

06209500 ROCK CREEK NEAR RED LODGE, MT

LOCATION.--Lat 45°05'11", long 109°19'46" (NAD 27), in NW¼NE¼SW¼ sec.36, T.8 S., R.19 E., Carbon County, Hydrologic Unit 10070006, on left bank 40 ft downstream from county bridge, 6.7 mi south of Red Lodge, and at river mile 49.1.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--April to December 1932, May 1934 to September 1982, May 1985 to September 1986, January 2000 to current year. Monthly discharge only for May 1934, published in WSP 1309.

REVISED RECORDS.--WSP 1729: Drainage area. WDR MT-00-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,400 ft (NGVD 29). Prior to October 1986, water-stage recorder at elevation 6,099.42 ft, levels by U.S. Army Corps of Engineers, at previous site 3.1 mi downstream. Streamflows are equivalent.

REMARKS.--Records fair except those for the estimated daily discharges, which are poor. Flow partly regulated by Glacier Lake. No diversions upstream from station. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	e40	35	e30	e25	23	30	38	81	344	204	213
2	55	e40	34	e25	e20	25	31	39	91	361	206	217
3	54	e45	34	e25	e25	26	29	45	119	345	225	223
4	53	e40	35	e20	e25	23	31	57	161	346	219	216
5	52	e35	e30	e20	e25	28	33	77	221	347	206	203
6	52	e35	33	e20	e25	25	35	93	339	304	198	193
7	51	e40	33	e25	e30	e50	37	105	398	305	185	185
8	51	e45	33	e30	25	24	38	114	307	332	173	179
9	50	e50	e30	e40	23	25	39	113	317	290	165	173
10	57	e50	e30	e35	23	25	36	104	486	283	159	168
11	54	e50	e30	e30	e20	24	36	100	372	288	152	161
12	53	45	e30	27	e20	24	36	85	280	290	144	156
13	52	44	e30	25	e20	24	37	76	238	280	137	169
14	51	44	e35	25	23	24	39	71	218	284	133	169
15	50	42	e35	25	23	24	38	68	228	299	130	158
16	50	42	e35	25	23	24	37	67	213	291	129	156
17	52	41	e35	25	24	24	38	65	182	288	138	150
18	52	40	e35	25	24	25	37	69	164	275	157	146
19	51	40	e35	25	23	27	36	76	156	277	153	148
20	49	41	e30	24	23	25	36	74	166	274	153	157
21	49	e35	29	e25	e20	25	35	76	166	259	150	148
22	49	e30	e25	e20	e20	27	34	80	173	272	145	140
23	48	e30	e25	e20	e30	28	33	79	211	251	170	137
24	46	e35	e25	25	25	29	34	75	297	237	222	133
25	43	e35	29	25	23	29	33	72	345	233	235	129
26	47	e35	29	e20	23	28	33	70	324	236	248	125
27	46	e35	29	e20	23	27	36	72	326	234	243	122
28	46	e40	e25	e20	23	26	41	89	307	237	230	120
29	e45	e45	e25	24	23	26	39	102	327	228	218	116
30	e40	e40	e25	24	---	27	38	88	356	215	213	116
31	e40	---	e25	26	---	29	---	81	---	208	206	---
TOTAL	1,548	1,209	948	775	679	820	1,065	2,420	7,569	8,713	5,646	4,826
MEAN	49.9	40.3	30.6	25.0	23.4	26.5	35.5	78.1	252	281	182	161
MAX	60	50	35	40	30	50	41	114	486	361	248	223
MIN	40	30	25	20	20	23	29	38	81	208	129	116
AC-FT	3,070	2,400	1,880	1,540	1,350	1,630	2,110	4,800	15,010	17,280	11,200	9,570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2004, BY WATER YEAR (WY)*

MEAN	81.4	54.7	41.3	33.8	30.6	29.4	39.9	217	587	488	256	140
MAX	124	77.7	56.1	45.1	42.4	39.7	99.2	460	1,129	1,088	427	219
(WY)	(1968)	(1962)	(1962)	(1942)	(1953)	(1972)	(1943)	(1958)	(1957)	(1975)	(1951)	(1971)
MIN	49.9	36.9	26.6	20.6	19.6	19.6	24.4	78.1	252	220	153	88.6
(WY)	(2004)	(2003)	(1955)	(2002)	(2000)	(2002)	(1961)	(2004)	(2004)	(2001)	(2001)	(1960)

06209500 ROCK CREEK NEAR RED LODGE, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1932 - 2004*	
ANNUAL TOTAL	48,173		36,218			
ANNUAL MEAN	132		99.0		170	
HIGHEST ANNUAL MEAN					251	1943
LOWEST ANNUAL MEAN					97.3	2001
HIGHEST DAILY MEAN	813	May 29	486	Jun 10	2,370	Jun 5, 1957
LOWEST DAILY MEAN	21	Feb 24	20	Jan 4	14	Nov 29, 1954
ANNUAL SEVEN-DAY MINIMUM	23	Feb 23	21	Jan 22	17	Jan 27, 2002
MAXIMUM PEAK FLOW			a532	Jun 10	c3,110	Jun 4, 1957
MAXIMUM PEAK STAGE			b7.76	Nov 6	b7.97	Dec 16, 2002
ANNUAL RUNOFF (AC-FT)	95,550		71,840		123,000	
10 PERCENT EXCEEDS	390		253		483	
50 PERCENT EXCEEDS	46		45		62	
90 PERCENT EXCEEDS	25		24		29	

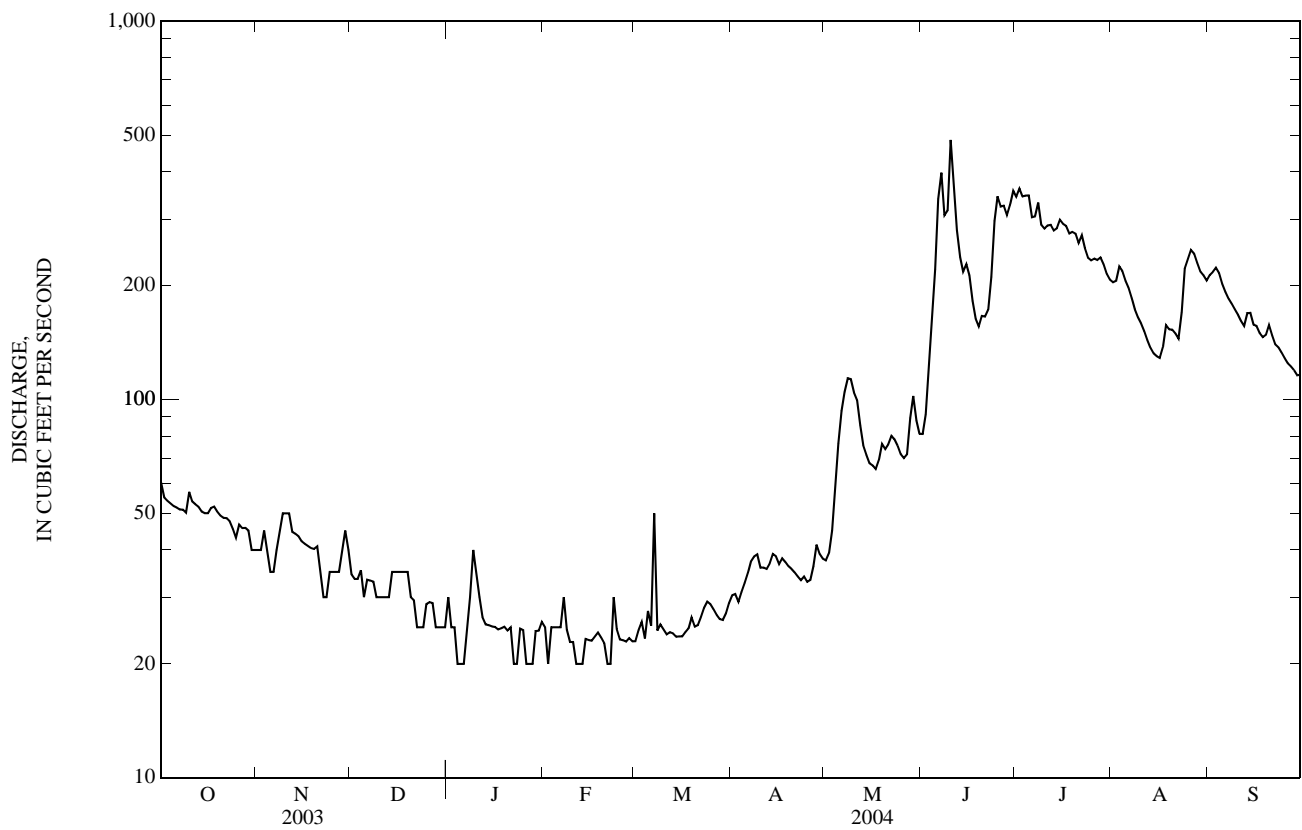
*--During periods of operation (April 1932 to December 1932, May 1934 to September 1982, May 1985 to September 1986, January 2000 to current year).

a--Gage height, 6.41 ft.

b--Backwater from ice.

c--Gage height, 4.78 ft, previous site and datum.

e--Estimated.



06211000 RED LODGE CREEK ABOVE COONEY RESERVOIR, NEAR BOYD, MT

LOCATION.--Lat 45°26'16", long 109°15'11" (NAD 27), in NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.33, T.4 S., R.20 E., Carbon County, Hydrologic Unit 10070006, on right bank 0.6 mi upstream from Cooney Reservoir, 9.5 mi west of Boyd, and at river mile 15.0.

DRAINAGE AREA.--143 mi².

PERIOD OF RECORD.--May 1937 to current year (no winter records most years).

REVISED RECORDS.--WSP 1729: Drainage area. WSP 2116: 1937(M), 1942(M), 1943(P), 1944(M), 1948(M), 1952(M), 1957(P), 1962(M), 1963(M).

GAGE.--Water-stage recorder. Elevation of gage is 4,248.0 ft (NGVD 29).

REMARKS.--Seasonal records good. Some return flow from lands irrigated by water diverted from Rock Creek and East Rosebud Creek basins. Diversions for irrigation of about 5,100 acres upstream from station. U. S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				25	21	8.9	73	36	37	68		
2				26	20	4.4	69	35	39	64		
3				26	19	4.9	74	37	46	61		
4				26	19	4.0	73	49	47	59		
5				24	13	5.8	204	37	47	58		
6				22	8.8	12	117	32	46	56		
7				21	6.6	14	97	29	46	52		
8				21	7.4	14	95	25	45	51		
9				34	4.8	19	92	27	44	48		
10				37	7.2	38	90	31	44	40		
11				31	10	106	88	32	43	41		
12				29	11	46	89	25	46	41		
13				27	14	35	89	22	49	45		
14				25	9.9	32	85	23	50	45		
15				24	9.0	35	74	17	50	59		
16				22	7.4	40	69	15	50	67		
17				21	8.6	45	68	14	49	e50		
18				21	10	52	61	15	48	e35		
19				23	13	51	58	22	46	e25		
20				22	8.8	52	57	27	52	22		
21				20	6.2	56	59	30	57	24		
22				19	7.0	54	62	31	58	26		
23				18	12	48	65	30	56	25		
24				17	15	49	62	17	56	31		
25				16	12	56	60	20	57	31		
26				15	12	63	55	32	54	28		
27				10	11	75	56	42	52	27		
28				12	9.9	71	53	42	53	29		
29				19	8.8	70	43	38	54	41		
30				22	11	70	40	42	53	40		
31				---	10	---	39	39	---	35		
TOTAL				675	343.4	1,231.0	2,316	913	1,474	1,324		
MEAN				22.5	11.1	41.0	74.7	29.5	49.1	42.7		
MAX				37	21	106	204	49	58	68		
MIN				10	4.8	4.0	39	14	37	22		
AC-FT				1,340	681	2,440	4,590	1,810	2,920	2,630		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1937 - 2004*

	15.4	27.4	36.5	75.3	154	188	89.4	38.0	46.3	46.3	33.3	19.3
MEAN	15.4	27.4	36.5	75.3	154	188	89.4	38.0	46.3	46.3	33.3	19.3
MAX	18.8	35.0	62.9	234	616	575	297	90.2	106	119	69.5	33.6
(WY)	(1964)	(1962)	(1962)	(1973)	(1975)	(1967)	(1975)	(1993)	(1941)	(1942)	(1942)	(1958)
MIN	12.1	18.9	17.4	12.7	10.8	15.3	4.90	4.71	4.20	17.5	16.5	14.5
(WY)	(1963)	(1964)	(1964)	(1961)	(1985)	(1954)	(1949)	(1946)	(1949)	(1954)	(1955)	(1946)

SUMMARY STATISTICS

FOR 2004 SEASON

SEASONS 1937 - 2004*

ANNUAL MEAN								58.4				
HIGHEST ANNUAL MEAN								67.1		1963		
LOWEST ANNUAL MEAN								49.8		1964		
HIGHEST DAILY MEAN				204		Jul 5		2,000		Jun 15, 1967		
LOWEST DAILY MEAN				4.0		Jun 4		0.00		Aug 1, 1949		
MAXIMUM PEAK FLOW				294		Jul 5		b2,260		Jun 15, 1967		
MAXIMUM PEAK STAGE				2.74		Jul 5		7.00		Jun 15, 1967		
INSTANTANEOUS LOW FLOW				a2.5		Jun 4		0.00		Aug 1, 1949		
ANNUAL RUNOFF (AC-FT)								42,340				
10 PERCENT EXCEEDS								170				
50 PERCENT EXCEEDS								30				
90 PERCENT EXCEEDS								15				

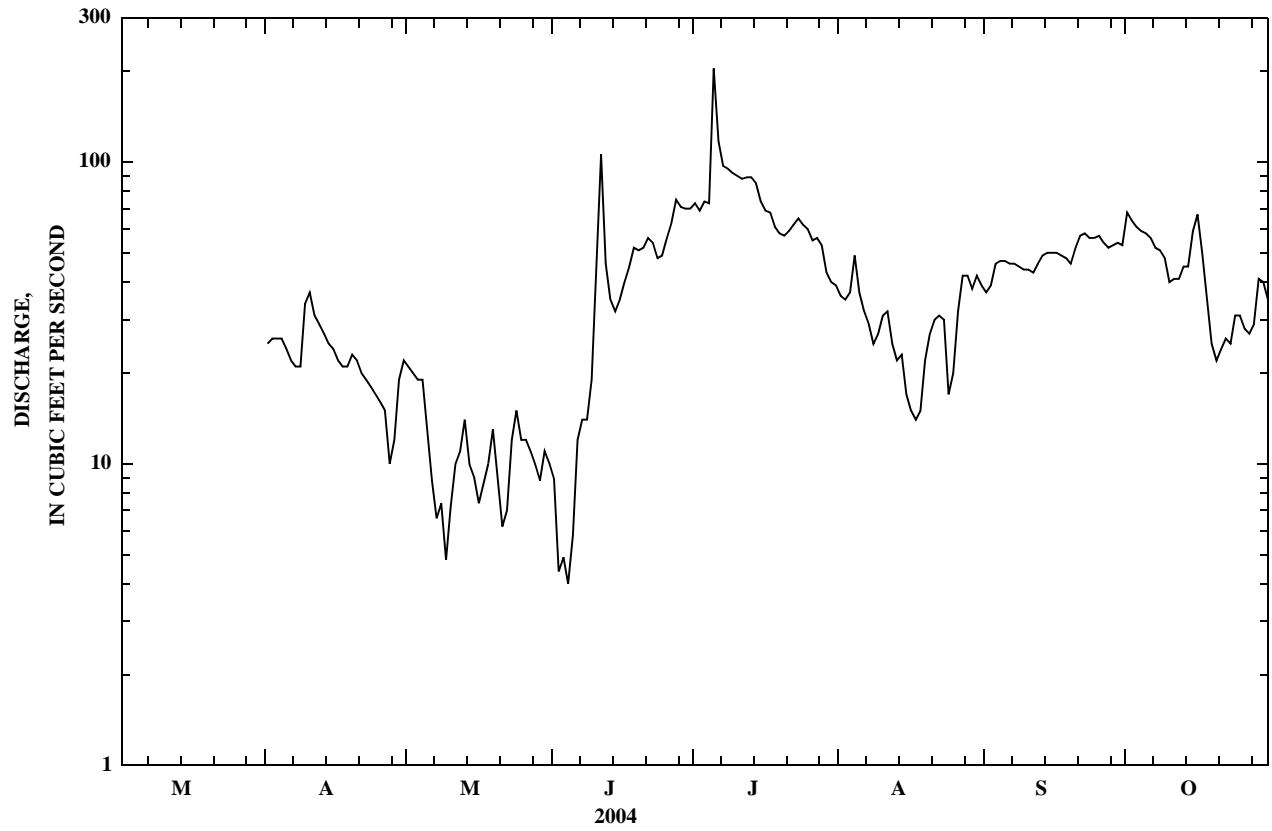
*--No winter records most years.

a--Gage height, 1.25 ft.

b--From rating curve extended above 1,700 ft³/s on basis of contracted-opening measurement of peak flow.

c--Estimated.

06211000 RED LODGE CREEK ABOVE COONEY RESERVOIR, NEAR BOYD, MT—Continued



YELLOWSTONE RIVER BASIN

06211500 WILLOW CREEK NEAR BOYD, MT

LOCATION.--Lat 45°25'20", long 109°13'47" (NAD 27), in SW¹/₄SW¹/₄SW¹/₄ sec.2, T.5 S., R.20 E., Carbon County, Hydrologic Unit 10070006, on left bank 0.5 mi upstream from Cooney Reservoir, 8 mi west of Boyd, and at river mile 2.1.

DRAINAGE AREA.--53.3 mi².

PERIOD OF RECORD.--June 1937 to current year (no winter records except 1963-64).

REVISED RECORDS.--WSP 1729: Drainage area. WSP 2116: 1957, 1962. WDR MT-87-1: 1986.

GAGE.--Water-stage recorder. Elevation of gage is 4,260 ft (NGVD 29). Prior to Apr. 23, 1948, at site 0.5 mi downstream at different elevation.

