	336	337	286	284	285
17	344	339	342	353	345	349	339	336	338	286	284	285
18	343	338	341	350	345	348	336	327	331	287	285	287
19	344	338	341	354	348	349	332	324	329	295	286	290
20	343	336	340	359	353	356	324	315	320	296	293	294
21	343	334	339	359	345	353	315	268	288	293	287	291
22	341	333	337	345	329	335	273	266	268	287	280	283
23	338	330	335	329	324	326	277	273	275	282	280	281
24	336	329	333	326	322	324	280	277	278	287	278	284
25	334	328	331	324	320	322	281	278	280	278	253	259
26	333	327	331	325	321	323	281	279	280	292	265	280
27	333	326	330	326	322	324	289	281	284	271	206	247
28	332	324	329	324	317	320	294	288	291	206	149	175
29	333	327	330	319	316	317	294	291	293	154	146	148
30	332	326	330	322	319	320	295	293	294	173	154	164
31	338	329	334	---	---	---	296	293	294	181	150	168
MONTH	362	324	345	371	316	345	343	266	316	315	146	266

13351000 PALOUSE RIVER AT HOOPER, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13.8	10.6	12.5	2.0	0.3	1.1	2.5	2.2	2.4	4.0	3.5	3.7
2	13.3	10.1	12.0	1.7	0.2	0.9	2.7	2.2	2.4	4.7	3.6	4.1
3	13.1	11.4	12.4	1.8	0.3	1.1	2.6	2.3	2.4	5.9	4.7	5.4
4	14.1	12.1	13.1	1.8	0.3	1.0	2.8	2.4	2.6	6.3	5.8	6.0
5	14.9	12.1	13.6	2.2	0.5	1.3	3.4	2.7	3.0	6.0	4.6	5.4
6	15.8	12.4	14.2	2.7	0.9	1.7	3.7	3.2	3.4	4.6	3.7	4.2
7	16.0	13.0	14.7	3.8	2.0	2.7	4.0	3.6	3.8	4.0	3.5	3.8
8	15.4	12.7	14.3	6.1	3.7	4.8	4.2	3.8	4.0	3.5	2.8	3.1
9	14.9	12.4	13.8	7.0	5.4	6.1	4.2	3.9	4.1	3.0	2.5	2.6
10	13.9	11.7	12.7	8.2	6.5	7.1	4.3	3.5	3.9	2.7	2.2	2.5
11	12.0	9.9	11.1	7.9	6.2	7.0	4.0	3.3	3.7	2.6	2.0	2.2
12	11.2	8.5	10.0	7.6	6.9	7.2	5.1	3.8	4.4	3.2	2.3	2.8
13	10.6	7.9	9.4	8.1	6.8	7.3	6.4	5.1	5.7	4.5	3.2	3.9
14	10.4	7.3	8.9	8.6	7.1	7.7	7.8	6.4	7.1	5.0	4.5	4.8
15	10.5	7.5	9.1	7.8	6.5	7.1	8.1	7.5	7.8	5.1	4.5	4.8
16	10.8	8.0	9.5	7.1	6.1	6.6	7.9	6.8	7.6	4.8	4.4	4.5
17	11.0	8.2	9.7	7.4	5.9	6.6	6.8	4.9	5.9	4.4	4.2	4.3
18	10.9	8.1	9.7	7.0	6.0	6.5	4.9	3.7	4.3	4.2	3.8	4.1
19	11.1	8.6	9.9	8.1	6.7	7.5	3.7	2.8	3.3	3.8	3.5	3.7
20	11.5	9.3	10.3	9.0	7.4	8.1	3.4	2.6	2.9	3.7	3.4	3.5
21	11.6	9.0	10.4	8.6	8.0	8.3	3.4	2.6	2.9	3.6	3.0	3.3
22	11.2	9.2	10.3	8.8	8.3	8.5	3.3	2.8	3.0	3.0	2.8	2.9
23	10.1	8.0	9.2	9.1	7.8	8.7	3.1	2.7	2.9	4.5	2.7	3.5
24	9.2	6.6	7.9	7.8	5.9	7.0	2.9	2.1	2.5	5.1	3.8	4.4
25	7.9	5.5	6.8	5.9	4.2	5.0	3.0	2.2	2.6	5.9	4.5	5.1
26	7.0	4.6	5.9	4.2	3.1	3.7	3.5	2.7	3.1	8.0	5.9	7.0
27	6.1	4.1	4.8	3.6	2.7	3.1	4.6	3.5	4.1	8.1	6.9	7.5
28	6.2	4.2	5.1	3.0	2.7	2.9	5.0	4.4	4.7	7.2	5.7	6.2
29	6.0	3.0	4.7	2.8	2.6	2.7	5.0	4.1	4.6	6.1	4.5	5.0
30	3.0	1.4	2.3	2.6	2.4	2.5	4.1	3.7	3.9	6.4	5.1	5.7
31	2.7	0.9	1.8	---	---	---	4.2	3.5	3.8	7.4	6.4	7.0
MONTH	16.0	0.9	9.7	9.1	0.2	5.1	8.1	2.1	4.0	8.1	2.0	4.4
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.9	6.7	7.2	3.5	2.6	3.1	11.8	9.8	10.9	14.6	12.9	13.8
2	6.9	5.2	6.0	3.7	3.2	3.4	11.3	9.4	10.0	15.8	14.2	15.0
3	5.3	4.9	5.2	4.9	3.6	4.3	9.9	7.6	8.5	16.1	13.5	15.1
4	4.9	3.9	4.5	5.5	4.3	4.9	9.8	6.4	8.0	13.5	12.8	13.1
