06065500 MISSOURI RIVER BELOW HAUSER DAM, NEAR HELENA, MT

LOCATION.--Lat 46°45'58", long 111°53'20" (NAD 27), in $SE^1/_4$ $NW^1/_4$ $SW^1/_4$ sec.29, T.12 N., R.2 W., Lewis and Clark County, Hydrologic Unit 10030101, 0.2 mi downstream from Hauser Dam, 1.3 mi upstream from Beaver Creek, 15 miles northeast of Helena, and at river mile 2,237.2.

DRAINAGE AREA.--16,876 mi^2.

PERIOD OF RECORD.--January 1923 to September 1942, October 1994 to current year. Monthly means for October, November, and December 1922 were from Congressional documents: 73rd Congress, 2nd session, H. Doc. 238, Missouri River. Published figures are in acre feet.

GAGE.--Water-stage recorder. Elevation of gage is 3,580 ft (NGVD 29). Prior to Feb. 1, 1940, water-stage recorder 0.2 mi upstream at different datum.

REMARKS.--Records excellent. Flow regulated by eight small irrigation reservoirs and two power plants, Clark Canyon Reservoir (station number 06015300) and Canyon Ferry Lake (station number 06058500). Diversions for irrigation of about 594,400 acres. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were obtained during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,910	3,560	3,150	3,640	3,110	3,120	2,720	3,250	2,890	6,570	4,250	4,380
2	2,880	3,430	3,070	3,630	3,110	3,110	2,680	3,240	3,020	6,530	4,250	4,250
3	2,890	3,360	3,070	3,690	3,110	3,120	2,810	3,230	3,050	6,510	4,250	4,260
4	2,930	3,350	3,100	3,810	3,110	3,120	2,920	3,230	3,110	6,470	4,180	4,260
5	2,950	3,350	3,170	3,790	3,120	3,070	2,910	3,170	3,130	6,460	4,140	4,350
6	2,950	3,350	3,170	3,720	3,130	3,050	2,900	3,130	3,290	6,440	4,130	4,300
7	2,950	3,350	3,170	3,670	3,110	3,000	2,890	3,140	3,370	6,170	4,140	4,310
8	2,940	3,350	3,170	3,770	3,120	2,920	2,870	3,140	3,380	6,200	4,130	4,470
9	2,940	3,360	3,170	3,770	3,080	2,970	2,910	3,140	3,240	6,350	4,070	4,430
10	2,940	3,370	3,170	3,710	3,030	2,980	2,940	3,200	3,090	6,440	4,010	4,340
11	2,920	3,360	3,180	3,660	3,030	2,970	2,940	3,340	3,240	6,440	4,020	4,320
12	2,870	3,350	3,180	3,700	3,030	3,040	2,960	3,360	3,240	5,910	4,110	4,280
13	2,880	3,460	3,170	3,680	3,050	3,070	3,030	3,350	3,130	5,400	4,280	4,250
14	3,060	3,510	3,190	3,670	3,110	3,040	3,020	3,360	2,990	5,230	4,420	4,260
15	3,320	3,500	3,220	3,660	3,110	2,980	3,010	3,360	2,950	4,730	4,420	4,260
16	3,410	3,390	3,220	3,660	3,110	2,980	3,010	3,350	3,250	4,100	4,420	3,980
17	3,440	3,310	3,220	3,660	3,110	3,030	3,020	3,490	4,690	4,000	4,360	3,570
18	3,420	3,290	3,220	3,650	3,110	3,070	3,030	3,360	5,740	4,060	4,070	3,360
19	3,470	3,290	3,220	3,640	3,070	3,090	3,050	3,360	5,920	4,130	3,710	3,740
20	3,540	3,300	3,220	3,660	3,050	3,060	3,080	3,310	5,980	4,170	3,640	4,110
21	3,620	3,290	3,250	3,670	3,040	3,070	3,150	3,140	6,000	4,270	3,630	4,170
22	3,770	3,290	3,250	3,660	3,080	3,090	3,260	3,090	5,950	4,270	3,640	4,350
23	3,810	3,290	3,230	3,660	3,110	3,100	3,210	3,090	6,470	4,270	3,680	4,460
24	3,800	3,290	3,220	3,660	3,110	3,090	3,170	3,100	6,610	4,280	3,880	4,380
25	3,820	3,290	3,220	3,610	3,110	3,060	3,170	3,040	6,420	4,300	4,160	4,260
26	3,780	3,270	3,240	3,260	3,120	3,060	3,170	3,010	6,470	4,280	4,170	4,240
27	3,690	3,250	3,220	3,130	3,120	2,970	3,180	3,010	6,520	4,220	4,320	4,290
28	3,640	3,210	3,220	3,110	3,120	2,900	3,170	3,020	6,530	4,180	4,510	4,260
29	3,640	3,170	3,220	3,110	---	2,900	3,210	2,980	6,560	4,190	4,540	4,300
30	3,620	3,170	3,390	3,110	---	2,900	3,260	2,880	6,600	4,230	4,560	4,460
31	3,630	---	3,610	3,110	---	2,830	---	2,820	---	4,250	4,500	---
TOTAL	102,430	100,110	99,520	110,930	86,620	93,760	90,650	98,690	136,830	159,050	128,590	126,650
MEAN	3,304	3,337	3,210	3,578	3,094	3,025	3,022	3,184	4,561	5,131	4,148	4,222
MAX	3,820	3,560	3,610	3,810	3,130	3,120	3,260	3,490	6,610	6,570	4,560	4,470
MIN	2,870	3,170	3,070	3,110	3,030	2,830	2,680	2,820	2,890	4,000	3,630	3,360
AC-FT	203,200	198,600	197,400	220,000	171,800	186,000	179,800	195,800	271,400	315,500	255,100	251,200

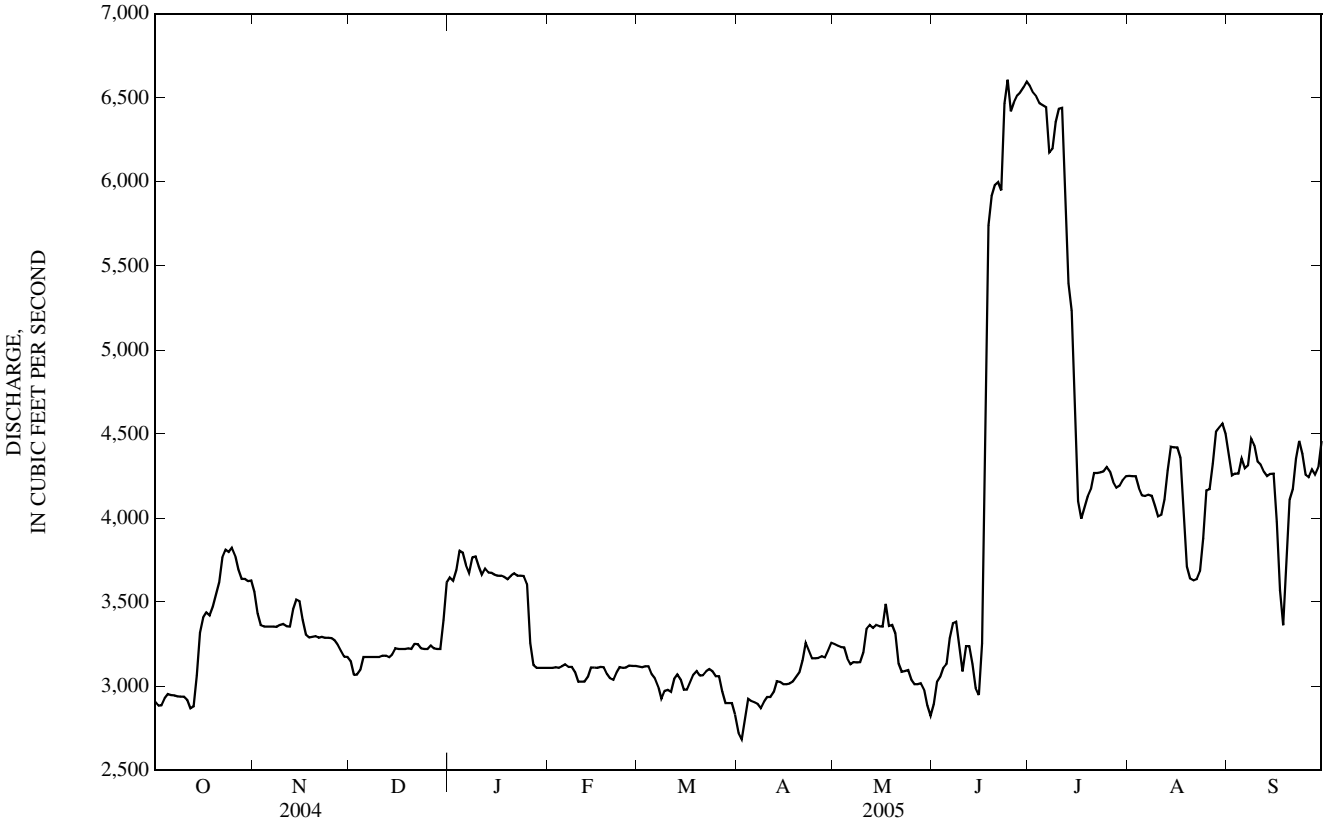
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2005, BY WATER YEAR (WY)*

MEAN	3,532	3,620	3,582	3,565	3,746	4,345	5,128	6,723	8,030	4,307	3,095	3,281
MAX	6,489	6,021	5,622	6,665	8,101	8,271	9,227	16,340	23,540	12,020	5,797	5,684
(WY)	(1998)	(1998)	(1996)	(1997)	(1997)	(1997)	(1942)	(1928)	(1927)	(1998)	(1998)	(1995)
MIN	1,944	1,998	1,935	1,896	1,666	2,398	2,585	2,381	2,546	1,208	971	1,495
(WY)	(1935)	(1935)	(1935)	(1937)	(1938)	(1938)	(1938)	(1934)	(1934)	(1934)	(1934)	(1934)

06065500 MISSOURI RIVER BELOW HAUSER DAM, NEAR HELENA, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1923 - 2005*	
ANNUAL TOTAL	1,182,420		1,333,830			
ANNUAL MEAN	3,231		3,654		4,411	
HIGHEST ANNUAL MEAN					7,862	1997
LOWEST ANNUAL MEAN					2,381	1934
HIGHEST DAILY MEAN	3,890	Mar 18	6,610	Jun 24	33,300	Jun 15, 1927
LOWEST DAILY MEAN	2,680	Jul 19	2,680	Apr 2	280	Mar 3, 1938
ANNUAL SEVEN-DAY MINIMUM	2,700	Jul 15	2,820	Mar 28	716	Aug 3, 1934
MAXIMUM PEAK FLOW			6,910	Jun 23	33,300	Jun 15, 1927
MAXIMUM PEAK STAGE			5.34	Jun 23	a78.80	Jun 15, 1927
INSTANTANEOUS LOW FLOW					280	Mar 3, 1938
ANNUAL RUNOFF (AC-FT)	2,345,000		2,646,000		3,196,000	
10 PERCENT EXCEEDS	3,750		4,440		7,380	
50 PERCENT EXCEEDS	3,170		3,290		3,640	
90 PERCENT EXCEEDS	2,790		2,970		2,100	

*--During periods of operation (January 1923 to September 1942, October 1994 to present).
a--Site and datum then in use.



06066500 MISSOURI RIVER BELOW HOLTER DAM, NEAR WOLF CREEK, MT

LOCATION.--Lat 46°59'41", long 112°00'37" (NAD 27), in NE$^1/_4$SW$^1/_4$SE$^1/_4$ sec.5, T.14 N., R.3 W., Lewis and Clark County, Hydrologic Unit 10030102, on left bank 0.4 mi downstream from Holter Dam, 2.8 mi southeast of Wolf Creek, and at river mile 2,210.7.

DRAINAGE AREA.--17,149 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,464.11 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for July to September, which are fair. Flow regulated by nine smaller irrigation reservoirs and powerplants, Clark Canyon Reservoir (station number 06015300), and Canyon Ferry Lake (station number 06058500). Diversions for irrigation of about 594,400 acres. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,910	3,680	3,220	3,770	3,200	3,200	2,930	3,320	3,070	6,560	4,190	4,360
2	2,910	3,590	3,170	3,860	3,230	3,200	2,930	3,270	3,310	6,470	4,200	4,220
3	2,920	3,440	3,160	3,860	3,280	3,190	2,930	3,280	3,290	6,380	4,160	4,160
4	2,930	3,400	3,150	3,840	3,280	3,170	2,940	3,280	3,220	6,370	4,090	4,170
5	2,930	3,440	3,170	3,910	3,260	3,130	2,940	3,260	3,230	6,360	4,090	4,210
6	2,950	3,450	3,220	3,960	3,230	3,100	2,930	3,220	3,340	6,340	4,090	4,240
7	2,950	3,460	3,260	3,830	3,220	3,070	2,940	3,180	3,400	6,070	4,060	4,240
8	2,960	3,460	3,280	3,870	3,200	3,010	2,910	3,180	3,430	5,810	4,120	4,250
9	2,960	3,450	3,270	3,840	3,200	3,010	2,900	3,230	3,380	6,000	4,090	4,250
10	3,000	3,460	3,260	3,860	3,160	3,030	2,900	3,330	3,250	6,260	4,010	4,210
11	3,040	3,430	3,250	3,860	3,150	3,020	2,900	3,480	3,310	6,410	4,080	4,240
12	3,060	3,430	3,250	3,810	3,130	3,120	2,930	3,600	3,430	6,070	4,110	4,240
13	3,080	3,420	3,270	3,760	3,100	3,220	3,020	3,570	3,390	5,480	4,150	4,240
14	3,100	3,420	3,280	3,760	3,120	3,190	3,060	3,510	3,150	5,140	4,370	4,240
15	3,150	3,500	3,280	3,770	3,150	3,130	3,100	3,460	3,040	4,730	4,390	4,240
16	3,170	3,560	3,300	3,790	3,190	3,090	3,090	3,440	3,270	4,210	4,290	4,250
17	3,280	3,490	3,300	3,800	3,210	3,080	3,080	3,470	4,560	4,080	4,140	4,510
18	3,400	3,440	3,290	3,800	3,210	3,080	3,060	3,410	5,830	4,080	4,020	4,660
19	3,410	3,420	3,310	3,780	3,170	3,080	3,160	3,380	6,240	4,070	3,960	4,360
20	3,510	3,370	3,330	3,760	3,130	3,080	3,370	3,320	6,180	4,080	3,940	4,210
21	3,650	3,370	3,330	3,760	3,130	3,070	3,400	3,180	6,110	4,090	3,940	4,210
22	3,870	3,380	3,330	3,740	3,130	3,070	3,360	3,150	6,060	4,090	3,930	4,200
23	4,060	3,330	3,350	3,770	3,180	3,140	3,310	3,180	6,510	4,090	3,900	4,180
24	3,980	3,320	3,330	3,770	3,250	3,270	3,150	3,160	6,630	4,100	3,910	4,180
25	3,790	3,350	3,300	3,730	3,250	3,290	3,060	3,070	6,170	4,100	3,910	4,170
26	3,820	3,370	3,300	3,450	3,250	3,240	3,180	3,070	6,110	4,090	3,910	4,160
27	3,860	3,330	3,320	3,250	3,220	3,130	3,270	3,080	6,390	4,060	3,910	4,160
28	3,780	3,320	3,320	3,240	3,210	3,000	3,320	3,060	6,580	4,020	3,920	4,180
29	3,590	3,300	3,320	3,240	---	2,930	3,320	2,990	6,600	4,070	4,020	4,160
30	3,630	3,280	3,490	3,200	---	2,930	3,350	2,930	6,590	4,090	4,330	4,190
31	3,710	---	3,710	3,180	---	2,930	---	2,930	---	4,130	4,480	---
TOTAL	103,360	102,660	102,120	114,820	89,440	96,200	92,740	100,990	139,070	155,900	126,710	127,290
MEAN	3,334	3,422	3,294	3,704	3,194	3,103	3,091	3,258	4,636	5,029	4,087	4,243
MAX	4,060	3,680	3,710	3,960	3,280	3,290	3,400	3,600	6,630	6,560	4,480	4,660
MIN	2,910	3,280	3,150	3,180	3,100	2,930	2,900	2,930	3,040	4,020	3,900	4,160
AC-FT	205,000	203,600	202,600	227,700	177,400	190,800	183,900	200,300	275,800	309,200	251,300	252,500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2005, BY WATER YEAR (WY)

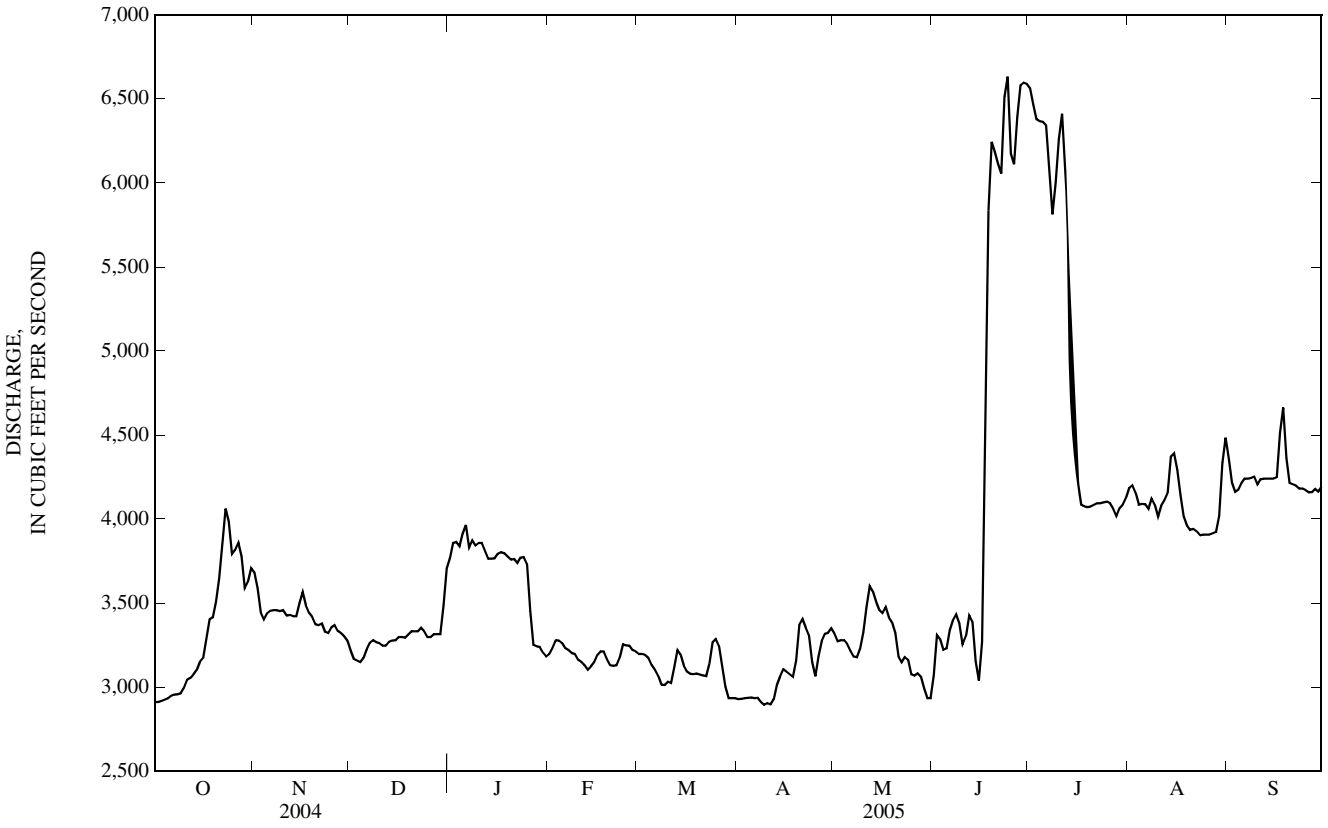
MEAN	4,450	4,749	4,946	4,998	4,946	5,064	5,490	6,686	8,846	5,851	4,246	4,194
MAX	10,140	8,500	9,645	6,637	7,954	9,186	11,130	15,710	23,370	16,580	7,590	10,010
(WY)	(1966)	(1966)	(1960)	(1997)	(1997)	(1968)	(1976)	(1948)	(1948)	(1975)	(1984)	(1984)
MIN	2,710	2,968	3,024	3,068	3,036	2,757	2,489	2,063	1,533	2,454	1,969	2,077
(WY)	(1954)	(1989)	(2002)	(2002)	(2002)	(1959)	(1959)	(1955)	(1955)	(1954)	(1954)	(1959)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1946 - 2005	
ANNUAL TOTAL	1,191,220		1,351,300			
ANNUAL MEAN	3,255		3,702		5,371	
HIGHEST ANNUAL MEAN					8,497	1984
LOWEST ANNUAL MEAN					3,008	2002
HIGHEST DAILY MEAN	4,060	Oct 23	6,630	Jun 24	34,000	Jun 8, 1948
LOWEST DAILY MEAN	2,660	Jul 23	2,900	Apr 9	747	May 27, 1962
ANNUAL SEVEN-DAY MINIMUM	2,690	Jul 22	2,920	Apr 6	1,040	May 16, 1957
MAXIMUM PEAK FLOW			7,070	Jun 23	34,800	Jun 8, 1948
MAXIMUM PEAK STAGE			4.08	Jun 23	11.70	Jun 8, 1948
INSTANTANEOUS LOW FLOW					a250	Jul 26, 1968
ANNUAL RUNOFF (AC-FT)	2,363,000		2,680,000		3,891,000	
10 PERCENT EXCEEDS	3,770		4,340		7,990	
50 PERCENT EXCEEDS	3,200		3,380		4,650	
90 PERCENT EXCEEDS	2,800		3,050		3,030	

06066500 MISSOURI RIVER BELOW HOLTER DAM, NEAR WOLF CREEK, MT—Continued

SUMMARY STATISTICS	WATER YEARS 1946 - 1952*		WATER YEARS 1953 - 2005**	
ANNUAL MEAN	5,882		5,303	
HIGHEST ANNUAL MEAN	7,787	1948	8,497	1984
LOWEST ANNUAL MEAN	4,651	1946	3,008	2002
HIGHEST DAILY MEAN	34,000	Jun 8, 1948	25,600	Jun 20, 1964
LOWEST DAILY MEAN	1,560	Aug 31, 1946	747	May 27, 1962
ANNUAL SEVEN-DAY MINIMUM	2,310	Aug 2, 1949	1,040	May 16, 1957
MAXIMUM PEAK FLOW	34,800	Jun 8, 1948	27,100	Jun 19, 1964
MAXIMUM PEAK STAGE	11.70	Jun 8, 1948	10.04	Jun 19, 1964
INSTANTANEOUS LOW FLOW	b742	Nov 25, 1949	a250	Jul 26, 1968
ANNUAL RUNOFF (AC-FT)	4,261,000		3,842,000	
10 PERCENT EXCEEDS	10,800		7,760	
50 PERCENT EXCEEDS	4,520		4,690	
90 PERCENT EXCEEDS	3,350		3,020	

*--Before Canyon Ferry Dam completion.
**--After Canyon Ferry Dam completion.
a--Gage height, 0.18 ft.
b--Probably less than; during power plant operation.



06066500 MISSOURI RIVER BELOW HOLTER DAM, NEAR WOLF CREEK, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--October 1999 to current year.
WATER TEMPERATURE: October 1999 to current year.

INSTRUMENTATION.--Temperature probe installed Sept. 30, 1999.

REMARKS--Daily water temperature record excellent. Missing daily temperature values on Apr. 12-13, Aug. 13-15, and Aug. 19-24 due to equipment problems. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE : Maximum, 21.0°C, July 25, 2002; minimum, 0.5°C, many days on January 2005.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 19.5°C, Aug. 1, 5, 8, and 9; minimum, 0.5°C, many days in January.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	13.5	13.5	9.5	9.5	9.5	5.0	5.0	5.0	1.5	1.0	1.5
2	14.0	13.5	14.0	9.5	9.5	9.5	5.0	5.0	5.0	1.5	1.0	1.0
3	14.0	13.5	13.5	9.5	9.0	9.5	5.0	4.5	5.0	1.0	1.0	1.0
4	14.0	13.5	13.5	9.0	9.0	9.0	5.0	4.5	4.5	1.0	1.0	1.0
5	14.0	13.5	13.5	9.0	8.5	9.0	4.5	4.5	4.5	1.0	0.5	1.0
6	14.0	13.5	13.5	9.0	9.0	9.0	4.5	4.5	4.5	1.0	0.5	1.0
7	14.0	13.5	13.5	9.0	8.5	9.0	4.5	4.0	4.5	1.0	1.0	1.0
8	14.0	13.5	13.5	9.0	8.5	9.0	4.5	4.0	4.0	1.0	1.0	1.0
9	13.5	13.5	13.5	9.0	8.5	8.5	4.0	4.0	4.0	1.0	0.5	1.0
10	13.5	13.0	13.5	8.5	8.5	8.5	4.0	4.0	4.0	1.0	0.5	1.0
11	13.5	13.0	13.0	8.5	8.0	8.5	4.5	4.0	4.0	1.0	0.5	1.0
12	13.0	13.0	13.0	8.5	8.0	8.0	4.0	4.0	4.0	1.0	0.5	1.0
13	13.0	12.5	13.0	8.0	8.0	8.0	4.0	3.5	4.0	1.0	0.5	0.5
14	13.0	12.5	13.0	8.0	7.5	8.0	4.0	3.5	3.5	1.0	0.5	0.5
15	13.0	12.5	12.5	8.0	7.5	7.5	4.0	3.5	3.5	1.0	0.5	0.5
16	12.5	12.5	12.5	8.0	7.5	7.5	3.5	3.5	3.5	1.0	0.5	1.0
17	12.5	12.0	12.0	7.5	7.5	7.5	3.5	3.0	3.0	1.0	1.0	1.0
18	12.0	12.0	12.0	7.5	7.5	7.5	3.5	3.0	3.0	1.0	1.0	1.0
19	12.0	11.5	12.0	7.5	7.0	7.5	3.5	3.0	3.5	1.0	1.0	1.0
20	12.0	11.5	11.5	7.5	7.0	7.0	3.5	3.0	3.0	1.0	1.0	1.0
21	11.5	11.5	11.5	7.0	6.5	7.0	3.0	3.0	3.0	1.0	1.0	1.0
22	11.5	11.0	11.5	7.0	6.5	6.5	3.0	2.5	3.0	1.0	1.0	1.0
23	11.0	11.0	11.0	6.5	6.5	6.5	3.0	2.5	2.5	1.0	1.0	1.0
24	11.0	10.5	11.0	6.5	6.5	6.5	2.5	2.0	2.5	1.0	1.0	1.0
25	11.0	10.5	10.5	6.5	6.0	6.5	2.5	2.0	2.5	1.0	1.0	1.0
26	10.5	10.5	10.5	6.5	6.0	6.0	2.5	2.0	2.0	1.5	1.0	1.0
27	10.5	10.5	10.5	6.0	6.0	6.0	2.0	1.5	2.0	1.5	1.0	1.0
28	10.5	10.5	10.5	6.0	5.5	6.0	2.0	1.5	1.5	1.5	1.0	1.0
29	10.5	10.0	10.0	6.0	5.5	5.5	2.0	1.5	2.0	1.5	1.0	1.5
30	10.0	10.0	10.0	5.5	5.0	5.0	2.0	1.5	1.5	1.5	1.0	1.5
31	10.0	9.5	10.0	---	---	---	1.5	1.5	1.5	1.5	1.5	1.5
MONTH	14.0	9.5	12.0	9.5	5.0	7.5	5.0	1.5	3.5	1.5	0.5	1.0

06066500 MISSOURI RIVER BELOW HOLTER DAM, NEAR WOLF CREEK, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1.5	1.5	1.5	3.0	2.5	3.0	4.0	3.5	3.5	6.5	6.5	6.5
2	1.5	1.5	1.5	3.0	3.0	3.0	4.0	3.5	4.0	7.0	6.5	6.5
3	1.5	1.5	1.5	3.0	3.0	3.0	4.0	3.5	4.0	8.0	6.5	7.0
4	1.5	1.5	1.5	3.0	3.0	3.0	4.0	4.0	4.0	8.5	8.0	8.0
5	1.5	1.5	1.5	3.5	3.0	3.0	4.5	4.0	4.0	9.5	8.0	9.0
6	1.5	1.5	1.5	3.5	3.0	3.0	4.5	4.0	4.5	9.5	8.5	9.0
7	2.0	1.5	1.5	3.5	3.0	3.0	5.0	4.5	4.5	8.5	7.5	8.0
8	2.0	1.5	1.5	3.5	3.0	3.0	5.0	4.5	4.5	8.5	7.5	8.0
9	2.0	1.5	2.0	3.5	3.0	3.5	4.5	4.5	4.5	8.5	7.5	8.0
10	2.0	1.5	2.0	3.5	3.0	3.5	5.0	4.5	5.0	7.5	7.0	7.5
11	2.0	2.0	2.0	3.5	3.0	3.5	5.5	4.5	5.0	7.5	7.5	7.5
12	2.0	2.0	2.0	3.5	3.0	3.0	---	---	---	8.5	7.5	8.5
13	2.0	2.0	2.0	3.5	3.0	3.0	---	---	---	9.5	8.5	9.0
14	2.0	2.0	2.0	3.5	3.0	3.0	5.0	5.0	5.0	10.0	9.0	9.5
15	2.0	2.0	2.0	3.5	3.0	3.0	5.5	5.0	5.0	10.5	9.0	10.0
16	2.5	2.0	2.0	3.5	3.0	3.0	6.5	5.5	6.0	10.5	9.5	10.0
17	2.5	2.0	2.0	3.5	3.0	3.0	6.0	6.0	6.0	10.0	9.0	9.5
18	2.5	2.0	2.5	3.5	3.0	3.0	6.0	5.5	6.0	11.5	9.0	10.5
19	2.5	2.0	2.5	3.5	3.0	3.0	5.5	5.5	5.5	11.0	10.0	10.5
20	2.5	2.5	2.5	3.0	3.0	3.0	5.5	5.5	5.5	12.0	10.0	11.0
21	2.5	2.5	2.5	3.5	3.0	3.0	5.5	5.5	5.5	11.0	10.0	10.5
22	2.5	2.5	2.5	3.0	3.0	3.0	6.5	5.5	6.0	12.0	9.5	11.0
23	2.5	2.5	2.5	3.0	3.0	3.0	7.0	6.5	6.5	12.0	9.5	11.0
24	2.5	2.5	2.5	3.0	3.0	3.0	6.5	6.0	6.5	11.5	10.0	11.0
25	3.0	2.5	2.5	3.0	2.5	3.0	6.5	6.0	6.0	12.0	10.5	11.0
26	3.0	2.5	2.5	3.0	2.5	3.0	6.5	6.0	6.0	12.0	10.5	11.0
27	3.0	2.5	2.5	3.5	3.0	3.0	6.5	6.0	6.0	12.5	10.5	11.5
28	3.0	2.5	2.5	3.5	3.0	3.5	6.5	6.0	6.0	12.0	11.0	11.5
29	---	---	---	3.5	3.0	3.5	7.0	6.0	6.5	12.0	10.5	11.5
30	---	---	---	3.5	3.5	3.5	7.0	6.5	6.5	12.5	11.5	12.0
31	---	---	---	3.5	3.0	3.5	---	---	---	14.0	11.5	13.0
MONTH	3.0	1.5	2.0	3.5	2.5	3.0	7.0	3.5	5.5	14.0	6.5	9.5
	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.5	12.5	13.0	16.0	14.0	15.0	19.5	17.0	18.0	17.5	17.0	17.5
2	13.5	12.5	13.0	15.5	13.0	14.5	18.5	17.0	18.0	17.5	16.5	17.0
3	13.0	12.5	12.5	15.5	13.0	14.5	18.0	17.5	17.5	17.5	16.5	17.0
4	13.5	12.5	13.0	15.5	14.0	15.0	19.0	17.5	18.5	17.5	16.5	17.0
5	13.5	12.5	13.0	16.5	14.5	15.5	19.5	17.5	18.5	17.5	16.5	17.0
6	14.0	12.5	13.5	17.0	14.5	15.5	19.0	17.0	18.0	17.0	16.0	16.5
7	14.5	12.0	13.5	16.5	15.0	15.5	19.0	17.5	18.5	17.5	16.5	17.0
8	14.0	12.5	13.0	17.0	15.0	16.0	19.5	17.5	18.5	18.0	16.5	17.0
9	13.5	12.0	13.0	16.0	15.0	15.5	19.5	16.5	18.5	17.5	16.0	17.0
10	13.5	12.5	13.0	16.5	15.5	16.0	19.0	17.5	18.0	16.5	16.0	16.5
11	14.0	13.0	13.5	17.0	15.5	16.5	18.5	17.0	17.5	16.5	16.5	16.5
12	13.5	13.0	13.0	17.5	16.0	16.5	18.0	17.0	17.0	16.5	16.0	16.0
13	13.5	12.5	13.0	16.5	14.5	16.0	---	---	---	16.5	16.0	16.0
14	14.5	13.0	13.5	17.0	15.0	16.0	---	---	---	16.5	16.0	16.0
15	14.0	13.5	13.5	18.5	16.0	17.0	---	---	---	16.5	16.0	16.0
16	13.5	13.0	13.0	17.5	14.5	16.0	17.5	17.0	17.5	16.0	15.5	16.0
17	13.5	12.5	13.0	16.5	15.0	16.0	18.0	16.0	17.0	15.5	15.5	15.5
18	14.0	13.0	13.5	18.5	16.5	17.0	17.0	16.0	16.5	16.0	15.5	15.5
19	14.5	13.5	14.0	18.0	15.5	17.0	---	---	---	16.0	15.5	15.5
20	14.5	13.5	13.5	17.5	16.0	17.0	---	---	---	16.0	15.5	15.5
21	17.0	13.5	14.5	17.0	16.0	16.5	---	---	---	15.5	15.0	15.0
22	16.5	14.5	15.5	18.5	17.0	17.5	---	---	---	15.5	15.0	15.0
23	15.0	14.0	14.5	18.5	16.0	17.0	---	---	---	15.0	14.5	15.0
24	15.0	14.0	14.5	18.5	15.0	17.5	---	---	---	14.5	14.5	14.5
25	15.5	14.5	15.0	17.0	15.0	16.0	17.5	16.5	17.0	14.5	14.0	14.5
26	16.0	13.5	14.5	18.5	17.0	17.5	18.0	17.0	17.5	14.5	14.0	14.5
27	15.0	14.5	15.0	18.0	17.0	17.5	18.0	17.0	17.5	14.5	14.0	14.0
28	16.0	15.0	15.5	18.5	17.0	17.5	18.0	17.0	17.5	14.0	13.5	14.0
29	15.5	14.0	14.5	18.5	17.0	18.0	18.5	17.0	17.5	14.0	13.5	13.5
30	16.0	14.5	15.0	18.5	17.0	17.5	17.5	16.5	17.0	14.0	13.5	13.5
31	---	---	---	18.5	17.0	18.0	17.5	16.5	17.0	---	---	---
MONTH	17.0	12.0	14.0	18.5	13.0	16.5	19.5	16.0	17.5	18.0	13.5	15.5

06071300 LITTLE PRICKLY PEAR CREEK AT WOLF CREEK, MT

LOCATION.--Lat 47°00'19", long 112°04'10" (NAD 27), in NE$^1/_4$NW$^1/_4$NE$^1/_4$ sec.2, T.14 N., R.4 W., Lewis and Clark County, Hydrologic Unit 10030102, on right bank 30 ft downstream from Interstate 15 access road bridge, 500 ft southwest of Wolf Creek Post Office, 0.5 mi downstream from Wolf Creek, and at river mile 3.2.

DRAINAGE AREA.--381 mi^2.

PERIOD OF RECORD.--May 1962 to September 1967, October 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,547.38 ft (NGVD 29). May 10, 1962 to July 6, 1965, water-stage recorder on left bank at present elevation. July 7, 1965 to Apr. 11, 1966, non-recording gage on bridge 0.25 mi upstream at elevation 3.27 ft higher. Apr. 12, 1966 to Sept. 30, 1967, water-stage recorder on right bank 23 ft upstream at present elevation.

