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Water-Data Report 2007

06078200 MISSOURI RIVER NEAR ULM, MT

Upper Missouri Basin
Upper Missouri-Dearborn Subbasin

LOCATION.--Lat 47°26'09", long 111°23'12" referenced to North American Datum of 1927, in NE ¼ NW ¼ NW ¼ sec.5, T.19 N., R.3 E., Cascade County, MT, 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.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 3,313.27 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Flow is 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 include about 630,400 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter is located at the 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 Several unpublished observations of water temperature and specific conductance were made during the year.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.

06078200 MISSOURI RIVER NEAR ULM, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,840	3,970	e4,000	e3,850	e4,200	3,870	4,020	5,170	7,290	4,420	3,390	3,290
2	3,820	3,900	e4,000	e3,900	e4,500	3,860	3,980	5,290	6,840	4,370	3,380	3,250
3	3,840	3,990	e4,000	e4,000	e4,700	3,870	3,960	5,480	6,520	4,330	3,350	3,250
4	3,850	4,260	e4,000	e3,900	e4,800	3,840	3,960	5,910	6,330	4,240	3,320	3,230
5	3,850	4,050	e3,950	e3,800	e5,000	3,920	3,910	6,210	6,110	4,190	3,330	3,230
6	3,870	3,980	e3,950	e3,800	e4,500	3,980	3,880	5,960	5,890	4,170	3,350	3,230
7	3,860	3,920	e4,000	e3,850	e4,000	4,080	3,850	5,550	7,110	4,180	3,350	3,230
8	3,890	3,880	e4,000	e3,950	e3,900	4,230	3,800	5,190	9,900	4,330	3,410	3,280
9	3,940	3,950	e4,000	e4,200	e3,850	4,280	3,850	5,030	8,570	4,230	3,480	3,280
10	3,960	4,170	e4,000	e4,500	e3,800	4,280	3,880	4,920	7,660	4,180	3,500	3,280
11	3,930	4,160	e4,000	e5,200	e3,750	4,450	3,920	5,020	7,520	4,140	3,490	3,270
12	3,930	4,100	4,050	e5,000	e3,700	4,400	3,980	5,050	7,600	4,040	3,460	3,240
13	3,930	4,160	4,050	e4,600	e3,700	4,790	3,970	5,070	7,450	3,990	3,440	3,260
14	3,950	4,050	4,020	e4,300	e3,800	5,000	3,930	5,120	6,960	3,950	3,440	3,240
15	3,960	4,130	4,160	e4,300	e4,000	4,700	3,930	5,140	6,570	3,970	3,430	3,260
16	3,960	4,130	4,080	e4,300	e4,200	4,460	3,990	5,120	6,050	4,060	3,430	3,300
17	4,040	4,080	3,970	e4,250	e4,400	4,280	3,990	5,110	5,780	4,120	3,440	3,320
18	4,030	4,090	e3,950	e4,200	e4,400	4,070	4,140	5,160	5,730	4,070	3,430	3,350
19	4,000	4,080	e3,900	e4,100	e4,300	4,160	4,400	5,040	5,660	3,970	3,430	3,360
20	3,960	4,070	e3,850	e3,900	e4,250	4,110	4,570	4,950	5,410	3,900	3,470	3,400
21	4,060	4,080	e3,850	e3,800	e4,200	4,010	4,480	4,880	5,240	3,760	3,430	3,370
22	4,140	4,120	e3,850	e3,850	e4,100	3,980	4,440	4,990	5,090	3,600	3,430	3,330
23	4,090	4,160	e3,850	e4,000	e4,050	3,890	4,460	5,370	4,820	3,570	3,440	3,380
24	4,070	4,220	e3,850	e4,100	e4,000	3,870	4,500	5,580	4,730	3,560	3,460	3,480
25	4,050	4,160	e3,900	e4,050	3,940	3,810	4,550	5,810	4,680	3,560	3,500	3,500
26	4,070	e4,050	e4,000	e4,000	3,890	3,850	4,680	6,320	4,550	3,540	3,510	3,470
27	4,060	e4,000	e3,950	e3,900	3,880	3,910	4,800	6,630	4,530	3,540	3,490	3,390
28	4,030	e3,900	e3,850	e3,900	3,840	3,950	4,830	6,680	4,510	3,560	3,460	3,400
29	3,990	e3,950	e3,800	e3,850	---	4,100	4,840	6,910	4,480	3,540	3,460	3,400
30	4,030	e4,000	e3,850	e3,850	---	4,060	4,970	7,320	4,460	3,490	3,430	3,440
31	4,030	---	e3,850	e3,900	---	4,030	---	7,650	---	3,420	3,360	---
Total	123,030	121,760	122,530	127,100	115,650	128,090	126,460	173,630	184,040	121,990	106,290	99,710
Mean	3,969	4,059	3,953	4,100	4,130	4,132	4,215	5,601	6,135	3,935	3,429	3,324
Max	4,140	4,260	4,160	5,200	5,000	5,000	4,970	7,650	9,900	4,420	3,510	3,500
Min	3,820	3,880	3,800	3,800	3,700	3,810	3,800	4,880	4,460	3,420	3,320	3,230
Ac-ft	244,000	241,500	243,000	252,100	229,400	254,100	250,800	344,400	365,000	242,000	210,800	197,800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2007, BY WATER YEAR (WY)