REMARKS.--Seasonal records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 1,800 acres upstream from station. Some return flow from lands irrigated by water diverted from Rock Creek basin. U. S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were obtained during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				20	11	1.8	19	37	31	40		
2				20	10	1.8	20	36	31	37		
3				19	9.4	1.8	23	34	34	36		
4				19	10	1.9	25	48	41	33		
5				18	9.9	1.8	95	38	37	31		
6				16	9.4	1.5	58	37	33	30		
7				15	8.1	1.4	47	35	33	28		
8				14	e6.5	1.4	45	34	33	28		
9				19	e6.0	1.5	44	37	31	27		
10				20	e6.0	2.0	40	40	29	27		
11				18	e5.5	3.3	41	39	32	28		
12				16	e5.5	5.1	41	30	31	28		
13				14	e5.0	4.0	47	25	32	29		
14				13	e5.0	4.1	47	22	35	29		
15				12	e4.5	3.5	38	21	35	37		
16				11	e4.0	3.9	38	20	34	47		
17				11	e4.0	4.4	38	22	32	39		
18				10	e3.5	7.5	39	24	29	35		
19				11	e3.5	7.4	42	26	27	32		
20				11	e3.5	7.2	42	24	30	31		
21				11	e3.0	6.3	37	23	34	32		
22				10	e3.0	5.1	38	23	31	31		
23				10	e3.0	4.1	45	26	30	31		
24				9.0	e2.5	3.7	43	24	31	33		
25				8.9	e2.5	6.7	41	28	30	33		
26				8.2	2.4	16	38	36	29	30		
27				8.2	2.2	17	42	44	28	30		
28				8.7	2.2	17	41	39	28	30		
29				12	2.0	15	39	36	30	33		
30				12	2.0	14	40	35	29	34		
31				---	2.2	---	39	31	---	31		
TOTAL				405.0	157.3	172.2	1,272	974	950	1,000		
MEAN				13.5	5.07	5.74	41.0	31.4	31.7	32.3		
MAX				20	11	17	95	48	41	47		
MIN				8.2	2.0	1.4	19	20	27	27		
AC-FT				803	312	342	2,520	1,930	1,880	1,980		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1964, AND SEASONS 1938 - 1962, 1965 - 2004*

MEAN	8.00	12.1	15.3	33.4	47.2	54.9	55.6	40.0	37.1	30.3	22.0	17.0
MAX	8.27	17.2	22.5	88.2	215	170	123	75.1	64.3	50.0	31.6	26.6
(WY)	(1963)	(1962)	(1962)	(1973)	(1975)	(1967)	(1978)	(1972)	(1965)	(1972)	(1974)	(1958)
MIN	7.73	5.76	5.89	6.29	3.08	2.05	3.20	11.8	6.02	12.7	14.7	10.6
(WY)	(1964)	(1964)	(1964)	(1961)	(1969)	(1961)	(1960)	(1961)	(1960)	(1940)	(1963)	(1963)

SUMMARY STATISTICS

FOR 2004 SEASON

SEASONS 1938 - 2004*

HIGHEST DAILY MEAN	95	Jul 5	1,150	Jun 15, 1967
LOWEST DAILY MEAN	1.4	Jun 7	0.00	May 29, 1969
MAXIMUM PEAK FLOW	153	Jul 5	b1,720	Jun 15, 1967
MAXIMUM PEAK STAGE	3.70	Jul 5	c7.24	May 29, 1942
INSTANTANEOUS LOW FLOW	a1.3	Jun 8	0.00	May 29, 1969

*--Seasonal records except 1963 and 1964 water years.

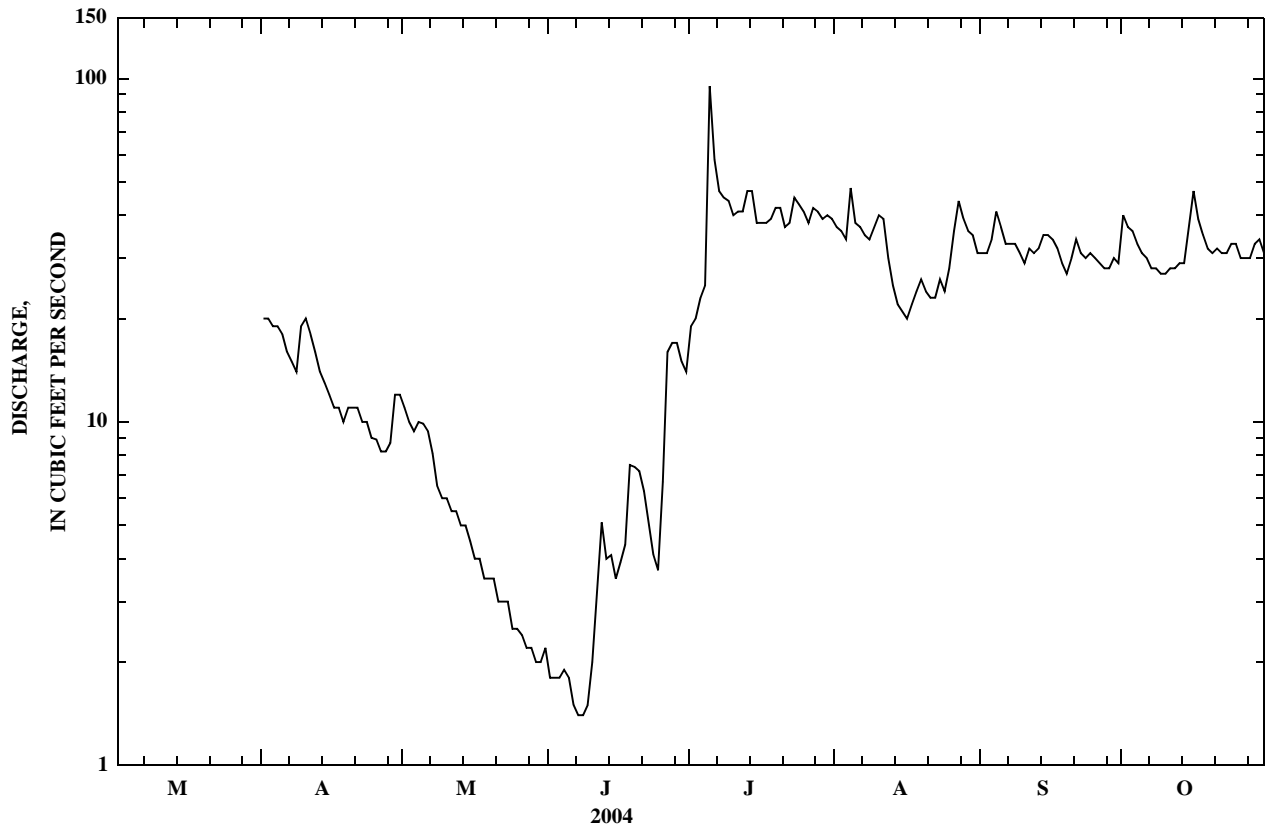
a--Gage height, 1.33 ft.

b--Gage height, 7.08 ft, from rating curve extended above 400 ft³/s on basis of slope-area measurement of peak flow.

c--Backwater from Cooney Reservoir, site and datum then in use.

e--Estimated.

06211500 WILLOW CREEK NEAR BOYD, MT—Continued



06214500 YELLOWSTONE RIVER AT BILLINGS, MT

LOCATION.--Lat 45°48'00", long 108°28'00" (NAD 27), in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.27, T.1 N., R.26 E., Yellowstone County, Hydrologic Unit 10070007, on right bank 0.3 mi downstream from bridge on U.S. Highway 87, 1 mi northeast of Billings, 10 mi upstream from Pryor Creek, and at river mile 360.3.

DRAINAGE AREA.--11,805 mi².

PERIOD OF RECORD.--May 1904 to December 1905 (gage heights only January to March, December 1905), August 1928 to current year. Monthly discharge only for some periods, published in WSP 1309. Published as "near Billings" 1904-5.

REVISED RECORDS.--WDR MT 1968: 1967 (M). WSP 1729: Drainage area. WDR-MT-2003-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,080 ft (NGVD 29). May 1904 to December 1905, nonrecording gage at bridge 0.3 ft upstream at different elevation. Aug. 24, 1928, to June 30, 1932, nonrecording gage at bridge 0.3 mi upstream at elevation 2.0 ft higher. July 1, 1932, to Oct. 12, 1937, water-stage recorder at old diversion dam 3.3 mi upstream at different elevation. Oct. 13, 1937, to Jan. 9, 1963 and Dec. 2, 1967 to Sept. 12, 1990, water-stage recorder 0.3 mi upstream at elevation 3,081.36 ft. Jan. 10, 1963 to Dec. 2, 1967, water-stage recorder 2.1 mi upstream at elevation 3,069.9 ft.

REMARKS.--Records good except those for estimated daily discharges and discharges below 2,000 ft³/s, which are poor. Diversions for irrigation of about 350,000 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,380	3,250	2,590	1,610	2,380	1,990	2,170	3,410	8,040	14,600	3,910	2,510
2	2,380	2,910	2,530	2,000	1,850	1,870	2,500	2,870	7,160	14,100	3,690	2,340
3	2,370	3,050	2,520	1,700	1,700	1,820	2,980	2,820	6,940	13,600	3,450	2,460
4	2,370	3,170	2,500	e1,700	1,680	1,780	3,200	3,710	7,590	12,700	3,760	2,770
5	2,360	2,820	2,410	e1,600	1,900	1,750	3,130	5,520	10,000	13,800	3,730	2,960
6	2,310	2,630	2,400	e1,500	2,000	1,780	3,230	7,830	13,900	14,500	3,400	2,850
7	2,300	2,550	2,490	e1,500	1,990	1,680	3,710	9,850	18,100	12,900	3,250	2,640
8	2,310	2,530	2,480	e1,700	1,990	1,710	4,210	10,700	19,500	12,300	2,970	2,510
9	2,330	2,540	2,470	1,640	1,910	1,840	4,640	10,800	18,000	12,100	2,790	2,420
10	2,450	2,650	2,390	2,130	1,900	2,060	5,040	10,200	19,400	11,000	2,540	2,270
11	2,530	2,880	2,270	2,470	1,780	2,090	4,600	9,100	25,700	10,100	2,260	2,230
12	2,570	2,790	2,130	2,540	1,530	2,060	4,030	8,950	22,800	9,700	2,020	2,170
13	2,600	2,680	2,200	2,430	e1,500	2,040	3,680	8,250	19,600	9,000	1,800	2,280
14	2,660	2,660	2,430	2,380	1,650	2,010	3,640	7,010	16,800	8,420	1,690	2,450
15	2,890	2,630	2,500	2,390	1,820	1,990	4,010	5,960	14,900	7,910	1,590	2,510
16	2,870	2,620	2,330	2,370	1,910	1,940	4,490	5,140	14,100	7,670	1,510	3,000
17	2,800	2,630	2,290	2,320	2,010	1,950	4,300	4,710	13,400	7,310	1,450	3,220
18	2,750	2,600	2,130	2,250	2,120	1,980	3,840	4,670	12,500	6,890	1,530	3,130
19	2,710	2,580	2,160	e2,200	2,470	2,010	3,730	4,560	11,800	6,570	1,700	3,410
20	2,690	2,610	2,240	2,220	2,510	2,050	3,570	5,260	11,400	6,800	1,970	3,600
21	2,670	2,610	2,330	2,150	2,310	2,140	3,270	5,550	11,400	7,340	1,940	3,790
22	2,660	2,540	2,340	2,100	2,210	2,200	2,900	5,950	10,900	6,780	2,000	4,330
23	2,640	e2,300	2,240	2,030	2,090	2,150	2,690	6,930	11,000	6,590	2,080	4,280
24	2,620	e2,000	2,140	2,130	2,050	2,190	2,430	8,000	12,100	6,470	2,100	4,030
25	2,610	e2,120	2,160	2,000	2,050	2,360	2,220	7,730	13,900	5,930	2,260	3,970
26	2,630	2,190	2,260	1,560	2,120	2,580	2,100	6,790	15,200	5,400	2,610	4,070
27	2,620	2,420	2,350	e1,500	2,060	2,740	2,060	6,230	15,400	4,960	3,540	4,070
28	2,620	2,420	1,910	e1,500	2,040	2,610	1,990	6,080	14,900	4,920	4,560	3,900
29	2,930	2,530	2,000	e1,700	2,190	2,460	2,850	7,070	14,000	4,630	3,960	3,850
30	3,230	2,610	2,190	e2,000	---	2,310	4,230	9,410	13,700	4,390	3,430	3,770
31	3,570	---	1,530	e2,600	---	2,200	---	9,140	---	4,120	2,930	---
TOTAL	81,430	78,520	70,910	61,920	57,720	64,340	101,440	210,200	424,130	273,500	82,420	93,790
MEAN	2,627	2,617	2,287	1,997	1,990	2,075	3,381	6,781	14,140	8,823	2,659	3,126
MAX	3,570	3,250	2,590	2,600	2,510	2,740	5,040	10,800	25,700	14,600	4,560	4,330
MIN	2,300	2,000	1,530	1,500	1,500	1,680	1,990	2,820	6,940	4,120	1,450	2,170
AC-FT	161,500	155,700	140,600	122,800	114,500	127,600	201,200	416,900	841,300	542,500	163,500	186,000

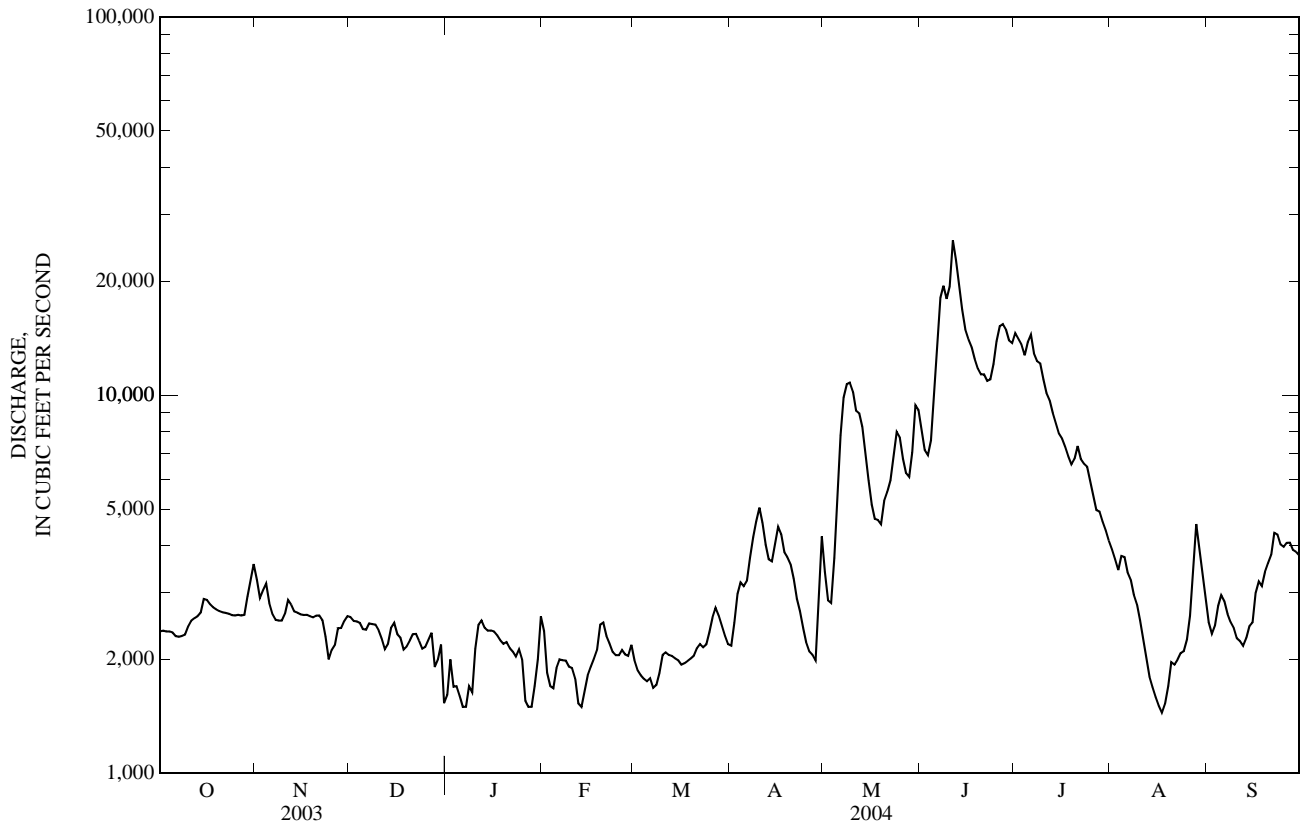
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

MEAN	3,988	3,537	2,785	2,469	2,641	3,009	4,115	12,630	25,160	13,460	5,110	4,019
MAX	6,803	5,163	4,451	3,834	4,382	5,478	8,799	24,070	53,910	37,180	9,776	7,301
(WY)	(1942)	(1984)	(1976)	(1984)	(1997)	(1979)	(1943)	(1997)	(1997)	(1975)	(1997)	(1968)
MIN	2,128	2,283	1,579	1,363	1,559	1,767	1,438	5,635	9,849	3,410	1,462	1,527
(WY)	(2002)	(1932)	(1933)	(1940)	(1932)	(2002)	(1961)	(1953)	(1934)	(1934)	(2001)	(2001)

06214500 YELLOWSTONE RIVER AT BILLINGS, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004	
ANNUAL TOTAL	2,034,040		1,600,320			
ANNUAL MEAN	5,573		4,372		6,917	
HIGHEST ANNUAL MEAN					12,100	1997
LOWEST ANNUAL MEAN					3,763	2001
HIGHEST DAILY MEAN	46,500	Jun 2	25,700	Jun 11	80,100	Jun 12, 1997
LOWEST DAILY MEAN	1,500	Feb 24	1,450	Aug 17	450	Dec 12, 1932
ANNUAL SEVEN-DAY MINIMUM	1,930	Jan 18	1,610	Aug 13	794	Dec 10, 1932
MAXIMUM PEAK FLOW			27,800	Jun 11	82,000	Jun 12, 1997
MAXIMUM PEAK STAGE			9.14	Jun 11	15.00	Jun 12, 1997
INSTANTANEOUS LOW FLOW					430	Dec 12, 1932
ANNUAL RUNOFF (AC-FT)	4,035,000		3,174,000		5,011,000	
10 PERCENT EXCEEDS	12,700		10,700		17,500	
50 PERCENT EXCEEDS	2,600		2,610		3,690	
90 PERCENT EXCEEDS	2,140		1,890		2,150	

e--Estimated.



YELLOWSTONE RIVER BASIN

06216000 PRYOR CREEK AT PRYOR, MT

LOCATION.--Lat 45°26'06", long 108°32'01" (NAD 27), in NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.5, T.5 S., R.26 E., Big Horn County, Hydrologic Unit 10070008, on left bank 60 ft upstream from county bridge, 0.5 mi north of Pryor, 1.4 mi downstream from Lost Creek, and at river mile 82.7.

DRAINAGE AREA.--117 mi².

PERIOD OF RECORD.--June 1921 to September 1924 (no winter records), November 1966 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1729: Drainage area. WDR MT-87-1: 1982-83 (M), 1986 (M).

GAGE.--Water-stage recorder. Elevation of gage is 4,007.35 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Prior to Oct. 14, 1966, nonrecording gage at approximately same site at different elevation.