REMARKS.--Records good 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 unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 7, 1975, reached a stage of 7.45 ft, present elevation, from floodmarks, discharge, 4,500 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	37	37	e22	52	40	49	74	162	127	36	36
2	28	37	36	e25	52	40	49	72	227	122	37	35
3	28	38	36	e28	51	39	51	70	274	108	38	34
4	28	39	37	e30	49	40	52	69	310	103	39	33
5	28	40	37	e27	48	40	53	68	328	98	37	27
6	28	41	38	e42	40	42	52	74	310	96	33	28
7	28	40	37	e40	33	42	53	79	290	92	28	34
8	28	40	38	e35	42	43	56	100	257	87	28	32
9	29	41	38	e32	42	45	58	112	234	84	34	29
10	29	40	39	e34	46	46	57	621	208	86	36	32
11	29	39	44	e37	44	45	56	1,020	193	85	35	35
12	30	39	47	e40	45	46	56	828	224	81	36	34
13	30	38	41	e35	45	45	56	596	268	77	39	34
14	32	37	44	e25	42	42	66	460	218	72	38	30
15	35	38	47	e20	40	42	66	404	212	69	36	27
16	36	39	48	e25	e35	42	60	375	196	66	35	26
17	36	40	46	e35	e36	43	56	403	218	64	34	37
18	37	39	46	54	e37	39	56	371	187	56	36	41
19	36	39	48	69	37	37	68	341	170	50	37	37
20	37	39	47	91	34	39	78	312	155	47	34	34
21	40	37	43	90	48	43	84	301	141	45	32	32
22	39	37	40	72	48	44	69	273	131	42	32	33
23	38	38	e30	68	45	34	66	253	120	39	33	33
24	37	39	e28	65	37	35	79	230	113	38	35	40
25	38	41	46	61	38	e40	96	217	113	40	34	44
26	38	41	47	59	38	46	102	201	116	40	34	38
27	38	38	26	58	38	51	100	187	115	37	30	36
28	38	36	29	57	38	58	93	169	120	35	27	34
29	38	30	33	55	---	57	85	150	127	37	28	33
30	38	30	38	53	---	54	78	136	116	38	32	33
31	38	---	e24	52	---	50	---	123	---	36	40	---
TOTAL	1,041	1,147	1,215	1,436	1,180	1,349	2,000	8,689	5,853	2,097	1,063	1,011
MEAN	33.6	38.2	39.2	46.3	42.1	43.5	66.7	280	195	67.6	34.3	33.7
MAX	40	41	48	91	52	58	102	1,020	328	127	40	44
MIN	28	30	24	20	33	34	49	68	113	35	27	26
AC-FT	2,060	2,280	2,410	2,850	2,340	2,680	3,970	17,230	11,610	4,160	2,110	2,010

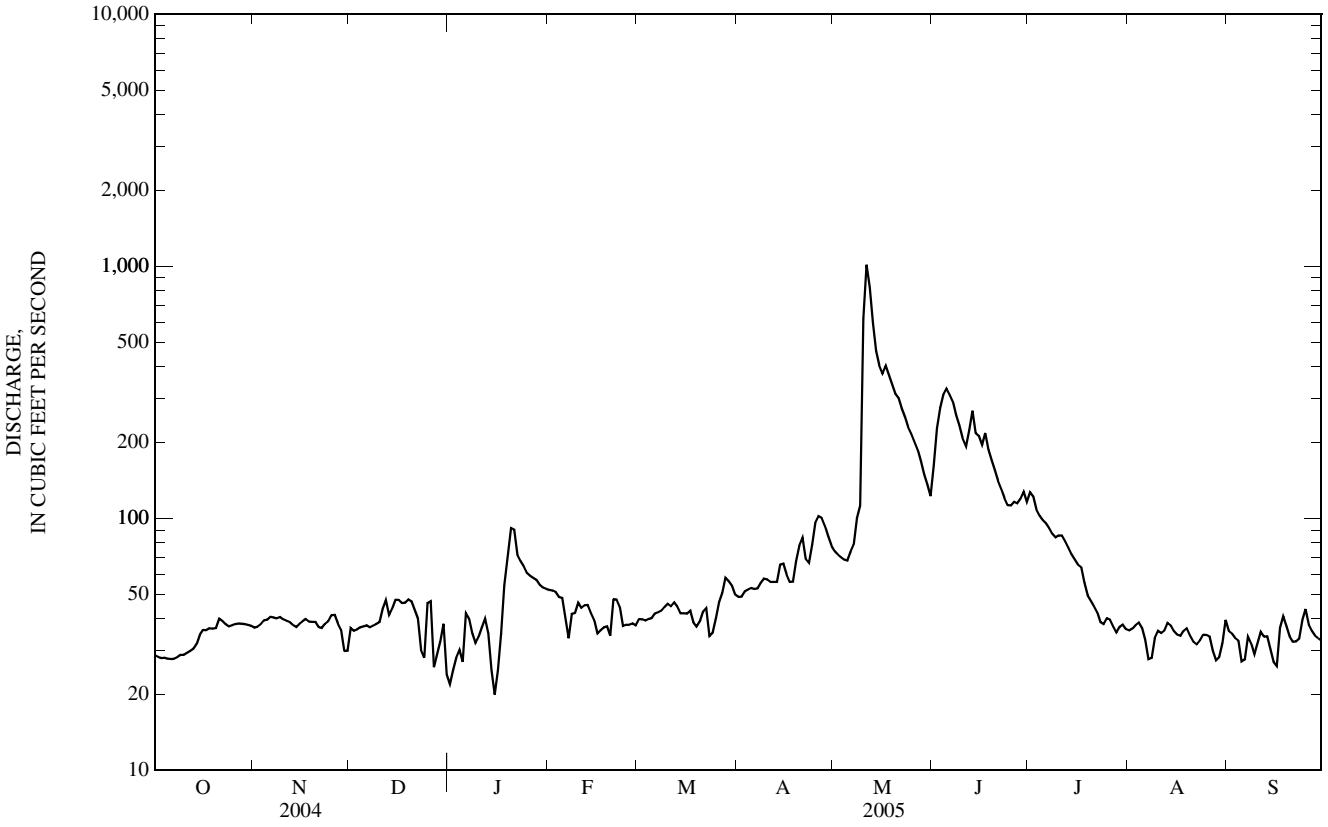
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2005, BY WATER YEAR (WY*)

MEAN	49.4	52.3	48.5	43.7	58.3	67.1	128	227	197	78.3	43.9	47.0
MAX	131	98.5	74.9	69.1	190	109	372	580	684	175	95.4	127
(WY)	(1966)	(1966)	(1966)	(1965)	(1996)	(2003)	(1965)	(1965)	(1967)	(1965)	(1993)	(1965)
MIN	29.0	31.5	26.0	30.8	29.3	42.0	64.8	35.5	25.5	17.7	14.2	18.5
(WY)	(2004)	(1993)	(2002)	(1993)	(2001)	(2002)	(2000)	(1992)	(1992)	(2000)	(2000)	(2000)

06071300 LITTLE PRICKLY PEAR CREEK AT WOLF CREEK, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1962 - 2005*	
ANNUAL TOTAL	18,817		28,081			
ANNUAL MEAN	51.4		76.9		85.9	
HIGHEST ANNUAL MEAN					179	1965
LOWEST ANNUAL MEAN					35.2	2000
HIGHEST DAILY MEAN	218	May 27	1,020	May 11	2,440	Jun 9, 1964
LOWEST DAILY MEAN	18	Jan 27	20	Jan 15	10	Aug 13, 1992
ANNUAL SEVEN-DAY MINIMUM	22	Aug 12	28	Dec 30	11	Jul 29, 2000
MAXIMUM PEAK FLOW			1,150	May 11	3,110	Jun 9, 1964
MAXIMUM PEAK STAGE			5.85	May 11	7.65	Jun 9, 1964
INSTANTANEOUS LOW FLOW					a9.6	Aug 2, 2000
ANNUAL RUNOFF (AC-FT)	37,320		55,700		62,260	
10 PERCENT EXCEEDS	90		169		166	
50 PERCENT EXCEEDS	40		40		52	
90 PERCENT EXCEEDS	26		30		28	

*--During periods of operation (May 1962 to September 1967, October 1991 to current year).
a--Gage height, 2.54 ft.
e--Estimated.



06073500 DEARBORN RIVER NEAR CRAIG, MT

LOCATION.--Lat 47°11'57", long 112°05'44" (NAD 27), in NW$^1/_4$ NW$^1/_4$ SE$^1/_4$ sec.27, T. 17 N., R. 4 W., Lewis and Clark County, Hydrologic Unit 10030102, on left bank at upstream side of bridge on U.S. Highway 287, 7.0 mi downstream from South Fork Dearborn River, 10.5 mi northwest of Craig, 13.5 mi north of Wolf Creek, and at river mile 19.0.

DRAINAGE AREA.--325 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1969, October 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,800 ft (NGVD 29). Oct. 1, 1945 to Sept. 30, 1946, nonrecording gage; Oct. 1, 1946 to June 9, 1964, water-stage recorder on upstream side of bridge; June 10, 1964 to May 31, 1965, nonrecording gage; June 1, 1965 to Sept. 30 1969, water-stage recorder on downstream side of abandoned bridge 0.2 mi downstream, all at same previous elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	43	39	e25	59	41	60	302	460	195	44	21
2	48	44	43	e28	58	38	62	279	548	183	43	20
3	48	46	51	e30	57	36	65	284	574	175	42	20
4	48	47	47	e32	55	35	66	308	553	166	40	19
5	48	46	41	e30	54	35	65	333	537	157	38	18
6	46	44	44	e32	e40	35	63	425	553	146	35	18
7	45	44	49	e30	e35	33	64	607	520	138	28	18
8	45	45	48	e28	e40	34	72	849	461	132	27	18
9	45	45	46	e26	e45	33	83	812	420	126	26	17
10	45	45	46	e28	e60	33	86	2,460	388	126	24	20
11	45	46	49	e30	e55	33	87	3,050	368	118	26	21
12	45	46	46	e28	53	40	88	2,190	395	106	30	20
13	44	45	33	e25	51	38	90	1,630	397	98	36	21
14	44	46	61	e20	41	37	108	1,400	357	94	31	20
15	51	44	49	e18	37	37	102	1,390	348	91	28	19
16	49	43	45	e20	e35	37	98	1,430	338	86	27	19
17	49	43	45	e25	e35	39	99	1,450	366	87	26	26
18	49	43	44	e35	e35	36	106	1,220	359	87	27	33
19	48	44	44	e50	e35	38	128	1,080	326	80	29	29
20	50	45	41	e75	e30	37	135	1,020	302	75	26	29
21	49	38	37	e70	e35	39	140	925	289	74	24	30
22	47	43	e35	e60	e40	41	137	824	283	72	24	31
23	47	43	17	e70	e45	40	163	798	269	63	25	36
24	46	44	e30	77	e45	31	200	718	255	54	30	47
25	47	46	74	71	e40	33	309	639	242	55	27	49
26	47	44	59	67	e38	43	406	542	233	58	26	42
27	46	37	35	66	e37	50	456	506	232	53	24	39
28	45	40	42	67	e37	69	401	497	226	51	22	40
29	44	22	58	65	---	74	359	498	237	47	21	36
30	44	34	e50	63	---	67	343	463	212	44	22	35
31	44	---	e35	61	---	62	---	430	---	43	22	---
TOTAL	1,446	1,285	1,383	1,352	1,227	1,274	4,641	29,359	11,048	3,080	900	811
MEAN	46.6	42.8	44.6	43.6	43.8	41.1	155	947	368	99.4	29.0	27.0
MAX	51	47	74	77	60	74	456	3,050	574	195	44	49
MIN	44	22	17	18	30	31	60	279	212	43	21	17
AC-FT	2,870	2,550	2,740	2,680	2,430	2,530	9,210	58,230	21,910	6,110	1,790	1,610

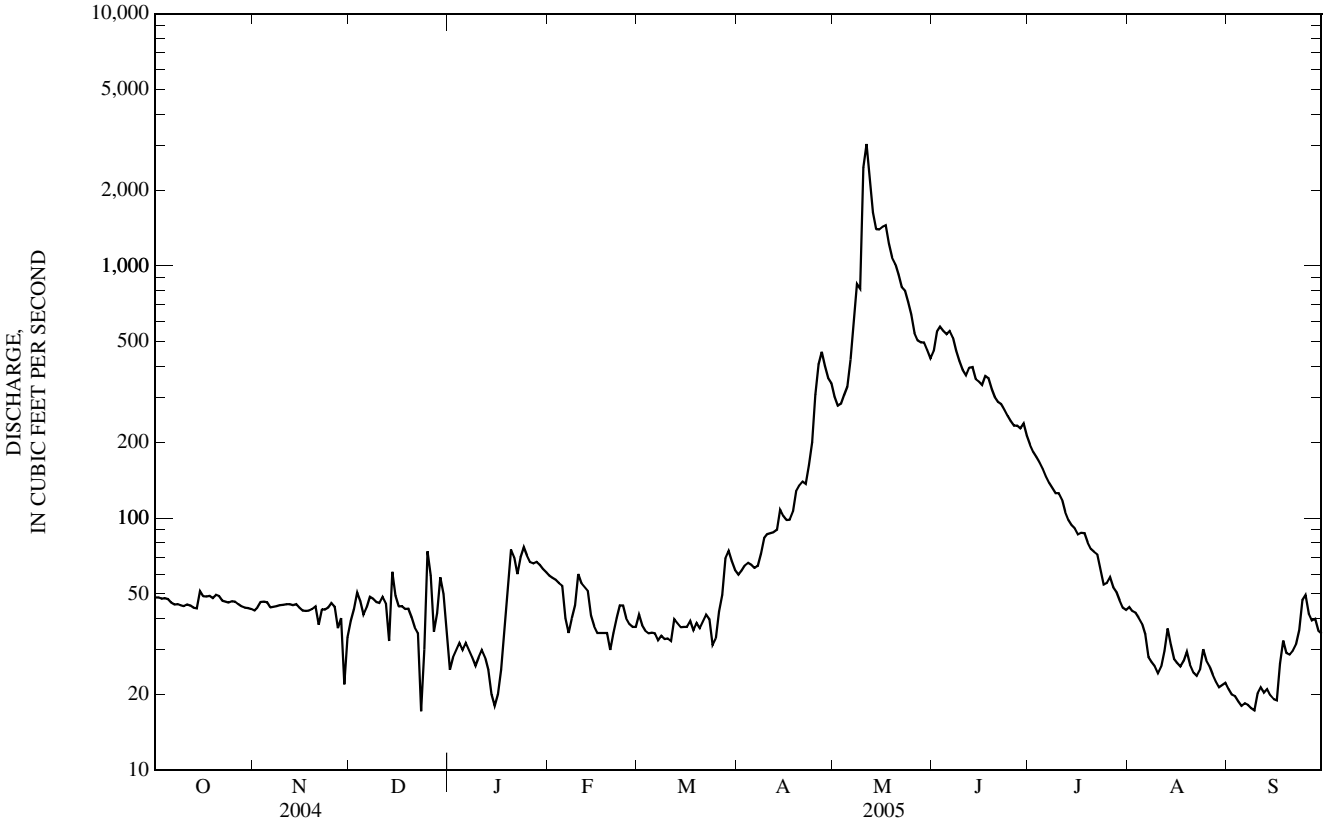
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2005, BY WATER YEAR (WY)*

MEAN	71.7	72.5	64.5	54.9	59.3	83.8	233	683	744	203	65.6	55.4
MAX	187	165	155	104	184	187	519	1,337	2,104	583	163	230
(WY)	(1966)	(1947)	(1947)	(1947)	(1996)	(1947)	(1969)	(1995)	(1964)	(1951)	(1951)	(1993)
MIN	17.0	33.8	23.9	22.2	22.5	33.8	51.0	135	113	27.2	13.1	18.8
(WY)	(1957)	(2002)	(2002)	(2002)	(2002)	(2002)	(1961)	(2000)	(2000)	(2000)	(2000)	(1956)

06073500 DEARBORN RIVER NEAR CRAIG, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1946 - 2005*	
ANNUAL TOTAL	40,177		57,806			
ANNUAL MEAN	110		158		199	
HIGHEST ANNUAL MEAN					363	1948
LOWEST ANNUAL MEAN					58.3	2000
HIGHEST DAILY MEAN	820	May 28	3,050	May 11	12,500	Jun 9, 1964
LOWEST DAILY MEAN	15	Jan 4	17	Dec 23	8.5	Aug 17, 1961
ANNUAL SEVEN-DAY MINIMUM	20	Jan 1	18	Sep 3	11	Aug 14, 1961
MAXIMUM PEAK FLOW			3,850	May 10	a15,400	Jun 9, 1964
MAXIMUM PEAK STAGE			7.60	May 10	b13.50	Jun 9, 1964
INSTANTANEOUS LOW FLOW			8.1	Nov 29	c8.0	Aug 17, 1961
ANNUAL RUNOFF (AC-FT)	79,690		114,700		144,200	
10 PERCENT EXCEEDS	264		412		535	
50 PERCENT EXCEEDS	47		46		72	
90 PERCENT EXCEEDS	30		26		34	

*--During periods of operation (October 1945 to September 1969, October 1993 to current year).
a--From rating curve extended above 7,000 ft^3/s on basis of slope-area measurement of peak flow.
b--From floodmark.
c--Site and datum then in use.
e--Estimated.



06073500 DEARBORN RIVER NEAR CRAIG, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August to September 1991, June 1999 to July 2003.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1993 to current year.

INSTRUMENTATION.--Temperature recorder installed Nov. 3, 1993.

REMARKS.--Daily water temperature records are rated excellent except for the period Sept. 11-30, which are good. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 28.5°C, Aug. 1, 2, 2000; minimum, 0.0°C on many days during winter.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 25.5°C, July 30 and Aug. 5, 6; minimum, 0.5°C, Apr. 29.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		APRIL			MAY			JUNE			JULY	
1	12.0	3.5	7.0	9.0	3.5	6.0	11.5	8.0	9.5	21.0	13.0	17.0
2	10.0	4.0	7.0	11.5	3.0	7.0	9.0	7.0	8.0	19.5	13.0	16.0
3	10.5	5.0	7.5	11.5	4.5	8.0	11.0	7.5	9.0	19.5	12.0	15.5
4	9.0	4.5	7.0	12.0	7.0	9.5	13.5	8.0	11.0	21.0	12.0	16.5
5	11.0	3.5	7.0	14.0	7.0	11.0	15.0	9.0	12.0	21.5	13.5	17.5
6	13.5	4.5	9.0	12.5	9.0	11.0	12.0	8.5	10.5	22.5	14.5	18.5
7	13.5	7.0	10.0	10.5	7.0	8.5	14.5	7.5	10.5	22.5	15.5	19.0
8	11.5	7.5	9.5	8.0	6.5	7.0	11.5	8.0	9.5	24.5	15.5	19.5
9	8.0	5.0	6.5	7.0	6.0	6.5	10.5	8.0	9.5	21.0	14.5	17.5
10	11.5	4.5	7.5	6.5	6.0	6.5	14.0	8.5	11.0	20.5	12.5	15.5
11	9.5	4.0	7.0	6.0	4.5	5.0	13.0	9.0	11.5	22.5	14.0	18.0
12	12.0	4.0	8.0	8.0	4.5	6.0	12.0	9.0	10.0	24.5	14.5	19.5
13	13.0	5.5	9.0	10.0	5.0	7.0	15.5	7.5	11.0	25.0	17.0	20.5
14	9.0	4.5	6.5	11.0	6.0	8.5	16.0	9.0	12.5	23.5	14.5	19.0
15	10.5	2.5	6.5	11.5	6.5	9.5	17.0	11.5	14.0	24.0	14.5	19.0
16	14.5	5.0	9.0	10.0	7.0	8.5	14.5	11.5	13.5	23.0	16.5	19.5
17	11.0	7.0	9.0	11.5	6.5	8.5	13.5	11.0	12.0	22.5	14.0	18.0
18	7.5	5.0	6.5	10.5	5.5	8.0	16.0	9.5	12.5	23.0	14.0	18.5
19	5.5	3.5	4.5	13.0	7.0	10.0	18.0	10.5	14.0	23.0	15.0	19.0
20	5.0	4.0	4.5	11.5	6.5	9.0	20.0	11.5	15.5	24.0	15.0	19.0
21	7.0	3.5	5.0	12.5	6.5	9.5	19.5	14.0	17.0	24.5	14.0	19.5
22	13.5	3.5	8.0	14.5	6.5	10.0	21.5	14.0	17.5	22.5	16.5	19.0
23	13.0	6.5	9.5	12.0	6.5	9.5	20.0	14.0	17.0	24.5	16.0	20.0
24	13.5	8.0	10.5	10.5	6.0	8.5	18.0	12.0	15.0	24.5	14.5	19.0
25	13.0	6.5	10.0	10.5	6.0	8.5	16.0	12.5	14.0	19.5	15.0	17.0
26	10.5	6.5	7.5	13.0	6.5	9.5	13.5	11.5	12.5	23.0	12.0	17.5
27	6.5	3.5	5.0	14.5	6.5	10.5	17.0	11.0	13.5	25.0	14.0	19.0
28	5.0	2.0	3.5	15.0	8.0	11.5	16.0	12.0	14.0	24.0	14.5	19.0
29	9.0	0.5	4.5	13.0	8.0	10.5	18.5	12.0	15.0	24.0	15.5	19.5
30	6.5	4.0	5.0	14.5	7.0	10.5	20.0	12.5	16.0	25.5	15.5	20.5
31	---	---	---	14.0	8.0	11.0	---	---	---	24.0	15.5	20.0
MONTH	14.5	0.5	7.0	15.0	3.0	85	21.5	7.0	12.5	25.5	12.0	18.5

06073500 DEARBORN RIVER NEAR CRAIG, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		AUGUST			SEPTEMBER							
1	25.0	17.0	20.5	21.5	11.5	16.0						
2	23.0	17.0	20.0	20.5	12.0	16.0						
3	25.0	16.5	20.0	21.5	13.0	17.0						
4	24.5	15.0	19.5	21.0	13.5	17.5						
5	25.5	16.0	20.5	21.0	13.5	17.0						
6	25.5	15.5	20.5	21.0	12.0	16.0						
7	24.5	17.0	20.5	21.0	12.0	16.5						
8	23.0	17.0	20.0	20.5	12.0	16.0						
9	25.0	16.5	20.5	18.0	13.5	15.5						
10	25.0	16.0	19.5	15.0	11.5	13.0						
11	21.0	16.5	18.0	17.0	9.0	12.5						
12	17.0	13.5	14.5	14.0	9.0	12.0						
13	19.5	12.0	15.5	18.0	10.5	13.5						
14	22.5	12.0	17.0	18.0	11.5	14.0						
15	24.0	13.0	18.0	18.0	10.5	14.0						
16	24.5	14.0	19.0	17.0	11.5	14.0						
17	20.0	14.5	17.0	13.5	12.0	13.0						
18	19.5	13.5	15.5	17.5	10.0	13.0						
19	22.5	12.0	17.0	17.0	11.0	13.5						
20	23.5	12.5	18.0	17.5	11.0	14.0						
21	24.5	13.5	18.5	17.0	10.5	13.5						
22	22.0	14.5	18.0	14.5	9.5	12.0						
23	22.5	16.0	19.0	12.5	9.5	10.5						
24	18.5	14.0	16.0	9.5	8.0	8.5						
25	21.0	12.0	16.0	14.0	6.5	9.5						
26	22.5	12.0	17.0	15.5	8.5	11.5						
27	23.5	12.5	18.0	12.5	9.0	10.5						
28	23.0	13.5	18.0	13.5	7.0	10.0						
29	22.0	13.5	17.5	14.0	8.5	11.0						
30	17.5	13.5	15.5	17.5	12.0	14.0						
31	21.0	11.0	15.5	---	---	---						
MONTH	25.5	11.0	18.0	21.5	6.5	13.5						

06076560 SMITH RIVER BELOW NEWLAN CREEK, NEAR WHITE SULPHUR SPRINGS, MT

LOCATION.--Lat 46°35'27", long 111°03'26" (NAD 27), in $NW^1/_4NE^1/_4NE^1/_4$ sec.35, T.10 N., R.5 E., Meagher County, Hydrologic Unit 10030103, on left bank 40 ft upstream from county road bridge, 0.3 mi downstream from Newlan Creek, 7.3 mi northwest of White Sulphur Springs, and at river mile 112.1.

DRAINAGE AREA.--517 mi^2.

PERIOD OF RECORD.--October 2004 to September 2005.

GAGE.--Water-stage recorder. Elevation of gage is 4,785 ft (NGVD 29).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by Smith River Reservoir (station number 06075000) and Newlan Creek Reservoir. Numerous diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	59	e45	e40	57	48	71	49	157	198	68	39
2	46	58	e45	e40	57	49	74	46	296	192	70	38
3	44	61	e45	e40	59	49	72	46	302	175	63	43
4	44	57	e45	e40	57	49	72	47	298	159	50	40
5	43	57	e50	e35	56	51	68	54	269	146	46	43
6	42	59	e50	e40	51	52	66	55	293	141	43	43
7	42	60	e50	e50	e45	48	63	58	342	153	41	45
8	42	60	e50	e45	e45	53	65	60	327	151	40	45
9	41	60	e55	e40	e50	54	63	63	304	144	39	47
10	41	59	62	e45	e55	57	61	85	285	149	37	49
11	41	57	64	e45	e60	51	59	92	267	147	37	54
12	44	e50	59	e45	e55	51	56	92	278	135	33	55
13	45	e45	e50	e40	53	51	51	95	326	129	37	57
14	45	e45	e50	e30	e50	50	52	90	282	130	40	57
15	57	e45	e55	e25	e45	50	50	94	277	123	36	55
16	57	e50	e55	e30	e45	51	49	108	285	125	33	56
17	56	e50	e55	e40	e45	52	49	131	305	125	31	62
18	55	e50	e55	e60	e45	51	56	133	323	123	33	66
19	59	e45	60	e80	e40	53	71	153	292	114	32	63
20	59	e40	e50	e70	e35	54	69	169	264	99	30	55
21	62	e35	e40	e60	e30	57	62	204	239	94	29	56
22	64	e40	e35	e50	e30	61	61	202	233	94	29	56
23	62	e40	e30	e60	e35	41	61	208	233	118	29	57
24	61	e45	e35	e60	e40	54	59	181	199	112	32	80
25	59	e45	e45	e60	e45	79	55	160	166	99	39	81
26	58	e40	e45	e60	e45	82	54	148	167	103	39	69
27	61	e40	e45	e60	e45	66	55	133	208	97	34	62
28	61	e35	e45	e60	49	129	53	121	219	89	32	58
29	61	e35	e45	64	---	124	50	103	218	84	32	59
30	59	e40	e40	59	---	90	50	105	233	80	33	56
31	58	---	e40	62	---	75	---	106	---	71	41	---
TOTAL	1,611	1,462	1,495	1,535	1,324	1,882	1,797	3,391	7,887	3,899	1,208	1,646
MEAN	52.0	48.7	48.2	49.5	47.3	60.7	59.9	109	263	126	39.0	54.9
MAX	64	61	64	80	60	129	74	208	342	198	70	81
MIN	41	35	30	25	30	41	49	46	157	71	29	38
AC-FT	3,200	2,900	2,970	3,040	2,630	3,730	3,560	6,730	15,640	7,730	2,400	3,260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2005, BY WATER YEAR (WY)

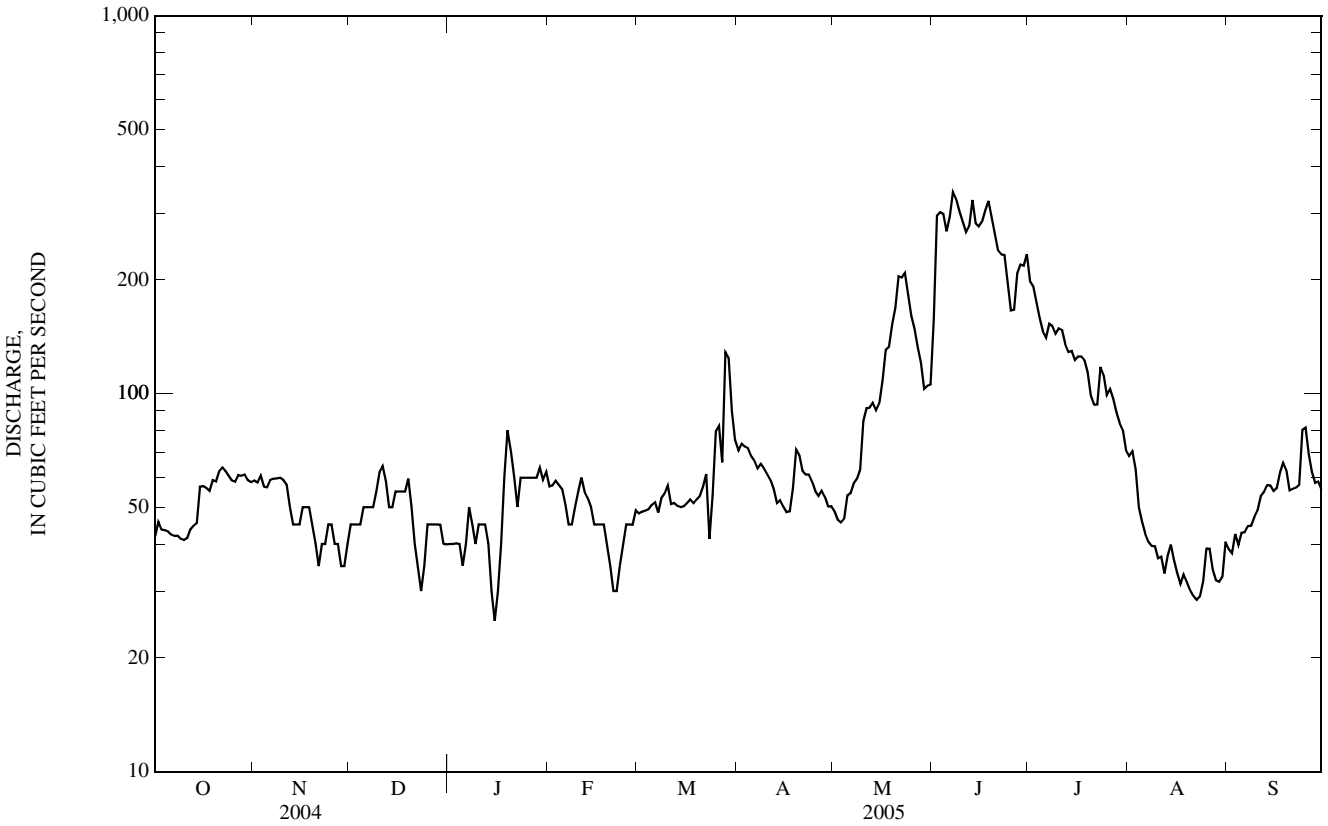
MEAN	52.0	48.7	48.2	49.5	47.3	60.7	59.9	109	263	126	39.0	54.9
MAX	52.0	48.7	48.2	49.5	47.3	60.7	59.9	109	263	126	39.0	54.9
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)
MIN	52.0	48.7	48.2	49.5	47.3	60.7	59.9	109	263	126	39.0	54.9
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)

SUMMARY STATISTICS FOR 2005 WATER YEAR

ANNUAL TOTAL	29,137	
ANNUAL MEAN	79.8	
HIGHEST DAILY MEAN	342	Jun 7
LOWEST DAILY MEAN	25	Jan 15
ANNUAL SEVEN-DAY MINIMUM	30	Aug 17
MAXIMUM PEAK FLOW	a364	Jun 7
MAXIMUM PEAK STAGE	b4.90	Jan 5
ANNUAL RUNOFF (AC-FT)	57,790	
10 PERCENT EXCEEDS	166	
50 PERCENT EXCEEDS	56	
90 PERCENT EXCEEDS	39	

a--Gage height, 3.71 ft.
b--About, backwater from ice.
e--Estimated.

06076560 SMITH RIVER BELOW NEWLAN CREEK, NEAR WHITE SULPHUR SPRINGS, MT—Continued



06077200 SMITH RIVER BELOW EAGLE CREEK, NEAR FORT LOGAN, MT

LOCATION.--Lat 46°49'41", long 111°11'29" (NAD 27), in $SW^1/_4NW^1/_4SE^1/_4$ sec.2, T.12 S., R.4 E., Meagher County, Hydrologic Unit 10030103, on right bank at downstream side of private bridge, 0.6 mi downstream from Eagle Creek, 11.3 mi north of Fort Logan, and at river mile 80.8.

DRAINAGE AREA.--1,088 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1996 to current year.