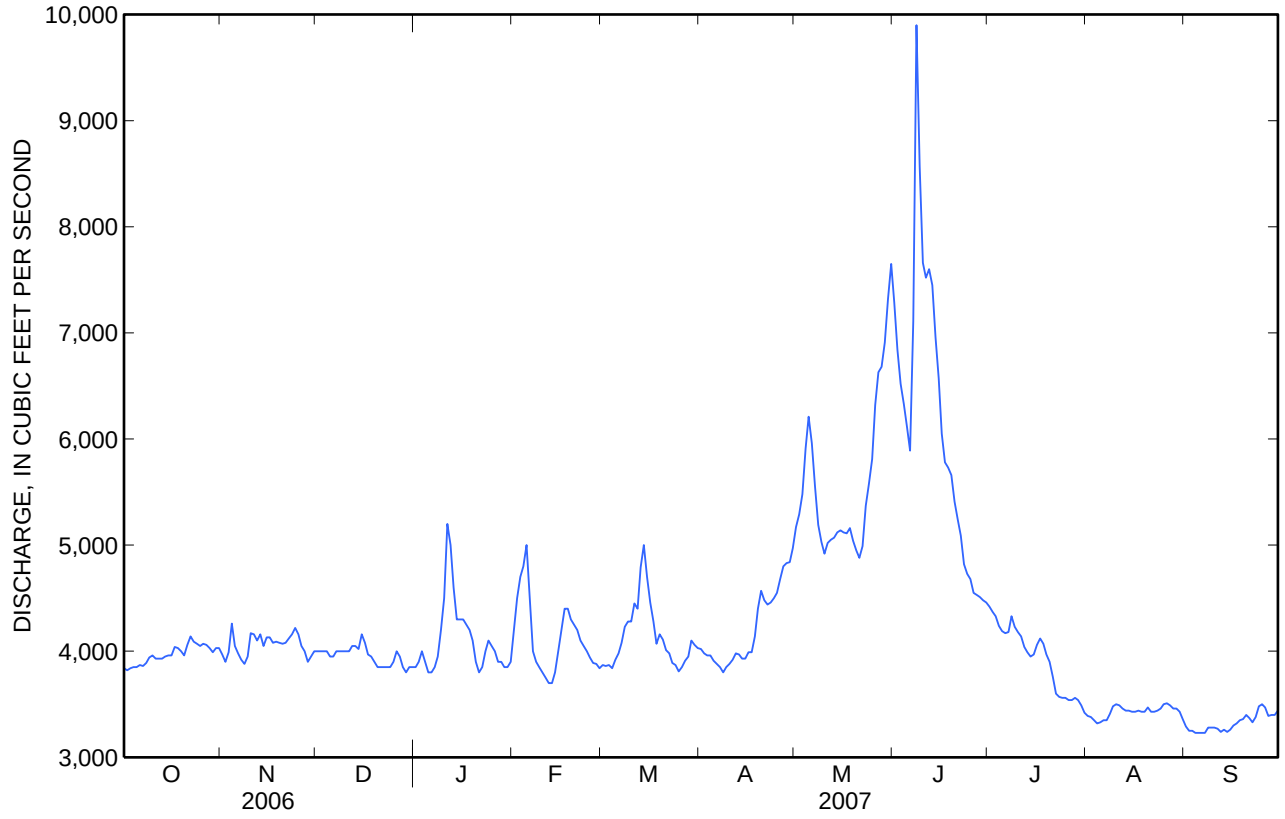
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	4,834	5,188	5,398	5,516	5,619	5,747	6,384	8,686	10,480	7,127	4,758	4,533
Max	11,230	9,497	10,690	7,213	9,501	9,652	12,070	19,800	24,260	19,480	8,741	9,990
(WY)	(1966)	(1966)	(1960)	(1984)	(1996)	(1968)	(1976)	(1976)	(1981)	(1975)	(1993)	(1984)
Min	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

	Calendar Year 2006		Water Year 2007		Water Years 1957 - 2007	
Annual total	1,795,740		1,550,280			
Annual mean	4,920		4,247		6,189	
Highest annual mean					9,653	1976
Lowest annual mean					3,479	2002
Highest daily mean	12,500	Jun 11	9,900	Jun 8	28,200	May 24, 1981
Lowest daily mean	3,680	Sep 14	3,230	Sep 4	1,700	Jun 17, 1961
Annual seven-day minimum	3,770	Sep 9	3,240	Sep 2	2,150	Sep 4, 1959
Maximum peak flow			[a]10,200	Jun 8	[c]28,500	May 24, 1981
Maximum peak stage			[b]7.71	Dec 21	15.20	Jun 17, 1997
Annual runoff (ac-ft)	3,562,000		3,075,000		4,483,000	
10 percent exceeds	7,380		5,220		9,560	
50 percent exceeds	4,440		4,000		5,350	
90 percent exceeds	3,850		3,430		3,370	

[a] Gage height, 7.39 ft.
[b] Backwater from ice.
[c] Gage height, 14.99 ft.