5	4.5	3.4	3.9	5.8	4.9	5.2	9.5	7.2	8.0	13.0	12.0	12.4
6	4.0	2.5	3.3	5.0	4.5	4.8	8.6	6.7	7.6	12.4	11.5	12.0
7	3.9	2.3	3.1	5.2	4.9	5.0	10.7	7.3	8.6	12.7	11.3	11.9
8	3.8	2.9	3.3	5.1	4.6	4.8	12.9	9.7	10.8	13.3	12.2	12.8
9	3.8	3.0	3.3	7.1	5.0	5.7	13.3	12.0	12.7	15.4	13.3	14.3
10	3.8	3.0	3.4	8.0	6.0	6.9	14.6	12.6	13.4	16.2	14.8	15.5
11	4.1	3.1	3.6	7.8	6.4	7.2	14.7	13.6	14.0	17.7	15.8	16.7
12	4.5	3.5	4.0	8.1	6.8	7.3	13.8	12.3	13.1	16.9	15.8	16.6
13	4.6	3.8	4.2	9.2	7.3	8.2	14.3	12.9	13.6	17.2	15.2	16.2
14	4.7	4.2	4.4	9.5	8.1	8.7	14.3	12.5	13.1	18.6	17.0	17.8
15	5.4	4.3	4.7	9.3	8.2	8.6	12.9	11.7	12.2	17.6	14.4	16.3
16	6.4	5.4	6.0	9.2	7.5	8.2	12.7	11.6	12.2	14.5	13.0	13.8
17	6.5	5.4	5.9	8.9	7.0	7.8	12.8	12.1	12.4	14.2	12.6	13.3
18	6.7	5.6	6.0	8.9	6.4	7.5	12.1	10.3	11.2	13.4	12.0	12.6
19	6.3	4.5	5.3	9.2	5.8	7.4	12.5	10.7	11.6	15.4	12.3	13.7
20	6.3	4.8	5.4	10.1	7.4	8.8	13.9	12.2	12.9	16.2	14.2	15.2
21	6.8	5.2	5.9	9.6	8.0	8.9	15.0	13.9	14.5	16.4	14.7	15.5
22	6.8	5.4	6.0	9.4	8.6	9.0	15.4	14.7	15.1	18.3	15.7	17.1
23	6.3	3.6	4.9	8.8	6.8	7.8	14.7	13.3	13.9	20.1	17.5	18.7
24	3.6	1.4	2.4	8.3	6.5	7.3	14.4	12.2	13.6	22.0	19.0	20.5
25	2.7	0.6	1.7	8.2	6.7	7.4	12.4	10.9	11.7	21.0	19.5	20.6
26	2.8	1.0	1.9	8.7	6.8	7.7	12.8	10.0	11.6	20.2	18.4	19.1
27	3.6	2.2	2.8	8.1	6.2	7.0	12.5	9.8	10.9	22.6	18.6	20.6
28	3.7	2.5	3.0	8.9	5.8	7.2	13.7	12.5	13.0	23.5	21.2	22.3
29	---	---	---	9.8	6.4	8.1	14.5	13.7	14.2	24.2	21.1	22.6
30	---	---	---	11.4	8.2	9.7	14.3	13.3	13.9	22.9	20.7	22.1
31	---	---	---	12.1	10.2	11.1	---	---	---	21.0	18.9	19.9
MONTH	7.9	0.6	4.3	12.1	2.6	7.1	15.4	6.4	11.9	24.2	11.3	16.4

PALOUSE RIVER BASIN

13351000 PALOUSE RIVER AT HOOPER, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	21.5	18.6	20.0	23.1	20.2	21.7	27.1	23.8	25.3	22.5	20.1	21.5
2	21.9	19.2	20.5	23.2	18.6	20.9	25.1	23.1	24.0	22.8	20.1	21.7
3	21.9	19.2	20.4	23.0	18.5	20.9	23.3	21.8	22.3	22.8	19.9	21.7
4	23.1	19.6	21.3	23.7	19.0	21.5	24.9	20.7	22.7	23.0	21.0	22.0
5	24.0	20.0	22.0	24.6	19.9	22.3	25.0	23.1	23.9	23.2	20.7	21.9
6	25.0	20.8	22.8	25.9	20.3	23.3	26.0	22.3	24.0	23.9	21.2	22.7
7	25.4	21.4	23.3	26.2	21.5	24.1	26.5	22.8	24.4	23.6	19.8	21.6
8	25.1	21.8	23.5	25.0	21.1	22.9	25.8	22.7	24.3	19.8	16.9	18.2
9	25.2	21.8	23.4	25.4	20.4	23.0	26.6	23.5	25.0	17.1	15.9	16.7
10	23.8	21.0	22.3	27.3	21.2	24.5	26.3	23.9	25.0	17.8	15.8	17.1
11	23.5	19.8	21.5	28.0	23.5	25.9	25.6	23.1	24.2	18.1	16.6	17.4
12	24.1	19.9	21.9	27.5	24.2	25.6	25.8	22.0	23.7	17.6	15.8	16.9
13	23.1	20.8	21.8	24.5	21.2	22.7	25.5	21.5	23.3	18.4	14.4	16.7
14	22.5	19.6	21.0	25.2	20.4	22.9	25.1	21.8	23.4	18.0	14.9	16.8
15	23.2	19.2	21.1	26.8	21.4	24.4	24.8	22.1	23.4	17.9	15.6	17.2
16	24.6	19.8	22.1	26.4	23.2	24.8	23.1	20.6	21.7	17.8	15.1	15.9
17	26.1	20.9	23.4	26.8	22.0	24.6	24.0	19.6	21.7	16.1	13.7	15.1
18	25.1	22.6	23.8	27.7	22.8	25.5	25.3	21.3	23.2	16.8	13.3	15.2
19	24.0	20.5	22.3	27.5	24.0	26.1	25.6	22.5	23.8	17.5	14.8	16.4
20	20.5	17.2	18.7	27.2	24.0	25.8	23.9	21.1	22.5	17.3	14.5	16.3