REMARKS.--Records good. Diversions for irrigation of about 1,100 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	17	17	16	15	18	16	16	11	8.2	6.9	13
2	14	17	17	15	15	17	17	15	8.8	7.3	7.4	12
3	14	16	17	15	15	17	17	15	7.4	7.8	7.4	14
4	14	16	17	15	15	17	17	15	7.4	6.8	9.2	17
5	15	16	17	15	15	17	17	15	7.5	7.6	10	11
6	14	16	17	15	15	18	17	15	7.5	7.2	12	9.6
7	14	16	17	15	15	18	17	15	7.2	6.9	12	9.0
8	14	16	17	15	15	19	16	15	7.0	7.4	11	9.1
9	14	16	17	15	16	19	16	15	7.4	8.3	11	10
10	17	17	17	16	16	19	16	15	10	7.2	10	10
11	16	17	17	16	15	18	16	15	15	6.2	7.6	10
12	15	17	17	15	15	18	16	16	13	6.0	10	10
13	15	17	17	15	16	18	15	15	11	5.8	11	9.7
14	15	17	17	16	16	17	15	15	9.7	5.8	11	9.2
15	16	17	18	16	16	17	15	15	11	5.5	13	8.3
16	16	17	17	16	16	18	15	15	11	5.3	15	8.3
17	15	17	17	15	16	17	15	15	12	5.1	14	8.6
18	16	16	17	15	17	17	15	13	13	5.6	17	8.8
19	16	16	17	15	19	17	15	11	15	6.5	19	9.2
20	16	17	17	16	17	17	15	9.7	14	5.5	18	11
21	16	17	17	16	17	17	15	10	14	6.0	16	12
22	15	16	17	15	17	17	16	15	14	5.6	16	12
23	16	16	17	16	17	16	16	15	14	7.4	16	12
24	15	17	17	16	17	16	16	14	14	7.6	15	12
25	16	17	17	15	17	16	16	13	11	7.3	15	13
26	16	17	17	15	17	16	16	12	11	7.1	16	12
27	16	17	17	15	18	17	16	9.0	9.5	7.2	15	12
28	16	17	17	15	19	16	15	11	9.5	7.9	15	13
29	20	18	16	15	20	16	16	11	9.6	7.1	14	13
30	18	17	16	16	---	16	16	12	9.0	6.8	14	13
31	18	---	16	16	---	16	---	12	---	6.9	14	---
TOTAL	483	500	525	477	474	532	476	424.7	321.5	208.9	398.5	331.8
MEAN	15.6	16.7	16.9	15.4	16.3	17.2	15.9	13.7	10.7	6.74	12.9	11.1
MAX	20	18	18	16	20	19	17	16	15	8.3	19	17
MIN	14	16	16	15	15	16	15	9.0	7.0	5.1	6.9	8.3
AC-FT	958	992	1,040	946	940	1,060	944	842	638	414	790	658

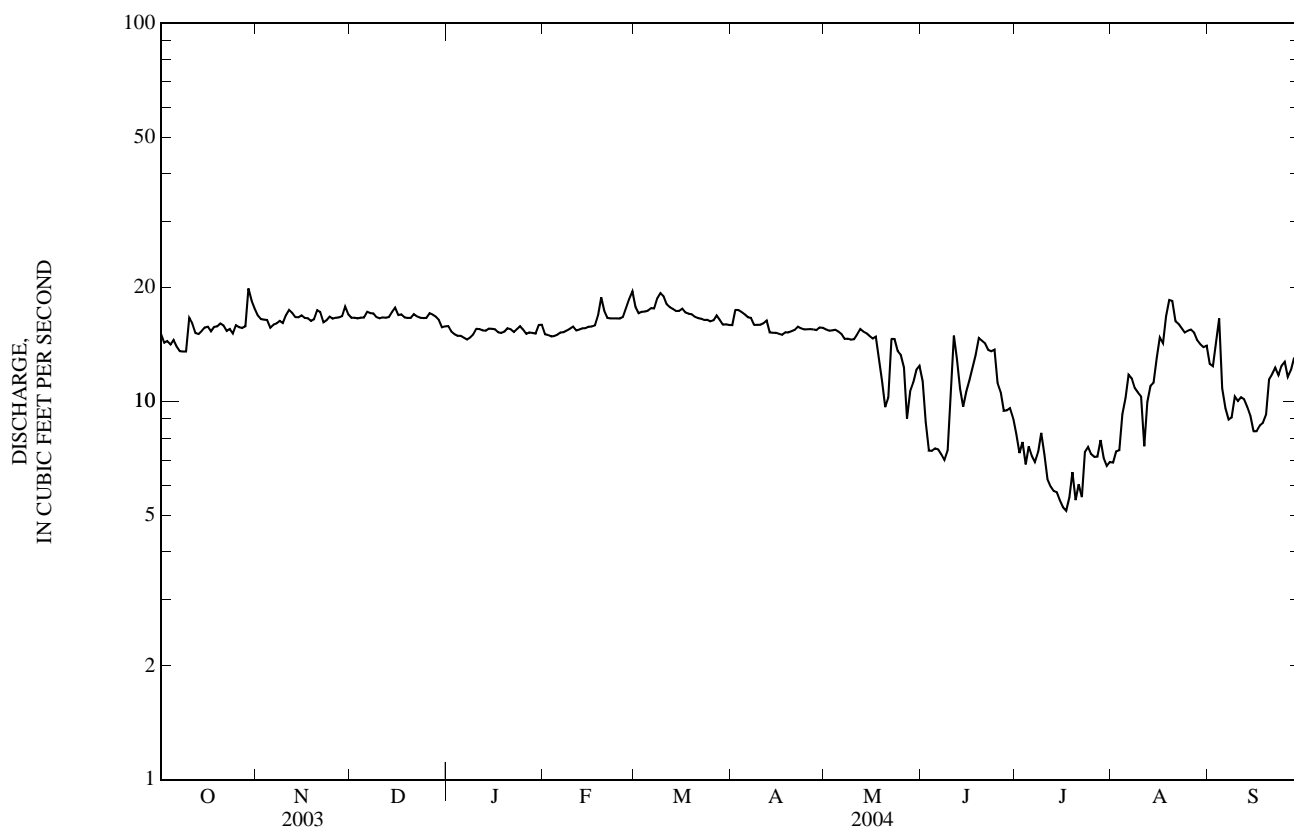
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2004, BY WATER YEAR (WY)

MEAN	31.2	30.9	30.1	28.8	29.7	31.6	31.7	53.4	40.1	23.0	20.9	26.5
MAX	62.9	62.0	69.7	54.3	55.7	70.9	58.8	251	158	69.3	49.5	61.0
(WY)	(1976)	(1976)	(1976)	(1976)	(1976)	(1979)	(1976)	(1978)	(1975)	(1975)	(1975)	(1978)
MIN	15.0	15.4	14.0	15.4	16.3	17.2	12.6	13.7	10.7	6.56	6.15	8.52
(WY)	(2003)	(2003)	(2003)	(2004)	(2004)	(2004)	(2003)	(2004)	(2004)	(2003)	(2003)	(2003)

06216000 PRYOR CREEK AT PRYOR, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1968 - 2004	
ANNUAL TOTAL	5,130.7		5,152.4			
ANNUAL MEAN	14.1		14.1		31.5	
HIGHEST ANNUAL MEAN					66.3	1975
LOWEST ANNUAL MEAN					13.7	2003
HIGHEST DAILY MEAN	37	Mar 13	20	Oct 29	1,700	May 19, 1978
LOWEST DAILY MEAN	4.9	Aug 1	5.1	Jul 17	3.2	Aug 1, 1988
ANNUAL SEVEN-DAY MINIMUM	5.1	Jul 29	5.6	Jul 12	5.1	Jul 29, 2003
MAXIMUM PEAK FLOW			a24	Feb 14	c2,280	May 19, 1978
MAXIMUM PEAK STAGE			3.62	Sep 4	d8.88	May 19, 1978
INSTANTANEOUS LOW FLOW			b4.3	Jul 16	1.8	Jul 31, 1988
ANNUAL RUNOFF (AC-FT)	10,180		10,220		22,820	
10 PERCENT EXCEEDS	18		17		48	
50 PERCENT EXCEEDS	16		15		27	
90 PERCENT EXCEEDS	6.5		7.6		15	

a--Gage height, 3.46 ft.
 b--Gage height, 2.94 ft.
 c--From rating curve extended above 410 ft³/s on basis of contracted-opening measurement.
 d--From floodmark.



YELLOWSTONE RIVER BASIN

06279500 BIGHORN RIVER AT KANE, WY

LOCATION.--Lat 44°45'31", long 108°10'51", in NW¹/₄ NE¹/₄ SW¹/₄ sec.9, T.55 N., R.94 W., Big Horn County, Hydrologic Unit 10080010, on right bank 180 ft upstream from Bighorn Canyon National Recreation Area boundary, 0.5 mi upstream from normal high-water line of Bighorn Lake at elevation 3,660 ft, 1.3 mi upstream from Five Springs Creek, and 5.9 mi south of Kane.

DRAINAGE AREA.--15,762 mi². Area at sites used prior to May 17, 1956, 15,846 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year.

REVISED RECORDS.--WSP 1309: 1929(M). WSP 1509: 1929. WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,660 ft above NGVD of 1929, from topographic map. August 29, 1928, to April 25, 1932, nonrecording gage, and April 25, 1932 to May 16, 1956, water-stage recorder at site 12.5 mi downstream at different datum. U.S. Army Corps of Engineers data collection platform with satellite telemetry at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some regulation by Boysen Reservoir since October 1951. Diversions for irrigation of about 376,000 acres upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1923, 14.8 ft, September 30, 1923, site and datum in use April 1932 to May 1956.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	696	699	e850	e500	712	e700	647	858	1,020	855	848	678
2	696	699	e800	e650	702	e700	627	797	896	1,780	793	669
3	603	789	e750	e600	626	e750	638	751	822	1,550	743	701
4	572	e750	e750	e500	612	e750	636	705	811	1,260	699	780
5	573	e700	e700	e450	654	e800	646	642	1,020	1,160	700	894
6	574	e710	e680	e390	658	e800	619	693	1,420	1,310	723	956
7	572	e710	e750	e450	675	e850	557	955	1,620	1,510	666	955
8	552	e720	e790	454	662	e900	597	1,240	1,640	1,300	644	883
9	534	e720	e700	553	674	e930	596	1,480	1,450	1,080	633	848
10	539	e740	e700	683	687	e1,000	843	1,430	1,420	1,000	583	798
11	554	e760	e650	739	e660	e840	1,140	1,190	1,460	946	531	765
12	583	759	e600	733	e650	834	874	1,300	1,370	e850	520	786
13	592	720	e600	711	643	826	778	1,330	1,260	e800	493	812
14	670	725	e650	709	577	804	684	1,110	1,170	e750	500	837
15	673	720	e700	715	590	802	666	955	1,030	757	486	891
16	658	718	e700	727	651	800	684	843	927	e770	502	1,020
17	658	723	e650	719	707	805	704	795	913	e850	525	961
18	665	721	e650	692	750	788	705	797	936	e950	533	926
19	663	717	e600	666	792	781	697	749	928	834	590	942
20	658	745	e650	670	e790	777	730	859	923	796	642	972
21	648	e750	e650	700	e750	768	667	1,050	978	752	677	1,130
22	641	e600	e630	710	e700	732	628	1,140	1,010	729	659	1,430
23	651	e500	e620	687	e600	734	589	1,170	936	771	725	1,190
24	651	e350	e600	681	e700	733	596	1,100	852	1,260	764	1,130
25	647	e400	e620	e660	e800	719	583	1,010	879	1,870	742	1,060
26	639	e500	e620	e650	e900	710	595	922	917	1,380	704	1,040
27	663	e600	e620	e640	e800	702	590	852	953	1,170	698	989
28	676	e650	e600	e620	e800	702	564	799	929	1,060	711	1,030
29	682	e700	e580	596	e750	685	632	747	897	965	729	1,040
30	692	e800	e560	636	---	670	812	897	902	989	730	1,050
31	698	---	e550	690	---	657	---	1,070	---	969	719	---
TOTAL	19,573	20,395	20,570	19,581	20,272	24,049	20,324	30,236	32,289	33,023	20,212	28,163
MEAN	631	680	664	632	699	776	677	975	1,076	1,065	652	939
MAX	698	800	850	739	900	1,000	1,140	1,480	1,640	1,870	848	1,430
MIN	534	350	550	390	577	657	557	642	811	729	486	669
AC-FT	38,820	40,450	40,800	38,840	40,210	47,700	40,310	59,970	64,050	65,500	40,090	55,860

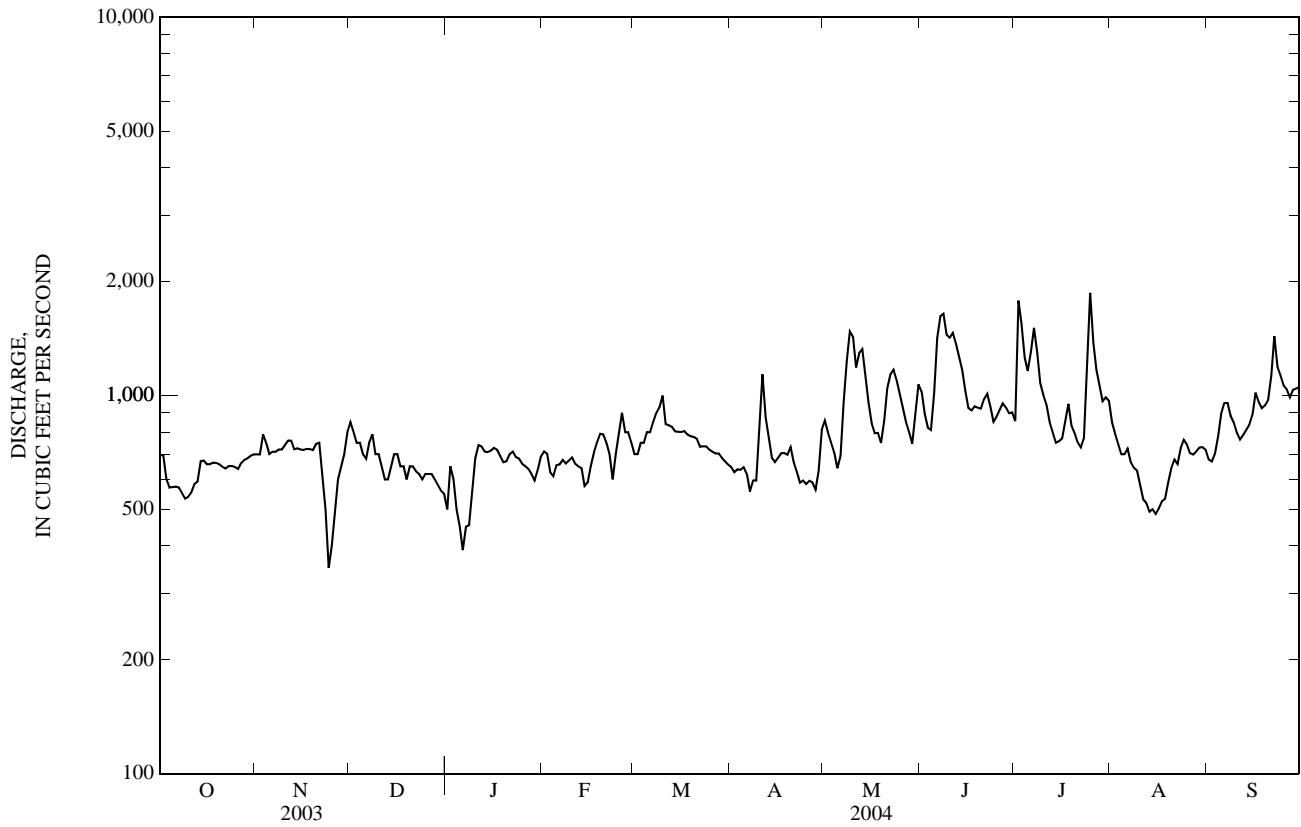
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2004, BY WATER YEAR (WY)

MEAN	1,773	1,647	1,437	1,349	1,514	1,799	1,778	3,121	5,687	3,085	1,422	1,507
MAX	3,994	2,871	2,506	2,871	3,164	3,171	3,454	7,505	14,680	11,650	6,388	3,673
(WY)	(1983)	(1984)	(1983)	(1972)	(1983)	(1972)	(1943)	(1947)	(1944)	(1967)	(1930)	(1973)
MIN	524	680	627	580	550	740	677	744	1,032	501	305	386
(WY)	(1936)	(2004)	(1961)	(1937)	(1933)	(1989)	(2004)	(2002)	(1934)	(1961)	(1940)	(1935)

06279500 BIGHORN RIVER AT KANE, WY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1930 - 2004*	
ANNUAL TOTAL	326,467		288,687			
ANNUAL MEAN	894		789		2,176	
HIGHEST ANNUAL MEAN					3,524	1947
LOWEST ANNUAL MEAN					781	2002
HIGHEST DAILY MEAN	5,080	May 31	1,870	Jul 25	24,800	Jun 15, 1935
LOWEST DAILY MEAN	350	Nov 24	e350	Nov 24	179	Jul 22, 1934
ANNUAL SEVEN-DAY MINIMUM	434	Aug 12	485	Jan 3	184	Jul 18, 1934
MAXIMUM PEAK FLOW			2,150	Jul 2	a25,200	Jun 16, 1935
MAXIMUM PEAK STAGE			2.70	Jul 2	a11.10	Jun 16, 1935
ANNUAL RUNOFF (AC-FT)	647,500		572,600		1,577,000	
10 PERCENT EXCEEDS	1,560		1,070		3,900	
50 PERCENT EXCEEDS	700		720		1,600	
90 PERCENT EXCEEDS	556		587		740	

*--August 1928 to September 1929 not included in computations, monthly only for selected months.
 a--Site and datum then in use.
 e--Estimated.



YELLOWSTONE RIVER BASIN
06279500 BIGHORN RIVER AT KANE, WY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1947-1977, 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

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)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
OCT												
28...	1430	680	660	10.9	107	8.3	1,140	12.0	8.0	<.04	.34	<.008
JAN												
28...	1425	583	663	11.4	90	8.0	1,180	-8.0	.0	.08	.56	<.008
MAY												
11...	1450	1,110	664	8.7	101	8.2	635	20.5	15.5	<.04	.56	.021
12...	1510	1,270	--	--	--	--	--	--	--	--	--	--
AUG												
17...	1350	518	672	8.9	115	8.0	1,040	28.0	21.5	<.04	<.06	<.008

Date	Ortho-phosphate, water, fltrd, mg/L as P (00671)	E coli, modif. m-TEC, col/100 mL (90902)	Fecal coliform, M-FC, 0.7u MF col/100 mL (31625)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT					
28...	<.02	E16k	30	81	149
JAN					
28...	<.02	44	62	81	128
MAY					
11...	E.01	290	--	474	1,420
12...	--	--	250	--	--
AUG					
17...	<.02	71	90	47	66

E--Estimated.

k--Counts outside acceptable range (non-ideal colony count).

06285100 SHOSHONE RIVER NEAR LOVELL, WY

LOCATION.--Lat 44°50'19", long 108°26'04", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.17, T.56 N., R.96 W., Big Horn County, Hydrologic Unit 10080014, on left bank 20 ft downstream from bridge on County Road 9 and 1.5 mi west of Lovell.