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

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow slightly regulated by Smith River Reservoir (station number 06075000). Diversion for irrigation of about 19,300 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	106	e90	e60	e100	e110	160	253	461	595	163	115
2	120	132	e95	e60	e95	e110	209	241	757	553	167	110
3	122	133	e100	e60	e95	e110	263	232	1,420	523	170	104
4	119	107	e100	e65	e95	e110	239	234	1,650	476	155	104
5	120	112	e95	e70	e95	e110	211	261	1,470	438	138	102
6	116	137	e100	e80	e90	e120	212	352	1,430	402	129	104
7	114	137	e100	e90	e90	e120	261	479	1,580	379	121	103
8	113	131	e100	e85	e90	145	268	556	1,430	376	121	108
9	113	130	e110	e80	e100	159	250	562	1,310	366	128	109
10	112	129	e120	e80	e110	e170	207	579	1,240	400	122	105
11	108	110	e120	e85	e120	184	191	592	1,150	382	123	106
12	107	103	e110	e85	e110	151	200	524	1,130	351	120	110
13	110	101	e90	e75	e100	130	231	482	1,340	308	123	115
14	110	e95	e100	e60	e90	120	253	456	1,140	304	123	118
15	121	e95	e100	e50	e90	121	204	476	1,080	276	122	118
16	137	e100	e100	e60	e90	122	207	542	1,020	261	117	117
17	142	e100	e100	e70	e95	119	230	659	994	274	114	124
18	140	e95	e100	e90	e95	e100	250	646	985	274	126	137
19	135	e100	e110	e110	e90	e110	243	673	915	255	124	134
20	137	e95	e90	e130	e80	122	241	713	819	231	119	127
21	138	e85	e80	e120	e80	121	223	857	741	207	116	120
22	147	e95	e60	e120	e90	125	214	825	688	200	113	124
23	142	e100	e55	e110	e100	125	244	818	659	205	111	126
24	135	e100	e60	e120	e100	e100	278	751	605	209	119	153
25	126	e100	e80	e120	e100	e90	343	675	552	198	120	169
26	123	e90	e75	e110	e100	e110	369	617	532	198	120	152
27	133	e80	e75	e110	e100	142	362	542	620	197	112	139
28	134	e75	e75	e100	e110	190	326	474	660	190	106	131
29	131	e80	e75	e100	---	271	291	440	616	179	101	127
30	130	e85	e70	e100	---	225	278	420	624	176	98	126
31	126	---	e65	e100	---	170	---	405	---	168	111	---
TOTAL	3,880	3,138	2,800	2,755	2,700	4,212	7,458	16,336	29,618	9,551	3,852	3,637
MEAN	125	105	90.3	88.9	96.4	136	249	527	987	308	124	121
MAX	147	137	120	130	120	271	369	857	1,650	595	170	169
MIN	107	75	55	50	80	90	160	232	461	168	98	102
AC-FT	7,700	6,220	5,550	5,460	5,360	8,350	14,790	32,400	58,750	18,940	7,640	7,210

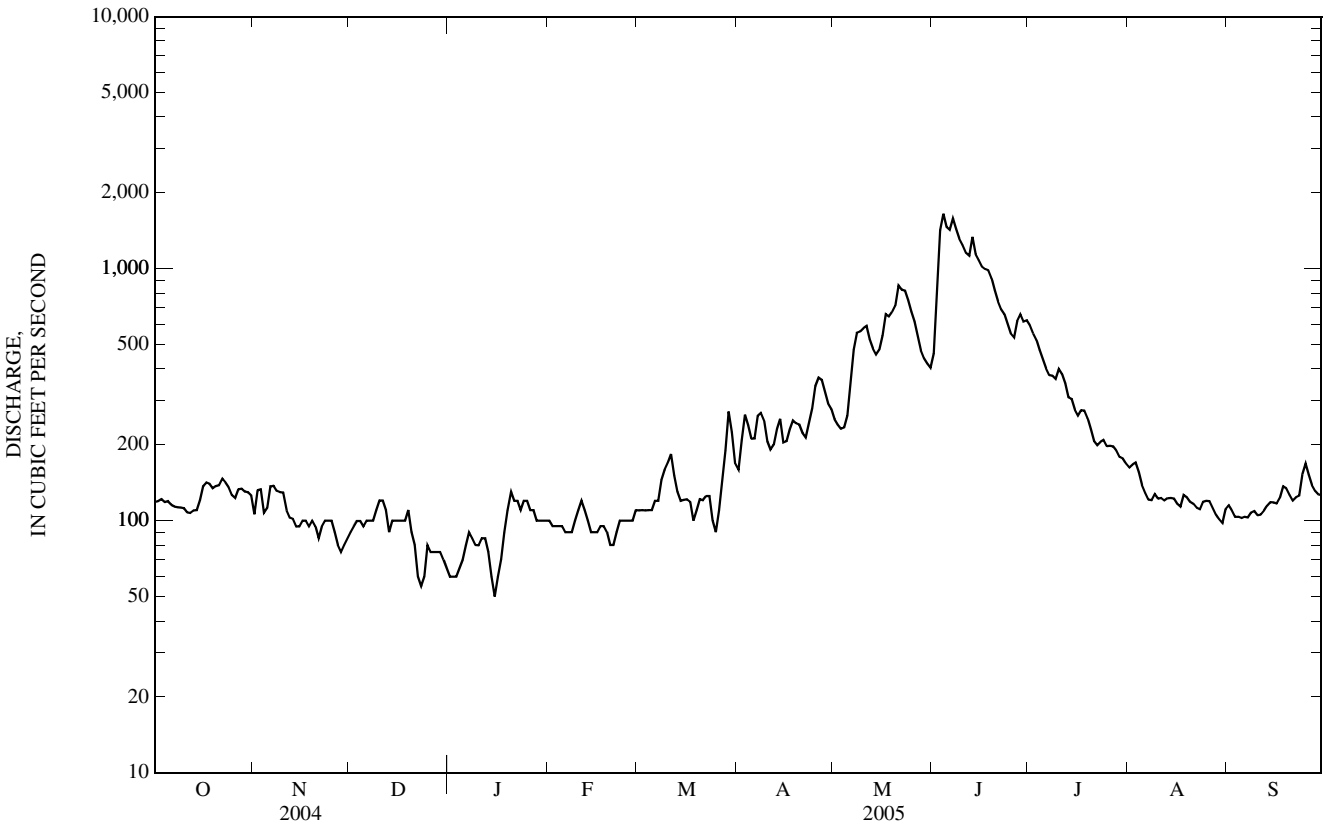
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2005, BY WATER YEAR (WY)

MEAN	122	120	104	115	105	163	247	466	632	255	114	108
MAX	213	185	167	249	145	281	432	1,119	1,893	607	276	219
(WY)	(1998)	(1999)	(1998)	(1997)	(1997)	(2003)	(2003)	(1997)	(1997)	(1998)	(1997)	(1997)
MIN	67.0	73.6	65.8	66.9	65.8	71.5	134	249	152	83.6	43.7	53.6
(WY)	(2002)	(2002)	(2004)	(2002)	(2002)	(2002)	(2002)	(2002)	(2001)	(2003)	(2000)	(2001)

06077200 SMITH RIVER BELOW EAGLE CREEK, NEAR FORT LOGAN, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1997 - 2005	
ANNUAL TOTAL	69,414		89,937			
ANNUAL MEAN	190		246		213	
HIGHEST ANNUAL MEAN					458	1997
LOWEST ANNUAL MEAN					109	2001
HIGHEST DAILY MEAN	1,650	Jun 12	1,650	Jun 4	3,510	Jun 12, 1997
LOWEST DAILY MEAN	30	Jan 5	50	Jan 15	30	Jan 5, 2004
ANNUAL SEVEN-DAY MINIMUM	41	Jan 1	64	Dec 30	32	Aug 25, 2000
MAXIMUM PEAK FLOW			1,780	Jun 4	a3,900	Jun 12, 1997
MAXIMUM PEAK STAGE			5.88	Jun 4	b9.30	Jan 1, 1997
INSTANTANEOUS LOW FLOW					c28	Aug 26, 2000
ANNUAL RUNOFF (AC-FT)	137,700		178,400		154,200	
10 PERCENT EXCEEDS	382		609		438	
50 PERCENT EXCEEDS	121		123		126	
90 PERCENT EXCEEDS	72		90		68	

a--Gage height, 7.00 ft.
b--Backwater from ice.
c--Gage height, 2.65 ft.
e--Estimated.



06077200 SMITH RIVER BELOW EAGLE CREEK, NEAR FORT LOGAN, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--Water years 1997 to present. Data for water years 1997 to 2001 not published.

INSTRUMENTATION.--Water temperature recorder installed Nov. 4, 1997.

REMARKS.--Daily water temperature record good. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 27.5°C, July 14, 2002; minimum 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 23.5°C, Aug.7; minimum 0.0°C, many days November through March.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.0	7.0	9.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2	12.0	6.0	8.5	3.0	0.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
3	11.5	6.0	8.5	3.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
4	11.5	5.5	8.5	3.0	0.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
5	11.0	5.5	8.0	3.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
6	10.0	5.0	7.5	3.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
7	11.5	8.0	9.5	5.0	2.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
8	11.0	5.5	8.0	5.5	2.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0
9	11.0	7.0	9.0	4.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
10	11.0	7.5	9.0	4.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
11	9.5	4.5	7.0	2.5	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
12	8.0	5.5	7.0	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
13	10.0	5.5	8.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	6.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	10.0	7.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	8.5	7.5	8.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
17	7.5	4.5	5.0	2.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
18	5.0	3.0	4.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	6.0	1.5	3.5	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
20	6.0	2.5	4.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	7.0	4.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	6.5	4.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
23	5.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	4.5	2.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	4.5	0.5	2.5	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
26	3.5	0.5	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	4.5	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	4.0	1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	4.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	4.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	3.5	1.5	2.0	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
MONTH	12.0	0.5	6.0	5.5	0.0	1.0	0.5	0.0	0.0	0.5	0.0	0.0

06077200 SMITH RIVER BELOW EAGLE CREEK, NEAR FORT LOGAN, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.0	0.0	0.0	0.0	0.0	0.0	7.0	2.0	4.5	8.0	1.5	4.5
2	0.0	0.0	0.0	0.5	0.0	0.0	7.5	3.5	5.0	9.5	2.5	6.0
3	0.0	0.0	0.0	1.5	0.0	0.5	5.5	2.5	3.5	10.0	4.0	7.0
4	0.0	0.0	0.0	2.0	0.0	0.5	5.5	2.5	4.0	10.5	6.0	8.5
5	0.0	0.0	0.0	3.0	0.0	0.5	8.0	2.5	5.0	12.5	7.5	10.0
6	0.0	0.0	0.0	2.5	0.0	1.0	10.0	2.5	5.5	11.5	8.0	10.0
7	0.0	0.0	0.0	2.0	0.0	0.5	8.0	3.0	5.0	10.0	7.0	8.5
8	0.0	0.0	0.0	4.0	0.5	1.5	7.0	3.5	4.5	9.5	6.5	8.0
9	0.0	0.0	0.0	4.5	0.5	2.5	4.0	3.0	3.5	8.5	6.5	7.5
10	0.0	0.0	0.0	4.0	1.0	2.5	7.5	2.5	4.5	7.5	6.0	7.0
11	0.0	0.0	0.0	2.5	1.0	2.0	7.5	1.5	4.5	6.5	5.5	5.5
12	0.0	0.0	0.0	2.5	1.0	2.0	10.0	2.5	6.0	6.0	3.5	5.0
13	0.0	0.0	0.0	2.5	0.5	1.0	9.0	3.5	6.5	9.5	4.0	6.5
14	0.0	0.0	0.0	3.5	0.0	1.5	6.0	2.5	4.0	11.5	7.0	9.0
15	0.0	0.0	0.0	4.5	0.5	2.5	7.5	0.5	3.5	12.0	8.5	10.5
16	0.0	0.0	0.0	4.0	2.0	3.0	10.0	2.0	5.5	11.5	9.0	10.5
17	0.0	0.0	0.0	3.0	0.5	1.5	8.5	4.5	6.5	11.0	8.0	9.0
18	0.0	0.0	0.0	2.5	0.0	1.0	6.0	3.5	5.0	11.0	5.5	8.0
19	0.0	0.0	0.0	3.0	0.0	1.0	5.0	3.0	4.0	12.0	8.0	10.0
20	0.0	0.0	0.0	3.0	0.5	1.5	4.0	3.0	3.5	12.0	8.0	10.0
21	0.0	0.0	0.0	6.0	2.0	4.0	5.0	2.5	3.5	11.0	7.5	9.5
22	0.0	0.0	0.0	4.5	0.5	3.0	10.5	3.0	6.0	12.5	7.5	10.0
23	0.0	0.0	0.0	0.5	0.0	0.0	10.0	5.0	7.5	12.0	8.5	10.5
24	0.0	0.0	0.0	0.0	0.0	0.0	11.5	6.0	8.5	11.0	8.0	10.0
25	0.0	0.0	0.0	1.0	0.0	0.5	10.5	5.0	7.5	10.0	7.0	8.5
26	0.0	0.0	0.0	2.0	0.0	1.0	8.0	5.0	6.5	11.0	6.0	8.5
27	0.0	0.0	0.0	6.0	2.0	4.0	6.0	3.5	4.5	13.5	6.5	10.0
28	0.0	0.0	0.0	6.0	3.5	4.5	6.0	1.5	3.5	14.5	8.5	11.5
29	---	---	---	3.5	2.0	2.5	6.5	0.5	3.5	12.5	8.5	10.5
30	---	---	---	4.0	1.5	2.5	5.5	1.5	3.5	11.5	7.5	9.5
31	---	---	---	6.0	1.0	3.5	---	---	---	13.5	7.0	10.5
MONTH	0.0	0.0	0.0	6.0	0.0	1.5	11.5	0.5	5.0	14.5	1.5	8.5
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.5	8.0	10.0	18.5	13.5	15.5	22.5	16.5	19.5	17.5	9.5	13.0
2	8.0	7.0	7.0	17.5	13.5	15.5	20.5	17.5	19.0	16.5	10.5	13.5
3	8.5	6.5	7.5	17.5	12.5	15.0	22.0	16.0	19.0	19.0	11.0	14.5
4	11.0	7.5	9.0	19.0	12.5	16.0	22.5	15.5	19.0	18.5	12.5	15.5
5	13.5	8.0	10.5	20.5	14.0	17.5	22.5	15.5	19.0	17.5	12.5	15.0
6	12.0	9.5	10.5	21.0	16.0	18.5	23.0	15.5	19.0	18.5	11.5	15.0
7	12.0	7.0	9.5	21.0	16.0	19.0	23.5	16.5	20.0	18.5	11.5	15.0
8	11.0	8.0	9.0	22.0	16.5	19.5	20.0	17.5	18.5	18.0	11.0	14.5
9	10.0	7.5	9.0	20.5	17.0	18.5	22.0	14.5	18.0	16.0	11.5	14.0
10	11.0	8.0	9.5	18.5	15.0	16.5	20.5	15.5	18.0	13.0	10.5	12.0
11	12.0	8.0	10.0	20.5	15.0	17.5	21.5	15.0	18.0	15.0	7.5	10.5
12	11.5	8.0	9.0	22.0	15.0	19.0	17.5	12.0	14.0	11.0	7.0	9.5
13	12.5	7.0	9.5	22.0	17.0	19.5	15.5	11.0	12.5	14.0	9.0	11.0
14	14.5	9.0	12.0	22.0	16.0	19.5	18.5	9.0	13.5	14.5	9.0	11.0
15	14.5	11.0	13.0	22.5	15.5	19.0	20.0	11.5	15.5	15.5	8.5	12.0
16	15.5	12.0	13.5	22.0	18.0	19.5	20.5	13.0	16.5	13.5	9.5	11.5
17	16.0	12.5	14.0	19.5	15.5	17.5	18.0	13.5	16.0	11.5	10.5	11.0
18	15.5	12.0	14.0	20.5	14.0	17.5	18.0	12.5	15.0	12.5	10.0	11.0
19	16.0	10.5	13.0	21.5	15.0	18.5	19.0	11.5	15.0	13.0	8.0	10.0
20	18.5	12.0	15.0	22.5	15.0	18.5	19.5	11.0	15.0	15.0	8.0	11.0
21	18.0	14.0	16.0	23.0	15.0	19.0	21.0	12.0	16.0	13.0	9.5	11.5
22	18.5	14.0	16.5	21.5	17.0	19.0	18.5	13.5	16.0	13.5	7.0	10.5
23	18.5	14.5	16.5	22.5	16.5	19.5	20.5	14.5	17.0	11.0	8.0	9.0
24	18.0	13.0	15.5	22.5	15.5	19.0	16.5	13.5	15.0	8.0	7.0	7.5
25	17.5	13.5	15.5	18.5	14.0	15.5	17.5	11.0	14.0	11.5	6.5	8.5
26	15.5	12.5	14.0	19.0	11.5	15.0	18.0	10.5	14.5	12.5	6.5	9.5
27	16.0	11.5	14.0	20.5	13.0	17.0	19.0	11.0	15.0	11.5	8.0	9.5
28	14.5	12.5	14.0	20.5	14.5	18.0	20.0	11.5	15.5	12.0	6.5	9.0
29	15.5	12.0	13.5	21.5	15.0	18.0	19.5	12.0	16.0	11.5	7.0	9.5
30	17.5	12.0	14.5	23.0	16.0	19.5	16.0	11.5	13.5	13.0	10.0	11.5
31	---	---	---	22.0	16.0	19.5	17.0	9.0	12.5	---	---	---
MONTH	18.5	6.5	12.0	23.0	11.5	18.0	23.5	9.0	16.3	19.0	6.5	11.5

06078200 MISSOURI RIVER NEAR ULM, MT

LOCATION.--Lat 47°26'09", long 111°23'12" (NAD 27), in NE$^1/_4$ NW$^1/_4$ NW$^1/_4$ sec.5, T.19 N., R.3 E., Cascade County, Hydrologic Unit 10030102, on left bank 5.6 mi east of Ulm, 9.1 mi downstream from Smith River, and at river mile 2,140.4.

DRAINAGE AREA.--20,941 mi^2.

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,313.27 ft (NGVD 29).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by 10 smaller irrigation reservoirs and power plants, Clark Canyon Reservoir (station number 06015300), and Canyon Ferry Lake (station number 06058500). Diversions for irrigation of about 630,400 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1953 reached a stage of about 17 ft; discharge, 35,000 ft^3/s. Flood in June 1948 reached a stage of about 16 ft; discharge, 32,000 ft^3/s, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,940	3,790	3,310	e3,800	3,490	3,350	3,280	4,280	4,150	7,980	4,380	4,520
2	2,990	3,830	e3,250	e3,900	3,500	3,330	3,200	4,180	4,530	7,850	4,400	4,480
3	2,990	3,660	e3,250	e4,000	3,480	3,320	3,160	4,060	5,770	7,620	4,430	4,350
4	2,980	3,610	3,230	e4,000	3,500	3,320	3,250	4,030	7,900	7,460	4,390	4,250
5	2,990	3,580	3,240	e4,000	3,500	3,310	3,300	4,030	8,660	7,380	4,310	4,240
6	2,990	3,520	3,280	e4,050	3,430	3,270	3,290	4,060	7,630	7,300	4,250	4,260
7	3,000	3,510	3,310	e4,050	3,400	3,220	3,280	4,160	7,170	7,190	4,230	4,270
8	3,000	3,550	e3,350	e3,950	e3,400	3,220	3,300	4,500	7,080	6,920	4,180	4,270
9	3,020	3,540	e3,350	e3,950	e3,350	3,190	3,360	4,850	6,780	6,600	4,220	4,250
10	2,990	3,530	e3,350	e3,950	e3,300	3,140	3,390	5,060	6,440	6,650	4,200	4,270
11	3,020	3,520	e3,350	e3,900	e3,300	3,190	3,360	6,680	6,080	6,900	4,110	4,270
12	3,040	3,530	3,380	e3,850	e3,300	3,250	3,290	8,420	5,920	7,030	4,150	4,290
13	3,080	3,520	3,340	e3,850	3,350	3,310	3,260	7,730	6,070	6,750	4,260	4,310
14	3,070	3,520	3,370	e3,850	3,270	3,420	3,420	6,780	6,300	6,160	4,290	4,300
15	3,130	3,530	3,370	e3,850	3,240	3,390	3,520	6,260	5,950	5,770	4,430	4,280
16	3,170	3,560	3,430	e3,850	3,280	3,310	3,530	6,070	5,650	5,410	4,480	4,280
17	3,170	3,640	3,430	e4,000	3,290	3,240	3,470	6,170	5,730	4,910	4,420	4,410
18	3,280	3,630	3,420	e4,100	3,320	3,230	3,450	6,320	6,680	4,720	4,320	4,590
19	3,380	3,550	3,470	e4,250	3,320	3,220	3,530	6,150	7,840	4,660	4,200	4,780
20	3,430	3,540	3,410	e4,200	3,310	3,210	3,680	5,890	8,240	4,580	4,130	4,580
21	3,510	3,530	3,410	e4,100	3,260	3,230	3,950	5,800	8,090	4,550	4,090	4,360
22	3,640	3,480	3,400	e4,000	3,260	3,210	4,020	5,660	7,880	4,520	4,070	4,330
23	3,780	3,460	e3,400	e4,000	3,250	3,250	3,950	5,510	7,690	4,510	4,050	4,310
24	3,960	3,500	e3,400	e4,100	3,280	3,300	3,990	5,410	7,810	4,450	4,100	4,390
25	3,960	3,490	e3,400	e4,100	3,360	3,370	4,030	5,250	8,010	4,450	4,090	4,470
26	3,830	3,480	e3,400	e4,000	3,380	3,420	4,110	5,010	7,540	4,470	4,060	4,440
27	3,820	3,490	e3,400	e3,900	3,360	3,440	4,330	4,810	7,400	4,480	4,050	4,390
28	3,870	3,450	e3,400	3,720	3,340	3,390	4,490	4,650	7,720	4,440	4,030	4,410
29	3,840	3,420	e3,400	3,610	---	3,330	4,470	4,500	7,970	4,360	4,020	4,460
30	3,710	3,360	e3,500	3,570	---	3,320	4,340	4,330	8,040	4,350	4,060	4,380
31	3,670	---	e3,700	3,560	---	3,320	---	4,190	---	4,360	4,320	---
TOTAL	103,250	106,320	104,700	122,010	93,820	102,020	109,000	164,800	208,720	178,780	130,720	131,190
MEAN	3,331	3,544	3,377	3,936	3,351	3,291	3,633	5,316	6,957	5,767	4,217	4,373
MAX	3,960	3,830	3,700	4,250	3,500	3,440	4,490	8,420	8,660	7,980	4,480	4,780
MIN	2,940	3,360	3,230	3,560	3,240	3,140	3,160	4,030	4,150	4,350	4,020	4,240
AC-FT	204,800	210,900	207,700	242,000	186,100	202,400	216,200	326,900	414,000	354,600	259,300	260,200

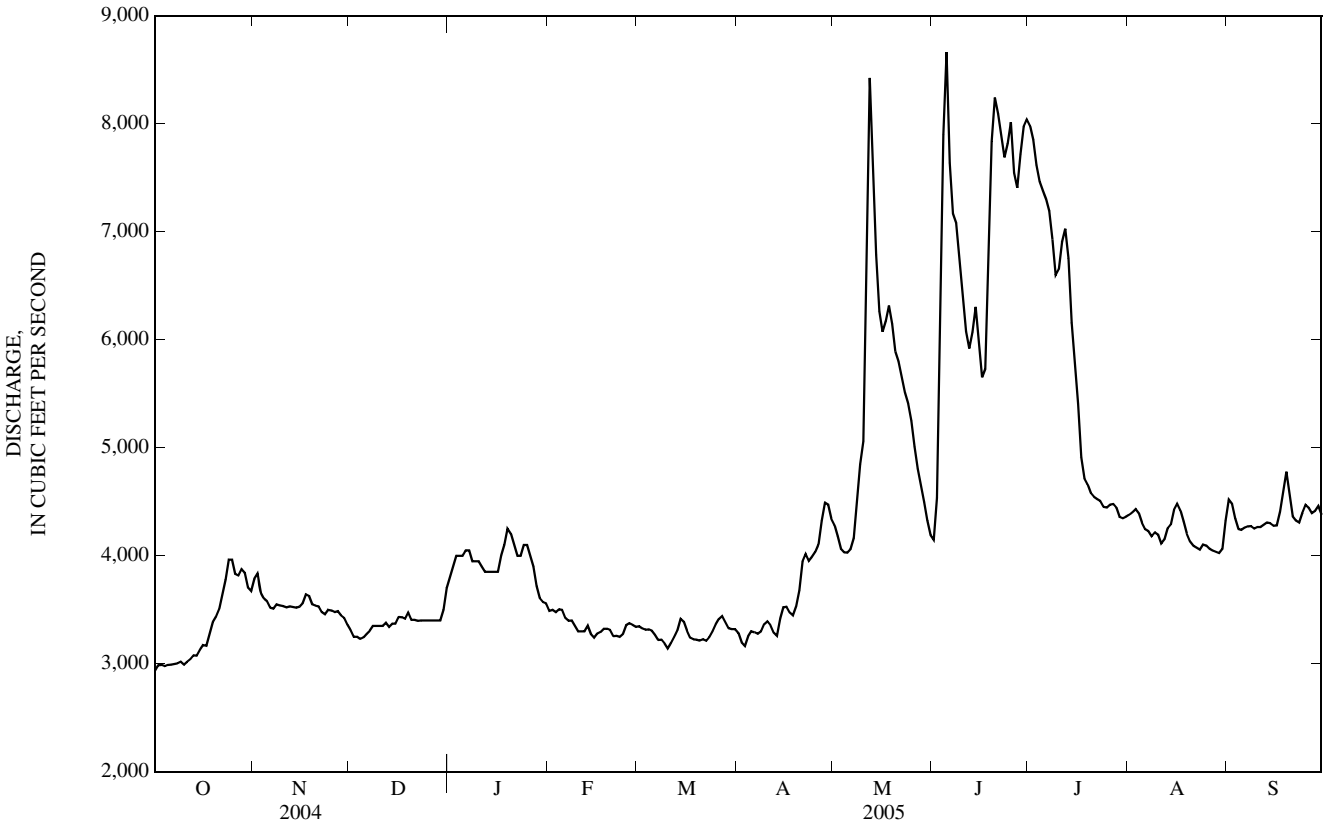
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2005, BY WATER YEAR (WY)

MEAN	4,860	5,226	5,446	5,566	5,667	5,794	6,416	8,784	10,660	7,253	4,802	4,570
MAX	11,230	9,497	10,690	7,213	9,501	9,652	12,070	19,800	24,260	19,480	8,741	9,990
(WY)	(1966)	(1966)	(1960)	(1984)	(1996)	(1968)	(1976)	(1976)	(1981)	(1975)	(1993)	(1984)
MIN	2,977	3,090	3,095	3,129	3,096	3,152	3,070	3,501	2,965	2,868	2,968	2,283
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1961)	(1961)	(1961)	(1985)	(2004)	(1959)

06078200 MISSOURI RIVER NEAR ULM, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1957 - 2005	
ANNUAL TOTAL	1,329,400		1,555,330			
ANNUAL MEAN	3,632		4,261		6,253	
HIGHEST ANNUAL MEAN					9,653	1976
LOWEST ANNUAL MEAN					3,479	2002
HIGHEST DAILY MEAN	5,820	May 28	8,660	Jun 5	28,200	May 24, 1981
LOWEST DAILY MEAN	2,720	Aug 2	2,940	Oct 1	1,700	Jun 17, 1961
ANNUAL SEVEN-DAY MINIMUM	2,740	Jul 28	2,980	Oct 1	2,150	Sep 4, 1959
MAXIMUM PEAK FLOW			8,970	Jun 5	a28,500	May 24, 1981
MAXIMUM PEAK STAGE			6.80	Jun 5	15.20	Jun 17, 1997
ANNUAL RUNOFF (AC-FT)	2,637,000		3,085,000		4,530,000	
10 PERCENT EXCEEDS	4,170		6,500		9,780	
50 PERCENT EXCEEDS	3,620		3,950		5,430	
90 PERCENT EXCEEDS	2,910		3,250		3,360	

a--Gage height, 14.99 ft.
e--Estimated.



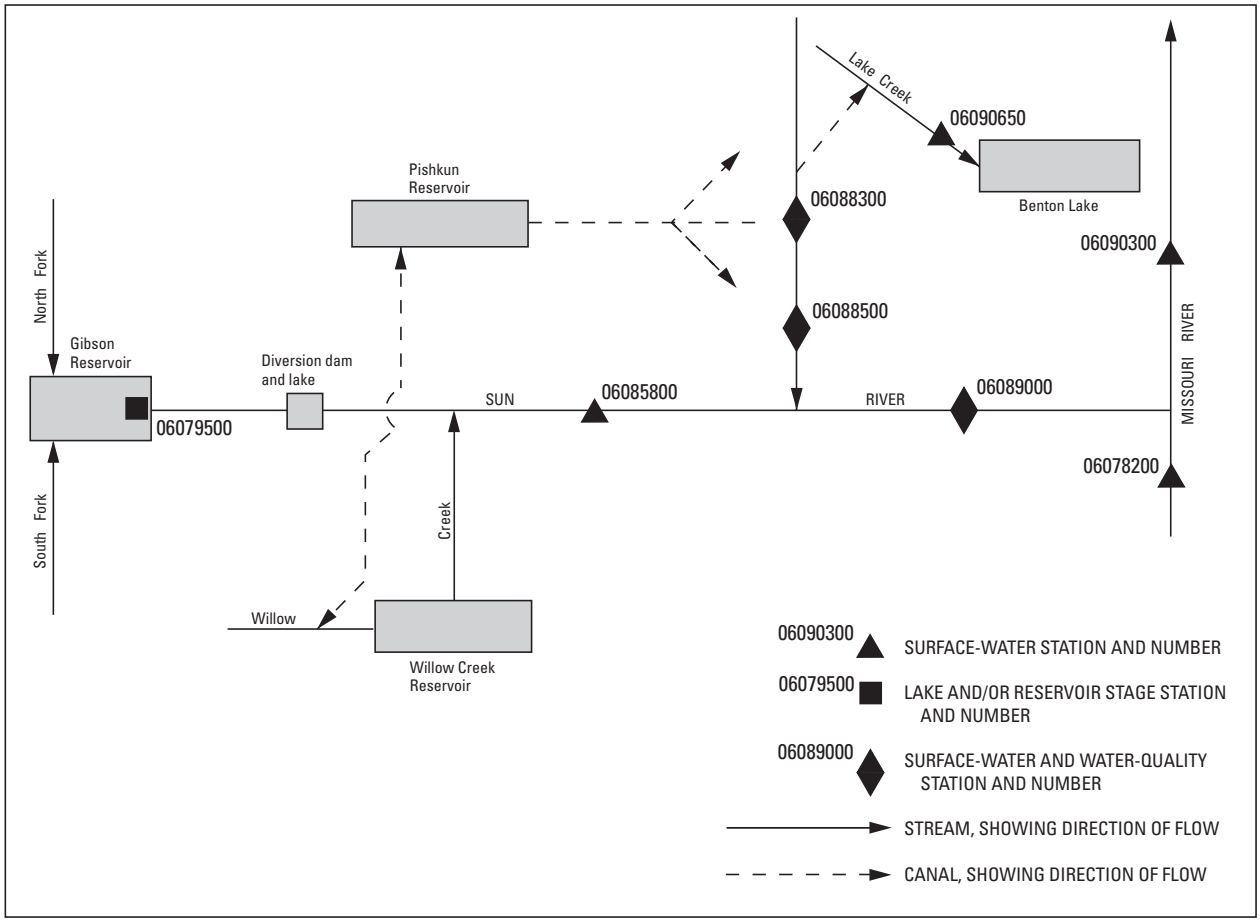


Figure 10. Schematic diagram showing diversions and storage in Sun River basin.

06085800 SUN RIVER AT SIMMS, MT

LOCATION.--Lat 47°30'09", long 111°55'54" (NAD 27), in $NW^1/_4NW^1/_4SE^1/_4$ sec.12, T. 20 N., R.3 W., Cascade County, Hydrologic Unit 10030104, on left bank on downstream side of Montana Secondary Highway 565 bridge, 0.7 mi downstream from Simms Creek, 0.7 mi north of Simms, and at river mile 45.0.

DRAINAGE AREA.--1,320 mi^2.

PERIOD OF RECORD.--May to June 1953 (in WSP 1320-B), May to June 1964 (in WSP 1840-B), April 1966 to September 1979, April 1997 to October 2004, April 2005 to October 2005, seasonal record only.

REVISED RECORDS.--WDR -75-1: 1964 (M).

GAGE.--Water-stage recorder. Elevation of gage is 3,570 ft (NGVD 29). May 1941 to October 1965, nonrecording gage at different elevation. April 1966 to September 1979, water-stage recorder at site about 500 ft downstream at different elevation.

REMARKS.--Seasonal records good. Flow regulated by Gibson, Pishkun, Willow Creek, and Nilan Reservoirs. Diversions for irrigation of about 105,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 2004 AND CALENDAR YEAR JANUARY TO DECEMBER 2005
DAILY MEAN VALUES

DAY	OCT 2004	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	107				103	106	385	119	61	98	144		
2	109				101	74	869	123	69	87	140		
3	110				102	68	746	120	78	61	133		
4	110				103	54	2,840	102	74	50	163		
5	95				100	52	2,600	66	69	46	165		
6	63				93	54	2,480	41	62	47	153		
7	44				84	49	2,330	47	60	51	145		
8	46				90	82	2,040	41	68	44	147		
9	48				93	129	993	43	73	43	152		
10	68				96	255	1,450	70	75	47	151		
11	79				97	921	2,050	86	79	56	148		
12	92				99	857	1,650	78	88	56	147		
13	108				101	675	1,510	82	95	84	145		
14	132				117	545	1,020	76	115	75	163		
15	190				116	557	781	66	122	52	180		
16	192				110	1,080	1,010	63	103	54	179		
17	156				109	2,870	1,550	64	84	74	178		
18	152				110	3,520	1,670	73	72	86	176		
19	150				117	2,760	1,480	60	58	76	177		
20	151				106	1,840	1,210	47	55	69	176		
21	159				143	1,550	932	45	51	66	170		
22	157				130	1,470	1,060	51	50	76	171		
23	155				119	1,300	882	52	45	87	172		
24	156				119	1,220	722	50	55	112	172		
25	155				81	755	302	62	55	132	170		
26	156				63	586	167	73	49	135	176		
27	162				58	528	164	67	46	150	186		
28	160				39	458	137	61	46	159	193		
29	162				53	438	122	53	55	149	183		
30	162				113	432	117	64	63	154	181		
31	157				---	482	---	67	83	---	180		
TOTAL	3,943				2,965	25,767	35,269	2,112	2,158	2,476	5,116		
MEAN	127				98.8	831	1,176	68.1	69.6	82.5	165		
MAX	192				143	3,520	2,840	123	122	159	193		
MIN	44				39	49	117	41	45	43	133		
AC-FT	7,820				5,880	51,110	69,960	4,190	4,280	4,910	10,150		

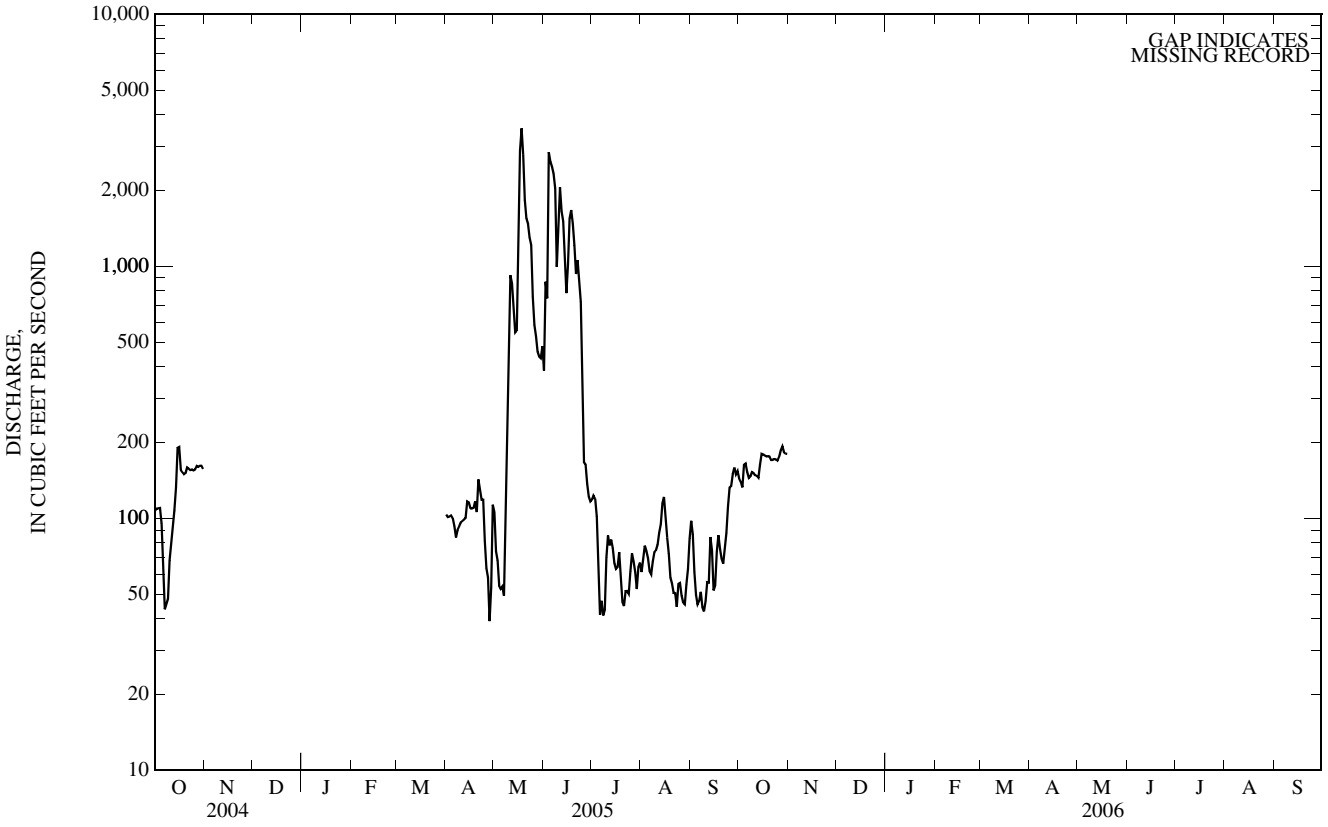
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2004 AND SEASON 2005*

MEAN	204	191	188	216	303	1,116	2,100	371	157	144	198	217	192
MAX	519	314	291	473	1,125	4,123	8,558	2,165	383	422	519	596	456
(WY)	(1972)	(1976)	(1976)	(1969)	(1969)	(1976)	(1975)	(1975)	(1972)	(1972)	(1972)	(1976)	(1976)
MIN	89.0	119	96.3	104	77.6	72.1	109	44.3	48.8	49.3	89.0	120	99.8
(WY)	(1978)	(2004)	(1977)	(1977)	(2004)	(2001)	1977)	(2003)	(2000)	(1977)	(1978)	(1978)	(2004)

06085800 SUN RIVER AT SIMMS, MT—Continued

SUMMARY STATISTICS	FOR 2005 SEASON		WATER YEARS 1964 - 2004*	
ANNUAL MEAN			449	
HIGHEST ANNUAL MEAN			1,177	1975
LOWEST ANNUAL MEAN			123	2001
HIGHEST DAILY MEAN	3,520	May 18	35,000	Jun 20, 1975
LOWEST DAILY MEAN	39	Apr 28	19	Sep 29, 1977
ANNUAL SEVEN-DAY MINIMUM			26	Sep 19, 1977
MAXIMUM PEAK FLOW	3,700	May 18	50,000	Jun 9, 1964
MAXIMUM PEAK STAGE	5.72	May 18	b13.70	Jun 9, 1964
INSTANTANEOUS LOW FLOW	a34	Apr 28		
ANNUAL RUNOFF (AC-FT)			325,400	
10 PERCENT EXCEEDS			811	
50 PERCENT EXCEEDS			179	
90 PERCENT EXCEEDS			80	

*--During periods of operation (May to June 1964 April 1966 to September 1979, April 1997 to October 2004, seasonal records April 2005 to October 2005).
a--Gage height, 0.75 ft.
b--About, from floodmark.
e--Estimated.