21	---	---	---	28.7	24.1	26.4	23.5	20.3	21.9	17.4	14.5	16.4
22	---	---	---	28.5	24.6	26.9	22.3	21.1	22.0	17.7	14.5	16.5
23	---	---	---	28.2	25.3	26.7	22.8	19.5	21.0	17.9	15.2	16.9
24	22.6	---	---	26.4	24.4	25.6	22.6	19.6	20.9	18.5	15.3	17.3
25	23.9	19.0	21.3	26.0	24.1	25.1	23.0	19.6	21.2	19.3	16.9	18.4
26	25.3	19.9	22.5	26.4	23.6	24.9	23.2	21.1	22.2	19.9	16.9	18.7
27	26.2	21.4	23.8	26.6	23.4	24.9	22.4	20.2	21.2	19.7	16.5	18.4
28	27.7	21.9	24.7	26.7	23.6	25.1	22.8	19.6	21.1	19.3	16.1	18.1
29	26.6	22.8	24.8	27.2	23.5	25.3	22.5	19.6	21.2	19.2	---	---
30	25.0	21.4	23.0	26.9	24.0	25.4	22.6	19.7	21.4	---	---	---
31	---	---	---	27.7	23.8	25.5	22.3	19.8	21.4	---	---	---
MONTH	27.7	17.2	22.2	28.7	18.5	24.4	27.1	19.5	22.8	23.9	13.3	18.2
YEAR	28.7	0.2	12.4									

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., mg/L (00453)	Carbonate, wat flt incrm. titr., mg/L (00452)	Chloride, water, fltrd, mg/L (00940)
OCT 01...	0930	46	741	11.4	106	8.5	368	17.7	10.7	151	180	2	11.6
NOV 05...	1030	70	741	14.7	106	8.8	361	3.9	0.9	148	176	2	15.1
DEC 01...	0930	94	741	13.9	103	8.3	333	0.1	2.0	140	169	1	11.1
JAN 06...	1020	381	749	12.7	98	8.4	291	1.1	3.9	110	132	1	11.2
FEB 03...	1410	2,750	740	13.6	110	7.8	118	5.2	5.0	19	22	0.0	2.10
MAR 04...	0910	602	730	13.1	105	8.1	246	7.2	4.2	85	103	0.0	5.47
MAR 17...	1040	3,720	735	11.0	94	7.8	159	9.2	7.2	--	--	--	--
APR 01...	1030	1,430	726	10.5	98	8.1	202	12.4	10.3	67	81	0.0	3.49
APR 22...	1020	564	730	10.1	104	9.1	246	15.8	14.8	--	--	--	--
MAY 06...	1110	531	734	11.9	115	9.2	248	6.9	12.1	103	116	5	5.84
MAY 19...	1050	361	747	9.4	92	9.0	253	11.1	13.5	--	--	--	--
JUN 02...	1010	281	741	8.8	100	8.6	274	17.2	20.3	117	138	2	5.69
JUN 16...	1020	150	738	10.1	117	8.4	300	22.2	20.8	--	--	--	--
JUN 30...	1030	64	735	9.4	111	8.4	323	22.5	21.8	137	163	2	7.94
JUL 14...	1020	38	740	9.5	111	8.5	350	23.9	21.4	--	--	--	--
AUG 05...	1140	19	738	9.1	112	8.9	346	25.1	23.9	151	171	6	10.4
AUG 18...	1010	20	735	8.6	103	8.9	335	26.9	22.2	--	--	--	--
SEP 03...	0950	26	731	9.6	110	8.8	350	22.2	19.9	147	160	4	10.3

13351000 PALOUSE RIVER AT HOOPER, WA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sulfate water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Partic- ulate nitro- gen, susp, water, mg/L (49570)	Phos- phorus, water, unfltrd mg/L (00665)	Total nitro- gen, water, unfltrd mg/L (00600)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
OCT 01...	14.7	0.57	<0.04	0.56	0.008	E.01	0.22	0.059	1.1	1.4	<0.1	1.4	3.1
NOV 05...	14.4	0.26	<0.04	1.24	0.008	<0.02	<0.02	0.017	1.5	0.3	<0.1	0.3	2.6
DEC 01...	12.5	0.27	<0.04	1.46	0.010	E.01	0.04	0.038	1.7	0.3	<0.1	0.3	2.3
JAN 06...	12.4	0.46	<0.04	2.29	0.009	0.11	0.18	0.187	2.8	1.1	<0.1	1.1	3.2
FEB 03...	6.5	0.93	E.03	2.78	0.010	0.09	0.43	0.32	3.7	4.0	<0.1	3.9	7.3
MAR 04...	12.1	0.34	<0.04	3.84	0.009	0.08	0.08	0.137	4.2	0.5	<0.1	0.5	3.3