DRAINAGE AREA.--2,350 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,850 ft above NGVD of 1929, from topographic map. Prior to October 1, 1976, at site 500 ft downstream, at datum 2.00 ft higher. October 1, 1976 to September 30, 1980, at site 500 ft downstream, at datum 1.00 ft higher. October 1, 1981 to November 13, 1986, at site 500 ft downstream at same datum. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Buffalo Bill Reservoir. Natural flow of stream affected by storage reservoirs, power development, diversions upstream from station for irrigation of about 143,000 acres, of which about 8,000 acres are downstream from station, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	505	431	328	e300	e290	294	173	409	412	e300	510
2	487	497	426	331	e290	e290	307	205	325	417	e280	477
3	510	495	423	e320	e300	e280	306	224	252	387	e280	575
4	507	501	426	e310	e300	e290	264	238	228	407	e260	716
5	503	494	430	e300	e310	e290	258	244	207	472	e340	689
6	514	473	428	e280	e310	e290	251	229	207	403	e360	670
7	485	487	429	e300	e310	e290	277	248	194	358	e380	643
8	581	470	405	e300	e310	e300	149	238	194	318	e400	548
9	656	469	398	e320	e300	e300	101	263	230	308	e440	487
10	689	466	395	e310	e300	e310	212	318	338	278	e420	417
11	725	470	403	e310	e290	e310	193	322	589	298	e380	419
12	740	464	405	e300	e280	e290	156	349	559	307	399	443
13	754	454	388	e300	e290	e280	238	453	588	224	414	514
14	745	456	366	e300	e290	e280	103	487	581	e280	414	527
15	697	449	364	e290	e290	e280	327	521	553	e260	444	547
16	800	446	377	e290	e290	281	329	478	541	e300	455	507
17	760	445	387	e290	e290	285	282	420	520	e280	405	476
18	932	443	373	e290	e300	288	326	384	530	e280	420	447
19	696	442	354	e290	e320	293	304	414	537	e300	408	468
20	616	454	346	e290	e300	285	287	451	527	e340	411	600
21	606	444	351	e290	e290	278	254	467	554	e320	436	652
22	615	433	317	e290	e290	280	212	459	472	e300	510	648
23	621	448	320	e290	e290	285	232	529	446	e420	699	591
24	608	475	322	e300	e280	286	206	551	417	e400	521	541
25	597	480	353	e310	e290	287	191	566	382	e440	486	514
26	520	489	308	e300	e300	287	190	532	434	e500	539	486
27	540	492	306	e280	e300	293	153	497	419	e400	726	471
28	539	478	312	e280	e290	289	166	490	436	e340	667	488
29	541	397	314	e290	e290	293	227	439	373	e320	665	445
30	539	442	300	e300	---	293	218	480	349	e320	661	467
31	511	---	318	e320	---	292	---	456	---	e300	605	---
TOTAL	19,126	13,958	11,475	9,299	8,590	8,965	7,013	12,125	12,391	10,689	14,125	15,983
MEAN	617	465	370	300	296	289	234	391	413	345	456	533
MAX	932	505	431	331	320	310	329	566	589	500	726	716
MIN	485	397	300	280	280	278	101	173	194	224	260	417
AC-FT	37,940	27,690	22,760	18,440	17,040	17,780	13,910	24,050	24,580	21,200	28,020	31,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)

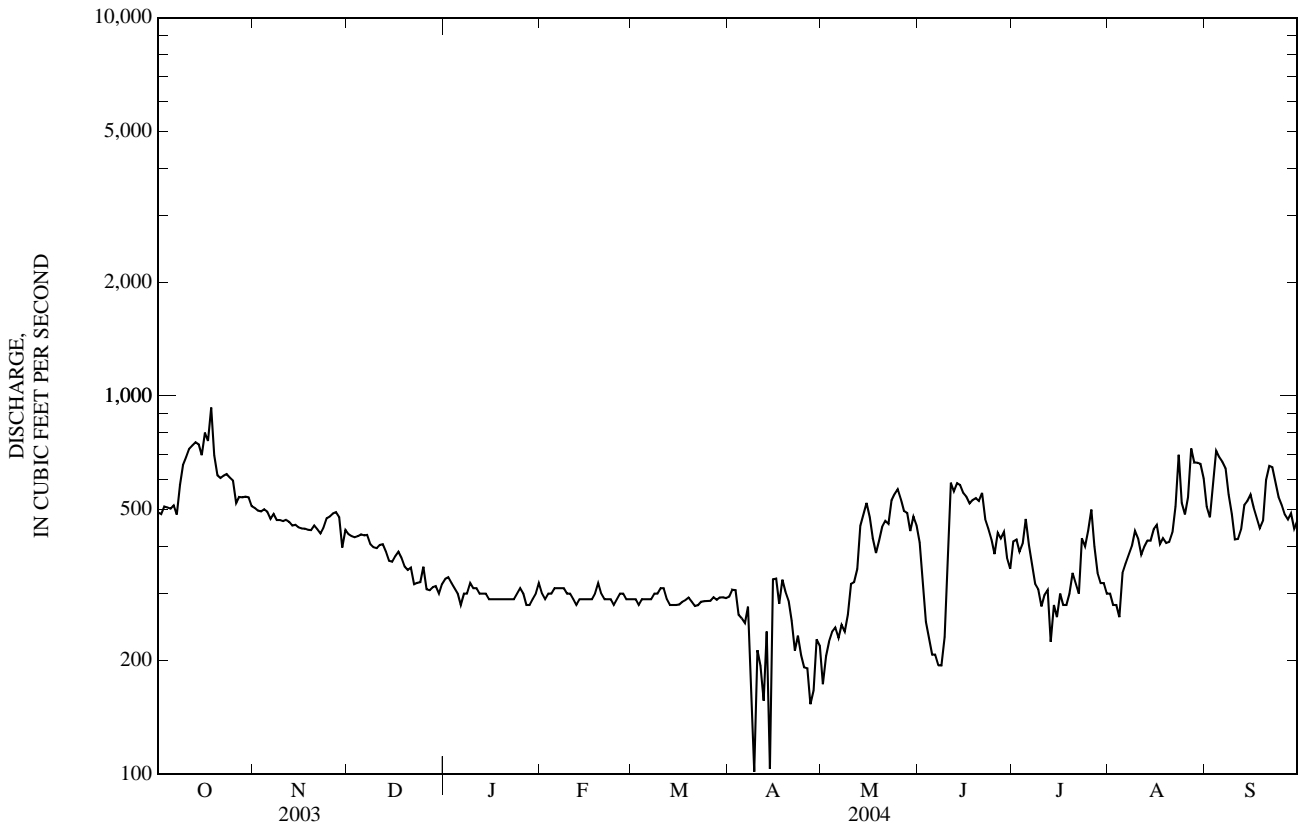
MEAN	751	699	631	565	586	656	774	854	1,822	1,678	719	762
MAX	1,251	1,146	1,168	1,065	1,139	1,951	3,353	2,925	4,935	4,686	1,305	1,354
(WY)	(1972)	(1969)	(1969)	(1973)	(1973)	(1997)	(1997)	(1996)	(1981)	(1982)	(1982)	(1991)
MIN	369	297	306	226	228	243	234	193	203	149	207	245
(WY)	(1989)	(1986)	(1995)	(1991)	(1989)	(1995)	(2004)	(1977)	(1977)	(1977)	(1977)	(1977)

YELLOWSTONE RIVER BASIN

06285100 SHOSHONE RIVER NEAR LOVELL, WY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1967 - 2004	
ANNUAL TOTAL	201,702		143,739			
ANNUAL MEAN	553		393		875	
HIGHEST ANNUAL MEAN					1,659	1997
LOWEST ANNUAL MEAN					356	2002
HIGHEST DAILY MEAN	6,380	Jun 20	932	Oct 18	15,200	Jun 10, 1981
LOWEST DAILY MEAN	51 ^e	Apr 14	101	Apr 9	27	May 31, 1977
ANNUAL SEVEN-DAY MINIMUM	85	Apr 10	165	Apr 8	48	May 30, 1977
MAXIMUM PEAK FLOW			a1,240	Oct 18	c16,400	Jun 10, 1981
MAXIMUM PEAK STAGE			b8.17	Jan 8	11.27	Jun 13, 2001
ANNUAL RUNOFF (AC-FT)	400,100		285,100		634,100	
10 PERCENT EXCEEDS	738		569		1,400	
50 PERCENT EXCEEDS	408		365		646	
90 PERCENT EXCEEDS	270		260		310	

a--Gage height, 5.88 ft.
 b--Backwater from ice.
 c--Gage height, 9.16 ft, site then in use, at present datum.
 e--Estimated.



06285100 SHOSHONE RIVER NEAR LOVELL, WY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967-97, October 1999 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to September 1983.

WATER TEMPERATURES: October 1966 to September 1983.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

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, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia water, fltrd, mg/L as N (00608)
OCT 28...	1630	519	652	12.4	126	8.5	973	11.5	9.0	<.04
JAN 28...	1620	217	657	12.2	97	8.2	1,190	8.0	0.0	.06
MAY 11...	1700	362	661	9.6	107	8.2	721	12.0	13.5	.05
MAY 12...	1440	385	--	--	--	--	--	--	--	--
AUG 17...	1600	440	675	10.3	127	8.4	738	23.0	19.5	<.04

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	E coli, modif. m-TEC, water, col/100 mL (90902)	Fecal coliform, M-FC 0.7u MF col/100 mL (31625)
OCT 28...	1.58	.012	<.02	21	E30k
JAN 28...	1.52	E.007	<.02	E13k	E14k
MAY 11...	1.42	.032	.05	600	--
MAY 12...	--	--	--	--	600
AUG 17...	1.51	.010	.02	390	330

E--Estimated.

k--Counts outside acceptable range (non-ideal colony count).

YELLOWSTONE RIVER BASIN

06286400 BIGHORN LAKE NEAR ST. XAVIER, MT

LOCATION.--Lat 45°18'27", long 107°57'26" (NAD 27), in SW¹/₄SE¹/₄ sec.18, T.6 S., R.30 E., Big Horn County, Hydrologic Unit 10080010, in block 13 of Yellowtail Dam on Bighorn River, 1.3 mi upstream from Grapevine Creek, 15.5 mi southwest of St. Xavier, and at river mile 86.6.

DRAINAGE AREA.--19,626 mi².

PERIOD OF RECORD.--November 1965 to current year (monthend contents only). Prior to October 1969, published as "Yellowtail Reservoir." Records of daily elevations and contents on file at the U. S. Geological Survey office in Helena, Montana.

GAGE.--Water-stage recorder in powerhouse control room. Elevation of gage is 3,296.5 ft (NGVD 29) (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by thin concrete-arch dam; construction began in 1961; completed in 1967. Storage began Nov. 3, 1965. Usable capacity, 1,312,000 acre-ft, between elevation 3,296.50 ft, river outlet invert, and 3,657.00 ft, top of flood control. Elevation of spillway crest, 3,593.00 ft. Normal maximum operating level, 1,097,000 acre-ft, between elevation, 3,640.00 ft and 3,657.00 ft. Minimum operating level, 483,400 acre-ft, elevation, 3,547.00 ft. Dead storage, 16,010 acre-ft, below elevation 3,296.50 ft. All elevations are referenced to the National Geodetic Vertical Datum of 1929. Figures given herein represent usable contents. Water is used for power production, flood control, irrigation, and recreation.

COOPERATION.--Elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,346,000 acre-ft, July 6, 1967, elevation, 3,656.43 ft; minimum since first filling, 519,400 acre-ft, Mar. 11, 2003, elevation 3,572.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 799,100 acre-ft, Nov. 13, elevation, 3,611.84 ft; minimum, 634,300 acre-ft, May 8, elevation, 3,581.76 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	3,607.20	769,900	--
October 31	3,611.40	796,200	+26,300
November 30	3,610.52	790,500	-5,700
December 31	3,605.13	757,600	-32,900
Calendar Year 2003	--	--	+122,000
January 31	3,594.58	699,300	-58,300
February 29	3,591.51	683,300	-16,000
March 31	3,588.22	666,500	-16,800
April 30	3,582.94	640,100	-26,400
May 31	3,584.12	646,000	+5,900
June 30	3,586.80	659,300	+13,300
July 31	3,587.29	661,800	+2,500
August 31	3,586.40	657,300	-4,500
September 30	3,593.63	694,300	+37,000
Water Year 2004	--	--	-75,600

06287000 BIGHORN RIVER NEAR ST. XAVIER, MT

LOCATION.--Lat 45°19'00", long 107°55'05" (NAD 27), in NW¼NW¼NE¼ sec.16, T.6 S., R.31 E., Big Horn County, Hydrologic Unit 10080015, on right bank 800 ft downstream from Yellowtail dam, 1,500 ft downstream from Lime Kiln Creek, 14 mi southwest of St. Xavier, and at river mile 83.9.

DRAINAGE AREA.--19,667 mi². Area at site used prior to Apr. 16, 1963, 19,626 mi².

PERIOD OF RECORD.--October 1934 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,158.38 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Prior to Apr. 16, 1963, and June 13, 1964, to Mar. 31, 1965, water-stage recorder at site 1.2 mi upstream at different elevation. Apr. 1, 1965, to July 31, 1966, water-stage recorder at site 1,300 ft downstream at present elevation.

REMARKS.--Records fair. **Figures of discharge given herein are sum of river flow and flow of Bighorn Canal.** Some regulation by 14 reservoirs in Wyoming with combined capacity of 1,400,000 acre-ft and complete regulation by Bighorn Lake (see preceding page) since Nov. 3, 1965. Diversions for irrigation of about 375,000 acres upstream from station. Bureau of Reclamation satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,640	1,490	1,430	1,500	1,470	1,530	1,630	1,630	1,500	1,820	1,790	1,410
2	1,630	1,490	1,460	1,500	1,480	1,530	1,630	1,630	1,540	1,660	1,790	1,400
3	1,620	1,490	1,550	1,500	1,470	1,540	1,650	1,640	1,570	1,660	1,790	1,380
4	1,600	1,490	1,580	1,500	1,470	1,540	1,620	1,680	1,620	1,660	1,760	1,360
5	1,590	1,470	1,600	1,500	1,470	1,540	1,610	1,720	1,640	1,650	1,760	1,280
6	1,570	1,470	1,620	1,500	1,480	1,550	1,600	1,740	1,640	1,670	1,740	1,270
7	1,520	1,470	1,640	1,500	1,470	1,550	1,600	1,740	1,640	1,670	1,710	1,390
8	1,400	1,460	1,660	1,540	1,470	1,550	1,600	1,750	1,630	1,670	1,710	1,470
9	1,350	1,460	1,680	1,570	1,470	1,560	1,580	1,740	1,750	1,660	1,690	1,470
10	1,300	1,460	1,640	1,600	1,470	1,560	1,570	1,730	1,980	1,670	1,680	1,460
11	1,280	1,460	1,500	1,630	1,470	1,560	1,570	1,760	1,920	1,670	1,670	1,450
12	1,270	1,460	1,500	1,660	1,470	1,560	1,560	1,780	1,900	1,710	1,650	1,440
13	1,270	1,460	1,500	1,690	1,480	1,560	1,550	1,770	1,900	1,760	1,640	1,430
14	1,250	1,460	1,500	1,730	1,480	1,570	1,540	1,780	1,880	1,760	1,630	1,430
15	1,240	1,460	1,500	1,770	1,480	1,570	1,520	1,760	1,900	1,750	1,620	1,520
16	1,230	1,460	1,500	1,800	1,490	1,580	1,520	1,780	1,880	1,780	1,610	1,560
17	1,220	1,460	1,500	1,840	1,490	1,580	1,510	1,760	1,840	1,800	1,580	1,550
18	1,250	1,460	1,500	1,870	1,490	1,580	1,490	1,770	1,860	1,800	1,580	1,540
19	1,860	1,450	1,510	1,910	1,490	1,590	1,490	1,770	1,850	1,790	1,560	1,520
20	1,710	1,450	1,500	1,940	1,500	1,590	1,550	1,770	1,850	1,800	1,520	1,490
21	1,520	1,450	1,500	1,980	1,500	1,590	1,560	1,760	1,860	1,790	1,520	1,420
22	1,360	1,450	1,500	2,020	1,510	1,590	1,660	1,760	1,870	1,790	1,510	1,390
23	1,440	1,450	1,490	2,060	1,500	1,600	1,650	1,750	1,850	1,790	1,490	1,370
24	1,480	1,440	1,500	2,100	1,510	1,600	1,690	1,750	1,780	1,790	1,470	1,360
25	1,510	1,440	1,500	2,140	1,510	1,600	1,690	1,730	1,830	1,790	1,480	1,360
26	1,500	1,440	1,500	1,960	1,510	1,610	1,690	1,620	1,850	1,790	1,450	1,350
27	1,500	1,440	1,500	1,500	1,520	1,610	1,700	1,510	1,860	1,800	1,410	1,340
28	1,500	1,440	1,500	1,500	1,520	1,610	1,750	1,500	1,860	1,800	1,400	1,330
29	1,500	1,430	1,500	1,490	1,530	1,620	1,790	1,500	1,860	1,800	1,360	1,320
30	1,500	1,430	1,500	1,480	---	1,620	1,780	1,500	1,860	1,790	1,330	1,320
31	1,490	---	1,500	1,480	---	1,630	---	1,500	---	1,790	1,320	---
TOTAL	45,100	43,740	47,360	52,760	43,170	48,870	48,350	52,580	53,770	54,130	49,220	42,380
MEAN	1,455	1,458	1,528	1,702	1,489	1,576	1,612	1,696	1,792	1,746	1,588	1,413
MAX	1,860	1,490	1,680	2,140	1,530	1,630	1,790	1,780	1,980	1,820	1,790	1,560
MIN	1,220	1,430	1,430	1,480	1,470	1,530	1,490	1,500	1,500	1,650	1,320	1,270
AC-FT	89,460	86,760	93,940	104,600	85,630	96,930	95,900	104,300	106,700	107,400	97,630	84,060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2004, BY WATER YEAR (WY)

MEAN	2,911	2,867	2,686	2,560	2,624	2,869	2,854	3,767	6,904	5,412	2,847	2,690
MAX	5,142	5,151	4,999	5,267	4,384	4,809	6,675	8,744	17,900	18,890	6,784	4,544
(WY)	(1972)	(1983)	(1968)	(1968)	(1976)	(1976)	(1972)	(1947)	(1935)	(1967)	(1997)	(1973)
MIN	1,224	856	1,095	1,090	888	327	678	900	1,078	1,144	1,260	1,074
(WY)	(1978)	(1966)	(1935)	(1935)	(1936)	(1966)	(1966)	(1966)	(1966)	(1960)	(1966)	(1966)

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 1935 - 2004

ANNUAL TOTAL	568,680	581,430	
ANNUAL MEAN	1,558	1,589	
HIGHEST ANNUAL MEAN			3,417
LOWEST ANNUAL MEAN			5,059
HIGHEST DAILY MEAN	2,120	Jul 22	2,140
LOWEST DAILY MEAN	1,220	Oct 17	1,220
ANNUAL SEVEN-DAY MINIMUM	1,250	Oct 12	1,250
MAXIMUM PEAK FLOW			a2,270
MAXIMUM PEAK STAGE			b60.63
INSTANTANEOUS LOW FLOW			49
ANNUAL RUNOFF (AC-FT)	1,128,000	1,153,000	2,476,000
10 PERCENT EXCEEDS	1,940	1,800	5,710
50 PERCENT EXCEEDS	1,500	1,560	2,790
90 PERCENT EXCEEDS	1,280	1,430	1,500