06088300 MUDDY CREEK NEAR VAUGHN, MT

LOCATION.--Lat 47°37'30", long 111°38'05" (NAD 27), in $NE^1/_4NE^1/_4NW^1/_4$ sec.32, T. 22 N., R.1 E., Cascade County, Hydrologic Unit 10030104, on left bank 200 ft downstream from bridge on county road 6.2 mi northwest of Vaughn and at river mile 14.6

DRAINAGE AREA.--282 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1968 to September 1987, March 1996 to October 2004, April 2005 to October 2005, seasonal records.

GAGE.--Water-stage recorder. Elevation of gage is 3,441.79 ft (NGVD 29) (levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge seasonal records good. Natural flow increased by wastage from Greenfield Irrigation Project. Diversions for irrigation of about 400 acres upstream from station and pumped diversions from Muddy Creek upstream from station in $SW^1/_4$ sec.2, T. 22 N., R.1 W, to supplement water supply for Benton Lake Wildlife Refuge. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 2004 AND CALENDAR YEAR JANUARY TO DECEMBER 2005
DAILY MEAN VALUES

DAY	OCT 2004	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	57				34	35	171	269	298	62	59		
2	67				34	34	362	251	262	60	58		
3	62				33	34	636	230	293	63	59		
4	60				33	34	460	268	250	60	60		
5	59				32	33	309	292	214	56	60		
6	57				31	33	465	226	234	53	55		
7	56				31	37	313	216	238	51	49		
8	55				32	34	245	238	230	52	48		
9	55				31	33	218	253	240	54	48		
10	53				31	36	215	234	207	61	47		
11	52				31	34	227	233	178	62	45		
12	55				30	32	220	215	230	57	45		
13	74				30	31	216	205	297	57	44		
14	51				38	30	179	241	273	57	43		
15	65				42	28	165	258	253	51	43		
16	56				34	34	168	261	213	48	43		
17	53				33	169	173	267	187	52	40		
18	52				35	104	161	269	161	55	39		
19	51				39	128	154	199	163	49	39		
20	61				38	144	142	198	156	46	39		
21	78				43	131	143	205	151	42	39		
22	73				39	126	123	220	129	43	39		
23	70				36	182	116	267	104	44	39		
24	68				35	116	169	257	111	54	39		
25	67				34	113	172	272	92	64	39		
26	68				34	107	136	222	86	55	39		
27	68				36	99	286	273	82	41	41		
28	67				36	126	252	232	80	40	45		
29	66				35	114	227	225	79	48	41		
30	64				36	175	218	239	72	52	38		
31	63				---	151	---	250	65	---	36		
TOTAL	1,903				1,036	2,517	7,041	7,485	5,628	1,589	1,398		
MEAN	61.4				34.5	81.2	235	241	182	53.0	45.1		
MAX	78				43	182	636	292	298	64	60		
MIN	51				30	28	116	198	65	40	36		
AC-FT	3,770				2,050	4,990	13,970	14,850	11,160	3,150	2,770		

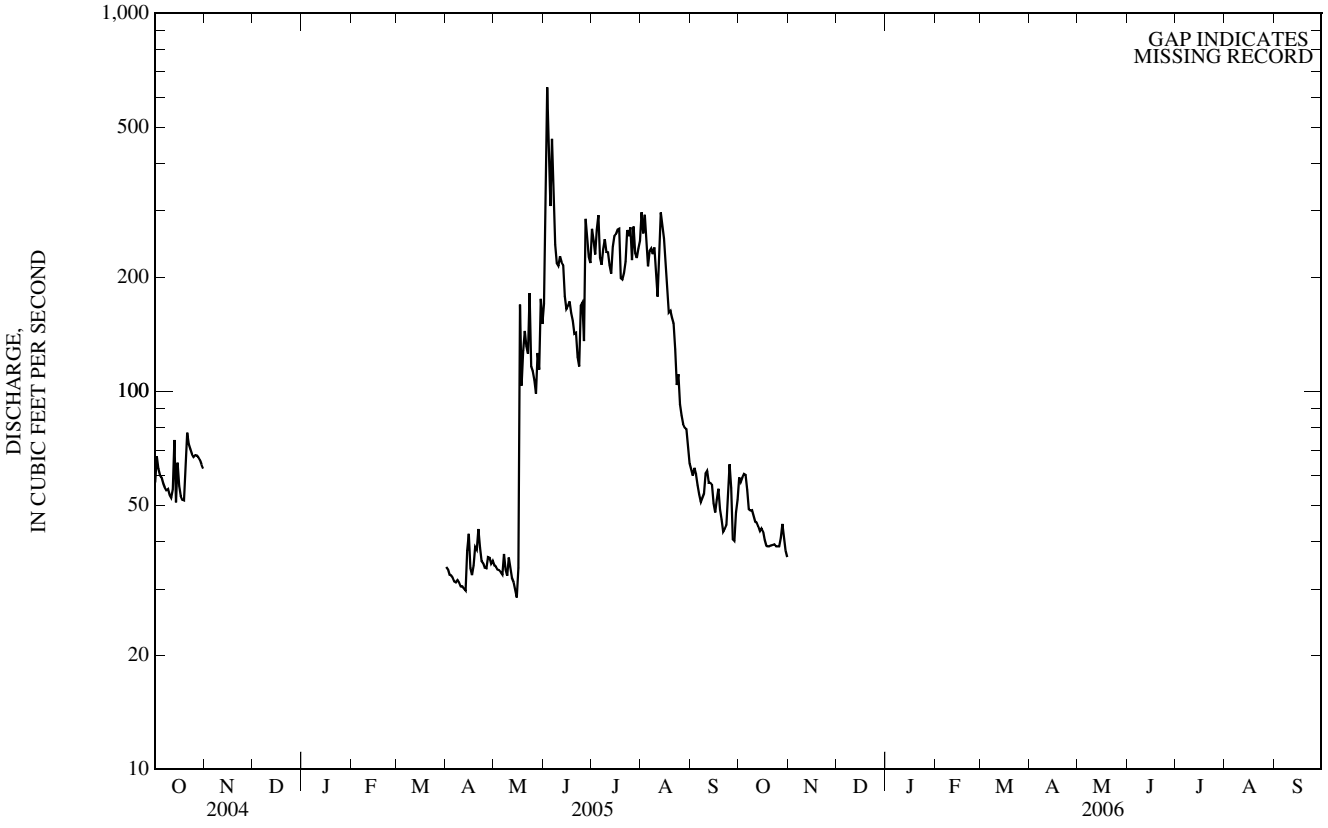
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2005, BY WATER YEAR (WY)

MEAN	74.5	33.0	35.3	57.7	39.6	111	203	256	238	130	73.4	53.8	41.1
MAX	145	59.8	65.1	238	162	264	455	367	402	218	145	71.4	58.5
(WY)	(1976)	(1997)	(1986)	(1978)	(1975)	(1975)	(1969)	(1970)	(1975)	(1972)	(1976)	(1986)	(1986)
MIN	40.8	19.3	17.5	23.4	21.3	56.3	101	137	123	42.1	40.8	34.9	21.7
(WY)	(2002)	(1973)	(1985)	(2002)	(2000)	(2001)	(1985)	(1980)	(2003)	(2003)	(2002	(2002)	(1973)

06088300 MUDDY CREEK NEAR VAUGHN, MT—Continued

SUMMARY STATISTICS	FOR 2005 SEASON		WATER YEARS 1968 - 2004*	
ANNUAL MEAN			107	
HIGHEST ANNUAL MEAN			160	1969
LOWEST ANNUAL MEAN			77.2	1985
HIGHEST DAILY MEAN	636	Jun 3	2,250	May 7, 1975
LOWEST DAILY MEAN	28	May 15	8.0	Dec 8, 1972
ANNUAL SEVEN-DAY MINIMUM			13	Dec 8, 1972
MAXIMUM PEAK FLOW	699	Jun 3	3,560	May 22, 1981
MAXIMUM PEAK STAGE	6.21	Jun 3	b14.72	May 22, 1981
INSTANTANEOUS LOW FLOW	a24	Mar 7	4.8	Mar 7, 2004
ANNUAL RUNOFF (AC-FT)			77,860	
10 PERCENT EXCEEDS			254	
50 PERCENT EXCEEDS			59	
90 PERCENT EXCEEDS			27	

*--During periods of operation [July 1968 to September 1987, March 1996 to October 2004, April 2005 to October 2005 (seasonal records)].
a--Gage height, 1.98 ft.
b--From floodmark.
e--Estimated.



06088300 MUDDY CREEK NEAR VAUGHN, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to September 1982, March 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to September 1982.
SUSPENDED-SEDIMENT DISCHARGE: July 1968 to September 1982.

REMARKS.--Chemical analyses of samples discontinued at end of water year 2004. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,400 microsiemens per centimeter (µS/cm) at 25°C, Apr. 29, 1976; minimum daily, 365 µS/cm at 25°C, Feb. 20, 1969.
SEDIMENT CONCENTRATION: Maximum daily mean, 13,000 mg/L, Mar. 18, 1978; minimum daily mean observed, 11 mg/L, Oct. 19, 1968, Oct. 19, 1972, Oct. 30, 1973.
SEDIMENT LOAD: Maximum daily, 63,900 tons, May 22, 1981; minimum daily, 0.84 ton, Jan. 8, 1973.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV								
17...	1445	50	875	16.0	5.0	82	54	7.3
APR								
19...	1400	40	1,300	7.0	8.0	92	31	3.3
MAY								
24...	1450	115	412	15.0	14.0	91	222	69
JUN								
22...	0915	135	696	24.0	18.0	83	155	56
JUL								
27...	1530	279	600	34.0	19.0	74	90	68
AUG								
24...	1020	119	825	15.0	14.0	63	22	7.1

06088500 MUDDY CREEK AT VAUGHN, MT

LOCATION.--Lat 47°33'39", long 111°32'26" (NAD 27), in $SW^1/_4$ $SE^1/_4$ $NE^1/_4$ sec.24, T.21 N., R.1 E., Cascade County, Hydrologic Unit 10030104, on left bank at Vaughn, and at river mile 1.1.

DRAINAGE AREA.--314 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1925 to January 1926, April 1934 to September 1968, July 1971 to current year.

REVISED RECORDS.--WSP 856: 1937. WSP 1509: 1934-35, 1941(M). WSP 1559: 1956. WSP 1629: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,330 ft (NGVD 29). May 21, 1925 to Feb. 8, 1926, nonrecording gage at site 500 ft downstream at different elevation. Apr. 19, 1934 to Sept. 30, 1955, at previous site at elevation. May 18, 1955 to Apr. 25, 1960 and Sept. 24, 1962 to Sept. 30, 1968, auxiliary crest-stage gage. Oct. 1, 1955 to Sept. 30, 1968, nonrecording gage at bridge 670 ft upstream at previous elevation. July 1, 1971 to May 9, 1996, 700 ft upstream at previous elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Natural flow increased by wastage from Sun River Canal and by return flow from irrigation. Diversions for irrigation of about 700 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1908 reached a stage of about 24 ft, previous elevation (discharge not determined); flood in June 1932 reached a stage of about 19 ft, previous elevation (discharge not determined); from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	67	e55	e30	e40	e26	36	38	208	333	376	99
2	122	68	e60	e28	e45	e28	35	38	390	319	349	97
3	119	69	56	e28	e42	e30	35	37	695	285	381	100
4	108	67	57	e29	e40	e32	35	37	587	308	344	96
5	106	67	e50	e30	e37	35	34	37	410	340	302	93
6	102	64	e50	e35	e35	34	33	36	502	276	311	88
7	98	61	e50	e35	e35	31	33	40	418	264	312	84
8	95	63	e54	e32	e38	33	33	39	337	288	298	83
9	97	62	53	e28	e40	32	33	37	298	315	307	83
10	95	61	51	e30	e45	32	33	40	289	308	271	94
11	95	61	61	e35	41	30	32	41	298	313	230	94
12	111	60	e55	e30	42	33	32	38	296	277	271	88
13	81	61	e50	e25	44	34	32	37	295	262	358	90
14	67	69	60	e20	38	33	38	64	251	325	336	88
15	71	60	56	e22	e35	34	45	77	227	341	321	83
16	68	59	59	e30	e35	33	36	110	228	323	296	70
17	61	59	49	e40	e35	33	34	265	245	332	267	76
18	58	58	52	e50	e35	23	36	246	231	332	237	94
19	59	58	49	e70	e30	31	40	229	224	249	242	84
20	59	57	46	e80	e25	34	41	235	208	263	230	81
21	87	54	41	e70	e27	35	45	194	204	265	211	78
22	80	e60	e40	e60	e28	39	43	137	181	278	179	77
23	77	e60	e30	e50	e30	29	39	201	153	344	150	81
24	75	e65	e40	e45	e28	e32	37	144	200	310	161	91
25	74	e60	e50	e40	e26	35	37	175	213	345	136	100
26	73	52	e45	e40	e25	41	36	170	177	298	125	89
27	74	46	e40	e40	e25	44	39	150	330	346	119	73
28	73	e50	e45	e40	e25	59	39	172	330	322	117	72
29	73	e55	e50	e40	---	47	38	149	292	312	116	78
30	71	e55	e45	e40	---	40	39	221	282	337	112	79
31	69	---	e35	e40	---	37	---	196	---	343	103	---
TOTAL	2,607	1,808	1,534	1,212	971	1,069	1,098	3,630	8,999	9,553	7,568	2,583
MEAN	84.1	60.3	49.5	39.1	34.7	34.5	36.6	117	300	308	244	86.1
MAX	122	69	61	80	45	59	45	265	695	346	381	100
MIN	58	46	30	20	25	23	32	36	153	249	103	70
AC-FT	5,170	3,590	3,040	2,400	1,930	2,120	2,180	7,200	17,850	18,950	15,010	5,120

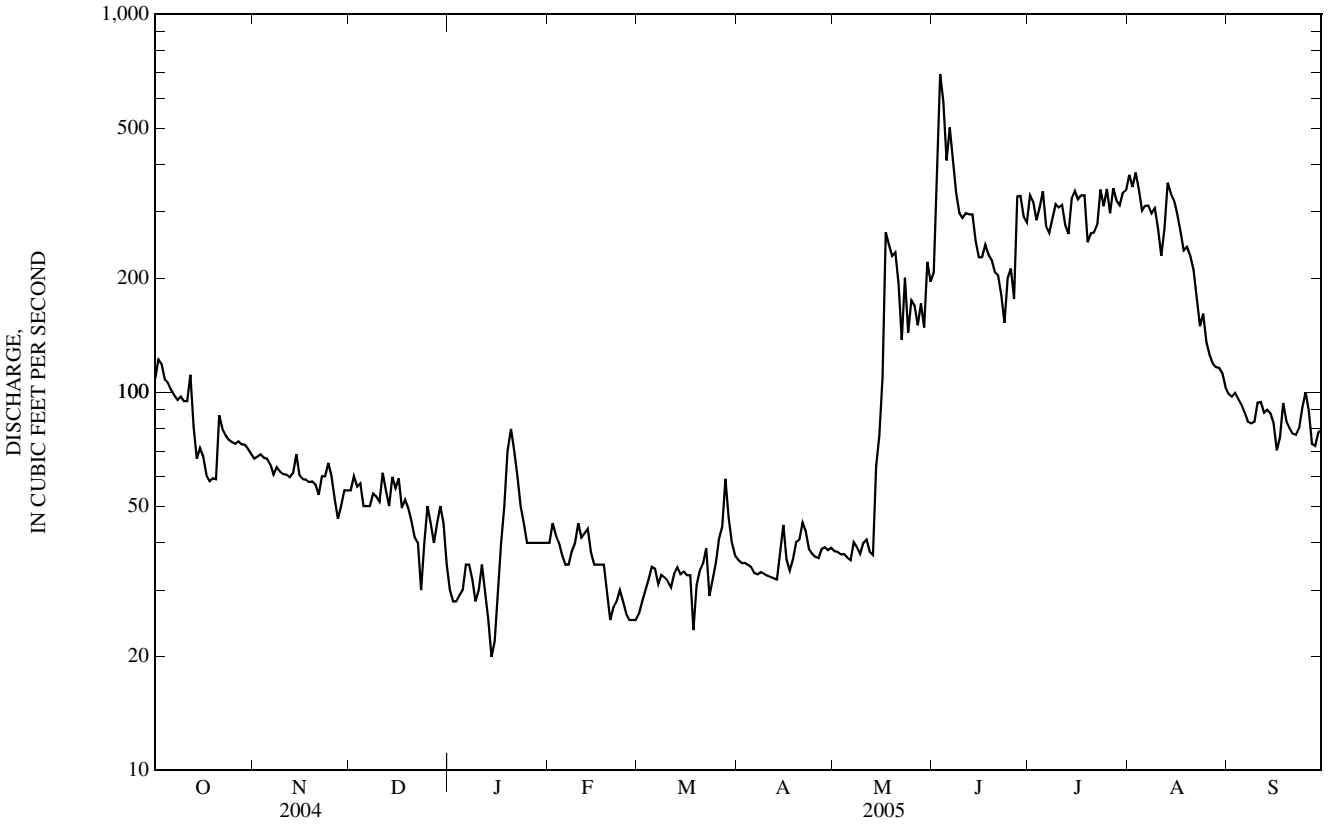
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2005, BY WATER YEAR (WY)*

MEAN	99.0	59.8	44.1	34.4	37.1	54.0	41.3	137	239	276	282	173
MAX	200	113	131	68.5	96.9	283	182	305	480	416	488	270
(WY)	(1963)	(1964)	(1957)	(1997)	(1952)	(1978)	(1975)	(1953)	(1953)	(1966)	(1975)	(1972)
MIN	26.3	30.7	16.8	17.3	10.0	22.4	18.3	52.6	86.0	52.1	44.0	40.2
(WY)	(1926)	(1926)	(1926)	(1936)	(1936)	(1988)	(1968)	(1935)	(1936)	(1925)	(1925)	(1925)

06088500 MUDDY CREEK AT VAUGHN, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1925 - 2005*	
ANNUAL TOTAL	44,675		42,632			
ANNUAL MEAN	122		117		124	
HIGHEST ANNUAL MEAN					185	1975
LOWEST ANNUAL MEAN					61.2	1936
HIGHEST DAILY MEAN	383	Aug 24	695	Jun 3	3,500	Jun 4, 1953
LOWEST DAILY MEAN	16	May 5	20	Jan 14	4.8	Mar 29, 1977
ANNUAL SEVEN-DAY MINIMUM	20	Apr 22	26	Feb 24	7.0	Jan 24, 1936
MAXIMUM PEAK FLOW			759	Jun 3	b7,600	Jun 4, 1953
MAXIMUM PEAK STAGE			6.42	Jun 3	c17.70	Jun 4, 1953
INSTANTANEOUS LOW FLOW			a14	Mar 18	d2.0	Mar 16, 1972
ANNUAL RUNOFF (AC-FT)	88,610		84,560		90,100	
10 PERCENT EXCEEDS	290		309		293	
50 PERCENT EXCEEDS	61		61		70	
90 PERCENT EXCEEDS	23		32		26	

*--During periods of operation (June 1925 to January 1926, April 1934 to September 1968, July 1971 to current year).
a--Gage height, 2.05 ft, result of freezeup, may have been less during period of no gage-height record, Dec. 22 to Feb. 3, Feb. 6-10 and15-26.
b--From rating curve extended above 3,000 ft^3/s on basis of a slope-area measurement of peak flow.
c--From floodmark, site and datum then in use.
d--Gage height, 1.20 ft, result of freezeup.
e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968, 1971-82, October 1991 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1967 to September 1968, July 1972 to September 1982.
WATER TEMPERATURE: October 1967 to September 1968, July 1971 to September 1979.
SUSPENDED-SEDIMENT DISCHARGE: July 1971 to September 1982.

REMARKS.--Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,400 microsiemens per centimeter (µS/cm) at 25.0°C, Apr. 30, 1976; minimum daily, 470 µS/cm at 25.0°C, June 8, 1974. WATER TEMPERATURE : Maximum daily, 25.5°C, June 18, 1974, June 28, 1979; minimum daily, 0.0°C, on many days during winters.
SEDIMENT CONCENTRATION: Maximum daily, 21,100 mg/L, May 22, 1981; minimum daily, 10 mg/L, Feb. 10, 1973.
SEDIMENT LOAD: Maximum daily, 127,000 tons, May 22, 1981; minimum daily, 0.68 ton, Feb. 10, 1973.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf 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)
NOV									
17...	1645	59	8.6	907	6.0	4.0	<.010	2.49	.012
JAN									
10...	1415	30	7.7	1,030	-5.0	0.0	.087	3.17	.015
FEB									
23...	1415	29	8.4	1,050	15.0	0.0	.017	3.12	.011
MAR									
22...	1500	38	8.4	1,160	0.0	4.0	.014	3.15	.019
APR									
19...	1540	40	8.7	1,170	9.0	8.5	.015	1.79	.016
MAY									
26...	1600	164	8.4	536	19.0	15.0	.018	.551	.006
JUN									
22...	1100	180	8.5	647	24.0	21.0	E.006	.738	.007
JUL									
28...	1200	328	8.5	637	34.0	19.0	<.010	.865	.006
AUG									
24...	1320	170	8.5	746	11.0	16.0	E.005	.679	.007

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unf by analysis, mg/L (62855)	Selenium, water, unfltrd ug/L (01147)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV							
17...	<.006	.010	2.75	2.1	82	46	7.3
JAN							
10...	<.006	.013	3.43	2.8	53	53	4.3
FEB							
23...	<.006	.022	3.65	3.2	91	42	3.3
MAR							
22...	<.006	.064	3.57	4.7	98	73	7.5
APR							
19...	<.006	.057	2.24	3.6	98	86	9.3
MAY							
26...	.008	.22	1.22	1.4	91	244	108
JUN							
22...	E.004	.127	1.14	1.8	87	156	76
JUL							
28...	.036	.188	1.36	1.5	69	230	204
AUG							
24...	E.003	.059	1.01	1.5	86	58	27

E--Estimated.

06089000 SUN RIVER NEAR VAUGHN, MT

LOCATION.--Lat 47°31'33", long 111°30'40" (NAD 27), in $SE^1/_4SW^1/_4SW^1/_4$ sec.32, T.21 N., R.2 E., Cascade County, Hydrologic Unit 10030104, on right bank 2.3 mi downstream from Muddy Creek, 2.8 mi southeast of Vaughn, and at river mile 15.0.

DRAINAGE AREA.--1,849 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to October 1897 (gage heights and discharge measurements only, published as "near Great Falls"), April 1934 to current year. Monthly discharge only for April 1934, published in WSP 1309.

REVISED RECORDS.--WSP 786: 1934. WSP 1729: Drainage area. WDR -03-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,340 ft (NGVD 29). July 11 to Oct. 30, 1897, nonrecording gage at site 0.6 mi downstream at different elevation. Apr. 19 to Aug. 3, 1934, non-recording gage 1.4 mi downstream at different elevation. Aug. 4, 1934 to Oct. 15, 2002, water-stage recorder 1.4 mi downstream at different elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow regulated by Gibson, Pishkun, Willow Creek, and Nilan Reservoirs. Diversion for irrigation of about 110,000 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1964 exceeded the stage of the June 1908 flood by about 3 ft and is the highest since 1908, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	317	332	e260	e180	259	188	173	198	683	522	540	344
2	333	334	e280	e150	249	183	171	191	1,260	498	474	350
3	335	344	e300	e160	246	174	172	174	2,310	447	522	341
4	324	348	e280	e170	243	171	174	170	3,060	470	458	304
5	312	344	e270	e170	239	170	172	152	3,600	495	416	293
6	280	338	e270	e180	e230	168	166	160	3,380	381	430	282
7	245	332	e270	e160	e200	165	161	156	3,090	344	425	269
8	232	337	e250	e150	e180	168	160	160	3,060	353	418	269
9	235	336	e270	e160	e200	172	163	191	1,980	377	460	268
10	231	336	303	e180	e230	169	164	238	1,760	367	428	280
11	259	339	325	e200	e250	167	161	660	2,390	394	382	285
12	284	336	319	e170	e240	175	161	1,060	2,460	363	478	281
13	318	327	e220	e130	e230	187	164	833	2,180	352	650	276
14	325	331	e230	e110	e230	187	178	651	1,700	405	639	294
15	372	328	304	e100	e220	185	199	570	1,240	410	634	261
16	420	322	280	e150	e220	181	181	811	1,160	376	597	251
17	368	319	273	e200	e220	179	171	2,310	1,910	394	524	267
18	340	314	270	e300	e220	161	174	3,630	2,070	429	492	314
19	341	313	269	e350	e200	169	183	3,580	1,970	368	498	298
20	336	309	263	e380	e190	169	191	2,770	1,720	389	459	253
21	367	305	e210	e400	e180	178	220	2,080	1,380	364	435	249
22	359	e290	e180	e350	e200	186	222	1,990	1,300	351	380	249
23	347	e270	e170	e330	e220	174	199	1,930	1,250	420	348	254
24	339	e300	e200	e350	e230	151	187	1,750	1,100	388	387	297
25	336	320	e250	e320	e210	157	180	1,310	797	432	361	341
26	339	299	e230	301	e190	187	167	913	522	423	343	323
27	347	e250	e210	280	e180	199	173	711	671	503	349	300
28	348	e230	e200	280	e190	226	171	659	699	461	337	302
29	353	e250	e250	268	---	205	177	594	545	452	332	300
30	347	e250	e300	259	---	187	159	657	502	478	345	302
31	341	---	e220	254	---	179	---	653	---	499	346	---
TOTAL	10,030	9,383	7,926	7,142	6,096	5,517	5,294	31,912	51,749	12,905	13,887	8,697
MEAN	324	313	256	230	218	178	176	1,029	1,725	416	448	290
MAX	420	348	325	400	259	226	222	3,630	3,600	522	650	350
MIN	231	230	170	100	180	151	159	152	502	344	332	249
AC-FT	19,890	18,610	15,720	14,170	12,090	10,940	10,500	63,300	102,600	25,600	27,540	17,250

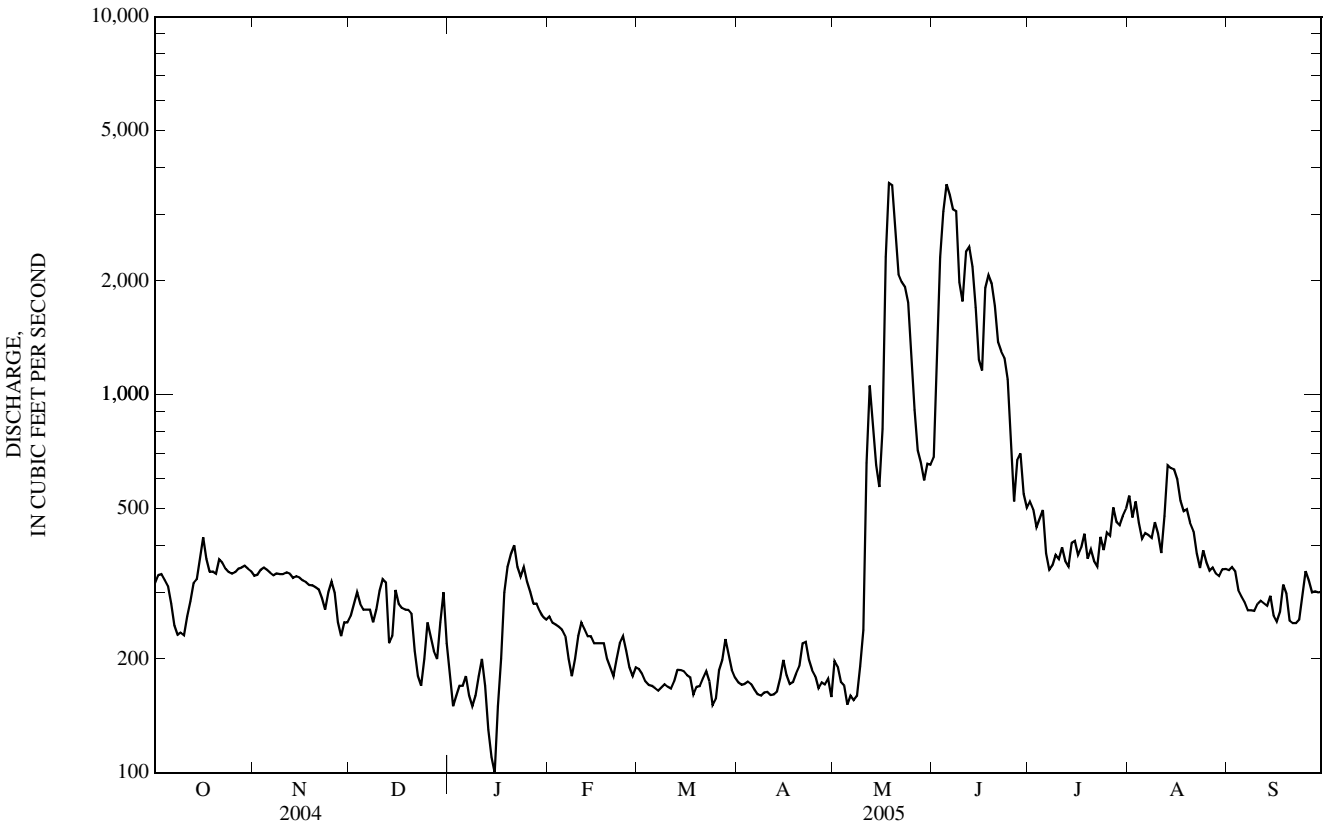
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2005, BY WATER YEAR (WY)

MEAN	378	337	299	255	264	321	489	1,549	2,501	772	561	439
MAX	779	908	896	656	601	868	3,000	4,333	8,014	2,508	1,025	1,040
(WY)	(1952)	(1990)	(1996)	(1986)	(1986)	(1969)	(1934)	(1976)	(1964)	(1975)	(1975)	(1993)
MIN	143	149	114	66.5	82.4	133	93.3	87.1	280	265	250	164
(WY)	(1937)	(1937)	(1936)	(1937)	(1936)	(1941)	(1941)	(1941)	(1941)	(1939)	(1940)	(1936)

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1934 - 2005	
ANNUAL TOTAL	134,068		170,538			
ANNUAL MEAN	366		467		675	
HIGHEST ANNUAL MEAN					1,307	1943
LOWEST ANNUAL MEAN					210	1941
HIGHEST DAILY MEAN	1,690	Jun 8	3,630	May 18	37,000	Jun 10, 1964
LOWEST DAILY MEAN	97	May 6	100	Jan 15	23	May 26, 1941
ANNUAL SEVEN-DAY MINIMUM	108	May 3	149	Jan 10	38	May 21, 1941
MAXIMUM PEAK FLOW			3,850	May 18	a53,500	Jun 9, 1964
MAXIMUM PEAK STAGE			4.33	May 18	b23.40	Jun 9, 1964
INSTANTANEOUS LOW FLOW					c20	Apr 24, 1944
ANNUAL RUNOFF (AC-FT)	265,900		338,300		489,000	
10 PERCENT EXCEEDS	592		803		1,360	
50 PERCENT EXCEEDS	319		300		360	
90 PERCENT EXCEEDS	151		170		177	

a--42,220 ft^3/s in main channel plus 11,300 ft^3/s in bypass channel.
b--From floodmark.
c--Gage height, 0.52 ft, site and datum then in use; result of irrigation.
e--Estimated.



06089000 SUN RIVER NEAR VAUGHN, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

INSTRUMENTATION.--Water temperature probe installed in August 1999.

REMARKS.--Daily water temperature records are rated excellent except for May 27 to June 18, which are rated fair. Missing daily water temperature data from June 19 to July 28 due toprobe being buried by silt. Several unpublished observations of specific conductance and water temperature were made during the year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to September 2003.
WATER TEMPERATURE: October 1968 to September 1979, August 1999 to September 2003, October 2004 to September 2005.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,610 microsiemens per centimeter (µS/cm) at 25°C, Apr. 8, 1977; minimum daily, 214 µS/cm at 25°C, June 8, 1970.
WATER TEMPERATURE: Maximum, 29.5°C, July 14 and18, 2002; minimum, 0.0°C on many days during winter.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 22.5°C, Jul 31 and Aug. 2; minimum, 0.0°C, many days November through March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf 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)
NOV									
18...	1600	320	8.5	706	10.0	4.0	E.007	.842	.005
JAN									
11...	1330	200	7.4	737	6.0	0.0	.036	.920	.007
FEB									
23...	1600	220	7.8	780	15.0	0.0	.023	.922	.004
MAR									
23...	1545	171	8.2	900	-2.0	2.5	.022	.734	.006
APR									
20...	0900	192	8.4	830	4.0	7.5	.027	.468	.005
MAY									
27...	1000	735	8.2	479	18.0	13.0	.011	.139	.002
JUN									
22...	1245	1,270	8.4	457	31.0	20.0	E.006	.167	.002
JUL									
28...	1615	463	8.6	654	32.0	21.5	E.007	.575	.005
AUG									
24...	1730	378	8.5	740	17.0	17.5	.012	.301	.004

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unf by analysis, mg/L (62855)	Selenium, water, unfltrd ug/L (01147)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV							
18...	<.006	.007	.97	1.2	80	44	38
JAN							
11...	<.006	.008	1.11	1.2	69	40	22
FEB							
23...	<.006	.012	1.16	2.0	88	16	9.5
MAR							
23...	.030	.018	.94	2.2	97	24	11
APR							
20...	<.006	.019	.71	1.6	94	22	11
MAY							
27...	<.006	.064	.44	1.0	95	62	123
JUN							
22...	<.006	.052	.42	.8	94	53	182
JUL							
28...	.024	.085	.95	1.3	96	46	58
AUG							
24...	<.006	.040	.64	1.5	95	44	45

E--Estimated.