17...	--	1.4	E.03	4.69	0.017	0.13	--	0.50	6.1	--	--	--	--
APR 01...	11.2	0.55	<0.04	4.01	0.010	0.08	0.13	0.097	4.6	1.2	<0.1	1.2	4.7
22...	--	0.44	<0.04	2.37	0.011	E.01	--	0.033	2.8	--	--	--	--
MAY 06...	11.6	0.46	<0.04	1.74	0.012	<0.02	0.10	0.014	2.2	0.5	<0.1	0.5	4.5
19...	--	0.54	<0.04	1.39	0.013	E.01	--	0.049	1.9	--	--	--	--
JUN 02...	10.7	0.76	<0.04	1.02	0.020	0.07	0.31	0.172	1.8	1.7	<0.1	1.7	3.8
16...	--	0.59	E.03	1.03	0.012	0.08	--	0.135	1.6	--	--	--	--
30...	12.1	0.49	<0.04	0.73	0.009	0.10	0.14	0.151	1.2	0.8	<0.1	0.8	3.7
JUL 14...	--	0.53	<0.04	0.45	0.008	0.09	--	0.069	0.98	--	--	--	--
AUG 05...	15.3	1.1	<0.04	<0.06	<0.008	0.05	0.69	0.163	--	4.4	<0.1	4.4	4.0
18...	--	1.1	<0.04	<0.06	<0.008	E.01	--	0.128	--	--	--	--	--
SEP 03...	15.4	0.72	<0.04	0.07	E.005	<0.02	0.34	0.06	0.79	2.0	<0.1	2.0	3.8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd 0.7u GF (82686)	Ben- flur- alin, water, fltrd 0.7u GF (82673)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF (82680)	Carbo- furan, water, fltrd 0.7u GF (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF (82687)
OCT 01...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
NOV 05...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
DEC 01...	<0.006	E.003	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
JAN 06...	<0.006	E.006	<0.006	<0.004	<0.005	0.010	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
FEB 03...	<0.006	<0.006	<0.006	<0.004	<0.005	0.011	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
MAR 04...	<0.006	<0.006	<0.006	<0.004	<0.005	0.010	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
17...	<0.006	E.003	<0.006	<0.004	<0.005	0.011	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
APR 01...	<0.006	<0.006	<0.006	<0.004	<0.005	0.008	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
22...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	0.029	<0.006
MAY 06...	<0.006	E.003	<0.006	<0.004	<0.005	0.012	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
19...	<0.006	E.003	<0.006	<0.004	<0.005	0.008	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
JUN 02...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
16...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
30...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
JUL 14...	<0.006	E.005	<0.006	<0.004	<0.005	E.006	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
AUG 05...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
18...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
SEP 03...	<0.006	E.006	<0.006	<0.004	<0.005	<0.010	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006

13351000 PALOUSE RIVER AT HOOPER, WA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Desulf- inyl fipro- nil, water, fltrd, ug/L (62170)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal- flur- alin, water, fltrd 0.7u GF ug/L (82663)	Etho- prop, water, fltrd 0.7u GF ug/L (82672)	Desulf- inyl- fipro- nil amide, wat flt ug/L (62169)	Fipro- nil sulfide water, fltrd, ug/L (62167)	Fipro- nil sulfone water, fltrd, ug/L (62168)	Fipro- nil, water, fltrd, ug/L (62166)