06287000 BIGHORN RIVER NEAR ST. XAVIER, MT—Continued

SUMMARY STATISTICS

	WATER YEARS 1935 - 1961*		WATER YEARS 1967 - 2004**	
ANNUAL MEAN	3,426		3,435	
HIGHEST ANNUAL MEAN	5,059	1947	4,839	1999
LOWEST ANNUAL MEAN	1,706	1961	1,649	2002
HIGHEST DAILY MEAN	37,400	Jun 16 1935	24,800	Jul 6, 1967
LOWEST DAILY MEAN	300	Dec 20 1951	112	Apr 2, 1967
ANNUAL SEVEN-DAY MINIMUM	656	Dec 25 1934	518	Mar 25, 1970
MAXIMUM PEAK FLOW	37,400	Jun 19 1935	25,300	Jul 5, 1967
INSTANTANEOUS LOW FLOW	228	Dec 9 1937	c112	Apr 2, 1967
ANNUAL RUNOFF (AC-FT)	2,482,000		2,489,000	
10 PERCENT EXCEEDS	6,640		5,480	
50 PERCENT EXCEEDS	2,450		3,100	
90 PERCENT EXCEEDS	1,370		1,740	

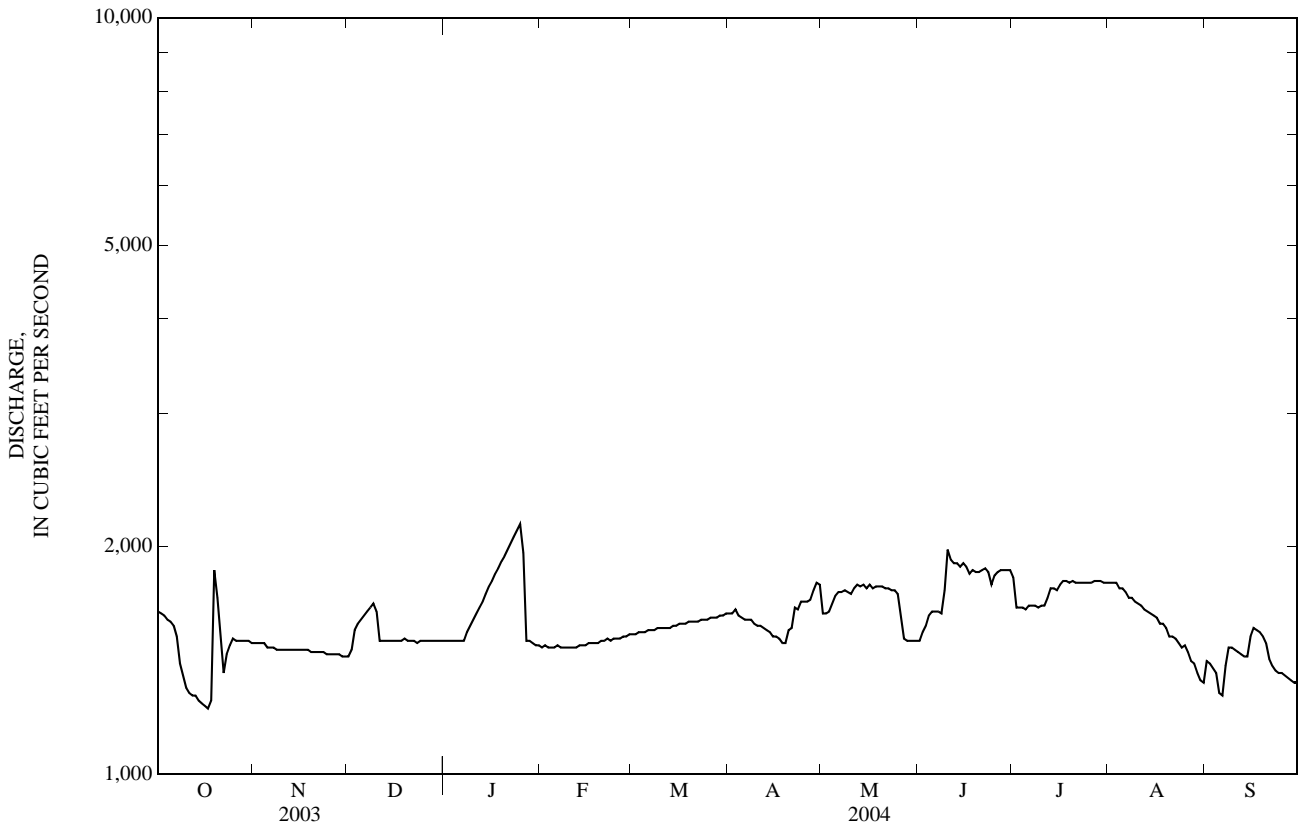
*--Prior to construction of Yellowtail Dam.

**--After completion of Yellowtail Dam.

a--Gage height, 60.10 ft.

b--Backwater from algae.

c--Result of discharge measurement.



06289000 LITTLE BIGHORN RIVER AT STATE LINE, NEAR WYOLA, MT

LOCATION.--Lat 45°00'25", long 107°36'52" (NAD 27), in SW¹/₄NW¹/₄ sec.36, T.9 S., R.33 E., Bighorn County, Hydrologic Unit 10080016, on right bank 20 ft downstream from county bridge, 0.5 mi north of Wyoming-Montana State line, 1 mi downstream from West Fork, 13 mi southwest of Wyola, and at river mile 115.2.

DRAINAGE AREA.--182 mi².

PERIOD OF RECORD.--March 1939 to current year. Prior to October 1940, published as Little Horn River at State Line, near Wyola.

REVISED RECORDS.--WSP 1729: Drainage area. WDR MT-04-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,350 ft (NGVD 29).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversions for irrigation of 163 acres upstream from station. Bureau of Reclamation satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	67	62	54	60	57	62	73	130	113	69	53
2	75	67	61	51	60	55	64	74	129	108	69	53
3	74	70	61	39	60	56	61	82	134	106	69	57
4	74	71	61	28	62	56	62	99	148	105	72	57
5	74	57	58	30	63	55	67	128	153	115	69	55
6	73	57	63	31	61	56	69	148	167	108	68	53
7	73	61	61	45	61	57	73	165	167	101	66	53
8	73	65	61	67	61	58	73	185	155	98	64	52
9	73	74	59	73	60	58	70	181	152	96	64	52
10	74	73	55	71	58	59	65	164	152	93	64	52
11	73	73	60	67	57	57	67	169	157	91	64	52
12	74	71	49	63	60	56	64	154	160	89	61	51
13	74	70	63	61	60	58	65	136	149	87	61	58
14	72	70	62	60	59	56	68	126	140	85	60	56
15	75	69	61	61	58	57	69	121	135	86	60	54
16	74	69	57	60	57	57	66	121	136	85	59	52
17	73	69	59	60	57	56	68	118	133	82	59	52
18	72	68	54	60	59	57	70	130	131	80	59	50
19	72	67	57	61	59	59	67	150	129	79	59	50
20	72	69	57	60	56	59	66	152	124	78	59	60
21	72	65	56	59	55	58	67	154	123	77	59	57
22	71	39	56	59	55	59	65	155	119	79	59	55
23	72	41	56	60	56	60	65	150	118	81	59	55
24	70	61	56	60	56	62	66	145	131	77	58	57
25	68	64	56	56	56	62	64	133	121	75	58	54
26	72	63	57	49	56	62	65	129	118	73	65	52
27	72	67	56	54	56	63	71	129	116	72	63	53
28	73	66	54	64	58	61	82	141	113	81	59	57
29	78	65	48	64	57	59	76	156	112	74	57	53
30	67	63	47	63	---	59	74	140	111	72	55	52
31	64	---	51	60	---	60	---	136	---	70	54	---
TOTAL	2,248	1,951	1,774	1,750	1,693	1,804	2,031	4,244	4,063	2,716	1,921	1,617
MEAN	72.5	65.0	57.2	56.5	58.4	58.2	67.7	137	135	87.6	62.0	53.9
MAX	78	74	63	73	63	63	82	185	167	115	72	60
MIN	64	39	47	28	55	55	61	73	111	70	54	50
AC-FT	4,460	3,870	3,520	3,470	3,360	3,580	4,030	8,420	8,060	5,390	3,810	3,210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	86.1	75.2	67.5	62.6	61.3	61.5	84.6	321	510	216	122	97.0
MAX	120	104	91.2	84.9	88.0	86.4	172	533	1,125	689	228	151
(WY)	(1976)	(1942)	(1976)	(1946)	(1946)	(1946)	(1946)	(1977)	(1975)	(1975)	(1975)	(1975)
MIN	57.6	52.3	46.8	43.6	40.2	46.8	50.7	127	135	87.6	62.0	53.9
(WY)	(2003)	(2003)	(2002)	(1963)	(2003)	(2003)	(1961)	(1953)	(2004)	(2004)	(2004)	(2004)

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 1940 - 2004

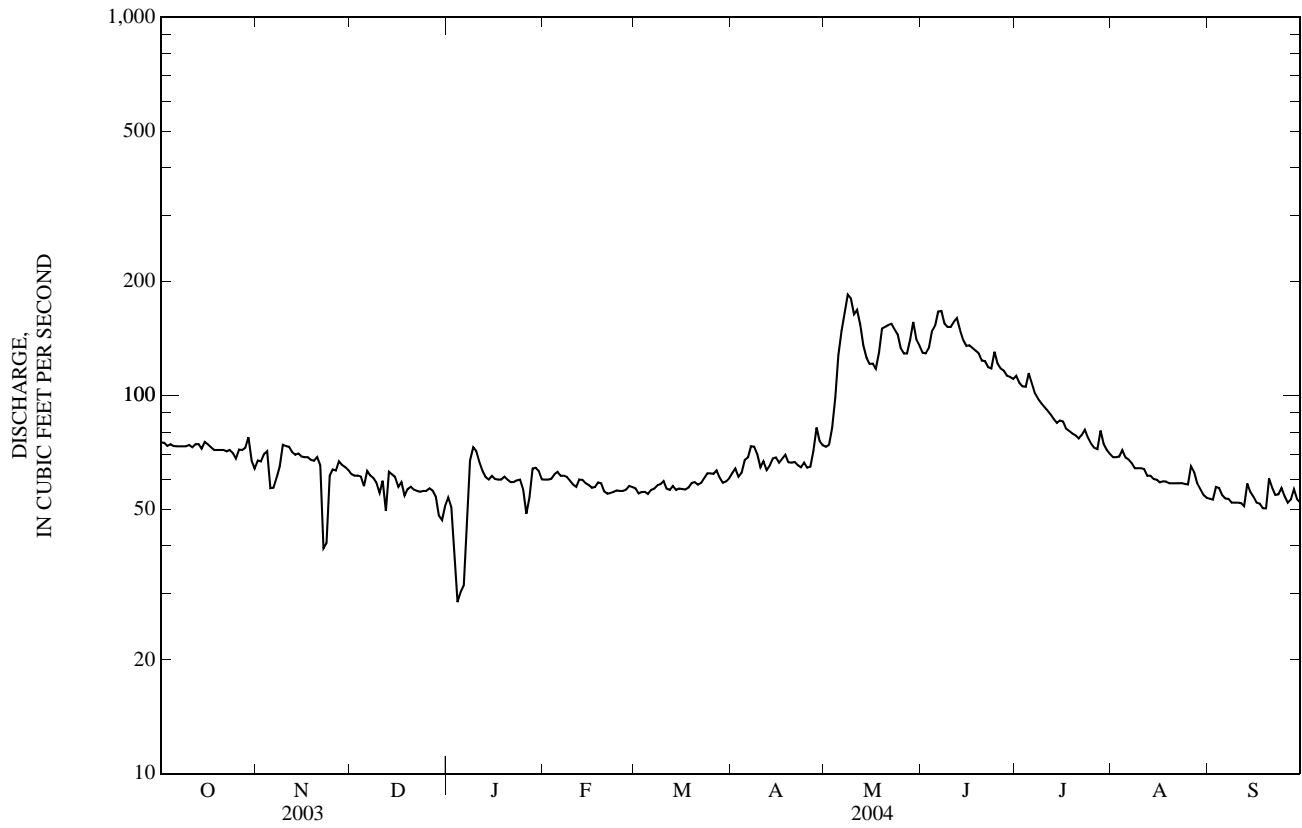
ANNUAL TOTAL	44,899	27,812		
ANNUAL MEAN	123	76.0	147	
HIGHEST ANNUAL MEAN			253	1975
LOWEST ANNUAL MEAN			76.0	2004
HIGHEST DAILY MEAN	1,180	May 31	185	May 8
LOWEST DAILY MEAN	20	Feb 24	28	Jan 4
ANNUAL SEVEN-DAY MINIMUM	30	Feb 22	40	Jan 1
MAXIMUM PEAK FLOW			215	May 8
MAXIMUM PEAK STAGE			2.36	May 8
INSTANTANEOUS LOW FLOW				b5.93
ANNUAL RUNOFF (AC-FT)	89,060	55,170	106,700	18
10 PERCENT EXCEEDS	255	130	330	Feb 2, 1989
50 PERCENT EXCEEDS	74	64	82	
90 PERCENT EXCEEDS	45	54	56	

a--Gage height, 4.97 ft, from rating curve extended above 1,400 ft³/s.

b--Result of log jam.

YELLOWSTONE RIVER BASIN

06289000 LITTLE BIGHORN RIVER AT STATE LINE, NEAR WYOLA, MT—Continued



06289600 WEST PASS CREEK NEAR PARKMAN, WY

LOCATION.--Lat 44°59'16", long 107°28'56", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.21, T.58 N., R.88 W., Sheridan County, Hydrologic Unit 10080016, on right bank, anchored to concrete headwall of culvert on county road and 7.6 mi northwest of Parkman.

DRAINAGE AREA.--15.4 mi².

PERIOD OF RECORD.--October 1982 to current year (no winter records water years 1985-87).

GAGE.--Water-stage recorder. Elevation of gage is 4,540 ft above NGVD of 1929, from topographic map. Prior to April 2, 1985, at site 100 ft north (on abandoned channel) at datum 4.28 ft lower. April 2, 1985 to March 27, 1986, at site 300 ft upstream at datum 0.95 ft higher. April 2, 1985 to September 30, 1998, at same site at datum 1.00 ft lower. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

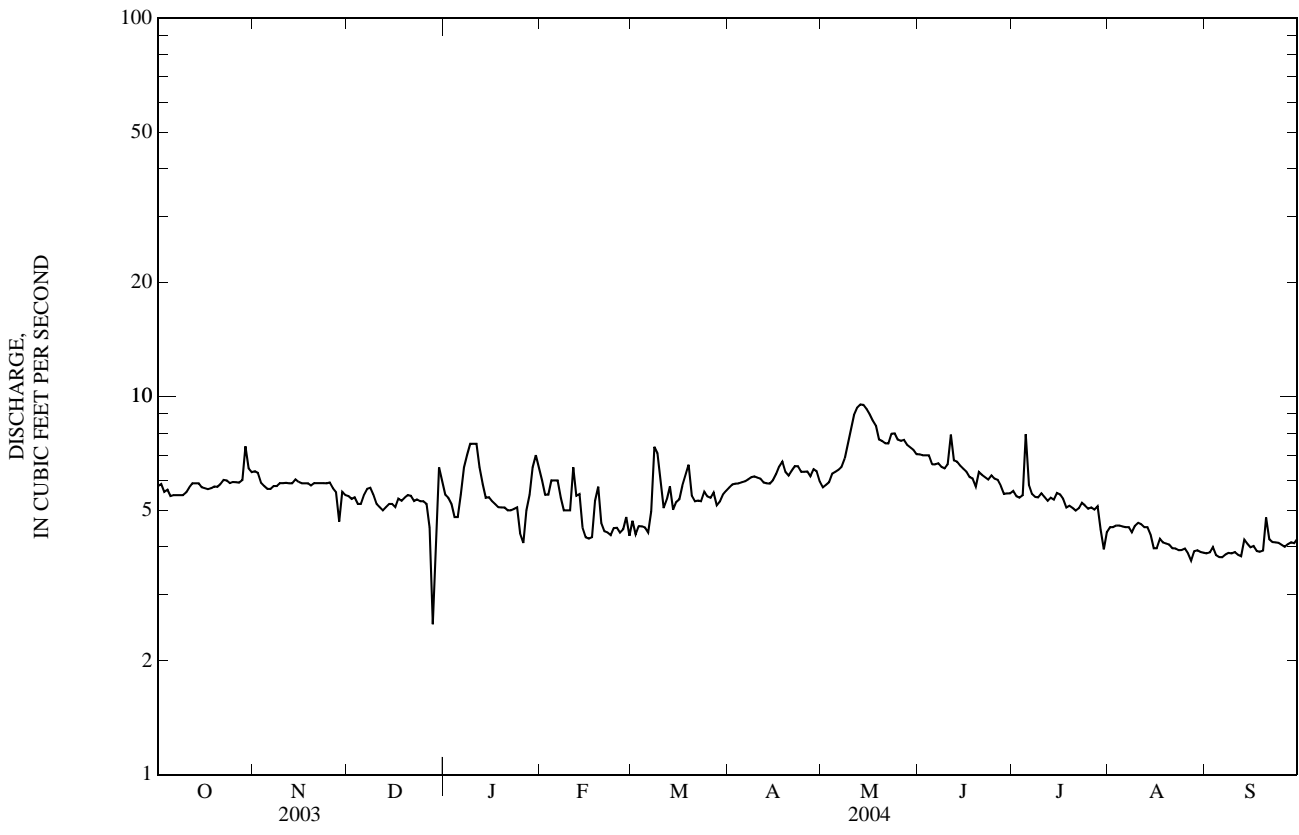
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	6.3	5.5	e5.5	e6.0	4.7	5.7	5.7	7.0	5.6	4.5	3.8
2	5.9	6.3	5.4	e5.4	e5.5	4.3	5.9	5.8	7.0	5.4	4.5	3.9
3	5.6	5.9	5.4	e5.2	e5.5	4.5	5.9	5.9	7.0	5.4	4.6	4.0
4	5.7	e5.8	e5.2	e4.8	e6.0	4.5	5.9	6.3	7.0	5.5	4.6	3.8
5	5.5	e5.7	e5.2	e4.8	e6.0	4.5	5.9	6.3	6.6	7.9	4.5	3.8
6	5.5	e5.7	e5.5	e5.5	e6.0	4.4	6.0	6.4	6.6	5.8	4.5	3.8
7	5.5	e5.8	e5.7	e6.5	e5.4	5.0	6.0	6.5	6.7	5.5	4.5	3.8
8	5.5	e5.8	5.7	e7.0	e5.0	7.4	6.1	6.9	6.5	5.4	4.4	3.9
9	5.5	e5.9	e5.5	e7.5	e5.0	7.1	6.1	7.5	6.5	5.4	4.6	3.8
10	5.6	e5.9	e5.2	e7.5	e5.0	5.9	6.1	8.2	6.6	5.5	4.6	3.9
11	5.7	5.9	e5.1	e7.5	e6.5	5.1	6.1	8.9	7.9	5.4	4.6	3.8
12	5.9	5.9	e5.0	e6.5	5.5	5.3	5.9	9.4	6.8	5.3	4.5	3.8
13	5.9	5.9	e5.1	5.9	5.5	5.8	5.9	9.5	6.7	5.4	4.5	4.2
14	5.9	6.0	e5.2	5.4	4.5	5.0	5.9	9.5	6.6	5.3	4.3	4.1
15	5.8	6.0	e5.2	5.4	4.2	5.3	6.0	9.3	6.4	5.6	4.0	4.0
16	5.7	5.9	e5.1	5.3	4.2	5.3	6.2	9.0	6.3	5.5	4.0	4.0
17	5.7	5.9	5.4	5.2	4.2	5.8	6.5	8.6	6.1	5.4	4.2	3.9
18	5.7	5.9	e5.3	e5.1	5.3	6.2	6.7	8.4	6.1	5.1	4.1	3.9
19	5.8	5.8	e5.4	5.1	5.8	6.6	6.3	7.7	5.8	5.1	4.1	3.9
20	5.8	e5.9	5.5	5.1	4.6	5.5	6.2	7.6	6.3	5.1	4.1	4.8
21	5.9	e5.9	5.5	e5.0	4.4	5.3	6.4	7.5	6.2	5.0	4.0	4.2
22	6.0	5.9	5.3	e5.0	4.4	5.3	6.5	7.5	6.1	5.1	4.0	4.1
23	6.0	5.9	5.3	5.0	4.3	5.3	6.5	8.0	6.0	5.2	3.9	4.1
24	5.9	5.9	5.3	5.1	4.5	5.6	6.3	8.0	6.2	5.1	3.9	4.1
25	5.9	5.9	5.3	4.3	4.5	5.4	6.3	7.7	6.1	5.1	4.0	4.1
26	5.9	5.7	e5.2	e4.1	4.4	5.4	6.3	7.6	6.0	5.1	3.8	4.0
27	5.9	5.6	e4.5	e5.0	4.5	5.6	6.2	7.7	5.8	5.0	3.7	4.1
28	6.0	4.7	e2.5	e5.5	4.8	5.2	6.4	7.4	5.5	5.1	3.9	4.1
29	7.4	5.6	e3.7	e6.5	4.3	5.3	6.3	7.3	5.5	4.4	3.9	4.1
30	6.5	5.5	e6.5	e7.0	---	5.5	6.0	7.2	5.5	3.9	3.9	4.2
31	6.3	---	e6.0	e6.5	---	5.6	---	7.0	---	4.4	3.9	---
TOTAL	181.7	174.8	161.7	175.2	145.8	167.7	184.5	236.3	191.4	164.0	130.6	120.0
MEAN	5.86	5.83	5.22	5.65	5.03	5.41	6.15	7.62	6.38	5.29	4.21	4.00
MAX	7.4	6.3	6.5	7.5	6.5	7.4	6.7	9.5	7.9	7.9	4.6	4.8
MIN	5.5	4.7	2.5	4.1	4.2	4.3	5.7	5.7	5.5	3.9	3.7	3.8
AC-FT	360	347	321	348	289	333	366	469	380	325	259	238