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.5	10.0	11.0	2.5	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
2	12.0	9.5	11.0	4.5	2.0	3.5	0.5	0.0	0.0	0.0	0.0	0.0
3	12.5	10.0	11.5	5.0	3.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0
4	12.5	10.5	11.5	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
5	12.5	10.0	11.5	4.5	2.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
6	12.5	10.0	11.5	5.5	4.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0
7	13.0	11.0	12.0	5.5	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
8	12.5	10.0	11.5	5.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
9	12.5	11.0	11.5	5.5	4.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0
10	11.5	9.5	11.0	6.0	4.5	5.5	0.5	0.0	0.0	0.0	0.0	0.0
11	11.0	8.5	10.0	4.5	2.5	3.5	1.5	0.0	0.5	0.0	0.0	0.0
12	11.0	9.0	10.0	2.5	1.5	2.0	2.0	0.5	1.5	0.0	0.0	0.0
13	11.0	9.0	10.0	2.0	0.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0
14	11.0	10.0	10.5	2.0	0.5	1.5	1.0	0.0	0.5	0.0	0.0	0.0
15	11.0	10.0	10.5	3.5	1.5	2.5	1.5	0.0	1.0	0.0	0.0	0.0
16	10.0	9.0	9.5	5.0	3.5	4.0	1.0	0.5	1.0	0.0	0.0	0.0
17	9.0	6.0	7.5	4.5	3.5	4.0	2.0	1.0	1.5	0.0	0.0	0.0
18	6.0	5.0	5.5	4.0	2.5	3.0	2.0	1.0	1.5	0.0	0.0	0.0
19	5.0	4.5	4.5	2.5	1.5	2.0	3.5	1.5	2.5	0.0	0.0	0.0
20	5.5	4.0	5.0	1.5	0.0	1.0	2.5	0.5	1.5	0.0	0.0	0.0
21	6.5	5.0	6.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
22	7.0	6.0	6.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
23	6.0	5.0	5.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	5.0	4.0	4.5	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
25	4.0	3.0	3.5	3.0	1.5	2.5	0.0	0.0	0.0	1.0	0.0	0.5
26	4.0	3.0	3.5	2.5	0.5	2.0	0.0	0.0	0.0	1.5	0.5	1.0
27	4.5	3.5	4.0	0.5	0.0	0.0	0.0	0.0	0.0	1.5	0.5	1.0
28	5.0	4.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.5	1.0
29	4.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	1.5
30	4.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5	1.0
31	4.0	2.5	3.0	---	---	---	0.0	0.0	0.0	2.0	0.0	1.0
MONTH	13.0	2.5	8.0	6.0	0.0	2.5	3.5	0.0	0.5	2.0	0.0	0.0
		FEBRUARY			MARCH			APRIL			MAY	
1	2.0	0.5	1.5	4.0	0.5	2.0	8.5	5.5	7.0	9.0	5.0	7.0
2	2.5	1.0	2.0	5.0	1.0	3.0	9.0	6.0	7.5	11.5	5.5	8.5
3	2.0	1.5	2.0	5.0	1.5	3.0	10.0	6.5	8.0	14.0	7.5	11.0
4	2.5	1.5	2.0	5.5	1.5	3.5	11.0	7.0	9.0	16.5	10.5	13.5
5	2.0	0.0	1.0	6.0	2.5	4.5	11.5	7.5	9.5	18.0	12.0	15.0
6	0.0	0.0	0.0	7.0	4.0	5.5	12.5	7.5	10.0	18.5	14.0	16.5
7	0.0	0.0	0.0	6.5	3.5	5.0	13.0	9.5	11.0	16.5	14.5	15.5
8	0.0	0.0	0.0	8.0	4.5	6.0	13.0	10.0	11.5	14.5	12.5	13.5
9	0.5	0.0	0.0	9.0	6.5	7.5	10.5	8.0	9.0	13.0	12.0	12.5
10	0.5	0.0	0.0	9.0	5.5	7.5	10.0	7.0	8.0	12.0	10.5	11.5
11	0.5	0.0	0.0	7.0	5.5	6.5	10.0	6.5	8.5	10.5	8.5	9.0
12	0.5	0.0	0.0	6.0	4.0	5.0	12.0	7.0	9.5	9.0	7.0	8.0
13	0.5	0.0	0.0	4.5	3.0	3.5	13.0	8.5	10.5	12.0	8.0	10.0
14	1.0	0.0	0.0	5.0	2.0	3.5	10.0	7.5	9.0	15.0	11.5	13.5
15	0.5	0.0	0.0	6.0	2.5	4.0	9.5	5.5	7.5	16.0	13.5	15.0
16	0.5	0.0	0.0	6.0	4.0	5.0	12.0	6.5	9.5	16.5	15.0	16.0
17	0.5	0.0	0.0	4.5	1.5	3.0	13.5	9.5	11.5	15.5	11.0	13.0
18	0.5	0.0	0.0	4.0	0.5	2.0	11.0	9.0	10.0	11.5	10.0	11.0
19	0.5	0.0	0.0	3.0	0.0	1.0	9.5	8.0	8.5	12.5	11.0	11.5
20	0.0	0.0	0.0	3.0	0.5	1.5	8.5	7.0	7.5	12.5	11.5	12.0
21	0.5	0.0	0.0	5.0	1.0	3.0	9.0	6.5	7.5	12.5	11.5	12.0
22	0.5	0.0	0.0	4.5	2.0	3.5	12.0	7.0	9.5	13.0	11.5	12.0
23	0.5	0.0	0.0	2.5	0.5	1.5	14.5	9.5	12.0	13.0	11.5	12.5
24	0.5	0.0	0.0	3.5	0.0	1.5	16.5	11.5	14.0	13.0	11.5	12.0
25	0.5	0.0	0.0	4.0	0.0	2.0	17.0	12.0	14.5	13.0	12.0	12.5
26	1.0	0.0	0.0	4.5	1.0	2.5	14.5	12.0	13.5	13.5	12.5	13.0
27	1.5	0.0	0.5	7.5	3.0	5.5	12.0	7.5	9.5	16.5	12.5	14.5
28	2.5	0.0	1.0	9.5	6.5	8.0	8.0	6.0	7.0	17.5	15.0	16.5
29	---	---	---	9.0	5.5	7.0	9.0	4.5	6.5	17.0	15.5	16.0
30	---	---	---	7.5	5.0	6.0	8.0	5.5	6.5	16.5	14.0	15.5
31	---	---	---	9.0	5.0	6.5	---	---	---	17.5	14.5	16.0
MONTH	2.5	0.0	05	9.5	0.0	4.0	17.0	4.5	9.5	18.5	5.0	13.0

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.0	13.5	15.5	---	---	---	22.0	20.5	21.0	17.5	15.0	16.5
2	13.5	10.5	12.0	---	---	---	22.5	20.5	21.0	18.5	15.5	17.0
3	12.0	9.5	10.5	---	---	---	21.5	20.0	20.5	18.5	16.5	17.5
4	12.5	12.0	12.5	---	---	---	21.5	19.0	20.0	19.0	17.0	18.0
5	13.0	12.5	12.5	---	---	---	22.0	19.0	20.5	18.5	16.5	17.5
6	13.0	12.0	12.5	---	---	---	22.0	19.5	21.0	18.5	16.0	17.5
7	14.0	11.5	12.0	---	---	---	22.0	19.5	21.0	18.5	15.5	17.0
8	13.5	11.5	12.0	---	---	---	21.5	19.5	20.5	18.5	15.5	17.0
9	13.0	11.0	12.0	---	---	---	21.5	19.0	20.0	18.0	16.0	16.5
10	14.5	12.5	13.5	---	---	---	21.5	19.0	20.0	16.0	12.5	14.0
11	15.0	14.5	14.5	---	---	---	20.5	18.5	19.5	13.5	11.0	12.5
12	14.5	12.0	13.5	---	---	---	19.0	15.0	17.0	13.0	11.0	12.0
13	14.0	11.0	12.0	---	---	---	16.0	14.0	15.0	14.0	11.0	12.5
14	16.0	13.5	14.5	---	---	---	17.0	15.0	16.0	15.0	12.5	13.5
15	18.5	16.0	17.0	---	---	---	18.5	16.0	17.5	15.5	13.0	14.5
16	18.5	17.0	18.0	---	---	---	19.5	17.5	18.5	16.0	13.5	15.0
17	17.5	15.5	16.0	---	---	---	18.5	17.0	18.0	14.5	12.5	13.5
18	15.5	13.5	14.5	---	---	---	17.0	15.5	16.0	14.0	12.0	13.0
19	---	---	---	---	---	---	17.0	14.5	16.0	13.5	12.0	12.5
20	---	---	---	---	---	---	18.5	15.5	17.0	14.5	11.5	13.0
21	---	---	---	---	---	---	19.5	16.5	18.0	15.0	12.5	13.5
22	---	---	---	---	---	---	19.5	18.0	19.0	14.0	12.5	13.5
23	---	---	---	---	---	---	20.5	18.0	19.0	12.5	10.5	11.5
24	---	---	---	---	---	---	18.5	16.0	17.5	10.5	9.0	9.5
25	---	---	---	---	---	---	17.5	15.0	16.5	10.5	8.0	9.5
26	---	---	---	---	---	---	18.5	16.0	17.0	12.0	9.5	11.0
27	---	---	---	---	---	---	19.0	16.5	18.0	11.5	10.0	11.0
28	---	---	---	---	---	---	20.0	17.0	18.5	11.0	8.5	10.0
29	---	---	---	21.5	19.0	20.0	19.5	17.5	18.5	11.0	9.5	10.5
30	---	---	---	22.0	19.5	20.5	18.5	16.5	17.5	13.5	11.0	12.5
31	---	---	---	22.5	19.5	21.0	17.0	15.0	16.5	---	---	---
MONTH	18.5	9.5	13.5	22.5	19.0	20.5	22.5	14.0	18.5	19.0	8.0	14.0

06090300 MISSOURI RIVER NEAR GREAT FALLS, MT

LOCATION.--Lat 47°35'04", long 111°03'35" (NAD 27), in $SW^1/_4SE^1/_4SW^1/_4$ sec.11, T.21 N., R.5 E., Cascade County, Hydrologic Unit 10030102, on left bank 700 ft downstream from Morony Dam, 12.6 mi northeast of Great Falls, and at river mile 2,105.4.

DRAINAGE AREA.--23,292 mi^2.

PERIOD OF RECORD.--May to July 1953 (in WSP 1320-B), October 1956 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,807.21 ft (NGVD 29). Prior to July 27, 1977, nonrecording gage at same site at elevation 2.00 ft higher. July 27, 1977 to May 26, 1987, at site 600 ft upstream at elevation 2.00 ft higher. October 1971 to July 27, 1977, discharges were obtained from the Montana Power Company at Rainbow Dam 7.05 mi upstream. Prior to October 1971, Foxboro meters were used for determining discharge through powerplant. Water-stage recorder on Morony Reservoir was used for determining head on taintor gates with elevation of gage at sea level (level by Montana Power Company).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by 18 smaller irrigation reservoirs and powerplants upstream, Clark Canyon Reservoir (station number 06015300), and Canyon Ferry Lake (station number 06058500). Diversion for irrigation of about 750,400 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,790	4,780	4,150	3,060	4,350	4,190	4,090	5,320	5,880	9,280	5,950	5,630
2	4,040	4,930	4,270	2,800	4,280	4,180	4,240	5,370	6,280	9,010	5,870	5,650
3	4,020	4,870	4,260	3,650	4,350	4,040	3,890	5,280	8,650	8,970	5,510	5,370
4	4,050	4,930	4,270	3,750	4,130	4,270	4,230	5,190	10,400	8,730	5,830	5,290
5	4,160	4,630	4,280	4,190	4,220	4,040	4,130	5,180	12,400	8,720	5,530	5,190
6	3,960	4,500	4,280	4,160	4,200	3,900	4,270	5,290	11,300	8,650	5,200	5,160
7	4,000	4,600	4,170	4,290	3,300	4,160	4,160	5,060	11,000	8,520	5,420	5,160
8	3,980	4,610	4,460	4,700	3,370	4,130	4,150	5,560	10,400	8,420	5,560	5,180
9	3,970	4,660	4,430	4,680	3,730	3,990	4,210	6,040	9,990	8,040	5,140	5,060
10	3,940	4,700	4,390	4,670	4,540	3,900	4,410	6,060	8,900	8,180	5,410	5,070
11	4,000	4,660	4,600	4,670	4,600	4,040	4,300	6,990	9,080	8,370	5,190	4,970
12	3,970	4,530	4,420	4,710	4,950	4,090	4,380	10,200	9,400	8,520	e5,100	4,970
13	4,130	4,590	4,400	4,830	4,580	4,200	4,050	9,900	9,050	8,570	e5,300	5,010
14	4,200	4,660	4,190	4,540	3,970	4,170	4,600	8,670	9,080	7,930	e5,500	5,000
15	4,270	4,530	4,370	4,140	3,930	4,400	4,330	7,670	8,420	7,570	e5,800	5,060
16	4,310	4,610	4,410	4,160	3,970	4,130	4,560	8,270	7,920	7,300	5,580	4,980
17	4,390	4,620	4,480	4,360	3,850	4,350	4,620	8,810	8,340	6,530	e5,600	5,450
18	4,250	4,680	4,420	5,190	4,290	3,850	4,600	10,100	9,330	6,670	e5,300	5,130
19	4,380	4,710	4,410	5,390	4,010	4,120	4,570	10,400	10,300	6,250	e5,200	5,580
20	4,540	4,590	4,510	6,220	4,240	4,100	4,690	9,330	10,400	5,950	e5,200	5,460
21	4,640	4,480	4,250	6,090	3,910	4,090	4,780	8,560	10,000	6,030	e5,500	5,130
22	4,650	4,570	4,130	5,590	4,040	4,130	5,130	8,230	9,680	5,950	5,180	5,000
23	4,790	4,450	3,350	5,570	4,080	4,120	5,160	8,160	9,670	5,790	e5,000	5,090
24	5,010	4,540	2,570	5,770	3,920	4,200	4,980	7,930	9,210	6,240	e5,200	5,130
25	5,120	4,830	3,390	6,090	4,190	4,080	5,230	7,650	9,660	5,810	e5,300	5,230
26	5,040	4,160	4,920	5,880	4,240	4,280	5,180	7,010	8,890	5,960	e5,200	5,350
27	4,990	4,470	4,570	5,450	4,230	4,420	5,470	6,480	8,640	5,940	5,460	5,250
28	4,990	4,390	4,210	4,820	4,150	4,360	5,490	6,250	9,010	5,940	5,510	5,110
29	5,100	4,400	3,670	4,270	---	4,400	5,650	6,120	9,120	5,770	5,480	5,160
30	4,930	4,360	4,310	4,440	---	4,190	5,480	6,000	9,210	5,530	5,210	5,060
31	4,720	---	4,040	4,350	---	4,350	---	6,110	---	5,890	5,620	---
TOTAL	136,330	138,040	130,580	146,480	115,620	128,870	139,030	223,190	279,610	225,030	167,850	155,880
MEAN	4,398	4,601	4,212	4,725	4,129	4,157	4,634	7,200	9,320	7,259	5,415	5,196
MAX	5,120	4,930	4,920	6,220	4,950	4,420	5,650	10,400	12,400	9,280	5,950	5,650
MIN	3,790	4,160	2,570	2,800	3,300	3,850	3,890	5,060	5,880	5,530	5,000	4,970
AC-FT	270,400	273,800	259,000	290,500	229,300	255,600	275,800	442,700	554,600	446,300	332,900	309,200

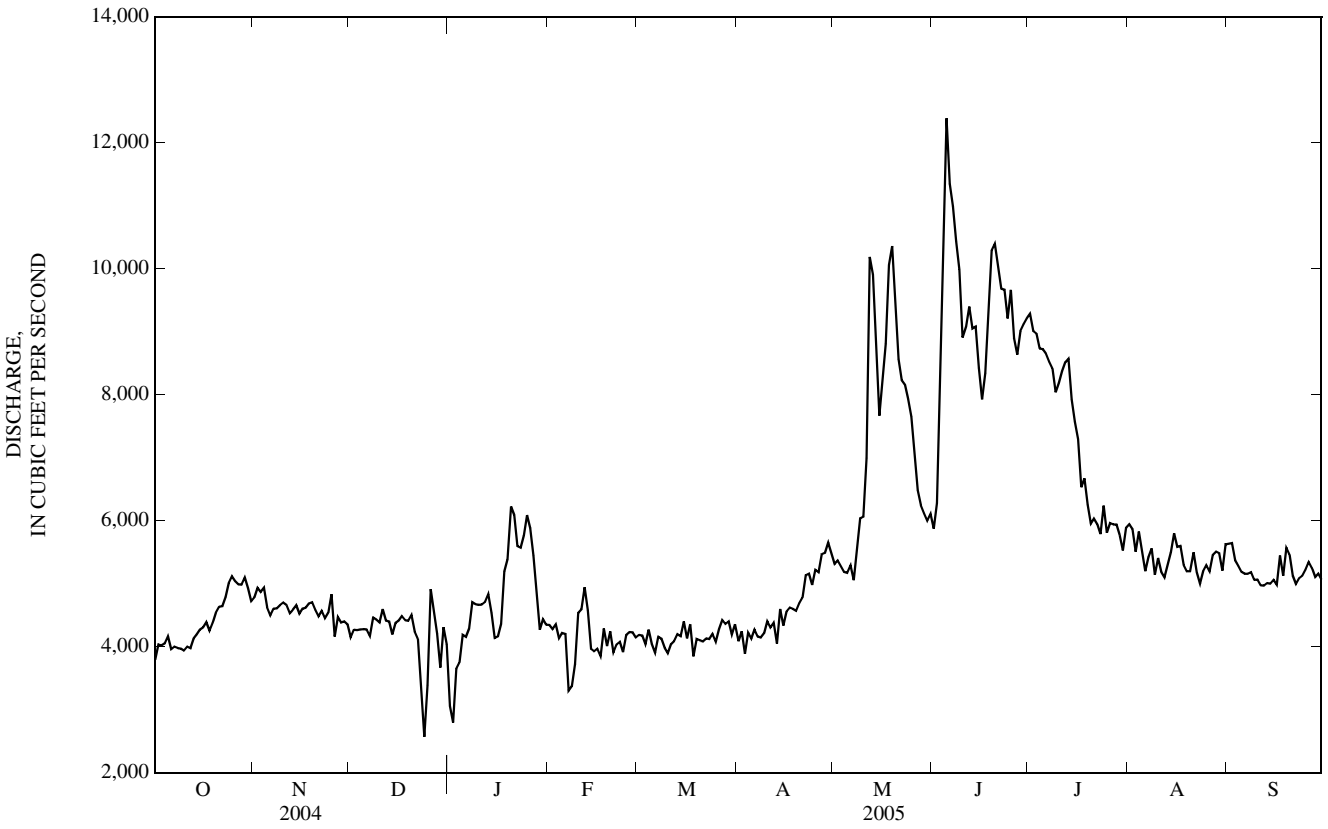
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2005, BY WATER YEAR (WY)

MEAN	5,742	6,088	6,066	6,226	6,414	6,709	7,348	10,760	13,480	8,511	5,884	5,517
MAX	11,940	10,430	11,520	8,232	9,252	10,820	13,200	24,780	30,160	23,560	9,946	9,992
(WY)	(1966)	(1966)	(1960)	(1971)	(1997)	(1968)	(1976)	(1976)	(1964)	(1975)	(1993)	(1984)
MIN	3,829	3,950	3,773	3,869	4,030	4,021	3,526	4,454	3,758	3,817	3,719	3,109
(WY)	(1989)	(1993)	(2002)	(2002)	(2002)	(1961)	(1961)	(1961)	(1977)	(1977)	(1988)	(1959)

06090300 MISSOURI RIVER NEAR GREAT FALLS, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1957 - 2005	
ANNUAL TOTAL	1,707,200		1,986,510			
ANNUAL MEAN	4,664		5,442		7,395	
HIGHEST ANNUAL MEAN					11,490	1975
LOWEST ANNUAL MEAN					4,349	2001
HIGHEST DAILY MEAN	7,770	May 29	12,400	Jun 5	63,400	Jun 10, 1964
LOWEST DAILY MEAN	2,570	Dec 24	2,570	Dec 24	1,760	Apr 16, 1961
ANNUAL SEVEN-DAY MINIMUM	3,720	Jan 1	3,610	Dec 29	2,740	Sep 5, 1959
MAXIMUM PEAK FLOW			13,100	Jun 4	a72,000	Jun 10, 1964
MAXIMUM PEAK STAGE			4.95	Jun 4	b9.02	May 24, 1981
INSTANTANEOUS LOW FLOW					c1.0	Apr 16, 1962
ANNUAL RUNOFF (AC-FT)	3,386,000		3,940,000		5,357,000	
10 PERCENT EXCEEDS	5,320		8,650		11,700	
50 PERCENT EXCEEDS	4,610		4,920		6,280	
90 PERCENT EXCEEDS	3,990		4,040		4,200	

a--From hydrographic comparison with nearby stations.
b--Site and datum then in use.
c--About, powerplant shutdown.
e--Estimated.



06090650 LAKE CREEK NEAR POWER, MT

LOCATION.--Lat 47°41'55", long 111°23'23" (NAD 27), in $SE^1/_4SE^1/_4SE^1/_4$ sec.31, T.23 N., R.3 E., Chouteau County, Hydrologic Unit 10030102, on left bank 1.9 mi downstream from county bridge, 1.5 mi upstream from Benton Lake, and 14 mi east of Power.

DRAINAGE AREA.--83.8 mi^2, of which 11.4 mi^2 is noncontributing.

PERIOD OF RECORD.--July 1990 to current year (seasonal records only).

GAGE.--Water-stage recorder. Parshall flume since Apr. 1, 1997. Prior to Apr. 1, 1997 water-stage recorder located at site 1.9 mi upstream. Elevation of gage is 3,620 ft (NGVD 29).

REMARKS.--Seasonal records fair. Seasonal flows from Muddy Creek diverted into Lake Creek, most years. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2005
DAILY MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				0.00	0.06	0.00	0.38	0.00	13	16		
2				0.00	0.06	0.53	0.28	0.00	13	16		
3				0.00	0.06	76	0.21	0.00	13	17		
4				0.00	0.06	68	0.16	0.00	13	17		
5				0.00	0.06	12	0.09	0.00	12	17		
6				0.03	0.06	5.7	0.00	0.00	13	17		
7				0.18	0.13	3.1	0.00	0.00	13	16		
8				0.22	0.17	1.7	0.00	0.00	13	16		
9				0.16	0.17	1.2	0.00	0.00	13	17		
10				0.23	0.15	1.1	0.00	0.00	14	17		
11				0.23	0.08	0.95	0.00	9.5	14	17		
12				0.24	0.06	0.82	0.00	26	13	17		
13				0.22	0.06	1.0	0.00	28	14	17		
14				0.41	0.04	1.0	0.00	28	16	16		
15				0.63	0.01	0.76	0.00	28	14	17		
16				0.53	0.04	0.63	0.00	28	12	17		
17				0.38	0.16	0.97	0.00	28	9.0	16		
18				0.33	0.16	0.82	0.00	28	14	16		
19				0.38	0.09	0.67	0.00	27	13	16		
20				0.41	0.06	0.54	0.00	27	12	16		
21				0.47	0.04	0.45	0.00	26	14	16		
22				0.44	0.00	0.38	0.00	26	14	16		
23				0.38	0.00	0.34	0.00	26	14	15		
24				0.32	0.00	0.29	0.00	27	15	15		
25				0.25	0.00	0.29	0.00	23	15	15		
26				0.19	0.00	0.38	0.00	19	15	15		
27				0.17	0.00	0.40	0.00	15	26	15		
28				0.15	0.00	0.49	0.00	14	25	15		
29				0.14	0.00	0.42	0.00	12	16	14		
30				0.10	0.00	0.39	0.00	11	15	15		
31				---	0.00	---	0.00	14	---	15		
TOTAL				7.19	1.78	181.32	1.12	470.50	430.0	497		
MEAN				0.24	0.06	6.04	0.04	15.2	14.3	16.0		
MAX				0.63	0.17	76	0.38	28	26	17		
MIN				0.00	0.00	0.00	0.00	0.00	9.0	14		
AC-FT				14	3.5	360	2.2	933	853	986		

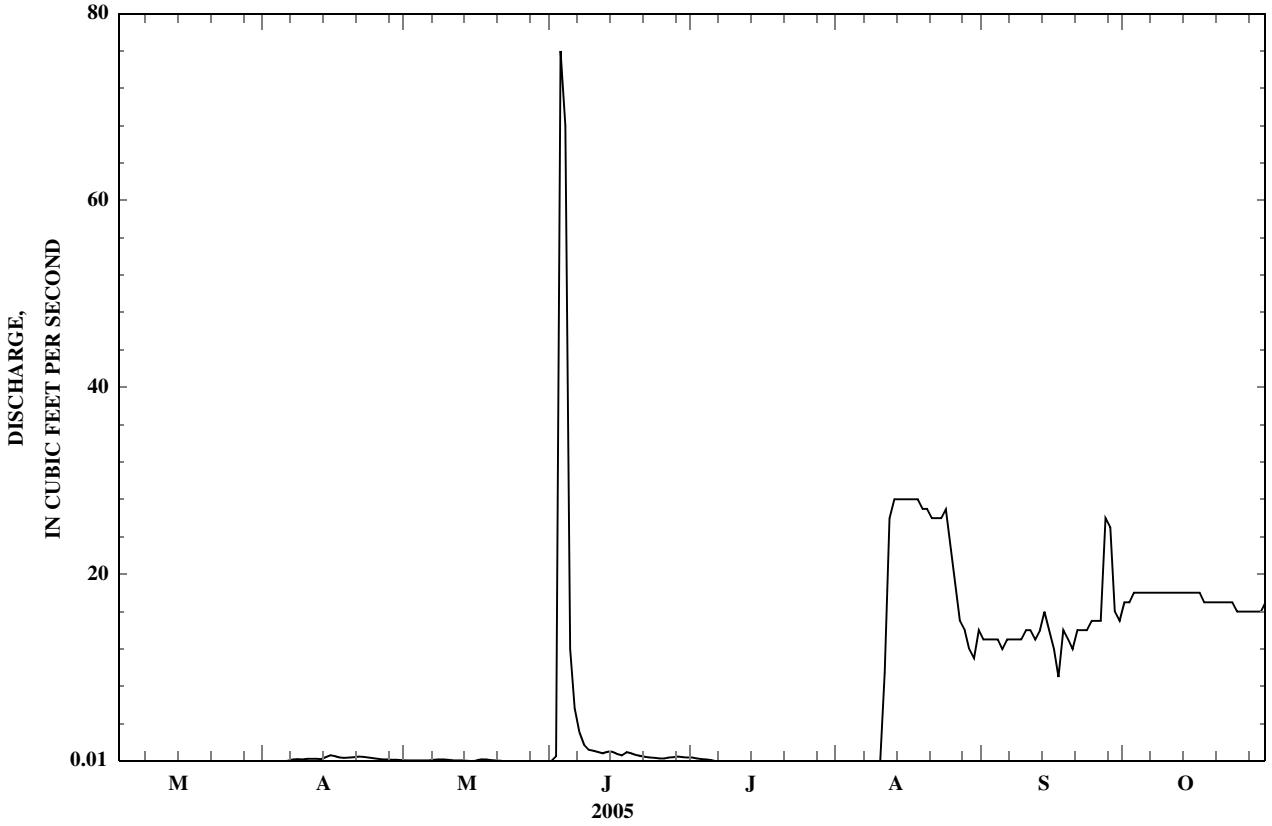
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1990 - 2005

MEAN	3.64	2.85	11.8	12.0	1.21	12.4	25.4	16.4	3.85
MAX	24.8	8.56	30.9	29.8	9.51	35.5	38.1	30.1	10.2
(WY)	(1993)	(1993)	(1992)	(1991)	(1993)	(1990)	(1990)	(2000)	(1999)
MIN	0.05	0.01	0.06	0.05	0.00	0.35	11.3	0.19	0.22
(WY)	(2000)	(2003)	(2005)	(2004)	(1992)	(2002)	(2003)	(1994)	(2003)

SUMMARY STATISTICS	FOR 2005 SEASON		SEASONS 1990 - 2005	
HIGHEST DAILY MEAN	76	Jun 3	300	Mar 6, 1993
LOWEST DAILY MEAN	.00	many days	a0.00	Jul 1, 1990
MAXIMUM PEAK FLOW	112	Jun 3	b300	Mar 6, 1993
MAXIMUM PEAK STAGE	2.63	Jun 3	c7.30	Mar 6, 1993

a--Many days most years.
b--Estimated daily discharge during period of ice effect.
c--From floodmarks, site and datum then in use.

06090650 LAKE CREEK NEAR POWER, MT—Continued



06090800 MISSOURI RIVER AT FORT BENTON, MT

LOCATION.--Lat 47°49'03", long 110°39'59" (NAD 27), in NW$^1/_4$ SE$^1/_4$ SE$^1/_4$ sec.23, T.24 N., R.8 E., Chouteau County, Hydrologic Unit 10030102, on left bank at downstream side of Old Fort Benton Bridge at Fort Benton, 3.8 mi upstream from Shonkin Creek, and at river mile 2,073.2.

DRAINAGE AREA.--24,749 mi^2.

PERIOD OF RECORD.--October 1890 to current year. Records for June 1881 to September 1890, published in WSP 546 and 761, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 746: 1932. WSP 1146: 1891-1907, 1908(M), 1909-18, 1937-38. WSP 1209: 1948(P). WSP 1309: 1929(M). WSP 1629: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 2,614.05 ft (NGVD 1929). Prior to Oct. 11, 1920, nonrecording gages, and Oct. 11, 1920, to Apr. 25, 1924, water-stage recorder, all at present site at elevation 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by 18 smaller irrigation reservoirs and powerplants, Clark Canyon Reservoir (station number 06015300), and Canyon Ferry Lake (station number 06058500). Diversions for irrigation of about 751,000 acres upstream from station. Extreme diurnal fluctuation caused by powerplant at Morony Dam. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,600	4,410	3,870	3,320	4,350	4,070	3,880	5,220	5,850	9,620	5,750	5,160
2	3,710	4,570	3,880	e2,950	4,030	4,010	4,140	5,190	6,270	9,480	5,910	5,590
3	3,780	4,590	3,860	e3,300	4,340	4,010	3,780	5,220	9,880	9,290	5,350	5,270
4	3,770	4,580	3,940	e3,600	3,880	4,060	3,890	4,950	14,400	9,080	5,660	5,260
5	3,780	4,470	3,950	e4,000	4,120	4,030	4,000	5,020	16,200	8,940	5,450	5,070
6	3,850	4,060	3,890	e4,100	4,040	3,780	4,040	4,990	14,300	9,010	5,280	5,150
7	3,550	4,230	3,850	e4,200	3,840	4,020	4,000	5,030	13,600	8,870	5,130	5,100
8	3,820	4,230	3,930	e4,500	3,410	3,870	3,930	5,280	12,300	8,650	5,420	5,110
9	3,580	4,260	4,170	e4,650	3,160	3,950	3,940	6,000	11,900	8,370	5,210	5,090
10	3,700	4,350	4,070	e4,600	4,120	3,840	4,130	6,200	10,100	8,330	5,050	5,140
11	3,700	4,290	4,110	e4,600	4,430	3,770	4,150	6,620	10,100	8,460	5,120	5,080
12	3,660	4,220	4,130	e4,650	4,680	3,920	4,130	10,000	10,200	8,640	5,060	5,060
13	3,770	4,180	4,110	e4,750	4,660	3,950	3,930	10,600	10,300	8,720	5,100	5,110
14	3,920	4,320	3,870	e4,600	3,980	4,040	4,090	9,120	10,200	8,200	5,470	5,200
15	4,000	4,190	3,960	e4,450	3,780	4,160	4,200	8,190	9,590	7,650	5,500	5,110
16	4,020	4,200	4,050	e4,500	3,800	4,000	4,270	8,190	8,930	7,230	5,660	5,040
17	4,210	4,220	4,090	e4,700	3,750	4,170	4,300	8,800	9,050	6,800	5,600	5,260
18	3,890	4,340	4,160	e5,150	4,050	3,880	4,360	10,300	10,000	6,520	5,340	5,410
19	4,120	4,340	4,020	e5,300	3,870	3,870	4,230	11,300	10,800	6,250	5,250	5,400
20	4,210	4,350	4,200	e5,950	3,980	3,870	4,450	10,400	11,200	6,020	4,880	5,510
21	4,360	4,170	4,040	e6,200	4,070	3,950	4,560	9,150	11,200	5,880	5,140	5,290
22	4,310	4,220	3,860	e5,800	3,770	3,930	4,870	8,750	10,500	5,980	5,110	4,970
23	4,530	4,160	3,780	e5,600	4,000	3,980	5,060	8,660	10,400	5,410	5,010	5,010
24	4,590	4,180	2,790	e5,700	3,800	4,030	4,820	8,370	9,760	5,910	5,110	5,020
25	4,850	4,480	2,490	e6,000	3,940	3,890	4,970	8,160	10,100	5,810	4,940	5,150
26	4,810	4,020	e4,300	e5,900	4,070	4,020	5,040	7,390	9,570	5,780	5,030	5,230
27	4,710	3,980	e4,800	5,580	4,100	4,150	5,260	6,900	8,960	5,790	4,890	5,170
28	4,640	4,130	e4,300	4,930	4,020	4,220	5,310	6,400	9,240	5,870	4,940	5,080
29	4,850	4,020	3,490	4,150	---	4,140	5,520	6,240	9,520	5,750	5,000	5,020
30	4,700	4,030	3,810	4,260	---	4,080	5,530	6,120	9,560	5,460	4,830	4,990
31	4,500	---	4,230	4,150	---	4,120	---	6,190	---	5,660	5,050	---
TOTAL	127,490	127,790	122,000	146,140	112,040	123,780	132,780	228,950	313,980	227,430	162,240	155,050
MEAN	4,113	4,260	3,935	4,714	4,001	3,993	4,426	7,385	10,470	7,336	5,234	5,168
MAX	4,850	4,590	4,800	6,200	4,680	4,220	5,530	11,300	16,200	9,620	5,910	5,590
MIN	3,550	3,980	2,490	2,950	3,160	3,770	3,780	4,950	5,850	5,410	4,830	4,970
AC-FT	252,900	253,500	242,000	289,900	222,200	245,500	263,400	454,100	622,800	451,100	321,800	307,500

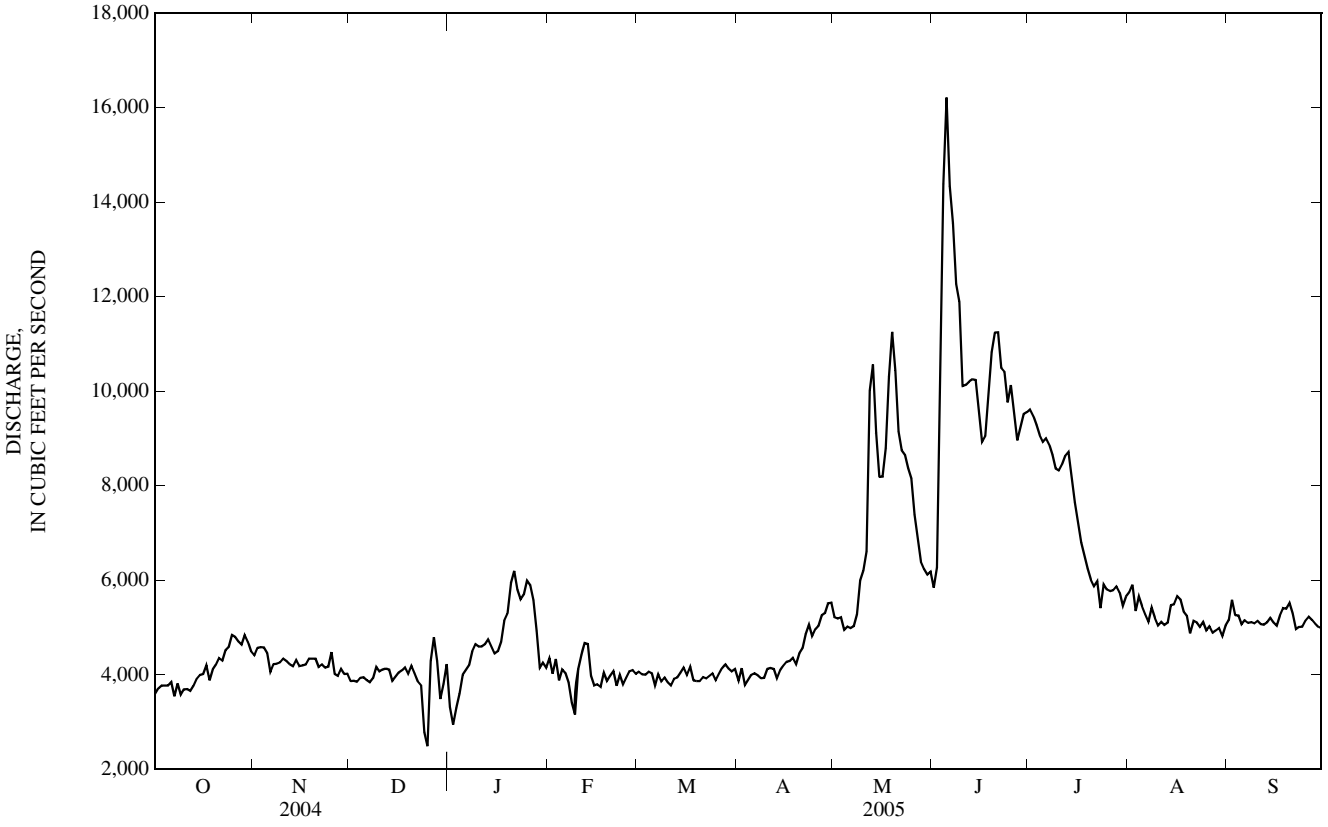
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1891 - 2005, BY WATER YEAR (WY)

MEAN	5,283	5,463	5,175	5,052	5,339	6,225	8,045	13,470	18,220	9,074	5,062	4,845
MAX	12,610	10,850	11,640	8,380	9,327	11,800	15,540	28,600	53,620	26,580	10,550	10,240
(WY)	(1966)	(1966)	(1960)	(1997)	(1997)	(1910)	(1910)	(1894)	(1908)	(1907)	(1993)	(1984)
MIN	2,441	2,789	2,446	2,377	2,492	2,986	3,574	4,144	4,055	2,433	1,576	1,890
(WY)	(1920)	(1920)	(1932)	(1932)	(1937)	(1938)	(1961)	(1941)	(1977)	(1919)	(1934)	(1934)

06090800 MISSOURI RIVER AT FORT BENTON, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1891 - 2005	
ANNUAL TOTAL	1,696,360		1,979,670			
ANNUAL MEAN	4,635		5,424		7,604	
HIGHEST ANNUAL MEAN					11,850	1894
LOWEST ANNUAL MEAN					3,619	1937
HIGHEST DAILY MEAN	8,800	May 29	16,200	Jun 5	107,000	Jun 7, 1908
LOWEST DAILY MEAN	2,490	Dec 25	2,490	Dec 25	627	Jul 5, 1936
ANNUAL SEVEN-DAY MINIMUM	3,560	Jul 29	3,530	Dec 29	1,190	Jan 10, 1932
MAXIMUM PEAK FLOW			a17,100	Jun 5	c140,000	Jun 6, 1908
MAXIMUM PEAK STAGE			b8.77	Jan 21	d18.50	Jun 6, 1908
INSTANTANEOUS LOW FLOW					f320	Jul 5, 1936
ANNUAL RUNOFF (AC-FT)	3,365,000		3,927,000		5,509,000	
10 PERCENT EXCEEDS	5,520		9,060		14,200	
50 PERCENT EXCEEDS	4,460		4,660		5,610	
90 PERCENT EXCEEDS	3,750		3,860		3,520	

a--Gage height, 5.30 ft.
b--Backwater from ice.
c--About, observed, from rating table extended over 63,000 ft^3/s.
d--Present datum.
e--Estimated.
f--Gage height, -0.05 ft.