OCT 01...	<0.018	<0.003	--	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	--	--	--	--
NOV 05...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
DEC 01...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
JAN 06...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
FEB 03...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
MAR 04...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
04... 17...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
APR 01...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
01... 22...	<0.018	<0.003	<0.004	0.086	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
MAY 06...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	0.003	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
06... 19...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
JUN 02...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
16... 30...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
JUL 14...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
AUG 05... 18...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007
SEP 03...	<0.018	<0.003	<0.004	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.009	<0.005	<0.005	<0.007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)
OCT 01...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
NOV 05...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
DEC 01...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
JAN 06...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	0.010	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
FEB 03...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	0.021	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
MAR 04... 17...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
APR 01... 22...	<0.003	E.002	<0.035	<0.027	<0.006	<0.013	E.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
MAY 06... 19...	<0.003	<0.004	<0.035	0.085	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
JUN 02... 16... 30...	<0.003	0.006	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
JUL 14...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	0.016	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
AUG 05... 18...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022
SEP 03...	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022

13351000 PALOUSE RIVER AT HOOPER, WA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Phorate water fltrd 0.7u GF (82664)	Prome- ton, water, fltrd, ug/L (04037)	Pron- amide, water, fltrd 0.7u GF (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd 0.7u GF (82679)	Propar- gite, water, fltrd 0.7u GF (82685)	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water fltrd 0.7u GF (82670)	Terba- cil, water, fltrd 0.7u GF (82665)	Terbu- fos, water, fltrd 0.7u GF (82675)	Thio- bencarb fltrd 0.7u GF (82681)	Tri- allate, water, fltrd 0.7u GF (82678)	Tri- flur- alin, water, fltrd 0.7u GF (82661)