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2004, BY WATER YEAR (WY)*

MEAN	7.53	7.18	6.37	6.21	6.02	7.29	12.8	31.6	23.6	12.4	8.46	7.50
MAX	9.95	9.30	9.02	8.10	7.98	10.5	25.2	79.9	60.6	26.9	14.9	11.6
(WY)	(1996)	(1996)	(1996)	(1996)	(1996)	(1997)	(1994)	(1995)	(1995)	(1995)	(1995)	(1995)
MIN	4.61	4.42	4.64	4.25	4.02	5.41	6.15	7.62	6.38	5.21	4.21	4.00
(WY)	(2002)	(2002)	(2003)	(1988)	(1989)	(2004)	(2004)	(2004)	(2004)	(1985)	(2004)	(2004)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1983 - 2004*	
ANNUAL TOTAL	3,995.6		2,033.7			
ANNUAL MEAN	10.9		5.56		11.9	
HIGHEST ANNUAL MEAN					21.2	
LOWEST ANNUAL MEAN					5.56	
HIGHEST DAILY MEAN	57	May 30	9.5	May 13,14	291	May 9, 1995
LOWEST DAILY MEAN	e2.5	Dec 28	e2.5	Dec 28	c0.00	Dec 25, 1998
ANNUAL SEVEN-DAY MINIMUM	4.3	Feb 21	3.8	Sep 4	0.81	Feb 3, 1989
MAXIMUM PEAK FLOW			a11	Mar 8	340	May 9, 1995
MAXIMUM PEAK STAGE			b2.50	Jan 8	d4.76	Apr 28, 1984
ANNUAL RUNOFF (AC-FT)	7,930		4,030		8,590	
10 PERCENT EXCEEDS	26		7.0		23	
50 PERCENT EXCEEDS	6.3		5.5		7.7	
90 PERCENT EXCEEDS	4.7		4.1		5.2	

a--Gage height, 1.68 ft.
 b--Backwater from ice.
 c--Result of channel blockage or diversion upstream.
 d--Backwater from ice, site and datum then in use.
 e--Estimated.



06289820 EAST PASS CREEK NEAR DAYTON, WY

LOCATION.--Lat 44°59'26", long 107°25'20", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.58 N., R.88 W., Sheridan County, Hydrologic Unit 10080016, on right bank 0.4 mi downstream from bridge on Sheridan County Road 144, 5.0 mi northwest of Parkman, and 11.2 mi northwest of Dayton.
DRAINAGE AREA.--21.7 mi².

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,405 ft above NGVD of 1929, from topographic map. October 1982 to August 1995, at site 270 ft upstream at different datum. August 1995 to April 1996, at site 0.3 mi downstream at different datum. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several small reservoirs upstream from station, combined capacity, 415 acre-ft, for irrigation. Diversions for irrigation of about 2,900 acres upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

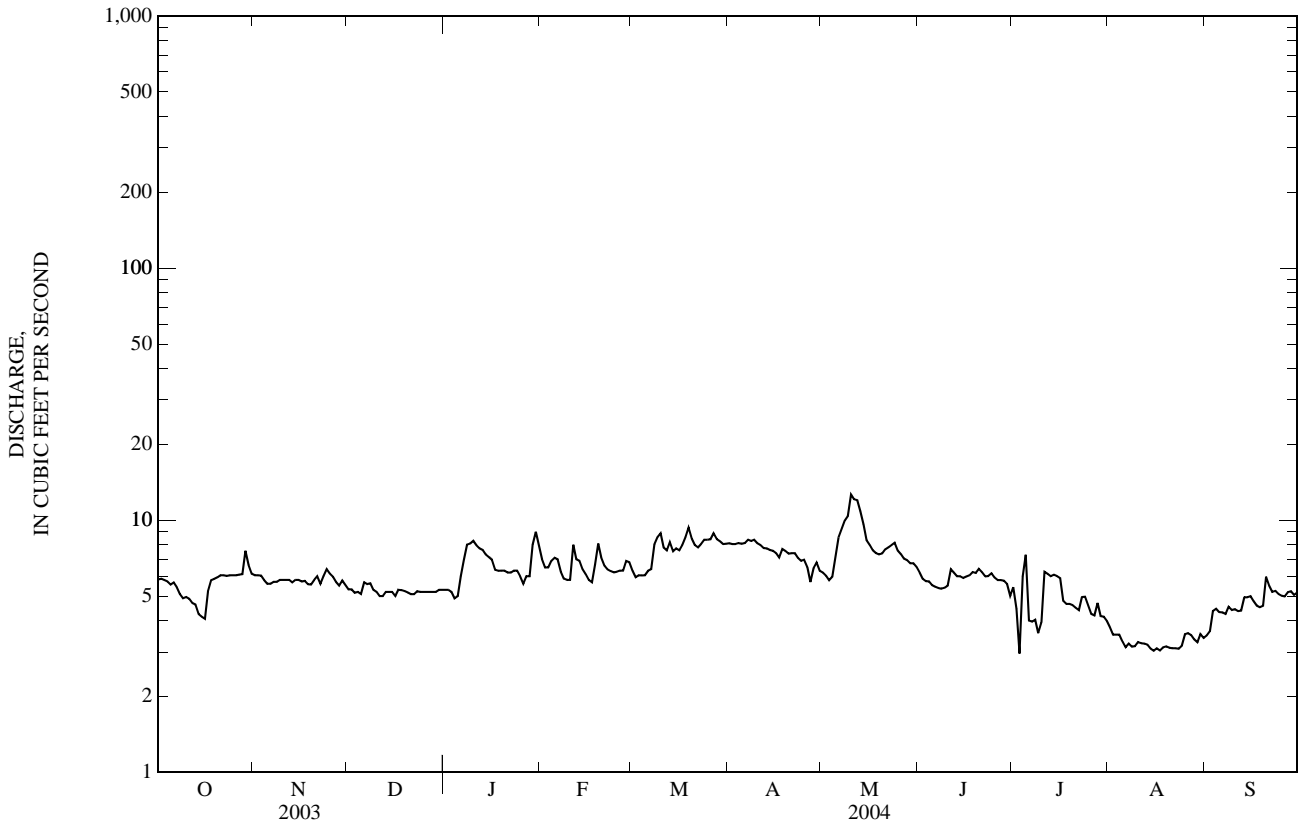
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	6.1	5.3	e5.3	e7.0	6.3	8.1	6.2	6.2	5.4	3.8	3.5
2	5.9	6.1	5.3	e5.3	e6.5	5.9	8.0	6.0	5.9	4.5	3.5	3.6
3	5.8	6.0	5.2	e5.2	e6.5	6.1	8.0	5.8	5.7	3.0	3.5	4.4
4	5.7	5.8	e5.2	e4.9	e6.9	6.0	8.1	6.0	5.7	6.0	3.5	4.5
5	5.6	e5.6	e5.1	e5.0	7.1	6.1	8.1	7.1	5.5	7.3	3.3	4.3
6	5.7	e5.6	5.7	e6.0	7.0	e6.3	8.1	8.5	5.4	4.0	3.1	4.3
7	5.4	e5.7	5.6	e7.0	6.3	e6.4	8.4	9.2	5.4	4.0	3.2	4.2
8	5.1	e5.7	5.6	e8.0	5.9	8.0	8.3	10	5.4	4.0	3.2	4.5
9	4.9	5.8	5.3	8.1	e5.8	8.6	8.4	10	5.4	3.6	3.2	4.4
10	5.0	5.8	e5.2	8.3	e5.8	8.9	8.1	13	5.5	3.9	3.3	4.4
11	4.9	e5.8	e5.0	7.9	e8.0	7.8	8.0	12	e6.4	6.2	3.2	4.4
12	4.7	5.8	e5.0	7.7	e7.0	7.6	7.8	12	e6.2	6.1	3.2	4.4
13	4.6	5.7	e5.2	7.6	e6.9	8.2	7.7	11	e6.0	6.0	3.2	5.0
14	4.2	5.8	e5.2	7.3	e6.4	7.5	7.6	9.6	e6.0	6.1	3.1	4.9
15	4.1	5.8	e5.2	7.1	e6.1	7.7	7.6	8.3	e5.9	6.0	3.0	5.0
16	4.1	5.7	e5.0	7.0	5.8	7.6	7.4	8.0	6.0	5.9	3.1	4.8
17	5.2	5.8	e5.3	6.4	5.7	8.0	7.1	7.6	6.1	4.8	3.0	4.6
18	5.8	5.6	5.3	e6.3	6.7	8.6	7.7	7.4	6.2	4.7	3.1	4.5
19	5.9	5.6	5.2	6.3	8.1	9.3	7.6	7.3	6.2	4.7	3.2	4.6
20	5.9	e5.8	5.2	6.3	7.1	8.5	7.4	7.4	6.4	4.6	3.1	6.0
21	6.1	e6.0	5.1	e6.2	6.6	8.0	7.4	7.7	6.2	4.5	3.1	5.5
22	6.1	e5.6	5.1	e6.2	6.4	7.8	7.4	7.8	6.0	4.4	3.1	5.2
23	6.0	e6.0	5.2	6.3	6.3	8.1	7.1	8.0	6.0	5.0	3.1	5.2
24	6.1	e6.4	e5.2	6.3	6.2	8.4	6.9	8.1	6.2	5.0	3.2	5.1
25	6.1	6.1	e5.2	e6.0	6.3	8.4	7.0	7.6	5.9	4.6	3.5	5.0
26	6.1	6.0	e5.2	e5.6	6.3	8.4	6.5	7.3	5.8	4.3	3.6	5.0
27	6.1	5.7	e5.2	e6.0	6.3	8.9	5.7	7.0	5.8	4.2	3.5	5.2
28	6.1	5.5	e5.2	e6.0	6.9	8.4	6.5	6.9	5.8	4.7	3.4	5.2
29	7.6	5.8	e5.2	e8.0	6.8	8.3	6.8	6.7	5.6	4.2	3.3	5.1
30	6.6	5.5	e5.3	e9.0	---	8.0	6.3	6.7	5.0	4.1	3.5	5.2
31	6.1	---	e5.3	e8.0	---	8.1	---	6.5	---	4.0	3.4	---
TOTAL	173.3	174.2	162.3	206.6	190.7	240.2	225.1	252.7	175.8	149.8	101.5	142.0
MEAN	5.59	5.81	5.24	6.66	6.58	7.75	7.50	8.15	5.86	4.83	3.27	4.73
MAX	7.6	6.4	5.7	9.0	8.1	9.3	8.4	13	6.4	7.3	3.8	6.0
MIN	4.1	5.5	5.0	4.9	5.7	5.9	5.7	5.8	5.0	3.0	3.0	3.5
AC-FT	344	346	322	410	378	476	446	501	349	297	201	282

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2004, BY WATER YEAR (WY)

MEAN	8.49	8.63	8.19	8.38	8.31	9.70	15.9	41.3	33.4	12.3	6.91	7.03
MAX	13.9	11.4	10.5	10.5	10.6	14.2	32.4	90.8	82.8	32.9	14.8	14.8
(WY)	(1996)	(1996)	(1996)	(1996)	(1996)	(1997)	(1994)	(1995)	(1995)	(1992)	(1993)	(1995)
MIN	5.41	5.81	5.24	6.35	6.06	7.29	7.50	8.15	5.86	4.83	2.73	3.92
(WY)	(2003)	(2004)	(2004)	(2003)	(2003)	(1990)	(2004)	(2004)	(2004)	(2004)	(1988)	(2002)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1983 - 2004	
ANNUAL TOTAL	4,496.4		2,194.2			
ANNUAL MEAN	12.3		6.00		14.1	
HIGHEST ANNUAL MEAN					23.6 1984	
LOWEST ANNUAL MEAN					6.00 2004	
HIGHEST DAILY MEAN	99	May 30	13	May 10	304	May 9, 1995
LOWEST DAILY MEAN	3.0	Aug 4, 11-14	3.0	Jul 3, Aug 15,17	c0.84	Nov 14, 2002
ANNUAL SEVEN-DAY MINIMUM	3.1	Aug 9	3.1	Aug 14	1.9	Sep 10, 2002
MAXIMUM PEAK FLOW			a13		d511	May 9, 1995
MAXIMUM PEAK STAGE			b7.15		f9.00	Feb 6, 1996
ANNUAL RUNOFF (AC-FT)	8,920		4,350		10,190	
10 PERCENT EXCEEDS	30		8.1		27	
50 PERCENT EXCEEDS	6.1		5.9		9.0	
90 PERCENT EXCEEDS	5.0		4.0		5.5	

a--Gage height, 5.64 ft.
 b--Backwater from ice.
 c--Result of pumping upstream.
 d--Gage height, 4.47 ft, site and datum then in use, from rating curve extended above 221 ft³/s.
 e--Estimated.
 f--Ice jam, site and datum then in use.



06290000 PASS CREEK NEAR WYOLA, MT

LOCATION.--Lat 45°03'23", long 107°21'19" (NAD 27), in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.13, T.9 S., R.35 E., Big Horn County, Hydrologic Unit 10080016, on right bank 125 ft downstream from bridge on U.S. Highway 87, 2.0 mi downstream from Twin Creek, 5.5 mi south of Wyola, and at river mile 10.2.

DRAINAGE AREA.--111 mi². Drainage area at site used prior to Sept. 30, 1956, 119 mi².

PERIOD OF RECORD.--June 1935 to September 1956 (no winter records prior to 1939), October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,920 ft (NGVD 29). Dec. 21, 1950, to Sept. 30, 1956, water-stage recorder, and June 4, 1935, to Dec. 20, 1950, nonrecording gage at site 0.3 mi upstream at different elevation. Flow is equivalent.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversions for irrigation of about 2,500 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e12	11	e13	e9.0	e11	e9.0	18	12	9.2	7.0	1.9	e1.0
2	e12	9.5	e13	e4.0	e11	e8.0	19	11	6.4	6.9	1.8	e0.80
3	e12	12	e12	e3.0	e10	e8.0	19	10	3.4	5.4	1.7	e0.80
4	e12	9.3	e12	e2.0	e10	e8.0	19	7.4	3.1	6.1	1.8	e0.80
5	e11	4.1	e12	e1.0	e10	e8.0	18	7.4	2.6	7.2	1.8	e1.0
6	e11	3.8	e12	e2.0	e10	e8.0	18	8.3	1.3	9.2	e1.5	e1.5
7	e11	3.9	e13	e3.0	e10	e8.0	18	8.4	1.3	8.7	e1.0	e1.5
8	e11	3.8	e12	e4.0	e10	e9.0	18	8.1	0.94	7.4	e0.80	e1.5
9	e12	3.5	e12	e1.0	e10	e10	18	9.7	1.1	7.3	e1.0	e1.6
10	e13	3.7	e11	e11	e10	e10	15	11	0.97	7.8	e0.90	e1.5
11	e13	3.5	e11	e11	e10	e10	16	12	8.5	6.4	e0.80	e1.5
12	e13	3.3	e11	e11	e10	e10	14	8.8	14	7.2	e0.90	e1.5
13	e13	2.9	e11	e10	e9.0	e9.0	15	12	11	5.9	e1.0	e1.0
14	e13	3.2	e11	e10	e9.0	e9.0	14	13	10	5.3	e1.0	e0.80
15	e13	3.0	e11	e10	e9.0	e9.0	13	12	9.3	4.4	e1.0	e0.90
16	e13	2.9	e11	e10	e9.0	e10	13	11	7.9	4.5	e0.90	e1.0
17	e13	2.9	e11	e10	e9.0	21	13	12	6.9	5.0	e0.80	e1.5
18	e13	2.3	e11	e10	e9.0	43	13	8.9	6.3	3.6	e0.70	e1.5
19	e13	1.7	e11	e10	e9.0	52	13	8.4	8.8	2.4	e0.80	e1.5
20	e13	2.0	e10	e10	e9.0	51	13	8.4	9.2	1.5	e1.0	e1.0
21	e13	2.3	e10	e9.0	e9.0	32	12	9.6	10	1.7	e1.0	e1.0
22	e13	e1.6	e10	e9.0	e9.0	27	12	8.5	9.4	1.3	e1.0	e1.0
23	e13	e1.3	e10	e9.0	e9.0	25	12	12	9.8	1.3	e0.90	e1.0
24	e13	e1.5	e10	e9.0	e9.0	24	11	13	6.6	2.8	e0.90	e1.0
25	e13	e1.7	e10	e7.0	e9.0	24	11	12	6.7	2.4	e0.80	e1.5
26	e13	e2.0	e10	e3.0	e9.0	23	9.5	11	5.6	2.5	e0.80	e1.5
27	e13	e5.0	e10	e8.0	e9.0	23	7.5	10	6.1	2.4	e0.90	e1.5
28	e13	e10	e10	e12	e9.0	22	6.9	9.6	5.8	3.5	e1.0	e1.0
29	e14	e12	e9.0	e11	e9.0	21	14	9.5	5.8	4.1	e1.0	e1.5
30	16	e13	e9.0	e11	---	20	14	9.8	5.7	3.4	e1.0	e1.5
31	13	---	e9.0	e11	---	19	---	10	---	2.8	e1.0	---
TOTAL	394	142.7	338.0	250.0	275.0	570.0	426.9	314.8	193.71	147.4	33.40	36.70
MEAN	12.7	4.76	10.9	8.06	9.48	18.4	14.2	10.2	6.46	4.75	1.08	1.22
MAX	16	13	13	12	11	52	19	13	14	9.2	1.9	1.6
MIN	11	1.3	9.0	1.0	9.0	8.0	6.9	7.4	0.94	1.3	0.70	0.80
AC-FT	781	283	670	496	545	1,130	847	624	384	292	66	73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)*