06091700 TWO MEDICINE RIVER BELOW SOUTH FORK, NEAR BROWNING, MT

LOCATION.--Lat 48°25'36", long 112°59'20" (NAD 27), in $SE^1/_4SE^1/_4SE^1/_4$ sec.23, T.31 N., R.11 W., Glacier County, Hydrologic Unit 10030201, Blackfeet Indian Reservation, on left bank 15 ft downstream from bridge on Blackfeet Secondary Highway No. 1, 9.7 mi south of Browning, and 12.3 mi northwest of Heart Butte.

DRAINAGE AREA.--250 mi^2.

PERIOD OF RECORD.--May 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,180 ft (NGVD 29). May 1977 to September 1997 at elevation 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Lower Two Medicine Lake (station number 06090900). Diversions for irrigation of about 64 acres upstream from station. Bureau of Reclamation satellite telemeter at station. Several unpublished observations of water discharge and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 100,000 ft^3/s, June 8, 1964, as determined at Two Medicine River near Browning (station number 06092000) located about 10 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	53	e52	e62	193	83	152	328	606	334	168	118
2	42	72	e55	e60	181	83	172	306	819	318	166	117
3	42	94	e60	e60	166	82	160	297	1,080	308	166	115
4	41	70	e56	e56	162	80	163	308	1,040	281	163	113
5	40	71	e50	e54	e150	84	167	325	1,030	264	159	111
6	39	70	e44	e54	e130	88	161	366	995	249	157	110
7	40	68	e43	e54	e135	87	202	495	930	235	156	108
8	41	68	e44	e52	147	100	323	640	1,070	222	156	104
9	39	72	e50	e49	145	106	283	608	1,080	213	155	104
10	40	75	e60	e49	141	115	239	762	985	202	168	89
11	39	69	e58	e49	137	111	224	846	791	197	210	94
12	38	54	e56	e47	126	128	215	687	687	184	221	82
13	38	59	e60	e43	122	121	224	519	605	176	219	77
14	39	63	e70	e40	e110	118	259	505	481	176	205	75
15	60	73	e80	e43	e90	115	246	675	461	187	199	74
16	60	64	e90	e50	e90	114	249	905	453	177	190	75
17	121	59	e100	e70	e95	114	309	1,220	494	172	169	80
18	89	55	e100	e100	e90	109	298	1,170	517	163	175	75
19	81	56	e95	e200	e85	107	283	1,050	408	176	170	71
20	73	51	e90	e350	e90	115	278	944	275	218	163	68
21	75	49	e70	e300	e90	118	256	791	310	215	159	67
22	80	e53	e58	e380	e95	102	259	690	451	216	157	67
23	77	e53	e58	401	e100	113	297	637	479	207	155	68
24	72	e50	e66	399	99	103	345	582	467	207	155	68
25	63	e47	e70	369	92	105	407	540	431	206	154	65
26	62	e47	e64	345	86	102	460	516	389	184	149	61
27	65	e46	e64	320	e80	118	479	505	374	180	144	58
28	67	e46	e74	284	81	189	401	512	426	176	141	55
29	62	e48	e74	253	---	198	366	535	399	174	135	48
30	64	e50	e70	236	---	167	348	543	362	171	120	90
31	61	---	e64	212	---	148	---	544	---	169	119	---
TOTAL	1,794	1,805	2,045	5,041	3,308	3,523	8,225	19,351	18,895	6,557	5,123	2,507
MEAN	57.9	60.2	66.0	163	118	114	274	624	630	212	165	83.6
MAX	121	94	100	401	193	198	479	1,220	1,080	334	221	118
MIN	38	46	43	40	80	80	152	297	275	163	119	48
AC-FT	3,560	3,580	4,060	10,000	6,560	6,990	16,310	38,380	37,480	13,010	10,160	4,970
*	0	0	0	0	0	0	789	4,680	2,550	6,080	6,930	3,850

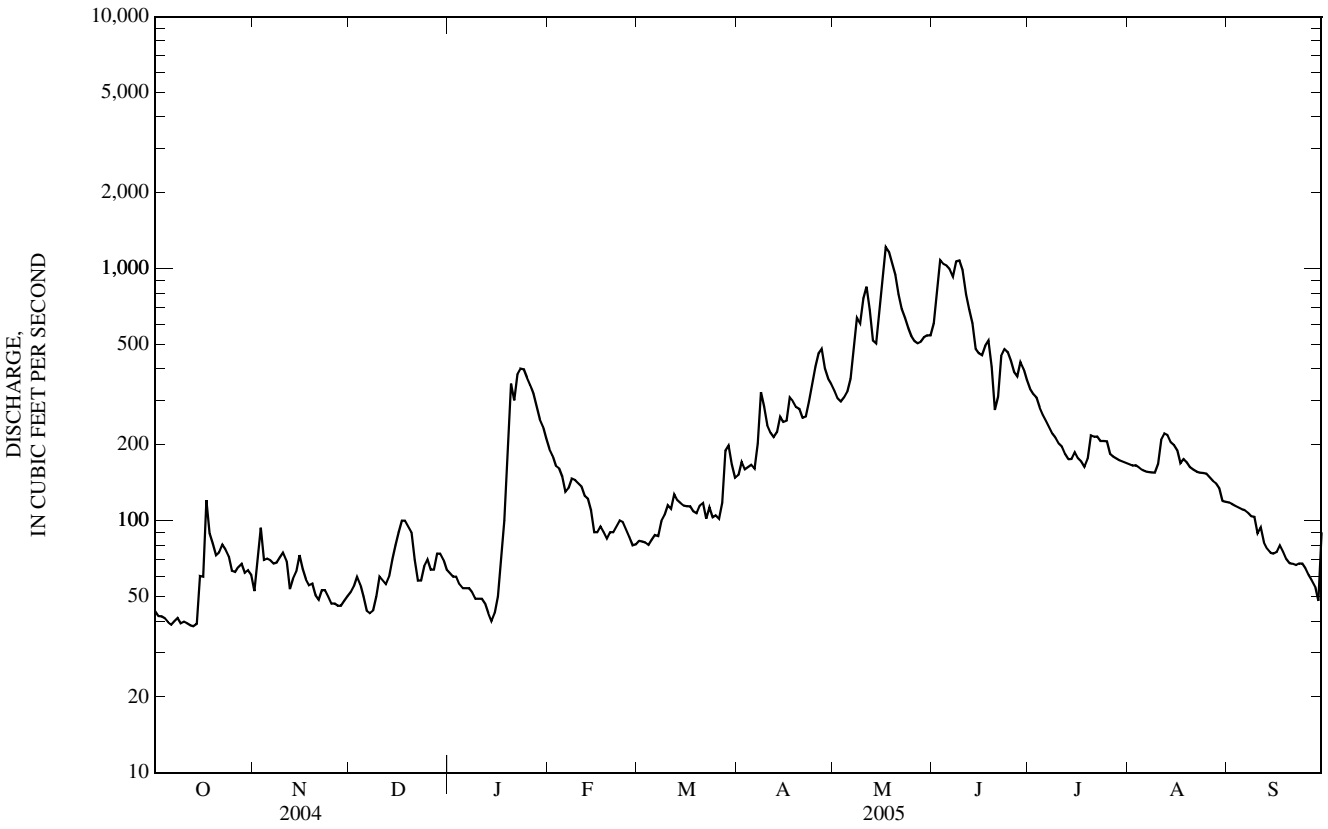
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2005, BY WATER YEAR (WY)

MEAN	91.5	122	76.2	63.3	89.6	143	489	1,142	1,026	356	162	102
MAX	533	558	394	180	394	474	923	2,040	2,922	656	265	240
(WY)	(1986)	(1996)	(1996)	(1981)	(1996)	(1986)	(1990)	(1991)	(2002)	(2002)	(2002)	(1985)
MIN	23.2	18.8	19.7	17.9	26.4	40.5	140	439	282	173	41.2	24.4
(WY)	(2004)	(1980)	(1999)	(1982)	(1980)	(1980)	(2001)	(1977)	(1977)	(1994)	(1994)	(1988)

06091700 TWO MEDICINE RIVER BELOW SOUTH FORK, NEAR BROWNING, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1977 - 2005	
ANNUAL TOTAL	87,633		78,174			
ANNUAL MEAN	239		214		327	
HIGHEST ANNUAL MEAN					542	1991
LOWEST ANNUAL MEAN					199	2001
HIGHEST DAILY MEAN	1,070	Jun 8	1,220	May 17	8,600	Jun 7, 1995
LOWEST DAILY MEAN	18	Jan 4	38	Oct 12	10	Jan 29, 1980
ANNUAL SEVEN-DAY MINIMUM	23	Jan 25	39	Oct 8	13	Feb 3, 1982
MAXIMUM PEAK FLOW			1,460	Jun 8	b11,700	May 19, 1991
MAXIMUM PEAK STAGE			a4.38	Jun 8	c8.25	Jun 7, 1995
ANNUAL RUNOFF (AC-FT)	173,800		155,100		236,900	
10 PERCENT EXCEEDS	674		508		938	
50 PERCENT EXCEEDS	107		121		120	
90 PERCENT EXCEEDS	35		51		32	

*--Flows, in acre-ft, in Two Medicine Canal.
a--May have been higher during ice-affected periods.
b--Gage height, 7.78 ft, previous datum; from rating curve extended above 5,500 ft^3/s.
c--Previous datum.
e--Estimated.



06093200 BADGER CREEK BELOW FOUR HORNS CANAL, NEAR BROWNING, MT

LOCATION.--Lat 48°22'12", long 112°48'07" (NAD 27), in NW$^1/_4$SW$^1/_4$SE$^1/_4$ sec.8, T.30 N., R.9 W., Glacier County, Hydrologic Unit 10030201, Blackfeet Indian Reservation, on left bank, 3.4 mi downstream from point of diversion to Four Horns Canal, 15.5 mi southeast of Browning, and at river mile 11.6.

DRAINAGE AREA.--152 mi^2.

PERIOD OF RECORD.--October 1973 to current year. Records equivalent to those published as Badger Creek near Browning (station number 06092500) if diversion to Four Horns Canal is added to flow past station.

GAGE.--Water-stage recorder. Elevation of gage is 4,140 ft (NGVD 29). May 1951 to September 1973, water-stage recorder at site 3.4 mi upstream (station number 06092500) at different elevation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Four Horns Canal diverts water from right bank in NE$^1/_4$ sec.24, T.30 N., R.10 W., at diversion dam 3.4 mi upstream for irrigation of about 6,000 acres downstream from station. Recorded diversions by Four Horns Canal are listed in daily table below. Several unpublished observations of water temperature and specific conductance were made during the year. Bureau of Reclamation satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 49,700 ft^3/s, June 8, 1964, gage height, 10.37 ft, from rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow, as determined at Badger Creek near Browning site (station number 06092500) 3.4 mi upstream.

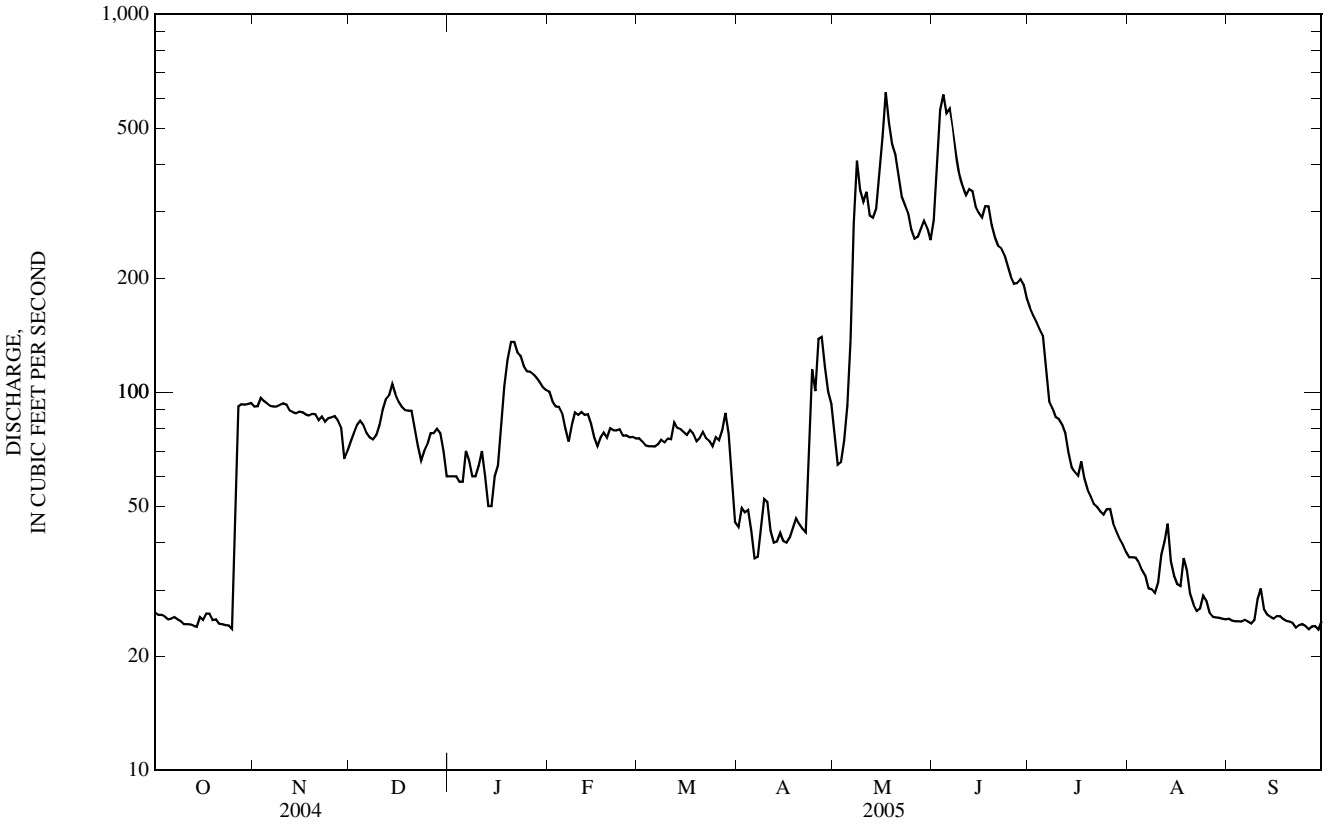
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	92	e74	e60	100	76	44	78	286	167	37	25
2	26	92	e78	e60	94	74	49	64	391	160	37	25
3	26	97	e82	e60	92	73	48	65	559	154	37	25
4	26	95	e84	e58	92	72	49	75	613	147	36	25
5	25	94	e82	e58	e88	72	43	92	547	141	34	25
6	25	92	e78	e70	e80	72	36	137	562	117	33	25
7	25	92	e76	e66	e74	73	37	280	484	95	30	25
8	25	92	e75	e60	e82	75	44	410	423	91	30	24
9	25	93	e77	e60	89	74	52	342	376	86	29	25
10	24	93	e82	e64	87	75	51	319	351	85	31	28
11	24	93	e90	e70	89	75	43	339	332	82	37	30
12	24	90	e96	e60	87	83	40	293	344	78	40	27
13	24	89	98	e50	87	81	40	290	340	69	45	26
14	24	88	105	e50	83	80	42	306	310	63	36	25
15	25	89	99	e60	e76	79	40	382	298	62	33	25
16	e25	89	94	e64	e72	77	40	474	290	60	31	26
17	e26	87	92	e80	e76	79	41	622	311	66	31	26
18	e26	87	90	e104	78	78	44	516	311	59	36	25
19	e25	88	89	e122	e76	74	46	452	277	55	34	25
20	25	88	90	e136	80	76	45	425	257	53	29	25
21	24	85	e80	e136	79	79	44	375	244	51	27	25
22	24	86	e72	127	79	76	43	329	241	50	26	24
23	24	84	e66	125	80	74	68	313	231	48	27	24
24	24	86	e70	117	77	72	115	298	216	47	29	24
25	24	86	e73	114	77	76	101	269	202	49	28	24
26	55	87	e78	114	76	75	138	255	194	49	26	24
27	92	84	e78	112	76	79	140	257	194	45	26	24
28	93	81	e80	109	76	88	117	271	199	43	25	24
29	93	67	e78	106	---	78	100	284	193	41	25	24
30	93	e70	e70	103	---	60	93	272	177	40	25	25
31	94	---	e60	101	---	45	---	252	---	38	25	---
TOTAL	1,141	2,636	2,536	2,676	2,302	2,320	1,833	9,136	9,753	2,391	975	754
MEAN	36.8	87.9	81.8	86.3	82.2	74.8	61.1	295	325	77.1	31.5	25.1
MAX	94	97	105	136	100	88	140	622	613	167	45	30
MIN	24	67	60	50	72	45	36	64	177	38	25	24
AC-FT	2,260	5,230	5,030	5,310	4,570	4,600	3,640	18,120	19,350	4,740	1,930	1,500
DIVERSION BY FOUR HORNS CANAL												
AC-FT	4,960	0	0	0	0	147	4,240	5,030	3,070	4,610	4,840	4,240
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2005, BY WATER YEAR (WY)												
MEAN	82.5	110	96.1	88.6	89.3	93.5	168	486	557	161	72.7	65.7
MAX	316	295	184	160	198	205	321	899	2,240	568	184	199
(WY)	(1986)	(1990)	(1976)	(1976)	(1996)	(1986)	(1990)	(1976)	(1975)	(1975)	(1975)	(1993)
MIN	9.13	40.9	42.9	57.0	52.5	44.6	61.1	140	58.9	17.5	16.4	15.6
(WY)	(1978)	(2002)	(1984)	(2001)	(2001)	(1977)	(2005)	(1977)	(1977)	(1977)	(1984)	(1988)

06093200 BADGER CREEK BELOW FOUR HORNS CANAL, NEAR BROWNING, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1974 - 2005	
ANNUAL TOTAL	36,028		38,453			
ANNUAL MEAN	98.4		105*		173**	
HIGHEST ANNUAL MEAN					350	1975
LOWEST ANNUAL MEAN					68.1	1977
HIGHEST DAILY MEAN	451	Jun 6	622	May 17	14,000	Jun 19, 1975
LOWEST DAILY MEAN	24	Oct 10	24	Oct 10	6.5	Sep 17, 1984
ANNUAL SEVEN-DAY MINIMUM	24	Oct 8	24	Sep 22	7.7	Oct 25, 1977
MAXIMUM PEAK FLOW			684	May 17	a20,700	Jun 19, 1975
MAXIMUM PEAK STAGE			6.03	May 17	13.58	Jun 19, 1975
ANNUAL RUNOFF (AC-FT)	71,460		76,270		125,100	
10 PERCENT EXCEEDS	229		282		380	
50 PERCENT EXCEEDS	78		76		95	
90 PERCENT EXCEEDS	27		25		40	

*--148 ft^3/s, adjusted for flow in Four Horns Canal.
**--214 ft^3/s, adjusted for flow in Four Horns Canal.
a--From rating curve extended above 7,700 ft^3/s, based on comparison with previous site, 3.4 miles upstream.
e--Estimated.



06098500 CUT BANK CREEK NEAR BROWNING, MT

LOCATION--Lat 48°37'00", long 113°02'06" (NAD 27), in $NE^1/_4NW^1/_4SW^1/_4$ sec.15, T.33 N., R.11 W., Glacier County, Hydrologic Unit 10030202, Blackfeet Indian Reservation, on right bank 20 ft downstream from bridge on Montana Secondary Highway 464, 4.0 mile north of Browning, and at river mile 73.3.

DRAINAGE AREA.--123 mi^2.

PERIOD OF RECORD.--April 1918 to October 1925 (seasonal records only), April 1991 to current year.

REVISED RECORDS.--WDR -93-1: 1992(M).

GAGE.--Water-stage recorder. Elevation of gage is 4,380 ft (NGVD 29). April 1918 to October 1925, water-stage recorder at site about 120 ft upstream at different elevation. April 1991 to September 1995 at elevation 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 1,200 acres upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year. Bureau of Reclamation satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	55	e32	e36	87	41	51	142	297	247	e41	15
2	52	60	e35	e36	90	41	57	123	384	234	e35	13
3	49	68	38	e37	83	42	59	114	582	219	e27	12
4	48	69	39	e34	76	41	58	112	705	194	26	11
5	45	62	40	e28	e68	43	57	119	659	176	23	9.8
6	43	60	42	e27	e60	43	56	138	620	163	20	10
7	43	59	e40	e28	e62	40	57	190	537	157	19	9.9
8	42	56	e35	e28	e65	42	61	264	465	152	19	8.8
9	41	56	36	e27	e70	43	69	291	381	142	20	10
10	42	59	38	e26	e80	44	69	283	339	138	22	23
11	41	59	e50	e25	e80	43	68	265	307	130	27	44
12	41	52	e75	e25	e69	49	69	237	336	e122	34	35
13	40	50	e100	e24	e60	50	72	230	350	e120	38	29
14	40	53	111	e23	e55	48	85	266	297	e125	30	26
15	53	51	99	e24	e55	48	86	342	275	e120	26	25
16	55	51	82	e26	e55	49	78	454	264	e110	24	26
17	79	49	78	e28	e52	49	81	544	282	e120	24	29
18	91	48	70	e31	e50	e48	88	523	332	e110	32	29
19	92	47	75	e44	e47	e42	87	418	317	e100	32	26
20	88	42	70	e100	e47	e43	85	365	287	e80	27	24
21	88	40	e65	e200	e50	e45	84	320	276	e65	22	23
22	90	e39	e60	e220	e52	e43	79	280	282	65	21	23
23	86	e33	e50	210	e50	e40	78	263	302	59	23	23
24	81	e33	e48	181	e47	e39	85	252	290	54	28	24
25	73	e36	e50	173	e45	e39	101	241	255	58	29	24
26	67	e35	e48	157	44	e40	139	228	228	57	23	23
27	65	e33	e46	148	45	46	167	228	219	51	19	23
28	64	e31	e44	129	44	54	156	244	273	46	17	23
29	62	e29	e41	114	---	60	147	265	268	e43	15	21
30	62	e30	e39	101	---	56	187	269	258	e41	14	24
31	63	---	e37	94	---	49	---	272	---	e43	16	---
TOTAL	1,881	1,445	1,713	2,384	1,688	1,400	2,616	8,282	10,667	3,541	773	646.5
MEAN	60.7	48.2	55.3	76.9	60.3	45.2	87.2	267	356	114	24.9	21.6
MAX	92	69	111	220	90	60	187	544	705	247	41	44
MIN	40	29	32	23	44	39	51	112	219	41	14	8.8
AC-FT	3,730	2,870	3,400	4,730	3,350	2,780	5,190	16,430	21,160	7,020	1,530	1,280

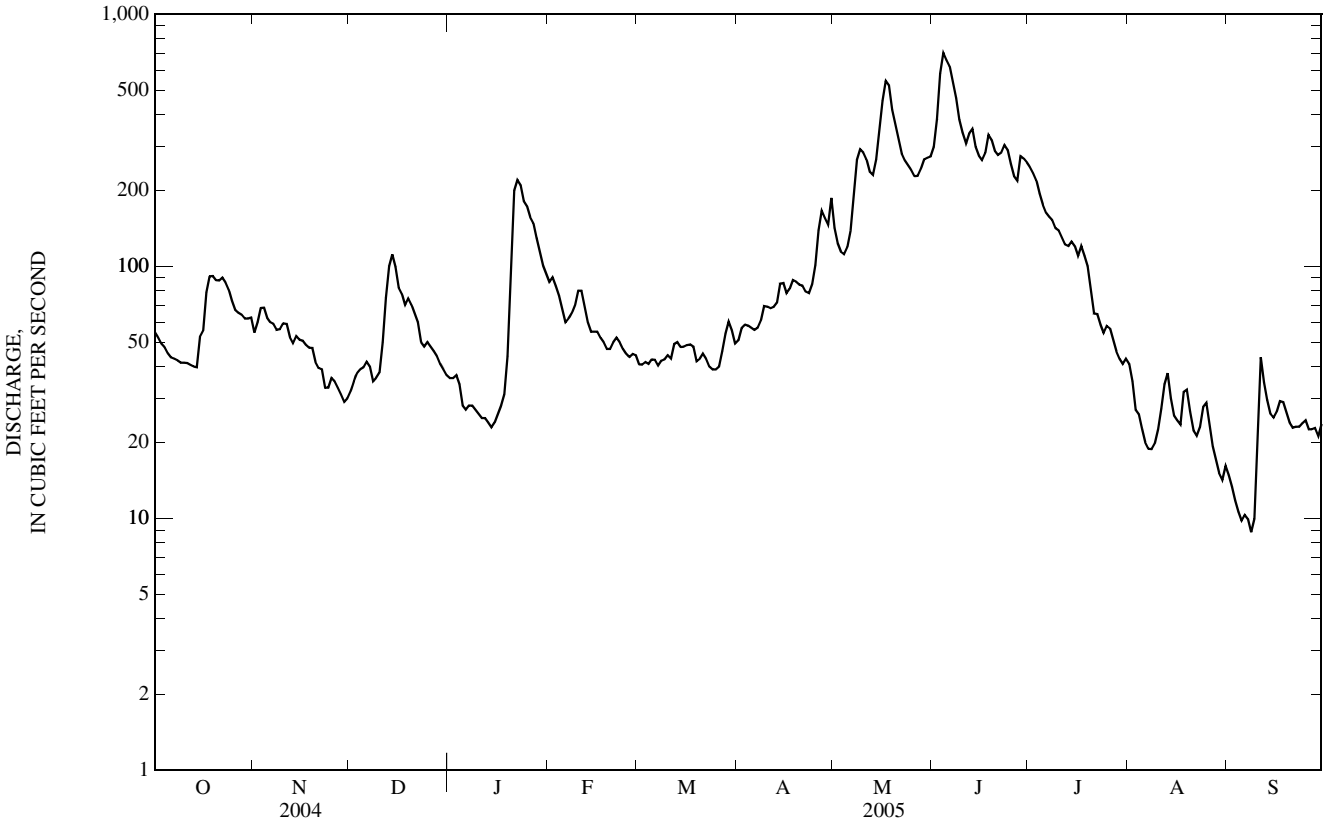
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 2005, BY WATER YEAR (WY)*

MEAN	54.2	59.0	42.1	34.5	39.8	52.4	135	405	487	181	63.7	41.8
MAX	136	216	157	76.9	139	110	217	740	955	344	140	81.8
(WY)	(1996)	(1996)	(1996)	(2005)	(1996)	(1997)	(1996)	(1991)	(2002)	(2002)	(1923)	(1993)
MIN	15.2	25.4	17.3	18.5	15.4	17.8	57.1	248	184	57.9	15.6	11.7
(WY)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(1992)	(1992)	(2001)	(2001)	(2001)

06098500 CUT BANK CREEK NEAR BROWNING, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1918 - 2005*	
ANNUAL TOTAL	41,008		37,036.5			
ANNUAL MEAN	112		101		126	
HIGHEST ANNUAL MEAN					201	1996
LOWEST ANNUAL MEAN					69.0	2001
HIGHEST DAILY MEAN	551	Jun 6	705	Jun 4	3,400	Jun 7, 1995
LOWEST DAILY MEAN	16	Jan 6	8.8	Sep 8	8.8	Sep 8, 2005
ANNUAL SEVEN-DAY MINIMUM	18	Jan 3	10	Sep 3	9.8	Aug 30, 2001
MAXIMUM PEAK FLOW			797	Jun 5	a5,480	Jun 7, 1995
MAXIMUM PEAK STAGE			3.75	Jun 5	b5.59	Jun 7, 1995
INSTANTANEOUS LOW FLOW					c4.9	Nov 22, 1994
ANNUAL RUNOFF (AC-FT)	81,340		73,460		91,550	
10 PERCENT EXCEEDS	311		268		327	
50 PERCENT EXCEEDS	59		55		51	
90 PERCENT EXCEEDS	27		24		21	

*--During periods of operation (April 1918 to October 1925, seasonal records only; April 1991 to current year).
a--From rating curve extended above 2,500 ft^3/s.
b--Previous datum.
c--Gage height, 0.60 ft, result of freezeup.
e--Estimated.



06099000 CUT BANK CREEK AT CUT BANK, MT

LOCATION.--Lat 48°38'00", long 112°20'46" (NAD 27), in $SW^1/_4SE^1/_4NE^1/_4$ sec.11, T.33 N., R.6 W., Glacier County, Hydrologic Unit 10030202, Blackfeet Indian Reservation, on right bank, 0.1 mi downstream from bridge on U.S. Highway 2, 0.7 mi west of Cut Bank, 0.8 mi downstream from Old Maids Coulee, and at river mile 17.7.

DRAINAGE AREA.--1,041 mi^2.

PERIOD OF RECORD.--August 1905 to October 1919, May to July 1920, May 1922 to October 1924, May 1951 to September 1973, October 1981 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309; 1907-8, 1910-11, 1924-25. WSP 1509: 1911, 1916(M). WSP 1559: 1905(M), 1908(M). WSP 1709: 1959. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,561.42 ft (NGVD 29). Prior to May 12, 1922, nonrecording gage at several sites 0.5 mi upstream at various elevations. May 12, 1922 to Nov. 1, 1924, nonrecording gage at present site and different elevation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Few minor diversions for irrigation upstream from station. Natural flow of stream may be affected by return flow from Two Medicine Canal which irrigates lands upstream from station. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 20, 1975 reached a discharge of 5,200 ft^3/s, gage height, 8.2 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	e69	e40	e46	e170	82	66	167	231	352	37	48
2	64	e69	e44	e46	e180	84	64	142	368	296	38	45
3	62	69	e47	e45	e130	76	65	125	580	269	34	43
4	60	71	e50	e42	e110	74	67	112	941	245	34	42
5	57	74	e50	e40	e80	80	64	110	897	219	30	42
6	54	72	e46	e42	e84	89	63	111	2,330	190	22	40
7	52	69	e40	e40	e90	175	63	123	1,640	176	21	42
8	51	68	e38	e38	e80	128	61	167	2,340	174	16	42
9	49	67	e40	e37	e90	71	62	234	1,010	167	20	40
10	47	66	e50	e37	e120	108	65	264	827	153	22	40
11	46	e68	e62	e36	e120	66	66	282	611	149	29	93
12	46	e66	e56	e36	e130	67	66	278	497	137	36	124
13	46	e64	e60	e34	e120	65	67	240	632	123	49	118
14	46	e60	e75	e33	e100	65	83	228	609	119	58	102
15	55	e66	e100	e34	e80	68	100	250	469	106	51	84
16	59	62	e110	e37	e84	66	96	332	388	98	46	75
17	63	60	e120	e40	e84	66	85	447	419	121	42	71
18	70	60	e110	e45	e82	67	83	514	528	125	40	69
19	88	56	e100	e60	e80	e55	91	502	475	106	43	68
20	92	e52	e79	e95	e78	e58	89	418	405	94	46	66
21	91	e47	e64	e180	e76	e62	83	365	344	87	43	62
22	91	e48	e64	e250	80	e60	78	324	308	87	37	59
23	95	e36	e60	e360	85	e58	75	279	294	86	38	58
24	92	e40	e62	e330	89	e56	72	256	309	75	43	58
25	89	e45	e60	e270	92	e60	71	244	303	69	51	61
26	84	e40	e58	e200	91	67	74	224	270	74	54	62
27	81	e35	e56	e200	84	79	95	203	252	79	52	59
28	77	e32	e54	e180	83	66	125	207	895	72	51	58
29	75	e34	e56	e170	---	67	125	215	687	62	51	56
30	72	e36	e50	e160	---	70	120	237	447	55	48	56
31	69	---	e47	e170	---	69	---	232	---	46	49	---
TOTAL	2,089	1,701	1,948	3,333	2,772	2,324	2,384	7,832	20,306	4,211	1,231	1,883
MEAN	67.4	56.7	62.8	108	99.0	75.0	79.5	253	677	136	39.7	62.8
MAX	95	74	120	360	180	175	125	514	2,340	352	58	124
MIN	46	32	38	33	76	55	61	110	231	46	16	40
AC-FT	4,140	3,370	3,860	6,610	5,500	4,610	4,730	15,530	40,280	8,350	2,440	3,730

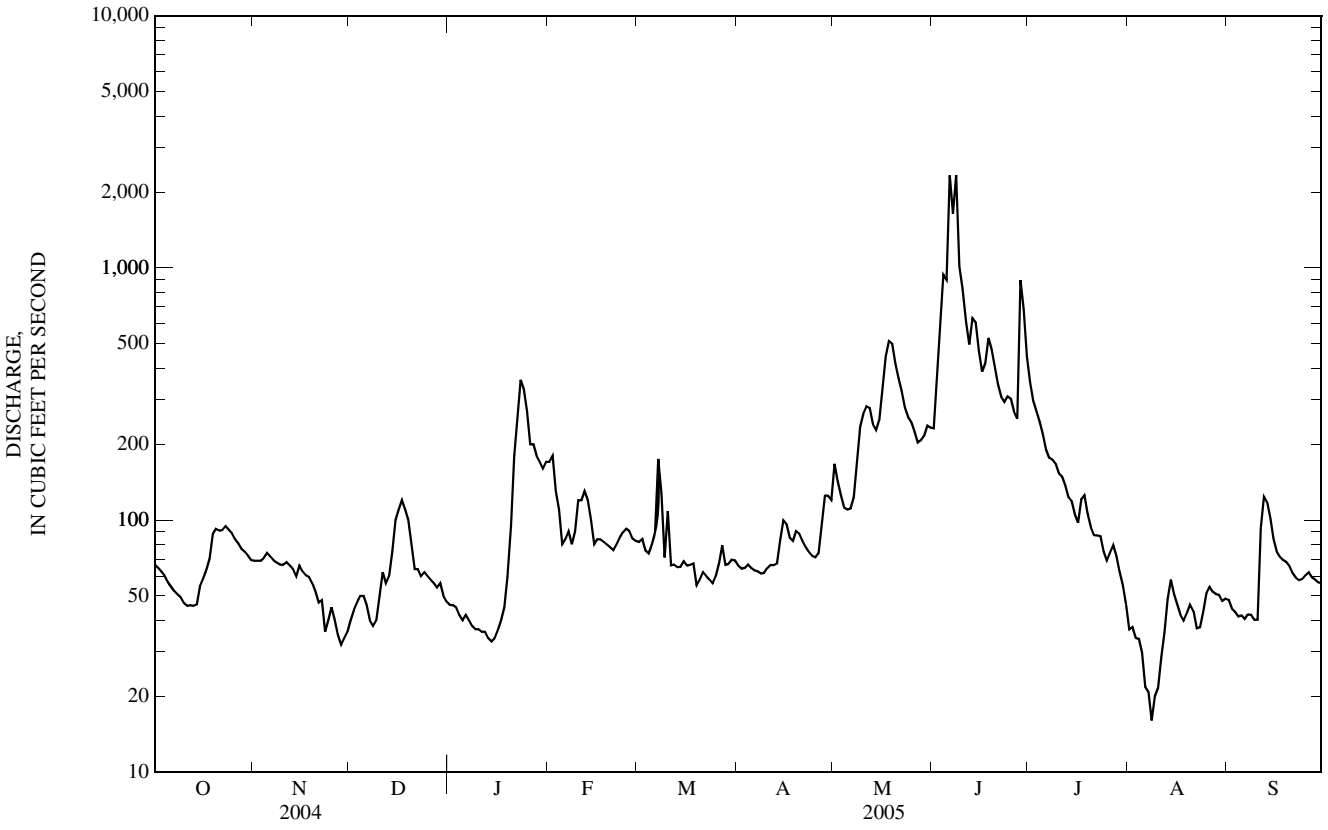
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 2005, BY WATER YEAR (WY)*

MEAN	83.0	75.7	47.3	35.6	57.5	147	238	477	627	239	88.2	74.9
MAX	268	271	185	115	414	1,053	664	894	1,781	605	233	298
(WY)	(1952)	(1990)	(1996)	(1990)	(1986)	(1972)	(1952)	(1954)	(2002)	(1951)	(1972)	(1911)
MIN	11.2	19.1	15.0	1.61	11.1	6.90	79.4	198	174	17.0	5.56	5.92
(WY)	(2002)	(2002)	(1984)	(1982)	(1985)	(1907)	(1984)	(1984)	(1992)	(1988)	(1988)	(1988)

06099000 CUT BANK CREEK AT CUT BANK, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1905 - 2005*	
ANNUAL TOTAL	44,380		52,014			
ANNUAL MEAN	121		143		181	
HIGHEST ANNUAL MEAN					317	1972
LOWEST ANNUAL MEAN					73.9	1988
HIGHEST DAILY MEAN	525	Jun 7	2,340	Jun 8	11,200	Jun 9, 1964
LOWEST DAILY MEAN	13	Jan 6	16	Aug 8	1.0	Jan 22, 1982
ANNUAL SEVEN-DAY MINIMUM	15	Jan 3	23	Aug 5	1.1	Jan 20, 1982
MAXIMUM PEAK FLOW			4,060	Jun 6	a16,600	Jun 9, 1964
MAXIMUM PEAK STAGE			7.32	Jun 6	13.93	Jun 9, 1964
INSTANTANEOUS LOW FLOW					b0.92	Sep 10, 1988
ANNUAL RUNOFF (AC-FT)	88,030		103,200		131,100	
10 PERCENT EXCEEDS	315		299		477	
50 PERCENT EXCEEDS	71		71		80	
90 PERCENT EXCEEDS	27		40		24	

*--During periods of operation (August 1905 to october 1919, May to July 1920, May 1922 to October 1924, May 1951 to September 1973, October 1981 to current year).
a--From rating curve extended above 12,000 ft^3/s on basis of slope-area measurement of peak flow.
b--Gage height, 0.59 ft.
e--Estimated.