OCT 01...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
NOV 05...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
DEC 01...	<0.011	M	<0.004	<0.010	<0.011	<0.02	0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
JAN 06...	<0.011	E.01	<0.004	<0.010	<0.011	<0.02	<0.010	E.01	<0.034	<0.02	<0.005	0.006	<0.009
FEB 03...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.011	<0.02	<0.034	<0.02	<0.005	0.092	<0.009
MAR 04...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.009	<0.02	<0.034	<0.02	<0.005	0.007	<0.009
MAR 17...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.013	<0.02	<0.034	<0.02	<0.005	0.031	E.003
APR 01...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.008	<0.02	<0.034	<0.02	<0.005	0.009	<0.009
APR 22...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
MAY 06...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.038	<0.02	<0.034	<0.02	<0.005	0.008	<0.009
MAY 19...	<0.011	E.01	<0.004	<0.010	<0.011	<0.02	0.052	<0.02	<0.034	<0.02	<0.005	0.012	<0.009
JUN 02...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.052	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
JUN 16...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
JUN 30...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.008	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
JUL 14...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
AUG 05...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
AUG 18...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009
SEP 03...	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.008	<0.02	<0.034	<0.02	<0.005	<0.002	E.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sus- pended sediment concentration mg/L (80154)	Sus- pended sediment load, tons/d (80155)
OCT 01...	14	1.7
NOV 05...	6	1.1
DEC 01...	3	0.76
JAN 06...	22	23
FEB 03...	152	1,130
MAR 04...	15	24
MAR 17...	495	4,970
APR 01...	44	170
APR 22...	6	9.1
MAY 06...	4	5.7
MAY 19...	8	7.8
JUN 02...	18	14
JUN 16...	13	5.3
JUN 30...	8	1.4
JUL 14...	11	1.1
AUG 05...	19	0.96
AUG 18...	16	0.86
SEP 03...	13	0.91

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Tur- bidity, water, unfltrd field, NTU (61028)	Biomass peri- phyton, ashfree drymass g/m2 (49954)	Peri- phyton biomass ash weight, g/m2 (00572)	Peri- phyton biomass dry weight, g/m2 (00573)	Biomass chloro- phyll ratio, peri- phyton, number (70950)	Pheo- phytin a, peri- phyton, mg/m2 (62359)	Pheo- phytin a, phyto- plank- ton, ug/L (62360)	Chloro- phyll a peri- phyton, chromo- fluoro, mg/m2 (70957)	Chloro- phyll a phyto- plank- ton, fluoro, ug/L (70953)
SEP 03...	0950	3.6	--	--	--	--	--	17.4	--	19.1
SEP 16...	1400	--	47.9	570	620.0	2,880	6.4	--	16.6	--
SEP 16...	1420	--	26.1	810	839.6	238	110	--	110	--