MEAN	17.3	18.0	16.5	17.6	24.7	38.4	50.5	99.1	86.0	28.7	12.7	13.1
MAX	27.8	27.9	33.6	32.3	57.8	115	106	324	375	92.6	38.5	29.1
(WY)	(1945)	(1946)	(1943)	(1984)	(1948)	(1947)	(1994)	(1984)	(1944)	(1944)	(1944)	(1944)
MIN	5.73	4.76	5.73	6.55	9.48	8.81	14.2	10.2	6.46	4.75	1.08	1.22
(WY)	(1955)	(2004)	(2002)	(2001)	(2004)	(2002)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 1939 - 2004*

ANNUAL TOTAL	11,643.6											
ANNUAL MEAN	31.9											
HIGHEST ANNUAL MEAN										35.2		
LOWEST ANNUAL MEAN										76.8		1944
HIGHEST DAILY MEAN	218									8.53		2004
LOWEST DAILY MEAN	1.3									1,120		Jun 20, 1947
ANNUAL SEVEN-DAY MINIMUM	1.7									0.00		Sep 1, 2002
MAXIMUM PEAK FLOW										0.00		Sep 1, 2002
MAXIMUM PEAK STAGE										0.89		Aug 13
INSTANTANEOUS LOW FLOW										a59		Mar 19
ANNUAL RUNOFF (AC-FT)	23,100									Unknown		b1,150
10 PERCENT EXCEEDS	98									6.96		May 9, 1995
50 PERCENT EXCEEDS	12									0.00		Aug 3, 1935
90 PERCENT EXCEEDS	3.9									25,520		
										76		
										9.0		
										1.0		
										8.0		

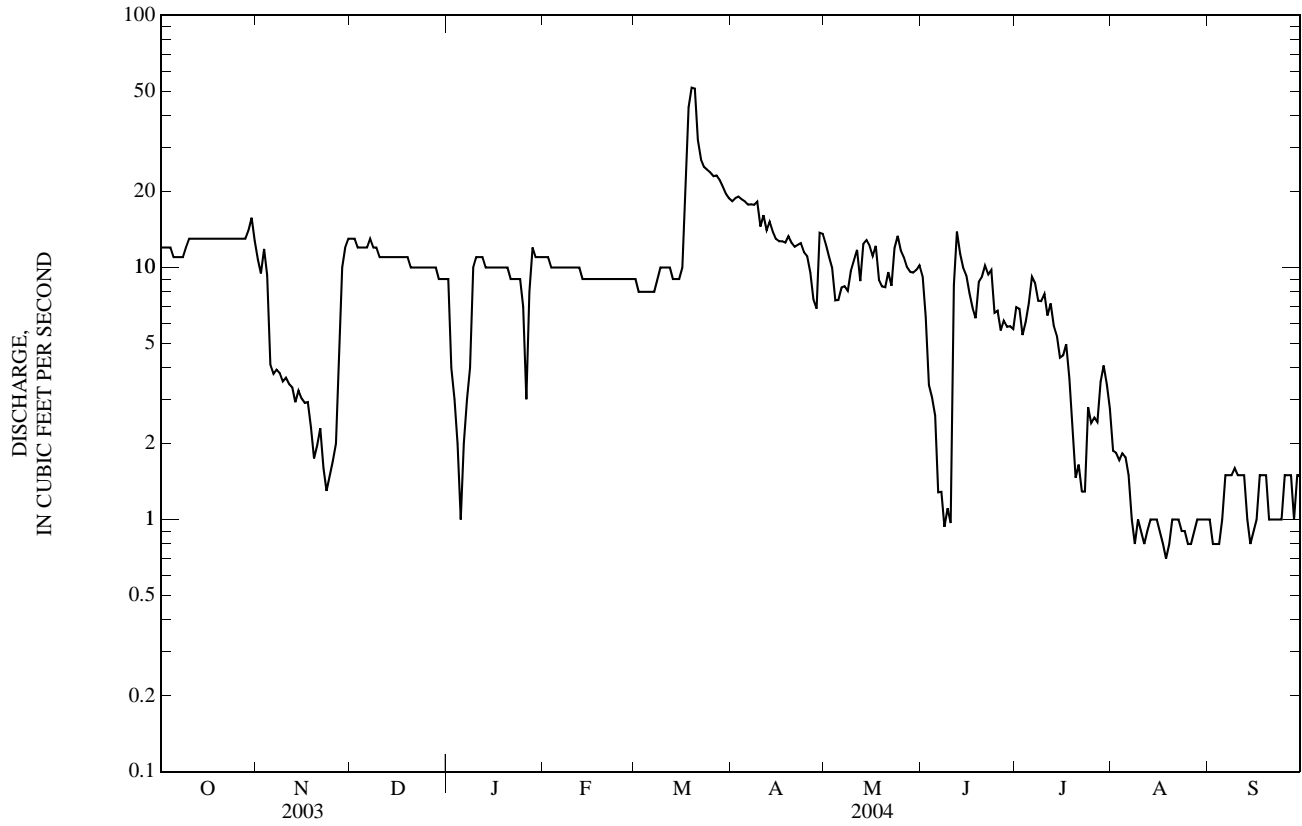
*--During period of operation (1939-56, 1983 to current year).

a--Gage height, 2.28 ft.

b--Gage height, 4.83 ft, from rating extended above 400 ft³/s.

e--Estimated.

YELLOWSTONE RIVER BASIN
06290000 PASS CREEK NEAR WYOLA, MT—Continued



06290500 LITTLE BIGHORN RIVER BELOW PASS CREEK, NEAR WYOLA, MT

LOCATION.--Lat 45°10'38", long 107°23'36" (NAD 27), in W $\frac{1}{2}$ SW $\frac{1}{4}$ sec.35, T.7 S., R.35 E., Big Horn County, Hydrologic Unit 10080016, on right bank 3.5 mi north of Wyola, 6 mi downstream from Pass Creek, and at river mile 92.3.

DRAINAGE AREA.--428 mi².

PERIOD OF RECORD.--March 1939 to December 1958, August 1959 to September 1975, October 1976 to September 2004, discontinued. Prior to October 1940, published as Little Horn River below Pass Creek, near Wyola.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,600 ft (NGVD 29).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 8,300 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	e85	e105	e70	e70	e90	97	89	152	142	56	51
2	89	e85	e105	e70	e70	e90	100	86	136	153	57	47
3	89	e85	e100	e65	e70	e90	101	85	124	147	58	57
4	89	e85	e100	e50	e72	92	100	84	129	140	63	67
5	89	e80	e110	e65	e72	92	102	94	141	202	59	61
6	88	e70	e110	e70	e72	93	104	124	150	207	57	59
7	87	e70	e110	e75	e72	90	107	151	165	169	53	57
8	87	e75	e105	e80	e72	110	108	174	157	140	53	57
9	88	e80	e100	e80	e70	140	111	191	169	126	56	56
10	88	e90	e100	e75	e70	149	106	182	171	122	54	53
11	92	e100	e100	e70	e65	128	104	198	233	118	54	50
12	93	e100	e100	e70	e70	122	103	216	244	108	53	47
13	94	105	e100	e70	e65	124	103	202	222	110	53	56
14	95	108	e100	e70	e65	118	104	182	202	102	54	62
15	94	104	e100	e70	e65	113	105	162	188	100	53	64
16	95	104	e95	e70	e70	111	104	148	185	105	52	66
17	94	105	e95	e70	e75	114	91	152	187	95	50	71
18	95	103	e95	e70	e80	123	92	147	184	89	49	73
19	94	103	e95	e70	e80	128	95	166	184	86	47	71
20	94	e100	e95	e70	e85	129	89	178	179	83	46	84
21	94	e90	e90	e70	e80	112	86	183	175	80	46	103
22	92	e70	e90	e70	e80	103	89	201	159	79	47	91
23	90	e70	e90	e70	e80	101	86	203	144	80	49	89
24	91	e80	e90	e70	e80	101	78	189	155	82	51	89
25	93	e90	e90	e65	e85	102	79	185	156	68	51	88
26	95	e100	e90	e60	e85	103	79	164	147	59	55	84
27	96	e110	e85	e65	e90	105	74	153	146	61	59	84
28	96	e110	e80	e70	e90	102	72	152	140	73	60	89
29	e95	e105	e80	e70	e90	99	89	163	139	72	57	92
30	e90	e105	e80	e70	---	97	92	168	134	67	56	89
31	e85	---	e75	e70	---	97	---	161	---	61	55	---
TOTAL	2,839	2,767	2,960	2,150	2,190	3,368	2,850	4,933	4,997	3,326	1,663	2,107
MEAN	91.6	92.2	95.5	69.4	75.5	109	95.0	159	167	107	53.6	70.2
MAX	96	110	110	80	90	149	111	216	244	207	63	103
MIN	85	70	75	50	65	90	72	84	124	59	46	47
AC-FT	5,630	5,490	5,870	4,260	4,340	6,680	5,650	9,780	9,910	6,600	3,300	4,180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)*

MEAN	121	118	106	104	114	139	181	459	629	230	111	108
MAX	163	153	162	165	232	281	327	1,318	1,395	758	237	186
(WY)	(1942)	(1971)	(1965)	(1975)	(1972)	(1972)	(1970)	(1978)	(1975)	(1975)	(1975)	(1968)
MIN	73.6	77.3	58.7	55.4	57.7	62.3	63.1	146	167	57.4	23.8	39.7
(WY)	(2002)	(1986)	(2002)	(1950)	(2002)	(2002)	(1961)	(1953)	(2004)	(1960)	(1961)	(2002)

06290500 LITTLE BIGHORN RIVER BELOW PASS CREEK, NEAR WYOLA, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004*	
ANNUAL TOTAL	56,285		36,150			
ANNUAL MEAN	154		98.8		202	
HIGHEST ANNUAL MEAN					381	1978
LOWEST ANNUAL MEAN					88.7	2002
HIGHEST DAILY MEAN	1,090	May 30	244	Jun 12	6,090	May 19, 1978
LOWEST DAILY MEAN	35	Feb 25	46	Aug 20	13	Aug 4, 1961
ANNUAL SEVEN-DAY MINIMUM	47	Feb 22	48	Aug 17	14	Aug 3, 1961
MAXIMUM PEAK FLOW			a276	Jun 11	d8,010	May 19, 1978
MAXIMUM PEAK STAGE			b3.09	Feb 13	10.02	May 19, 1978
INSTANTANEOUS LOW FLOW			c44	Aug 20	f12	Aug 5, 1961
ANNUAL RUNOFF (AC-FT)	111,600		71,700		145,600	
10 PERCENT EXCEEDS	333		160		422	
50 PERCENT EXCEEDS	94		90		124	
90 PERCENT EXCEEDS	60		57		78	

*--During periods of operation (March 1939 to December 1958, August 1959 to September 1975, and October 1976 to September 2004).

a--Gage height, 2.52 ft.

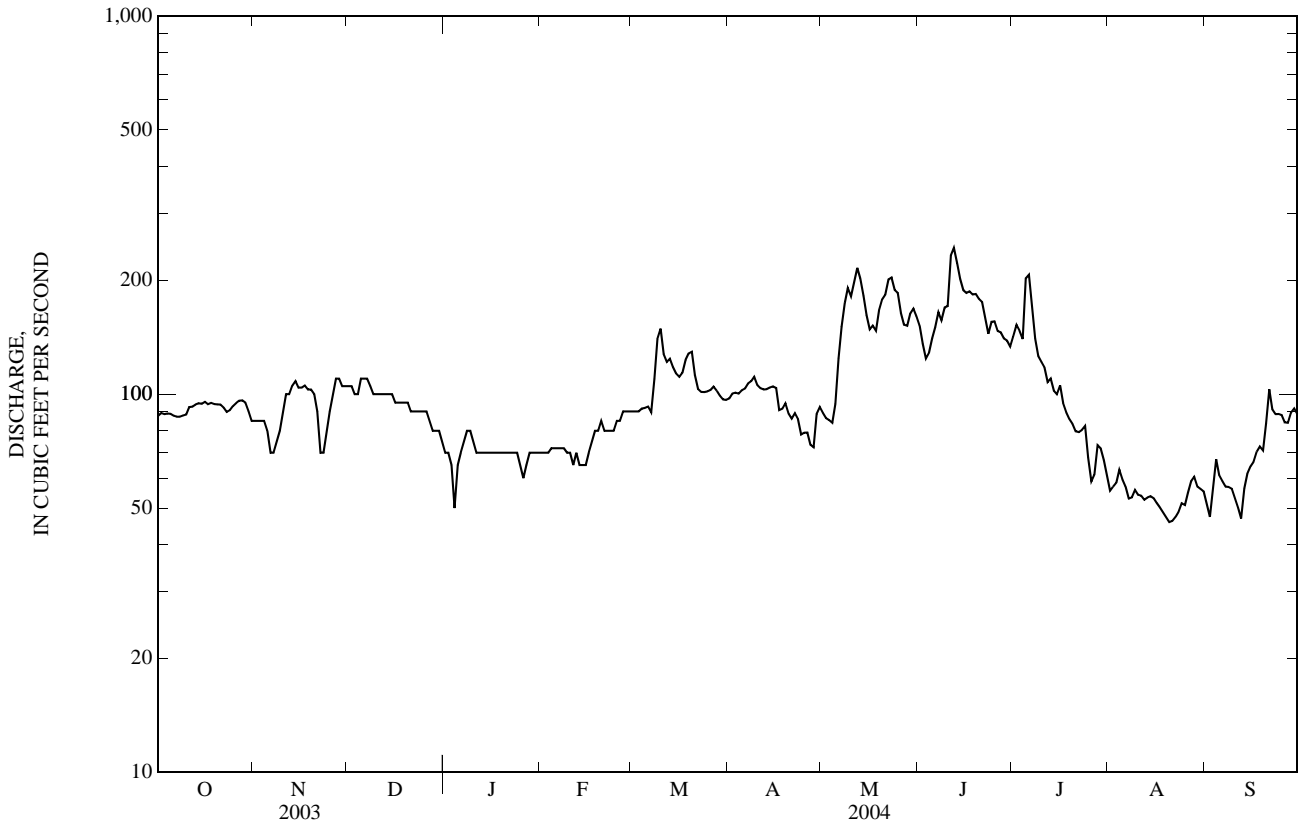
b--Backwater from ice.

c--Gage height, 1.40 ft.

d--From rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow.

e--Estimated.

f--Gage height, 0.89 ft.



06291500 LODGE GRASS CREEK ABOVE WILLOW CREEK DIVERSION, NEAR WYOLA, MT

LOCATION.--Lat 45°07'39", long 107°36'01" (NAD 27), in SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.8 S., R.33 E., Big Horn County, Hydrologic Unit 10080016, on left bank 0.2 mi upstream from Willow Creek diversion canal, 1.1 mi downstream from Spring Creek, 10 mi west of Wyola, 17 mi southwest of Lodge Grass, and at river mile 43.0.

DRAINAGE AREA.--80.7 mi².

PERIOD OF RECORD.--March 1939 to September 1974, October 1982 to current year.

REVISED RECORDS.--WSP 1559: 1944-47. WSP 1629: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,170 ft (NGVD 29). March 1939 to September 1974 recording gage 0.1 mi upstream at different elevation. Flows are equivalent.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 400 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	15	17	15	e20	18	13	16	36	50	11	5.7
2	13	14	19	14	e20	18	13	16	37	47	11	5.6
3	14	15	20	14	e20	17	14	16	42	45	15	8.5
4	14	17	20	e13	e20	16	14	18	51	44	15	8.9
5	13	16	18	e12	e20	15	14	30	58	52	12	7.7
6	12	15	20	e10	18	16	14	44	66	39	12	7.4
7	12	14	21	e11	16	11	14	46	74	34	11	7.0
8	12	15	21	e12	15	28	14	52	72	33	10	6.7
9	12	16	19	e15	15	23	15	55	67	33	10	6.0
10	12	18	16	e18	15	20	15	52	68	32	9.9	5.9
11	14	19	18	e18	14	14	15	51	74	31	9.8	5.9
12	14	19	21	e18	e13	14	14	47	69	30	9.6	5.9
13	13	18	16	e19	e14	15	15	42	62	29	8.9	8.8
14	13	18	20	e18	e15	13	14	37	60	28	9.2	10
15	13	18	21	e20	e15	13	15	34	58	27	8.6	9.6
16	13	18	20	21	15	12	15	33	55	28	7.8	8.2
17	13	18	21	21	16	12	15	31	55	25	7.8	7.8
18	13	19	19	21	19	14	16	32	54	25	8.1	6.8
19	13	18	19	21	28	14	16	35	54	24	8.1	6.6
20	14	19	21	20	21	12	15	40	49	23	7.8	11
21	14	19	20	19	19	11	15	40	48	23	7.6	12
22	14	16	20	19	18	11	14	43	46	24	8.3	10
23	14	15	19	20	18	11	14	45	49	24	7.3	10
24	15	13	19	20	18	13	14	43	57	23	7.2	10
25	15	14	19	18	18	14	13	40	56	21	7.5	9.8
26	15	13	19	19	18	15	13	37	54	21	8.7	9.5
27	15	14	19	17	18	16	12	36	53	17	8.9	9.3
28	15	15	18	e15	20	15	14	35	52	21	8.0	9.8
29	22	19	17	e16	20	14	18	41	50	15	7.4	9.8
30	20	17	15	e18	---	14	17	38	49	13	7.0	9.5
31	16	---	16	e20	---	13	---	37	---	12	6.4	---
TOTAL	435	494	588	532	516	462	434	1,162	1,675	893	286.9	249.7
MEAN	14.0	16.5	19.0	17.2	17.8	14.9	14.5	37.5	55.8	28.8	9.25	8.32
MAX	22	19	21	21	28	28	18	55	74	52	15	12
MIN	12	13	15	10	13	11	12	16	36	12	6.4	5.6
AC-FT	863	980	1,170	1,060	1,020	916	861	2,300	3,320	1,770	569	495