06099500 MARIAS RIVER NEAR SHELBY, MT

LOCATION.--Lat 48°25'38", long 111°53'20" (NAD 27), in $SE^1/_4$ $NW^1/_4$ $SE^1/_4$ sec.20, T.31 N., R.2 W., Toole County, Hydrologic Unit 10030203, on left bank 20 ft downstream from bridge on old U.S. Highway 91, 5.1 mi south of Shelby, 24 mi downstream from Cut Bank Creek, and at river mile 140.6.

DRAINAGE AREA.--3,242 mi^2, of which 518 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April 1902 to December 1904, May 1905 to December 1906, May 1907 to January 1908, April 1911 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1903-4, 1918, 1921, 1933, 1935, 1947. WSP 1509: 1902, 1912(M), 1916, 1943(M). WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,087.72 ft (NGVD 29). Prior to Dec. 23, 1947, nonrecording gage or water-stage recorder at several sites within 1,000 ft of present site at approximately the same elevation. Dec. 23, 1947, to Apr. 6, 1976, water-stage recorder at site 150 ft downstream at same elevation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Lower Two Medicine Lake (station number 06090900), Four Horns Reservoir (station number 06093000) Swift Reservoir (station number 06094000), and Lake Frances (station number 06095500), having a combined capacity of 172,630 acre-ft. Diversions for irrigation of about 50,000 acres upstream from station and about 15,000 acres downstream from station. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	e250	e105	e110	e600	392	348	644	994	1,060	111	135
2	198	e265	e110	e100	e560	336	323	622	1,270	893	100	132
3	212	e240	e120	e110	560	330	328	554	2,140	799	93	129
4	207	e230	e130	e120	507	313	338	511	2,750	753	93	124
5	199	e270	e120	e120	e450	327	331	500	2,790	690	101	118
6	186	280	e105	e110	e310	322	328	516	3,720	624	101	117
7	180	279	e100	e130	e310	298	322	610	3,560	559	89	112
8	182	276	e95	e130	e320	304	323	910	4,190	488	83	108
9	182	272	e100	e130	e380	301	377	1,340	3,250	449	87	105
10	186	e240	e120	e120	460	301	433	1,300	2,750	429	92	108
11	190	e240	e150	e120	492	299	410	1,400	2,450	411	117	151
12	193	e220	e140	e120	518	309	388	1,500	1,960	398	124	298
13	199	e220	e130	e110	527	340	377	1,340	1,950	356	182	278
14	200	e230	e150	e110	e470	354	417	1,170	1,960	300	249	227
15	213	e255	e190	e100	e390	354	484	1,150	1,650	274	278	185
16	240	e255	e240	e120	e330	352	485	1,460	1,440	258	261	160
17	241	270	e280	e160	e340	e320	452	1,900	1,350	250	245	153
18	248	e200	e310	e300	e330	e280	442	2,310	1,540	257	218	151
19	285	e180	e320	e320	e310	e260	439	2,210	1,540	249	200	145
20	286	e150	e300	e360	e320	e260	451	1,990	1,330	213	205	138
21	283	e160	e260	e400	367	e280	441	1,780	1,070	192	200	130
22	270	e170	e200	e340	362	e300	422	1,570	991	208	181	129
23	265	e140	e150	e400	383	e260	406	1,380	1,060	205	168	129
24	e250	e200	e130	e600	412	e240	415	1,260	1,080	197	174	138
25	e240	e200	e160	e600	433	e240	483	1,160	1,070	186	190	149
26	e230	e150	e150	e540	427	e300	533	1,050	1,010	189	207	154
27	e215	e110	e140	e540	400	353	640	952	954	191	198	151
28	e240	e100	e180	e660	380	352	732	909	1,440	170	172	150
29	e260	e105	e170	e680	---	366	724	938	1,860	153	156	148
30	e270	e105	e150	e640	---	405	667	982	1,300	137	150	149
31	e250	---	e120	e640	---	387	---	1,000	---	124	142	---
TOTAL	6,985	6,262	5,125	9,040	11,648	9,835	13,259	36,918	56,419	11,662	4,967	4,501
MEAN	225	209	165	292	416	317	442	1,191	1,881	376	160	150
MAX	286	280	320	680	600	405	732	2,310	4,190	1,060	278	298
MIN	180	100	95	100	310	240	322	500	954	124	83	105
AC-FT	13,850	12,420	10,170	17,930	23,100	19,510	26,300	73,230	111,900	23,130	9,850	8,930

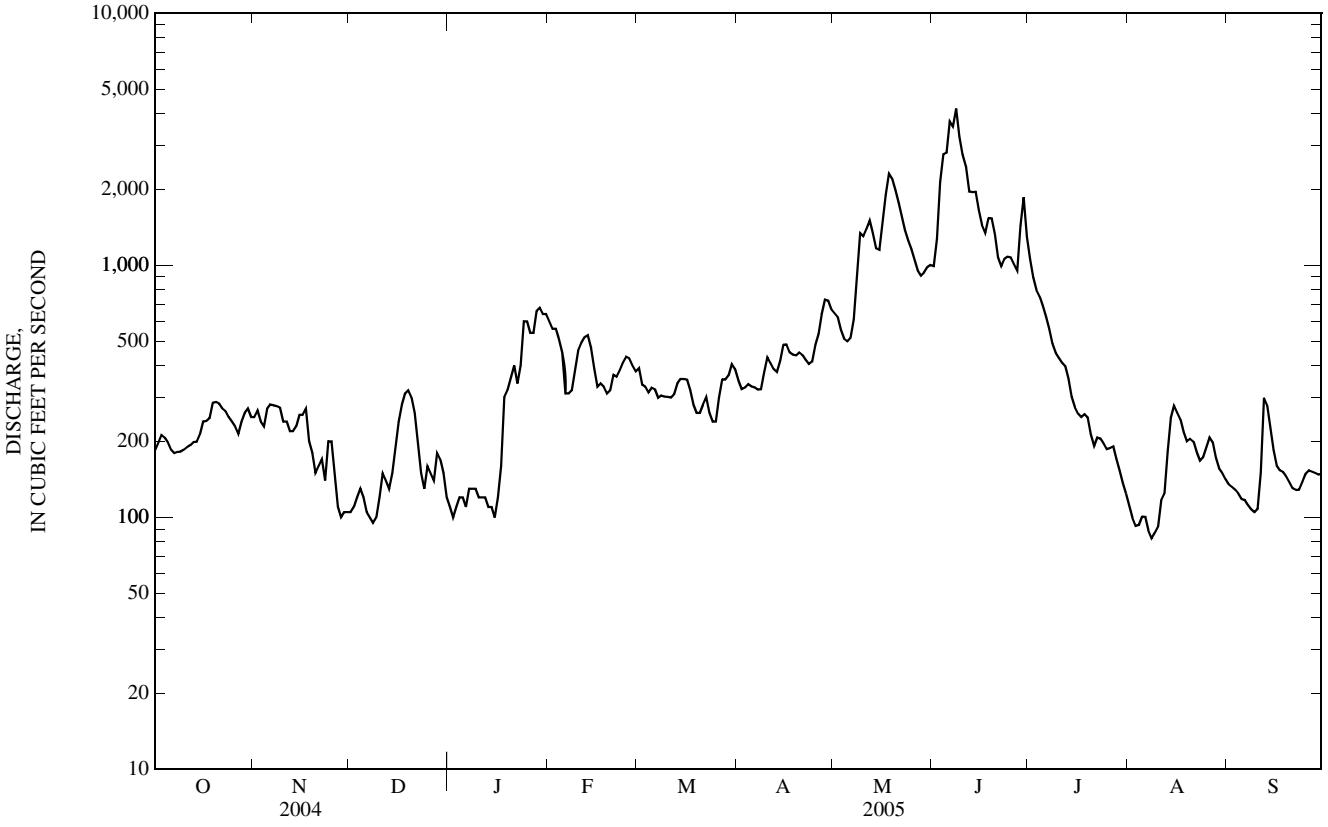
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 2005, BY WATER YEAR (WY)*

MEAN	400	390	302	253	318	575	1,125	2,678	3,042	1,038	382	352
MAX	1,448	1,485	1,135	700	1,173	2,300	3,149	5,300	10,190	3,982	1,100	1,853
(WY)	(1952)	(1990)	(1996)	(1918)	(1986)	(1947)	(1934)	(1927)	(1948)	(1902)	(1927)	(1911)
MIN	73.8	116	103	41.9	58.7	139	280	711	409	147	67.1	66.4
(WY)	(2002)	(2002)	(1937)	(1937)	(1936)	(2002)	(1931)	(1977)	(1977)	(1940)	(1988)	(1988)

06099500 MARIAS RIVER NEAR SHELBY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1902 - 2005*	
ANNUAL TOTAL	167,392		176,621			
ANNUAL MEAN	457		484		894	
HIGHEST ANNUAL MEAN					1,929	1927
LOWEST ANNUAL MEAN					302	1977
HIGHEST DAILY MEAN	1,790	May 6	4,190	Jun 8	109,000	Jun 9, 1964
LOWEST DAILY MEAN	86	Jan 27	83	Aug 8	10	Aug 20, 1919
ANNUAL SEVEN-DAY MINIMUM	89	Jan 27	92	Aug 4	21	Jan 25, 1937
MAXIMUM PEAK FLOW			5,160	Jun 6	a241,000	Jun 9, 1964
MAXIMUM PEAK STAGE			7.14	Jun 6	b23.64	Jun 9, 1964
INSTANTANEOUS LOW FLOW					c10	Aug 20, 1919
ANNUAL RUNOFF (AC-FT)	332,000		350,300		647,500	
10 PERCENT EXCEEDS	1,290		1,210		2,300	
50 PERCENT EXCEEDS	265		279		397	
90 PERCENT EXCEEDS	128		120		155	

*--During periods of operation (1903-04, 1906, 1912 to current year).
a--Largely due to the failure of Swift Dam, from slope-area measurement of peak flow. Maximum unaffected by dam failure, 75,000 ft3/s, June 20, 1975, gage height, 18.21 ft.
b--From floodmark.
c--Observed, site and datum in use.
e--Estimated.



06101500 MARIAS RIVER NEAR CHESTER, MT

LOCATION.--Lat 48°18'23", long 111°04'47" (NAD 27), in $SW^1/_4$ $SW^1/_4$ $SW^1/_4$ sec.34, T.30 N., R.5 E., Liberty County, Hydrologic Unit 10030203, on left bank 2.0 mi downstream from Tiber Dam, 4.4 mi upstream from Pondera Coulee, 15 mi southwest of Chester, and at river mile 78.3.

DRAINAGE AREA.--4,927 mi^2, of which 518 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April to September 1921, October 1945 to September 1947, October 1955 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1629: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,814.03 ft (NGVD) (Bureau of Reclamation bench mark). Prior to Oct. 1, 1921, nonrecording gage at bridge 2.5 mi downstream at different elevation. Oct. 4, 1945, to Sept. 30, 1946, nonrecording gage at site 3 mi downstream at different elevation.

REMARKS.--Records good. Flow completely regulated by Lake Elwell since Oct. 28, 1955 (see preceding page). Bureau of Reclamation satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1948 reached a stage of 16 ft, present elevation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	508	508	505	504	507	501	493	497	510	414	417	413
2	508	509	501	507	505	500	492	497	514	412	413	413
3	508	508	503	506	503	498	494	497	444	413	413	413
4	508	508	508	507	503	498	492	497	404	413	415	414
5	508	508	509	505	503	499	492	498	408	413	413	414
6	508	508	512	503	503	495	493	498	406	413	414	418
7	508	508	509	503	503	494	494	498	407	413	414	418
8	511	508	508	503	503	494	492	497	408	413	413	418
9	514	508	508	503	503	494	492	497	408	413	418	418
10	514	508	508	503	503	494	492	497	408	413	415	417
11	514	508	508	503	503	492	494	501	408	413	416	413
12	513	508	508	503	503	494	496	503	409	414	417	414
13	514	508	508	503	503	495	493	502	409	413	418	415
14	514	508	508	506	503	496	494	504	412	413	418	413
15	515	507	508	508	503	497	496	503	414	413	418	414
16	514	507	508	508	503	496	497	503	413	413	418	414
17	514	508	508	508	503	494	494	503	415	413	418	416
18	514	507	508	504	504	495	496	500	413	413	418	414
19	510	505	508	503	503	497	495	497	413	413	418	413
20	507	507	507	503	503	497	497	498	413	415	418	413
21	508	506	508	505	503	496	497	501	414	415	418	403
22	512	504	508	505	503	494	498	506	413	418	418	418
23	508	506	508	503	503	494	496	505	413	414	421	417
24	508	504	508	503	504	496	494	508	414	414	412	418
25	508	502	508	505	503	496	494	508	416	417	410	413
26	508	503	508	507	503	494	493	507	415	417	412	413
27	508	505	508	507	503	493	492	505	418	417	413	413
28	508	507	508	508	503	492	496	500	418	417	413	412
29	508	508	508	508	---	492	494	507	416	418	414	404
30	508	506	506	507	---	492	494	512	418	418	414	404
31	508	---	506	506	---	492	---	512	---	418	414	---
TOTAL	15,816	15,205	15,734	15,657	14,092	15,351	14,826	15,558	12,591	12,846	12,881	12,410
MEAN	510	507	508	505	503	495	494	502	420	414	416	414
MAX	515	509	512	508	507	501	498	512	514	418	421	418
MIN	507	502	501	503	503	492	492	497	404	412	410	403
AC-FT	31,370	30,160	31,210	31,060	27,950	30,450	29,410	30,860	24,970	25,480	25,550	24,620

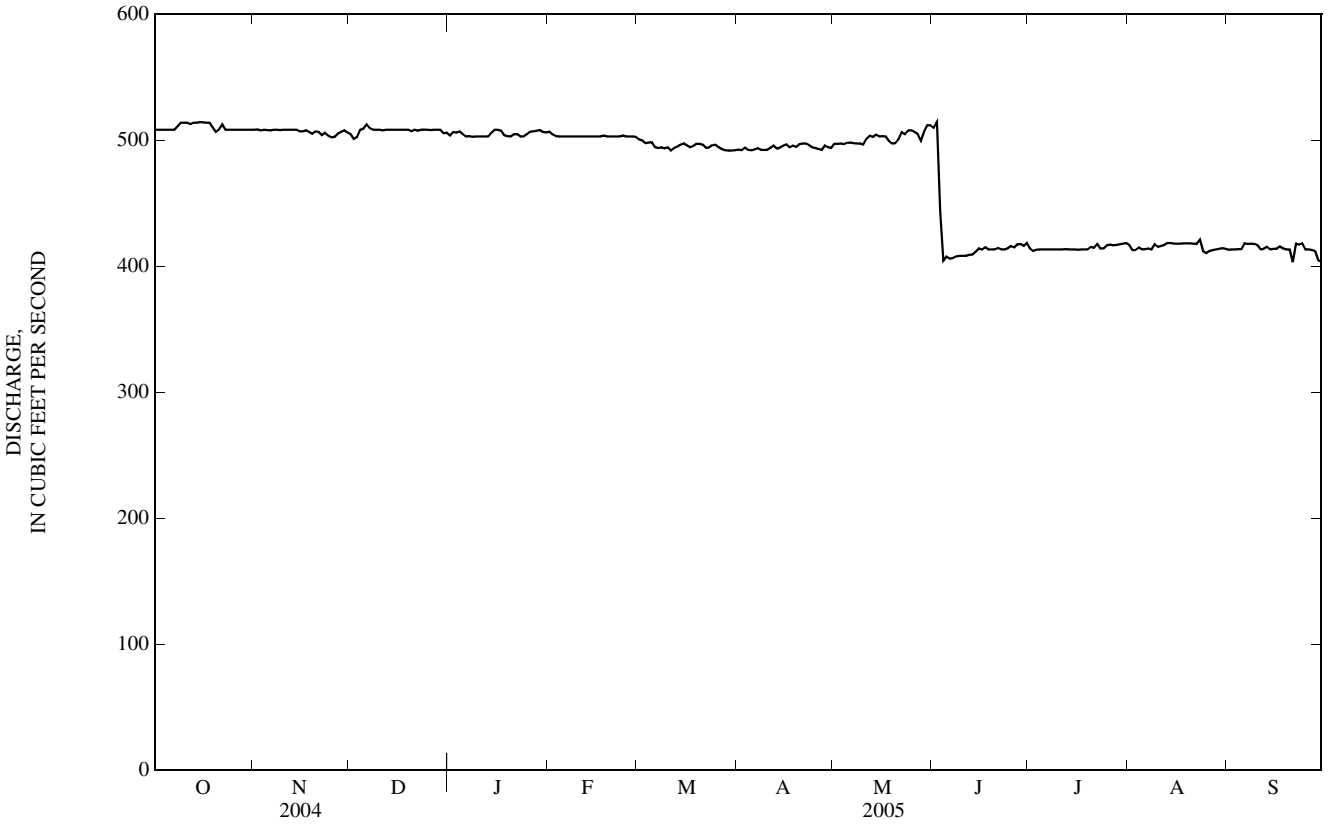
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2005, BY WATER YEAR (WY)*

MEAN	725	586	446	408	443	598	798	1,194	1,654	1,204	906	835
MAX	2,758	1,733	1,050	1,079	1,068	2,400	2,343	3,541	6,254	5,325	2,909	3,063
(WY)	(1966)	(1986)	(1990)	(1990)	(1990)	(1947)	(1996)	(1947)	(1964)	(1975)	(1964)	(1965)
MIN	208	0.40	15.7	35.0	35.0	47.7	46.1	51.0	58.9	57.5	82.5	173
(WY)	(1983)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1921)

06101500 MARIAS RIVER NEAR CHESTER, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1921 - 2005*	
ANNUAL TOTAL	184,647		172,967			
ANNUAL MEAN	504		474		816	
HIGHEST ANNUAL MEAN					1,488	1959
LOWEST ANNUAL MEAN					97.5	1956
HIGHEST DAILY MEAN	659	Jun 2	515	Oct 15	10,100	Jun 12, 1964
LOWEST DAILY MEAN	320	Feb 4	403	Sep 21	0.20	Oct 29, 1955
ANNUAL SEVEN-DAY MINIMUM	462	Feb 2	407	Jun 4	0.20	Oct 29, 1955
MAXIMUM PEAK FLOW			643	Oct 22	a10,400	Jun 16, 1964
MAXIMUM PEAK STAGE			3.61	Oct 22	10.63	Jun 16, 1964
INSTANTANEOUS LOW FLOW					b0.20	Nov 10, 1955
ANNUAL RUNOFF (AC-FT)	366,200		343,100		590,900	
10 PERCENT EXCEEDS	514		508		1,590	
50 PERCENT EXCEEDS	505		497		531	
90 PERCENT EXCEEDS	492		413		223	

*--During periods of operation (April to September 1921, October 1945 to September 1947, October 1955 to current year).
a--Since dam completion. Maximum discharge not determined; occurred about March 20, 1947.
b--Probably less than; during Tiber Dam shutdown.



06102050 MARIAS RIVER NEAR LOMA, MT

LOCATION.--Lat 47°55'59", long 111°31'02" (NAD 27) , in SW$^1/_4$ NE$^1/_4$ SE$^1/_4$ sec.12, T.25 N., R.9 E., Choteau County, Hydrologic Unit 10030203, on left bank 600 ft upstream from Teton River, 800 ft upstream from highway bridge, 0.2 mi southwest of Loma, and at river mile 2.5.

DRAINAGE AREA.--7,137 mi^2, of which 518 mi^2 is probably noncontributing.

PERIOD OF RECORD.--October 1959 to September 1972, June 2001 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 2,570 ft (NGVD 29). Prior to June 2001, water-stage recorder at site 4.5 mi upstream at different elevation.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow completely regulated by Lake Elwell. Numerous diversions for irrigation upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2005
DAILY MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				e485	472	446	380	341	365	380		
2				e485	465	467	366	348	365	395		
3				e485	466	508	361	350	369	403		
4				e485	471	548	360	353	373	413		
5				e485	464	424	371	351	370	420		
6				e484	465	431	370	356	372	414		
7				e482	466	436	367	360	372	415		
8				e481	467	414	356	356	372	413		
9				488	467	430	350	356	372	415		
10				492	456	433	360	352	373	411		
11				493	440	416	364	355	384	412		
12				487	432	401	344	356	372	409		
13				481	451	421	337	360	377	410		
14				484	452	414	337	363	385	408		
15				498	448	407	330	368	389	408		
16				488	456	400	324	360	388	410		
17				473	468	406	336	357	384	410		
18				474	473	406	336	354	387	409		
19				475	458	386	338	363	385	405		
20				477	450	363	341	363	383	401		
21				482	441	366	325	364	386	403		
22				480	444	366	329	366	385	401		
23				477	450	375	338	370	380	400		
24				478	446	372	338	376	390	401		
25				477	462	359	331	379	400	401		
26				474	460	368	342	360	395	401		
27				475	456	366	333	360	383	399		
28				468	447	489	338	361	386	400		
29				468	443	422	336	360	386	393		
30				474	434	397	343	361	384	392		
31				---	436	---	335	367	---	393		
TOTAL				14,435	14,106	12,437	10,716	11,146	11,412	12,545		
MEAN				481	455	415	346	360	380	405		
MAX				498	473	548	380	379	400	420		
MIN				468	432	359	324	341	365	380		
AC-FT				28,630	27,980	24,670	21,260	22,110	22,640	24,880		

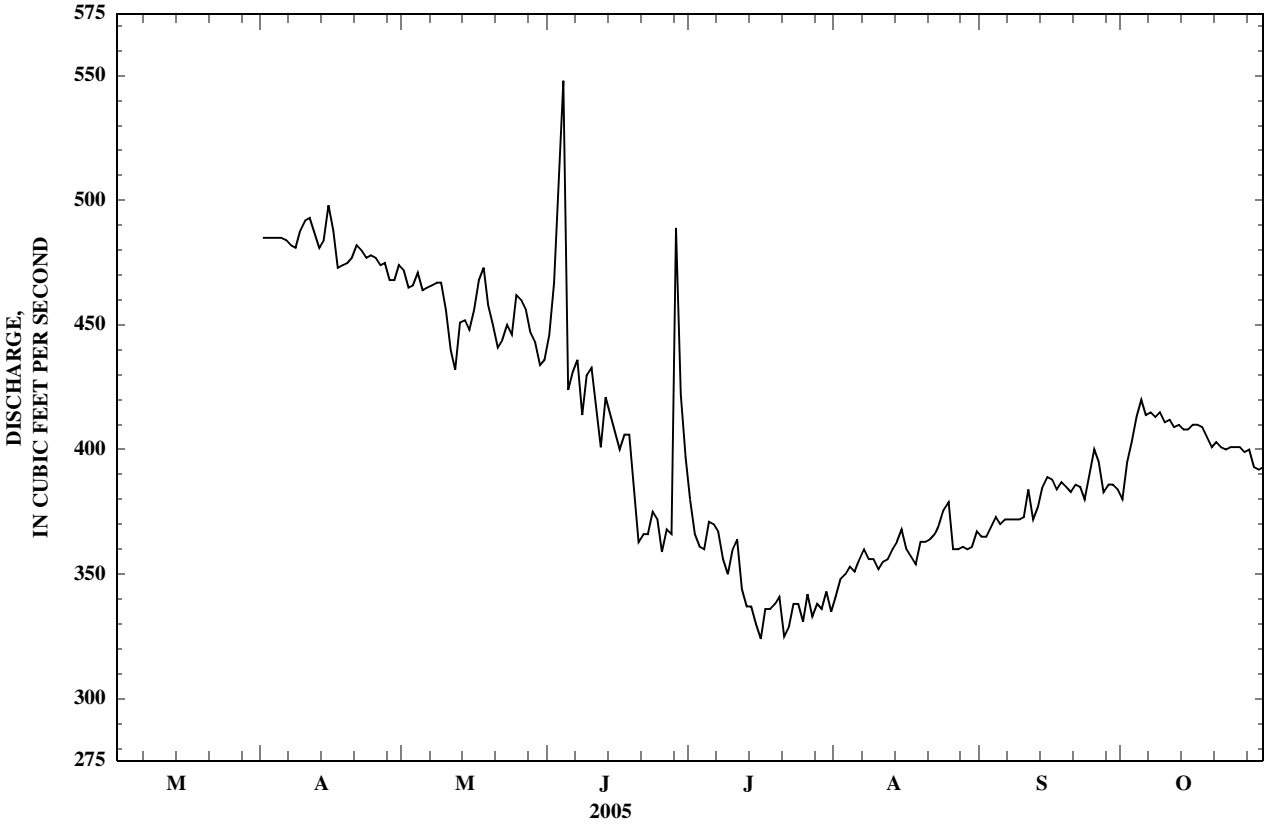
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1972, AND 2001 - 2005 SEASONS

MEAN	298	434	568	810	1,180	1,951	1,240	1,072	1,001	850	723	402
MAX	517	910	1,290	2,184	2,175	6,018	2,990	3,040	3,258	2,750	1,580	908
(WY)	(1968)	(1968)	(1967)	(1972)	(1972)	(1964)	(2002)	(1965)	(1965)	(1966)	(1966)	(1968)
MIN	105	110	117	180	441	415	250	137	296	292	78.5	107
(WY)	(1964)	(1964)	(1964)	(1961)	(2002)	(2005)	(1962)	(1961)	(2001)	(1964)	(1963)	(1963)

SUMMARY STATISTICS	FOR THE 2005 SEASON		WATER YEARS 1960 - 1972		SEASONS 2001 - 2005	
ANNUAL MEAN			977			
HIGHEST ANNUAL MEAN			1,330	1967		
LOWEST ANNUAL MEAN			522	1963		
HIGHEST DAILY MEAN	548	Jun 4	10,300	Jun 16, 1964	5,250	Jun 23, 2002
LOWEST DAILY MEAN	324	Jul 16	45	Dec 11, 1962	220	Apr 1, 2002
ANNUAL SEVEN-DAY MAXIMUM			49	Dec 5, 1962		
MAXIMUM PEAK FLOW	713	Jun 28	10,800	Jun 16, 1964	5,250	Jun 23, 2002
MAXIMUM PEAK STAGE	1.58	Jun 28	a8.72	Jun 16, 1964	b5.29	Jun 24, 2002
ANNUAL RUNOFF (AC-FT)			707,900			
10 PERCENT EXCEEDS			1,940			
50 PERCENT EXCEEDS			800			
90 PERCENT EXCEEDS			180			

a--Site and datum then in use.
b--From highwater mark.
e--Estimated.

06102050 MARIAS RIVER NEAR LOMA, MT—Continued



06102500 TETON RIVER BELOW SOUTH FORK, NEAR CHOTEAU, MT

LOCATION.--Lat 47°52'59", long 112°36'40" (NAD 27), in $NE^1/_4NE^1/_4NE^1/_4$ sec.34, T.25 N., R.8 W., Teton County, Hydrologic Unit 10030205, on right bank at county road bridge, 1.1 mi downstream from South Fork, 7.6 mi southwest of Bynum Reservoir, 20 mi northwest of Choteau, and at river mile 194.7.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--105 mi^2.

PERIOD OF RECORD.--June 1947 to October 1954 (published as "near Farmington"), June 1998 to current year, seasonal records only.

GAGE.--Water-stage recorder. Elevation of gage is 4,770 ft (NGVD 29). June 1947 to October 1954, water-stage recorder 300 ft downstream at different elevation.

REMARKS.--Seasonal water-discharge records good. Negligible diversion for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 8, 1964 reached a discharge of 54,600 ft^3/s, from slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2005
DAILY MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				42	68	225	169	94	76	69		
2				42	68	255	163	94	75	68		
3				43	69	416	157	93	74	69		
4				43	71	504	151	92	73	69		
5				43	73	474	147	90	72	68		
6				43	86	476	144	89	72	68		
7				45	113	415	140	88	72	67		
8				48	126	358	137	88	71	67		
9				50	126	319	136	87	71	66		
10				49	199	306	133	87	75	65		
11				50	233	293	127	90	73	64		
12				48	212	301	124	99	73	64		
13				48	215	304	122	93	71	63		
14				50	246	293	120	90	70	64		
15				47	316	285	118	87	70	63		
16				47	381	283	118	86	71	63		
17				49	426	292	120	86	73	62		
18				50	372	285	114	88	70	62		
19				51	324	261	111	86	69	63		
20				51	293	247	110	84	68	62		
21				51	263	240	107	82	67	62		
22				52	241	242	106	82	67	63		
23				54	227	236	104	83	68	62		
24				57	217	223	104	84	69	62		
25				63	203	209	106	83	67	62		
26				71	190	199	103	80	66	61		
27				74	188	194	101	79	67	63		
28				71	194	197	99	78	66	62		
29				69	202	187	97	77	64	61		
30				68	197	176	96	78	65	61		
31				---	200	---	94	76	---	61		
TOTAL				1,569	6,339	8,695	3,778	2,673	2,105	1,986		
MEAN				52.3	204	290	122	86.2	70.2	64.1		
MAX				74	426	504	169	99	76	69		
MIN				42	68	176	94	76	64	61		
AC-FT				3,110	12,570	17,250	7,490	5,300	4,180	3,940		

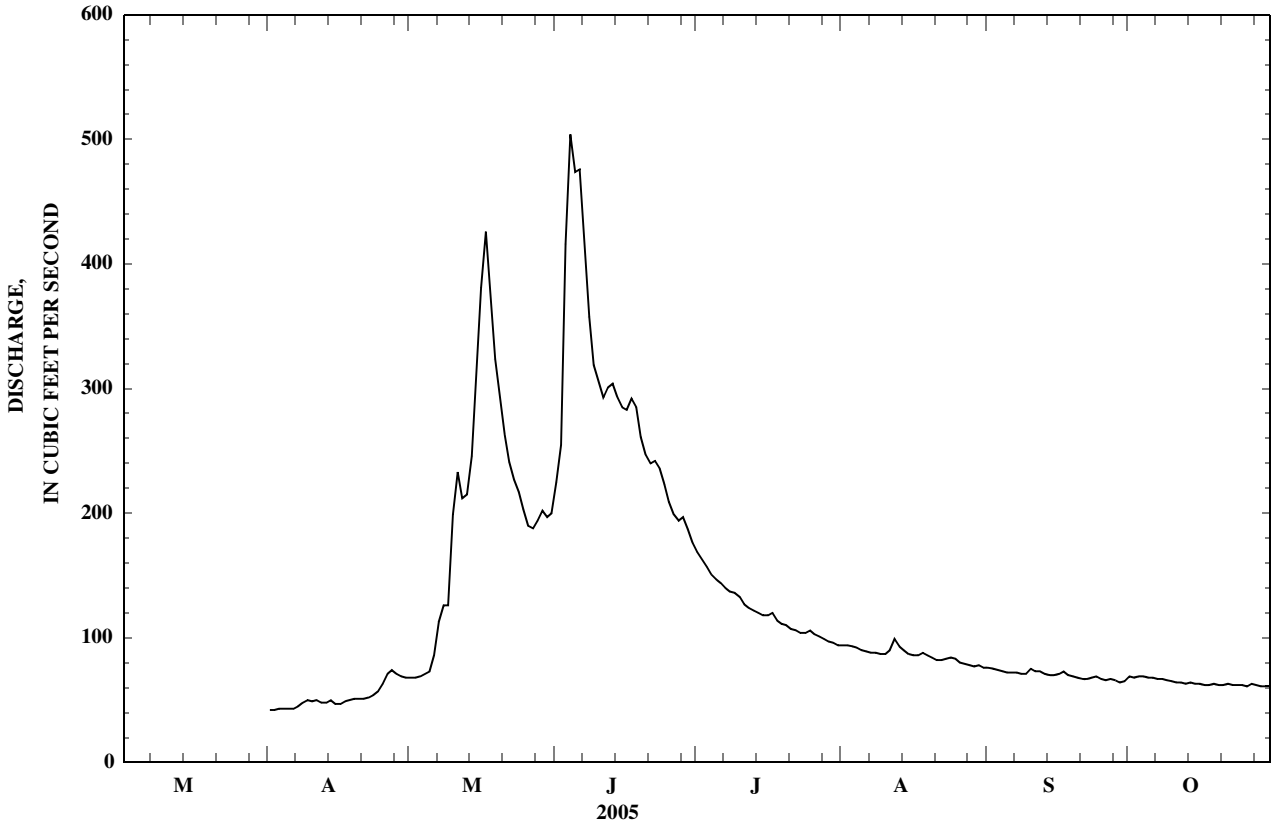
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1954 AND SEASONS 1998 - 2005*

MEAN	47.9	46.3	45.1	79.5	299	463	215	107	82.8	77.0	68.6	56.9
MAX	59.0	59.0	48.9	142	516	1,178	468	182	134	133	89.8	68.2
(WY)	(1952)	(1952)	(1952)	(1952)	(1951)	(1953)	(1951)	(1951)	(1951)	(1952)	(1952)	(1951)
MIN	24.9	25.1	36.5	45.0	195	218	92.9	61.8	57.3	54.6	44.0	40.7
(WY)	(1950)	(1949)	(1950)	(2001)	(2001)	(2004)	(2003)	(1949)	(1949)	(1950)	(1950)	(1950)

06102500 TETON RIVER BELOW SOUTH FORK, NEAR CHOTEAU, MT—Continued

SUMMARY STATISTICS	FOR 2005 SEASON		WATER YEARS 1947 - 1954*		SEASONS 1998 - 2005*	
ANNUAL MEAN			166			
HIGHEST ANNUAL MEAN			225	1953		
LOWEST ANNUAL MEAN			92.9	1949		
HIGHEST DAILY MEAN	504	Jun 4	2,380	Jun 5, 1948	1,160	Jun 17, 2002
LOWEST DAILY MEAN	42	Apr 1	20	Jan 24, 1949	36	Apr 13, 2001
ANNUAL SEVEN-DAY MINIMUM			22	Jan 24, 1949		
MAXIMUM PEAK FLOW	547	Jun 4	b2,780	Jun 3, 1948	1,280	Jun 17, 2002
MAXIMUM PEAK STAGE	5.13	Jun 4	c7.34	Jan 6, 1950	5.78	Jun 17, 2002
INSTANTANEOUS LOW FLOW	a39	Apr 1	d12	Mar 28, 1951	f35	Apr 15, 2001
ANNUAL RUNOFF (AC-FT)			119,900			
10 PERCENT EXCEEDS			418			
50 PERCENT EXCEEDS			80			
90 PERCENT EXCEEDS			43			

*--During periods of operation [June 1947 to October 1954, June 1998 to current year (seasonal records only)].
a--Gage height, 3.56 ft.
b--From rating curve extended above 1,100 ft3/s, gage height, 5.32 ft, previous site and datum.
c--Backwater from ice, previous site and datum.
d--Gage height, 2.82 ft, previous site and datum.
f--Gage height, 3.71 ft.