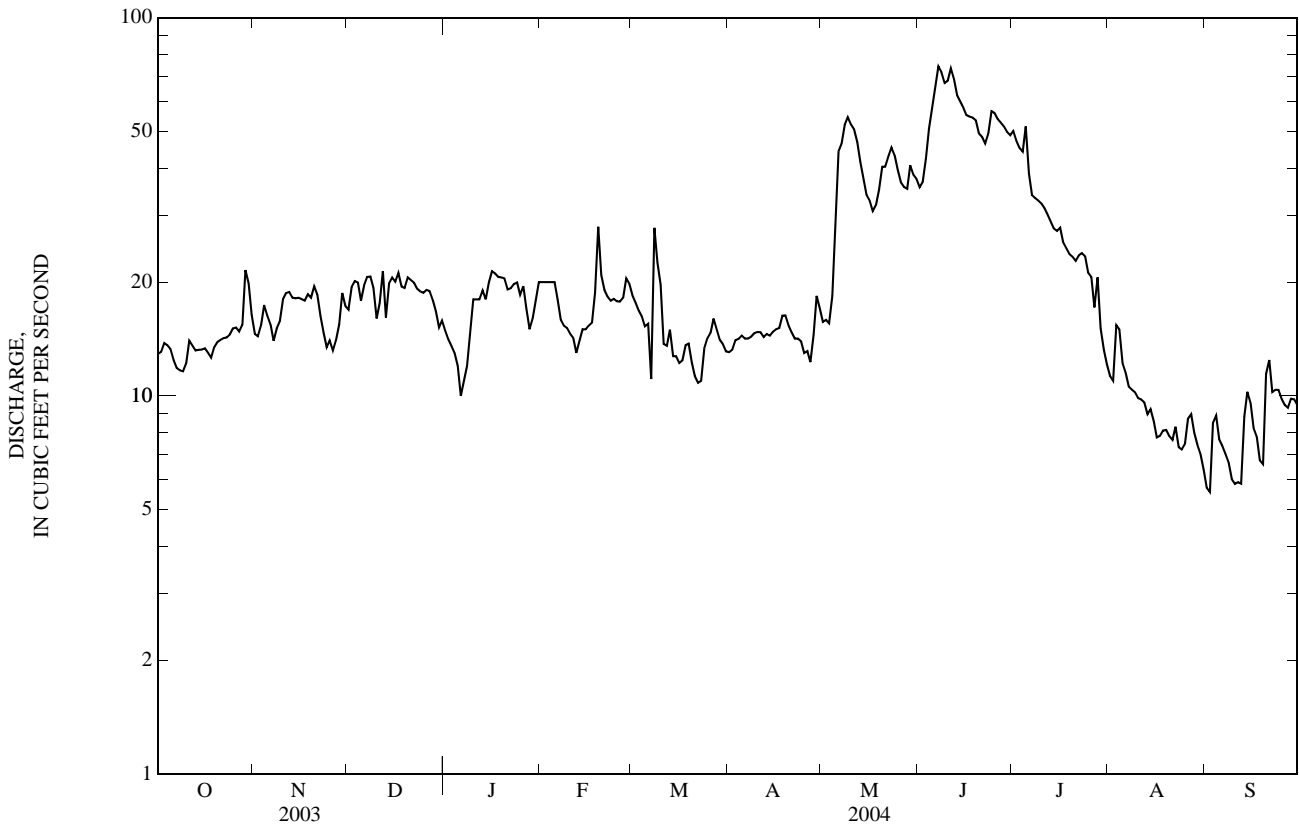
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)*

MEAN	21.0	18.9	16.8	16.6	16.8	20.3	31.4	116	193	62.4	27.5	22.0
MAX	35.5	28.0	25.0	30.3	32.0	36.9	71.4	257	445	176	50.7	40.1
(WY)	(1942)	(1943)	(1969)	(1974)	(1972)	(1972)	(1994)	(1984)	(1964)	(1964)	(1968)	(1964)
MIN	11.5	10.7	8.58	4.87	9.00	10.4	11.2	36.2	52.6	20.1	9.25	6.80
(WY)	(1961)	(1961)	(1950)	(1950)	(1940)	(1961)	(2001)	(1950)	(2001)	(1961)	(2004)	(2002)

06291500 LODGE GRASS CREEK ABOVE WILLOW CREEK DIVERSION, NEAR WYOLA, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004*	
ANNUAL TOTAL	15,373.0		7,727.6			
ANNUAL MEAN	42.1		21.1		47.0	
HIGHEST ANNUAL MEAN					85.6	
LOWEST ANNUAL MEAN					21.1	
HIGHEST DAILY MEAN	371	May 30	74	Jun 7	908	Jun 9, 1964
LOWEST DAILY MEAN	5.0	Feb 24	5.6	Sep 2	2.7	Apr 6, 2001
ANNUAL SEVEN-DAY MINIMUM	9.6	Feb 23	6.4	Sep 6	3.0	Apr 13, 2001
MAXIMUM PEAK FLOW			87	Jun 11	a1,130	Jun 9, 1964
MAXIMUM PEAK STAGE			2.54	Jun 11	6.14	Jun 9, 1964
ANNUAL RUNOFF (AC-FT)	30,490		15,330		34,030	
10 PERCENT EXCEEDS	91		45		113	
50 PERCENT EXCEEDS	19		16		22	
90 PERCENT EXCEEDS	13		9.3		13	

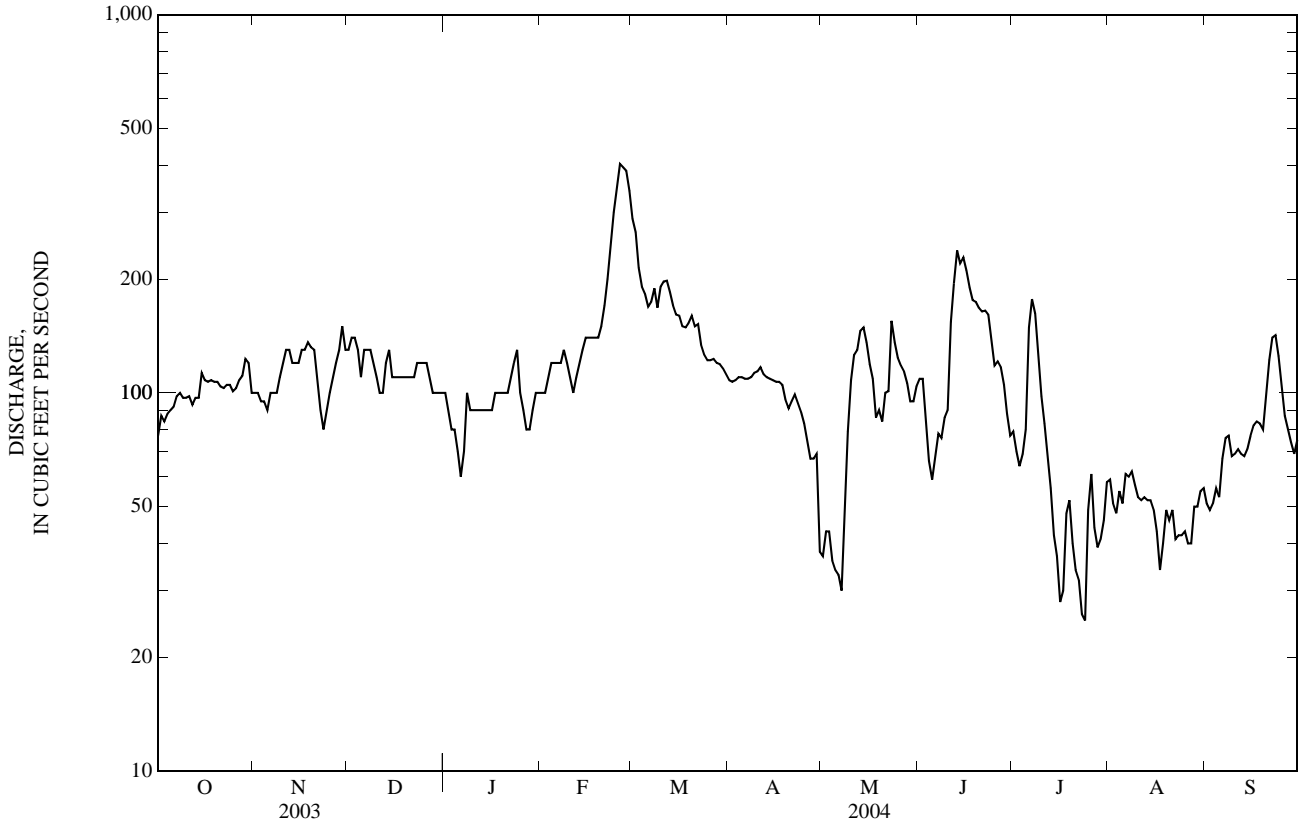
*--During period of operation (1940-74, 1983 to current year).
 a--From rating curve extended above 600 ft³/s.
 e--Estimated.



06294000 LITTLE BIGHORN RIVER NEAR HARDIN, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1954 - 2004	
ANNUAL TOTAL	67,087		39,202			
ANNUAL MEAN	184		107		275	
HIGHEST ANNUAL MEAN					676	1975
LOWEST ANNUAL MEAN					70.4	1961
HIGHEST DAILY MEAN	1,220	Jun 1	403	Feb 26	15,800	May 20, 1978
LOWEST DAILY MEAN	29	Jul 31	a25	Jul 24	0.30	Aug 5, 1961
ANNUAL SEVEN-DAY MINIMUM	32	Jul 29	37	May 1	0.40	Aug 3, 1961
MAXIMUM PEAK FLOW			b427	Feb 26	d22,600	May 19, 1978
MAXIMUM PEAK STAGE			c4.86	Jan 19	f11.78	Mar 20, 1960
INSTANTANEOUS LOW FLOW					g0.20	Aug 7, 1961
ANNUAL RUNOFF (AC-FT)	133,100		77,760		199,500	
10 PERCENT EXCEEDS	391		161		598	
50 PERCENT EXCEEDS	108		100		160	
90 PERCENT EXCEEDS	70		49		74	

a--Includes Agency Canal.
 b--Gage height, 3.30 ft.
 c--Backwater from ice.
 d--Gage height, 11.20 ft.
 e--Estimated.
 f--Site and elevation then in use.
 g--Result of discharge measurement.



06294500 BIGHORN RIVER ABOVE TULLOCK CREEK, NEAR BIGHORN, MT

LOCATION.--Lat 46°07'29", long 107°28'06" (NAD 27), in SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.3, T.4 N., R.34 E., Treasure County, Hydrologic Unit 10080015, on right bank 1.9 mi upstream from Tullock Creek, 3.6 mi southwest of Bighorn, 4.5 mi southeast of Custer, and at river mile 3.0.

DRAINAGE AREA.--22,414 mi². Area at site used Oct. 7, 1955, to Sept. 30, 1981, 22,885 mi².

PERIOD OF RECORD.--October 1981 to current year. Previously published as "06294700 Bighorn River at Bighorn, MT" 1956-81, and as "near Custer" 1945-55. Flows are equivalent at all sites.

GAGE.--Water-stage recorder. Elevation of gage is 2,700 ft (NGVD 29). May 11, 1945 to Dec. 6, 1945, nonrecording gage, and Dec. 7, 1945 to Oct. 6, 1955, water-stage recorder 1.7 mi upstream at different elevation. Oct. 7, 1955 to Sept. 30, 1981, at site 2.3 mi downstream at different elevation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Bighorn Lake beginning November 1965 (usable capacity, 1,312,000 acre-ft). Major regulation prior to November 1965 by 14 reservoirs in Wyoming and 1 in Montana with combined usable capacity of about 1,400,000 acre-ft. Diversion for irrigation of about 445,200 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,160	1,340	1,600	e1,600	e1,500	1,850	1,700	1,450	1,410	1,590	1,640	1,060
2	1,150	1,330	1,600	e1,550	e1,500	1,810	1,700	1,240	1,350	1,570	1,690	1,150
3	1,140	1,330	1,620	e1,500	e1,500	1,770	1,700	1,190	1,330	1,380	1,670	1,240
4	1,140	1,340	1,720	e1,400	e1,500	1,760	1,700	1,140	1,310	1,390	1,710	1,350
5	1,120	1,320	1,710	e1,300	e1,500	1,740	1,690	1,110	1,360	1,430	1,680	1,370
6	1,110	1,280	1,720	e1,400	e1,500	1,760	1,680	1,090	1,350	1,590	1,670	1,220
7	1,090	1,290	1,760	e1,500	e1,500	1,740	1,660	1,100	1,300	1,650	1,650	1,200
8	1,090	1,300	1,800	e1,550	e1,600	1,800	1,700	1,130	1,200	1,590	1,590	1,270
9	1,030	1,340	1,810	e1,600	e1,500	1,790	1,700	1,160	1,150	1,500	1,580	1,400
10	989	1,370	1,820	e1,600	e1,500	1,880	1,690	1,220	1,220	1,460	1,520	1,380
11	976	1,390	1,770	e1,650	e1,450	1,850	1,700	1,280	2,420	1,420	1,500	1,380
12	939	1,400	1,600	e1,700	e1,400	1,850	1,690	1,350	2,420	1,340	1,490	1,380
13	923	1,380	1,620	e1,700	e1,400	1,810	1,550	1,430	2,180	1,210	1,490	1,400
14	930	1,390	1,660	e1,750	e1,400	1,780	1,650	1,440	2,180	1,250	1,480	1,440
15	938	1,420	1,710	e1,800	e1,450	1,770	1,640	1,420	2,070	1,270	1,460	1,440
16	983	1,410	1,710	e1,850	e1,500	1,740	1,580	1,400	2,000	1,240	1,460	1,480
17	938	1,420	1,740	e1,850	e1,500	1,730	1,520	1,470	1,990	1,260	1,400	1,530
18	959	1,430	1,750	e1,900	e1,500	1,740	1,540	1,470	1,940	1,340	1,370	1,500
19	943	1,440	1,760	e1,950	e1,500	1,730	1,520	1,550	1,920	1,390	1,350	1,510
20	1,490	1,470	1,800	e1,950	e1,500	1,730	1,390	1,500	1,920	1,460	1,370	1,540
21	1,430	1,500	e1,800	e2,000	e1,500	1,740	1,420	1,500	1,920	1,460	1,320	1,630
22	1,230	e1,450	e1,800	e2,050	e1,500	1,740	1,470	1,620	1,840	1,480	1,300	1,490
23	e1,150	e1,350	e1,800	e2,100	1,790	1,720	1,400	1,790	1,890	1,510	1,260	1,470
24	1,210	e1,400	e1,800	e2,150	1,750	1,710	1,270	1,840	1,830	1,530	1,140	1,430
25	1,240	1,450	e1,800	e2,150	1,740	1,700	1,380	1,810	1,730	1,550	1,090	1,390
26	1,260	1,490	e1,800	e2,100	1,750	1,700	1,440	1,740	1,730	1,560	1,120	1,350
27	1,270	1,510	e1,800	e2,000	1,820	1,730	1,460	1,670	1,740	1,530	1,130	1,320
28	1,290	1,530	e1,750	e1,400	1,840	1,700	1,390	1,530	1,710	1,550	1,140	1,310
29	1,360	1,560	e1,750	e1,500	1,920	1,690	1,490	1,470	1,650	1,610	1,160	1,300
30	1,340	1,590	e1,700	e1,500	---	1,700	1,480	1,440	1,580	1,600	1,140	1,260
31	1,340	---	e1,650	e1,500	---	1,710	---	1,440	---	1,590	1,090	---
TOTAL	35,158	42,220	53,730	53,550	45,310	54,470	46,900	43,990	51,640	45,300	43,660	41,190
MEAN	1,134	1,407	1,733	1,727	1,562	1,757	1,563	1,419	1,721	1,461	1,408	1,373
MAX	1,490	1,590	1,820	2,150	1,920	1,880	1,700	1,840	2,420	1,650	1,710	1,630
MIN	923	1,280	1,600	1,300	1,400	1,690	1,270	1,090	1,150	1,210	1,090	1,060
AC-FT	69,740	83,740	106,600	106,200	89,870	108,000	93,030	87,250	102,400	89,850	86,600	81,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2004, BY WATER YEAR (WY)

MEAN	3,180	3,250	3,103	2,993	3,156	3,644	3,497	4,315	6,822	5,228	2,816	2,807
MAX	5,546	5,599	4,907	5,478	5,314	6,580	7,881	9,102	15,180	19,090	6,972	4,952
(WY)	(1972)	(1974)	(1968)	(1968)	(1971)	(1972)	(1997)	(1947)	(1948)	(1967)	(1997)	(1973)
MIN	1,103	1,223	1,280	1,382	1,544	908	1,063	1,304	1,050	707	868	1,009
(WY)	(2003)	(1978)	(1961)	(1961)	(2003)	(1966)	(1966)	(1966)	(1966)	(1960)	(1961)	(1966)

SUMMARY STATISTICS

	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1945 - 2004
ANNUAL TOTAL	554,328	557,118	
ANNUAL MEAN	1,519	1,522	3,717
HIGHEST ANNUAL MEAN			5,594
LOWEST ANNUAL MEAN			1,474
HIGHEST DAILY MEAN	2,450	Jun 1	2,420
LOWEST DAILY MEAN	923	Oct 13	923
ANNUAL SEVEN-DAY MINIMUM	944	Oct 12	944
MAXIMUM PEAK FLOW		a2,910	Jun 11
MAXIMUM PEAK STAGE		b6.14	Jan 9
INSTANTANEOUS LOW FLOW		c915	Oct 13
ANNUAL RUNOFF (AC-FT)	1,100,000	1,105,000	2,693,000
10 PERCENT EXCEEDS	1,800	1,810	6,220
50 PERCENT EXCEEDS	1,490	1,500	3,130
90 PERCENT EXCEEDS	1,280	1,160	1,620

SUMMARY STATISTICS	WATER YEARS 1946 - 1961 *		WATER YEARS 1967 - 2004**	
ANNUAL MEAN	3,358		3,745	
HIGHEST ANNUAL MEAN	5,501	1947	5,594	1997
LOWEST ANNUAL MEAN	1,623	1961	1,474	2003
HIGHEST DAILY MEAN	25,700	Jun 23, 1947	50,000	May 20, 1978
LOWEST DAILY MEAN	462	May 12, 1961	400	Apr 4, 1967
ANNUAL SEVEN-DAY MINIMUM	528	May 6, 1961	843	Nov 18, 1977
MAXIMUM PEAK FLOW	g26,200	Jun 24, 1947	d59,200	May 20, 1978
MAXIMUM PEAK STAGE	10.65	May 20, 1947	14.15	May 20, 1978
INSTANTANEOUS LOW FLOW	f275	Nov 15, 1959		
ANNUAL RUNOFF (AC-FT)	2,578,000		2,713,000	
10 PERCENT EXCEEDS	6,200		6,170	
50 PERCENT EXCEEDS	2,810		3,320	
90 PERCENT EXCEEDS	1,500		1,710	

*Prior to construction of Yellowtail Dam.

**--After completion of Yellowtail Dam.

a--Gage height, 1.92 ft.

b--Backwater from ice.

c--Gage height, 0.12 ft.

d--Gage height, 14.50 ft, at different site and datum.

e--Estimated.

f--About, result of freezeup.

g--Gage height, 8.79 ft, at different site and datum.