06102500 TETON RIVER BELOW SOUTH FORK, NEAR CHOTEAU, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1998 to current year.

REMARKS.--Several unpublished observations of specific conductance and water temperature were made during the year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf 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)
NOV									
16...	1210	55	8.0	381	8.5	4.5	<.010	.035	E.001
JAN									
10...	1415	25	7.9	388	1.5	0.0	<.010	.045	<.002
FEB									
22...	1330	45	7.6	389	13.0	3.0	E.006	.051	E.001
MAR									
23...	1000	30	7.9	394	-4.0	0.0	E.009	.047	.002
APR									
18...	1540	52	8.3	375	5.5	6.5	E.008	.033	<.002
MAY									
25...	1030	209	8.4	318	10.5	5.5	<.010	.036	<.002
JUN									
21...	1800	239	8.4	321	25.0	16.0	E.005	.019	<.002
JUL									
26...	1000	110	8.4	368	18.0	8.0	<.010	.028	E.001
AUG									
23...	1215	83	8.4	385	23.0	12.0	E.006	.016	E.001

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unf by analysis, mg/L (62855)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV						
16...	<.006	<.004	E.04	41	14	2.1
JAN						
10...	<.006	E.003	.07	88	9	.61
FEB						
22...	<.006	E.003	.07	88	5	.61
MAR						
23...	<.006	E.002	.07	56	3	.24
APR						
18...	<.006	<.004	E.05	85	3	.42
MAY						
25...	<.006	.008	E.05	76	8	4.5
JUN						
21...	<.006	<.004	E.04	64	15	9.7
JUL						
26...	<.006	<.004	E.05	61	9	2.7
AUG						
23...	<.006	E.003	.08	63	12	2.7

E--Estimated.

06102500 TETON RIVER BELOW SOUTH FORK, NEAR CHOTEAU, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Time	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)
APR								
18...	1540	210	58.5	14.9	.51	.0	1.25	148
JUN								
21...	1800	180	48.6	13.7	.44	.0	1.14	150
AUG								
23...	1215	210	57.1	15.3	.50	.0	1.21	148

Date	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)
APR							
18...	.21	.4	4.86	46.6	216	.29	30.4
JUN							
21...	E.20	.3	4.69	23.5	E183	.25	E118
AUG							
23...	.23	.3	4.95	45.0	213	.29	47.8

E--Estimated.

06108000 TETON RIVER NEAR DUTTON, MT

LOCATION.--Lat 47°55'49", long 111°33'07" (NAD 27), in $SE^1/_4SW^1/_4SW^1/_4$ sec.12, T.25 N., R.1 E., Teton County, Hydrologic Unit 10030205, on right bank 150 ft upstream from Kerr Bridge, 0.9 mi downstream from Hunt Coulee, 9.5 mi northeast of Dutton, and at river mile 100.9.

DRAINAGE AREA.--1,307 mi^2. Area at site used prior to July 17, 1965, 1,308 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1954 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,235 ft (NGVD 29). Prior to July 17, 1965, water-stage recorder at site 1,800 ft downstream at elevation 1.97 ft lower.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Water is diverted on left bank in sec.34, T.25 N., R.7 W., for storage in Bynum Reservoir (usable capacity, 75,000 acre-ft). Diversions for irrigation of about 44,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	22	e18	e13	e30	48	61	40	30	68	3.5	8.9
2	16	21	e20	e12	e33	51	56	39	44	79	3.3	9.0
3	18	23	e23	e12	e30	58	52	37	67	73	1.6	8.4
4	18	21	e20	e13	e27	69	52	35	118	61	1.4	8.8
5	18	20	e18	e15	e23	65	49	33	223	53	1.8	8.4
6	18	21	e15	e17	e20	43	47	31	229	43	2.3	8.0
7	18	21	e16	e15	e22	39	44	33	233	36	2.6	7.9
8	18	21	e17	e13	e25	41	44	33	205	26	2.1	7.3
9	19	21	e20	e15	e28	42	43	32	170	20	1.5	7.3
10	22	22	e23	e17	e32	43	40	32	150	16	1.8	8.4
11	21	22	e25	e18	e35	43	39	30	133	15	2.4	9.6
12	21	22	e20	e16	e34	45	37	31	126	17	6.8	11
13	22	e20	e15	e13	e32	46	37	38	125	15	11	13
14	22	e25	e18	e11	e30	46	43	43	135	14	13	13
15	25	29	e22	e10	e28	46	46	37	148	11	12	12
16	26	23	e20	e13	e28	45	45	33	144	11	13	11
17	27	22	e22	e20	e30	47	43	42	131	11	12	11
18	28	22	e24	e30	e30	42	41	47	128	14	13	12
19	30	22	e25	e35	e28	e45	41	57	121	14	13	12
20	32	e20	e22	e40	e25	50	42	66	114	10	12	11
21	35	e20	e18	e30	e27	53	47	61	107	8.7	11	10
22	33	e20	e14	e25	e32	58	49	58	95	8.1	9.5	9.3
23	31	e17	e12	e27	e35	e55	50	55	84	7.0	9.1	10
24	29	e18	e15	e30	e40	e50	53	52	71	4.1	12	12
25	26	e20	e20	e28	e38	61	46	49	59	3.8	13	14
26	25	e22	e18	e25	e35	62	42	46	53	4.2	13	13
27	25	e20	e18	e25	e38	61	42	46	49	4.2	12	13
28	25	e19	e20	e25	e42	61	43	43	51	3.0	11	13
29	23	e18	e23	e25	---	70	43	37	57	2.2	11	13
30	23	e18	e20	e25	---	79	42	32	61	2.7	10	13
31	23	---	e15	e27	---	71	---	29	---	3.9	8.9	---
TOTAL	733	632	596	640	857	1,635	1,359	1,277	3,461	658.9	250.6	318.3
MEAN	23.6	21.1	19.2	20.6	30.6	52.7	45.3	41.2	115	21.3	8.08	10.6
MAX	35	29	25	40	42	79	61	66	233	79	13	14
MIN	16	17	12	10	20	39	37	29	30	2.2	1.4	7.3
AC-FT	1,450	1,250	1,180	1,270	1,700	3,240	2,700	2,530	6,860	1,310	497	631

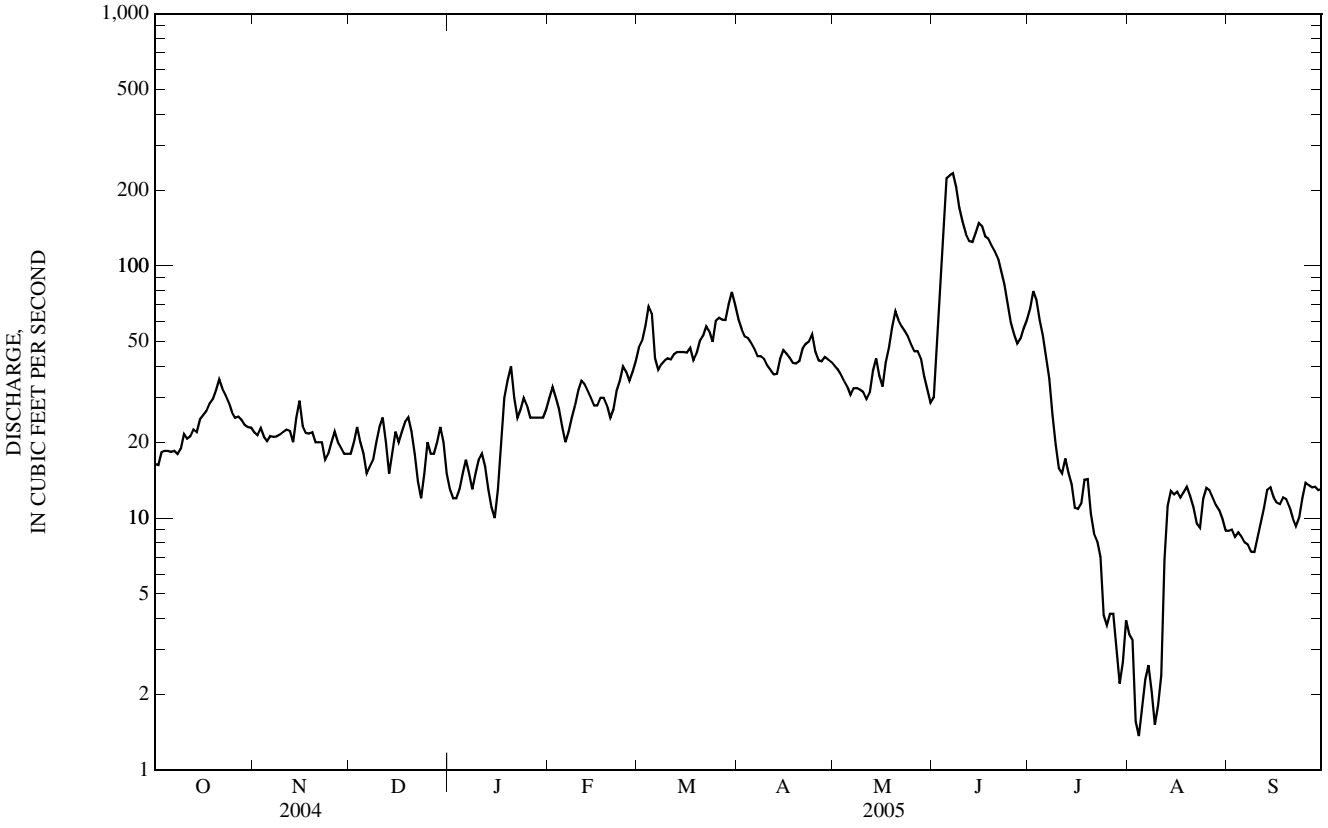
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2005, BY WATER YEAR (WY)

MEAN	67.9	68.7	62.3	53.7	83.5	178	154	237	373	152	70.3	63.0
MAX	223	176	209	167	388	819	495	957	2,727	551	263	211
(WY)	(1966)	(1976)	(1960)	(1976)	(1986)	(1969)	(1965)	(1976)	(1964)	(1958)	(1972)	(1993)
MIN	15.4	18.5	14.8	13.2	15.2	28.8	32.8	20.1	16.9	1.30	0.00	7.39
(WY)	(2002)	(2002)	(2001)	(1985)	(1985)	(2002)	(2004)	(2000)	(1988)	(1985)	(1988)	(2001)

06108000 TETON RIVER NEAR DUTTON, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1954 - 2005	
ANNUAL TOTAL	10,121.7		12,417.8			
ANNUAL MEAN	27.7		34.0		130	
HIGHEST ANNUAL MEAN					350	1964
LOWEST ANNUAL MEAN					26.9	2001
HIGHEST DAILY MEAN	155	May 26	233	Jun 7	20,000	Jun 9, 1964
LOWEST DAILY MEAN	1.4	Jul 28	1.4	Aug 4	0.00	Jul 21, 1984
ANNUAL SEVEN-DAY MINIMUM	2.9	Jul 24	1.9	Aug 3	0.00	Jul 21, 1984
MAXIMUM PEAK FLOW			247	Jun 6	b71,300	Jun 9, 1964
MAXIMUM PEAK STAGE			2.66	Jun 6	c20.48	Jun 9, 1964
INSTANTANEOUS LOW FLOW			a0.88	Aug 5	d0.00	Jul 21, 1984
ANNUAL RUNOFF (AC-FT)	20,080		24,630		94,260	
10 PERCENT EXCEEDS	45		61		260	
50 PERCENT EXCEEDS	22		25		67	
90 PERCENT EXCEEDS	10		9.4		20	

a--Gage height, 0.60 ft.
b--From slope-area measurement of peak flow.
c--From floodmark.
d--No flow at times on many years.
e--Estimated.



06108000 TETON RIVER NEAR DUTTON, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1998 to current year.

REMARKS.--Several unpublished observations of specific conductance and water temperature were made during the year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf 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)
NOV									
16...	1500	22	8.5	807	13.0	5.0	<.010	.317	.004
JAN									
10...	1130	17	7.3	924	-5.0	0.0	.144	.698	.005
FEB									
22...	1620	32	8.0	930	13.0	0.0	E.005	.539	.003
MAR									
23...	1300	53	8.5	1,300	-6.0	0.5	.015	.278	.005
APR									
19...	1215	41	8.6	1,270	9.0	8.5	E.008	E.009	E.001
MAY									
25...	1500	47	8.6	1,170	16.0	16.0	E.005	<.016	<.002
JUN									
21...	1430	105	8.6	1,260	32.0	26.0	<.010	<.016	<.002
JUL									
26...	1410	4.3	8.4	1,200	25.0	22.0	E.008	<.016	E.001
AUG									
23...	1700	9.6	8.5	863	20.0	23.5	E.005	<.016	<.002

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unf by analysis, mg/L (62855)	Selenium, water, unfltrd ug/L (01147)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV							
16...	<.006	.010	.49	--	88	73	4.4
JAN							
10...	<.006	.007	.99	--	68	53	2.4
FEB							
22...	<.006	.019	.78	--	85	40	3.5
MAR							
23...	E.003	.040	.61	2.0	99	58	8.3
APR							
19...	<.006	.017	.36	--	92	22	2.4
MAY							
25...	<.006	.034	.35	--	93	65	8.2
JUN							
21...	<.006	.073	.56	--	92	120	34
JUL							
26...	<.006	.025	.37	1.1	97	29	.34
AUG							
23...	<.006	.036	.33	--	98	39	1.0

E--Estimated.

06108000 TETON RIVER NEAR DUTTON, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Time	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
APR										
19...	1215	510	74.7	78.5	2.98	2	107	276	17.1	.5
JUN										
21...	1430	520	66.5	85.1	3.07	2	104	294	14.1	.5
AUG										
23...	1700	350	49.7	55.6	3.08	1	59.8	205	8.65	.4

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)
APR					
19...	1.79	412	860	1.17	95.2
JUN					
21...	2.46	369	821	1.12	233
AUG					
23...	1.50	249	550	.75	14.3

06108800 TETON RIVER AT LOMA, MT

LOCATION.--Lat 47°55'57", long 110°30'49" (NAD 27), in NW$^1/_4$ SW$^1/_4$ SE$^1/_4$ sec.12, T.25 N., R.9 E., Choteau County, Hydrologic Unit 10030205, on left bank 25 ft downstream from county bridge, 0.5 mi southwest of Loma, and at river mile 0.3.

DRAINAGE AREA.--2,010 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1998 to current year. Prior to October 1, 1999, seasonal records only.

GAGE.--Water-stage recorder. Elevation of gage is 2,560 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Geological Survey satellite telemeter at station. Numerous diversions upstream from station for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	18	17	e11	e17	e33	64	25	21	44	0.00	0.00
2	5.0	18	16	e10	e20	e38	61	24	27	42	0.00	0.00
3	4.6	17	20	e10	e21	41	57	22	43	43	0.00	0.00
4	4.6	17	17	e10	e16	43	54	17	58	37	0.00	0.00
5	4.8	17	e11	e10	e14	45	49	15	53	37	0.00	0.00
6	4.8	16	e9.0	e11	e13	48	47	17	80	31	0.00	0.00
7	4.8	15	e9.5	e11	e14	53	46	17	185	27	0.00	0.00
8	6.2	16	e10	e10	e15	51	45	20	205	21	0.00	0.00
9	6.2	16	e10	e10	e17	46	44	21	221	13	0.00	0.00
10	6.3	16	e12	e9.0	e20	41	41	21	210	14	0.00	0.00
11	6.8	16	e13	e9.0	e22	40	38	27	178	10	0.00	0.00
12	7.1	14	e11	e8.0	e23	42	37	29	156	5.0	0.00	0.00
13	7.2	12	e10	e8.0	e21	42	36	27	148	2.8	0.00	0.00
14	9.3	12	e11	e7.0	e18	41	37	26	129	1.6	0.00	0.00
15	13	15	e13	e7.0	e16	42	36	26	122	0.86	0.00	0.00
16	18	15	e12	e8.0	e15	42	36	27	127	0.50	0.00	0.00
17	24	16	e16	e9.0	e16	45	38	22	155	0.35	0.00	0.00
18	24	19	e19	e12	e17	41	39	23	148	0.28	0.00	0.00
19	21	20	e22	e18	e15	41	39	15	125	0.18	0.00	0.00
20	22	16	e20	e24	e16	43	38	16	121	0.00	0.00	0.00
21	24	11	e13	e20	e16	40	37	19	112	0.00	0.00	0.00
22	25	14	e11	e17	e17	45	36	25	106	0.00	0.00	0.00
23	25	11	e10	e18	e17	53	32	41	112	0.00	0.00	0.00
24	27	9.7	e11	e22	e18	57	30	39	85	0.00	0.00	0.00
25	26	17	e13	e20	e19	50	28	39	74	0.00	0.00	0.00
26	25	24	e12	e17	e20	44	27	42	67	0.00	0.00	0.00
27	24	12	e12	e18	e23	47	29	41	59	0.00	0.00	0.00
28	23	15	e15	e19	e27	53	28	34	56	0.00	0.00	0.00
29	21	14	e14	e17	---	53	27	28	51	0.00	0.00	0.00
30	20	13	e12	e16	---	51	24	28	46	0.00	0.00	0.00
31	20	---	e11	e16	---	56	---	27	---	0.00	0.00	---
TOTAL	465.1	461.7	412.5	412.0	503	1,407	1,180	800	3,280	330.57	0.00	0.00
MEAN	15.0	15.4	13.3	13.3	18.0	45.4	39.3	25.8	109	10.7	0.00	0.00
MAX	27	24	22	24	27	57	64	42	221	44	0.00	0.00
MIN	4.6	9.7	9.0	7.0	13	33	24	15	21	0.00	0.00	0.00
AC-FT	923	916	818	817	998	2,790	2,340	1,590	6,510	656	0.00	0.00

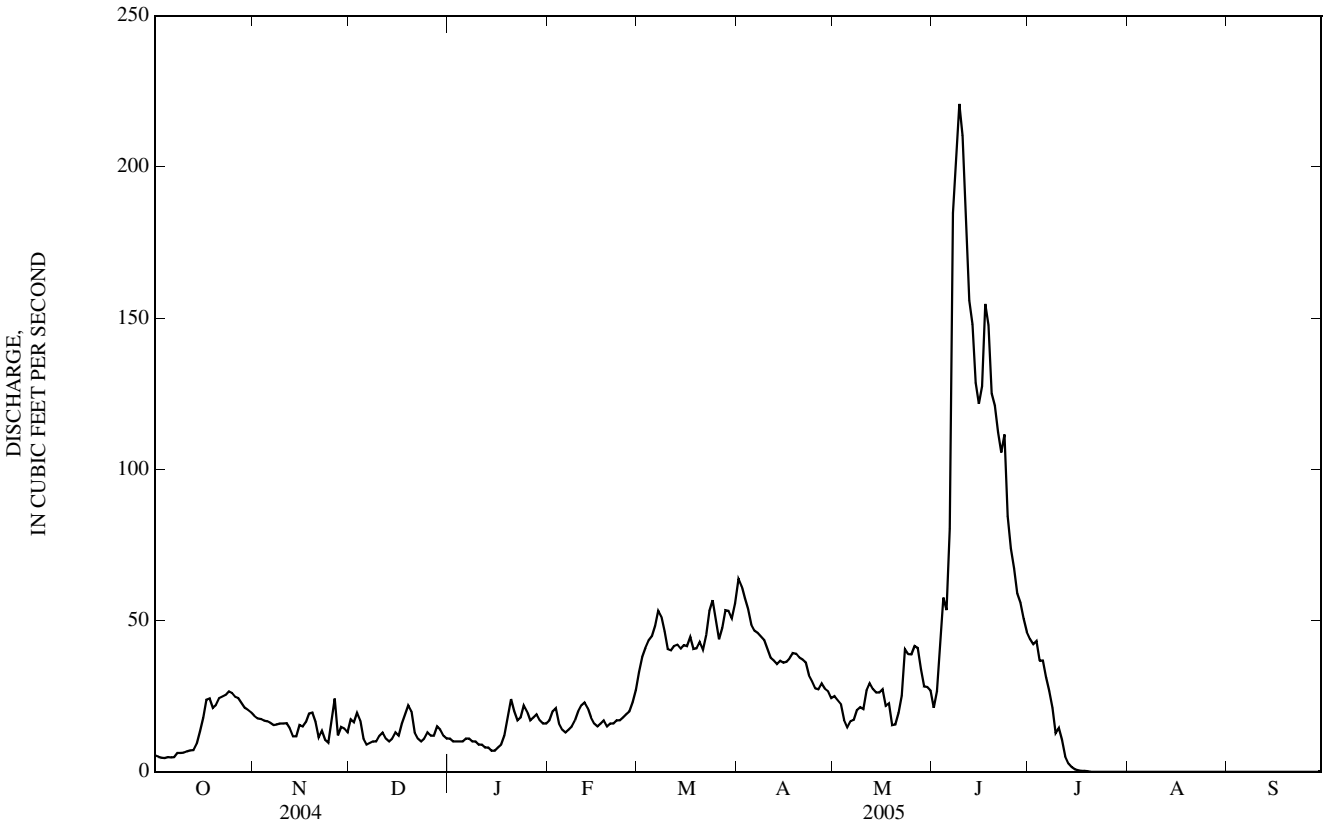
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2005, BY WATER YEAR (WY)

MEAN	14.8	19.0	17.3	14.4	21.2	61.9	60.9	37.8	112	30.3	10.3	7.45
MAX	30.6	44.0	39.5	35.0	31.6	109	109	74.8	304	151	62.6	24.8
(WY)	(2003)	(2003)	(2000)	(2000)	(2000)	(2003)	(2003)	(1999)	(2002)	(1998)	(1998)	(1999)
MIN	0.00	0.00	0.82	3.24	14.8	20.2	23.5	10.2	4.98	2.48	0.00	0.00
(WY)	(2002)	(2002)	(2002)	(2004)	(2001)	(2002)	(2004)	(2000)	(2001)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1998 - 2005	
ANNUAL TOTAL	6,076.20		9,251.87			
ANNUAL MEAN	16.6		25.3		28.1	
HIGHEST ANNUAL MEAN					42.6	2003
LOWEST ANNUAL MEAN					14.3	2004
HIGHEST DAILY MEAN	93	May 28	221	Jun 9	1,740	Jun 13, 2002
LOWEST DAILY MEAN	0.00	Jul 20	0.00	Jul 20	0.00	Jul 30, 1999
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 20	0.00	Jul 20	0.00	Jul 30, 1999
MAXIMUM PEAK FLOW			236	Jun 9	a2,000	Jun 13, 2002
MAXIMUM PEAK STAGE			2.77	Jun 9	b6.98	Mar 16, 2003
ANNUAL RUNOFF (AC-FT)	12,050		18,350		20,390	
10 PERCENT EXCEEDS	39		51		64	
50 PERCENT EXCEEDS	12		17		15	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a--Gage height, 5.87 ft.
b--Backwater from ice, from floodmarks.
e--Estimated.

06108800 TETON RIVER AT LOMA, MT—Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965, May 1998 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1999 to September 2003, October 2004 to September 2005.

REMARKS.--Daily water temperature records rated excellent except for June 12 to July 20, which are good. Unable to collect water-quality samples and daily temperature data July 20 to end of water year due to no flow. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 35.5°C, July 13, 2002; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 33.5°C, July 13; minimum, 0.0°C many days from November through March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf 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)
NOV									
17...	1100	16	8.6	1,020	11.5	2.0	<.010	E.008	E.001
JAN									
11...	0900	E9.0	7.6	1,450	-10.0	0.0	.039	.544	.004
FEB									
23...	0900	E17	8.2	1,140	8.0	0.0	E.006	.435	.003
MAR									
22...	1045	44	8.1	1,240	3.0	4.5	.014	.021	.003
APR									
19...	0900	40	8.5	1,400	8.5	8.0	E.007	<.016	<.002
MAY									
25...	1815	37	8.6	1,340	19.5	18.0	<.010	<.016	<.002
JUN									
22...	1530	103	8.6	1,400	33.0	29.0	<.010	<.016	<.002

E--Estunated,

06108800 TETON RIVER AT LOMA, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Selenium, water, unfltrd ug/L (01147)	Total nitrogen, wat unf by analysis, mg/L (62855)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV							
17...	<.006	.009	--	.18	75	53	2.3
JAN							
11...	<.006	.007	--	.76	74	33	E.80
FEB							
23...	<.006	.019	--	.70	88	57	E2.6
MAR							
22...	<.006	.047	1.6	.31	98	68	8.1
APR							
19...	<.006	.023	--	.30	96	37	4.0
MAY							
25...	<.006	.043	--	.35	98	72	7.2
JUN							
22...	<.006	.112	--	.58	98	153	43

Date	Time	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
APR										
19...	0900	540	77.4	84.5	3.52	2	126	256	18.1	.5
JUN										
22...	1530	510	64.3	85.9	3.72	2	114	271	15.5	.5

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)
APR					
19...	.87	480	944	1.28	102
JUN					
22...	4.28	408	859	1.17	239

E--Estimated.

06108800 TETON RIVER AT LOMA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.0	6.0	10.0	5.0	0.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0
2	17.0	6.5	11.0	8.5	2.5	5.5	0.5	0.0	0.0	0.0	0.0	0.0
3	17.0	8.0	12.0	7.0	3.5	5.5	0.5	0.0	0.0	0.0	0.0	0.0
4	17.5	7.0	12.0	5.0	0.0	3.0	1.0	0.0	0.5	0.0	0.0	0.0
5	18.0	8.0	12.5	7.5	2.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
6	17.0	7.5	12.0	8.5	5.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0
7	16.5	11.0	13.0	7.0	5.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
8	16.5	7.0	11.5	7.0	2.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0
9	15.0	9.5	12.0	5.0	2.0	4.0	0.5	0.0	0.0	0.0	0.0	0.0
10	15.0	8.0	11.0	6.0	2.5	4.5	0.5	0.0	0.0	0.0	0.0	0.0
11	14.0	6.0	9.5	3.5	0.0	1.5	2.0	0.0	0.5	0.0	0.0	0.0
12	13.0	9.0	10.5	2.5	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0
13	13.5	6.0	9.5	2.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
14	11.0	9.5	10.5	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
15	11.0	8.5	9.5	4.5	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
16	9.5	8.0	9.0	5.5	3.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0
17	8.5	4.5	6.0	5.0	1.0	3.0	0.5	0.0	0.0	0.0	0.0	0.0
18	5.5	4.0	4.5	3.0	0.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0
19	6.0	2.5	4.0	2.5	1.0	2.0	3.5	0.0	1.5	0.0	0.0	0.0
20	5.0	1.5	3.5	1.5	0.0	0.5	2.5	0.0	0.5	0.0	0.0	0.0
21	7.0	3.5	5.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	9.0	5.0	7.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
23	7.5	5.0	6.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
24	7.0	3.0	5.0	2.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0
25	7.0	1.0	4.0	5.0	2.0	3.5	0.0	0.0	0.0	1.5	0.0	0.5
26	7.0	1.0	4.0	3.5	0.0	2.0	0.0	0.0	0.0	0.5	0.0	0.0
27	7.5	2.0	4.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
28	6.0	2.5	4.5	0.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.5
29	5.0	1.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.5
30	5.5	2.0	3.5	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
31	5.0	2.5	3.5	---	---	---	0.0	0.0	0.0	1.5	0.0	0.5
MONTH	18.0	1.0	8.0	8.5	0.0	2.5	3.5	0.0	0.0	1.5	0.0	0.0
	FEBRUARY			MARCH			APRIL			MAY		
1	2.5	0.0	0.5	6.5	0.0	2.0	10.5	4.5	7.0	15.0	3.0	8.0
2	2.5	0.0	1.0	6.5	0.0	2.5	12.5	5.5	8.5	17.5	4.0	10.5
3	2.5	0.0	1.0	8.0	0.5	3.5	12.0	7.0	9.5	19.5	6.0	12.5
4	2.5	0.5	1.5	8.0	0.0	4.0	14.0	7.5	10.5	20.5	10.5	15.5
5	1.5	0.0	0.5	9.0	1.0	5.0	15.0	7.5	11.0	24.0	13.5	18.0
6	0.0	0.0	0.0	9.0	3.5	6.0	16.5	6.5	11.0	25.0	13.5	18.5
7	0.0	0.0	0.0	6.0	1.5	4.0	17.5	9.0	13.0	18.5	13.5	16.0
8	0.0	0.0	0.0	10.0	2.5	6.0	14.5	10.0	12.0	16.5	11.5	13.5
9	0.0	0.0	0.0	9.0	5.0	7.0	11.0	6.5	8.0	18.0	11.0	14.5
10	0.0	0.0	0.0	11.0	3.5	7.0	14.0	4.5	9.0	14.0	10.5	12.5
11	0.5	0.0	0.0	8.0	3.5	6.0	14.5	5.5	10.0	12.5	7.5	9.5
12	0.0	0.0	0.0	8.0	4.5	6.0	15.0	6.5	10.5	11.0	7.0	8.5
13	0.5	0.0	0.0	5.5	2.5	4.0	17.0	7.0	11.5	16.5	5.5	11.0
14	0.0	0.0	0.0	5.5	2.0	3.5	12.0	6.5	9.0	22.0	9.0	15.0
15	0.5	0.0	0.0	9.5	2.0	5.0	13.5	4.0	8.5	23.5	13.0	18.5
16	0.0	0.0	0.0	8.5	3.5	6.0	17.0	5.5	11.0	24.5	15.5	19.5
17	0.0	0.0	0.0	6.0	0.0	2.5	16.5	9.0	12.5	19.0	15.0	17.0
18	0.5	0.0	0.0	5.0	0.0	1.5	12.5	9.0	10.5	21.5	11.0	16.0
19	0.5	0.0	0.0	4.0	0.0	1.5	12.5	8.0	10.0	22.0	13.5	17.0
20	0.0	0.0	0.0	5.5	0.0	2.5	11.0	8.5	9.5	23.5	12.0	17.5
21	0.0	0.0	0.0	10.0	2.5	5.5	14.5	7.5	10.5	21.5	13.0	17.0
22	0.0	0.0	0.0	7.0	1.5	4.5	19.0	7.5	12.5	22.0	11.5	16.5
23	0.5	0.0	0.0	4.0	0.0	1.5	19.0	9.0	14.0	22.5	12.5	17.0
24	0.5	0.0	0.0	5.0	0.0	1.5	21.0	10.5	15.0	18.5	12.0	15.5
25	0.5	0.0	0.0	7.0	0.0	2.5	21.0	10.0	15.0	18.5	13.0	15.5
26	0.5	0.0	0.0	7.5	0.0	4.0	15.0	11.0	13.0	21.0	12.5	16.0
27	1.0	0.0	0.5	12.0	4.0	7.5	11.0	7.0	9.0	24.0	11.5	17.5
28	4.5	0.0	1.0	10.0	6.5	8.0	11.0	4.5	7.5	24.0	13.5	18.5
29	---	---	---	11.5	3.5	7.5	11.0	3.0	7.0	22.5	13.0	17.5
30	---	---	---	8.0	4.5	6.0	8.0	4.5	6.0	22.0	12.0	17.0
31	---	---	---	12.0	3.5	7.0	---	---	---	24.0	12.5	18.0
MONTH	4.5	0.0	0.0	12.0	0.0	4.5	21.0	3.0	10.5	25.0	3.0	15.5

06108800 TETON RIVER AT LOMA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.5	14.5	16.0	27.5	19.0	23.5	---	---	---	---	---	---
2	16.5	12.0	14.0	27.0	19.0	22.5	---	---	---	---	---	---
3	16.0	12.0	14.0	27.0	16.5	21.5	---	---	---	---	---	---
4	21.5	13.5	16.5	29.0	17.5	23.0	---	---	---	---	---	---
5	25.5	15.0	19.5	30.5	19.0	24.5	---	---	---	---	---	---
6	20.0	16.5	18.0	29.0	20.0	24.5	---	---	---	---	---	---
7	21.0	15.0	17.5	30.5	21.0	25.5	---	---	---	---	---	---
8	17.5	15.0	16.0	32.0	20.0	26.0	---	---	---	---	---	---
9	17.0	14.0	15.5	30.0	21.5	25.0	---	---	---	---	---	---
10	21.0	14.5	17.5	28.0	19.0	23.0	---	---	---	---	---	---
11	23.5	15.5	19.5	30.0	19.5	24.5	---	---	---	---	---	---
12	20.5	16.5	18.5	32.5	18.5	25.5	---	---	---	---	---	---
13	22.0	14.5	18.0	33.5	21.0	26.0	---	---	---	---	---	---
14	24.0	15.5	19.5	31.5	19.0	25.0	---	---	---	---	---	---
15	25.5	18.0	21.0	31.5	19.0	25.0	---	---	---	---	---	---
16	25.5	18.5	22.0	26.0	21.0	23.5	---	---	---	---	---	---
17	25.0	19.5	22.0	23.5	17.5	21.0	---	---	---	---	---	---
18	24.5	18.0	21.0	26.5	17.5	22.0	---	---	---	---	---	---
19	25.5	17.0	21.5	29.5	20.0	24.5	---	---	---	---	---	---
20	28.0	19.5	23.5	---	---	---	---	---	---	---	---	---
21	30.5	22.5	26.0	---	---	---	---	---	---	---	---	---
22	30.5	21.5	25.5	---	---	---	---	---	---	---	---	---
23	27.5	21.0	24.0	---	---	---	---	---	---	---	---	---
24	27.5	19.5	23.0	---	---	---	---	---	---	---	---	---
25	27.0	20.0	22.5	---	---	---	---	---	---	---	---	---
26	23.5	18.5	21.0	---	---	---	---	---	---	---	---	---
27	26.0	18.5	21.5	---	---	---	---	---	---	---	---	---
28	27.5	19.0	22.5	---	---	---	---	---	---	---	---	---
29	22.5	18.0	19.5	---	---	---	---	---	---	---	---	---
30	28.0	16.0	22.0	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	30.5	12.0	2.0	33.5	16.5	24.0	---	---	---	---	---	---