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Water-Data Report 2007

06079500 GIBSON RESERVOIR NEAR AUGUSTA, MT

Upper Missouri Basin
Sun Subbasin

LOCATION.--Lat 47°36'09", long 112°45'39" referenced to North American Datum of 1927, in NE ¼ NW ¼ SE ¼ sec.4, T.21 N., R.9 W., Teton County, MT, Hydrologic Unit 10030104, at Gibson Dam on Sun River, 19 mi northwest of Augusta, and at river mile 100.8.

DRAINAGE AREA.--575 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1930 to current year. Records prior to October 1940, published only in Water Supply Paper (WSP) 1309. April to July 1953 scattered daily elevations and contents, published in WSP 1320-B. May to June 1964 daily elevations and contents, published in WSP 1840-B. Nonrecording gage read daily. Records of daily elevations are in files of the USGS Water Science Center located in Helena, Montana.

COOPERATION.--Records furnished by Bureau of Reclamation.

REMARKS.--Elevation of gage is at sea level (levels by Bureau of Reclamation). Reservoir is formed by concrete dam with glory-hole spillway completed in 1929. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 96,480 acre-ft, between elevation 4,557.5 ft, bottom of outlet, and 4,724.0 ft, top of glory-hole, by capacity table effective Oct. 1, 1997; see previous reports for superseded figures. Water is used for irrigation and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 116,300 acre-ft, June 8, 1964, elevation, 4,732.23 ft, from floodmark, of which 11,600 acre-ft was uncontrolled storage, by capacity table used Oct. 1, 1965 to July 30, 1975; minimum observed, 11 acre-ft, Oct. 13, 1936, elevation, 4,560.9 ft by capacity table used prior to 1939.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 96,480 acre-ft, May 19, and June 1 and 2, elevation, 4,724.00 ft; minimum, 4,870 acre-ft, Aug. 6, elevation, 4,608.50 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2006 TO SEPTEMBER 2006

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	4,623.57	10,550	--
October 31	4,628.46	12,820	+2,270
November 30	4,660.11	31,220	+18,400
December 31	4,671.06	39,340	+8,120
Calendar Year 2006	--	--	+30,580
January 31	4,676.80	44,150	+4,810
February 28	4,680.72	47,680	+3,530
March 31	4,693.45	60,200	+12,520
April 30	4,708.24	76,680	+16,480
May 31	4,723.91	96,340	+19,660
June 30	4,705.80	73,790	-22,550
July 31	4,624.68	11,050	-62,740
August 31	4,609.84	5,270	-5,780
September 30	4,612.77	6,230	+960
Water Year 2007	--	--	-4,320

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Water-Data Report 2007

06085800 SUN RIVER AT SIMMS, MT

Upper Missouri Basin
Sun Subbasin

LOCATION.--Lat 47°30′09″, long 111°55′54″ referenced to North American Datum of 1927, in NW ¼ NW ¼ SE ¼ sec.12, T.20 N., R.3 W., Cascade County, MT, 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.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May to June 1953 in Water Supply Paper (WSP) 1320-B, May to June 1964 in WSP 1840-B, April 1966 to September 1979, April 1997 to October 2004; April 2005 to current year, seasonal records only.

REVISED RECORDS.-- Water Data Report MT-75-1: 1964, maximum discharge.

GAGE.--Water-stage recorder. Elevation of gage is 3,570 ft, referenced to the National Geodetic Vertical Datum of 1929. 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 are good. Flow is regulated by Gibson, Pishkun, Willow Creek, and Nilan Reservoirs. Diversions for irrigation of about 105,000 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06085800 SUN RIVER AT SIMMS, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				107	432	1,330	86	70	40	96		
2				111	1,050	1,430	89	75	40	89		
3				112	957	1,480	122	66	37	91		
4				109	917	1,460	141	70	32	92		
5				111	1,070	1,230	136	75	31	95		
6				110	1,360	1,440	109	85	28	96		
7				107	1,340	1,390	100	80	27	93		
8				132	1,090	690	113	72	29	95		
9				324	1,010	366	102	59	30	93		
10				261	1,000	197	86	57	36	86		
11				135	878	122	110	52	55	82		
12				123	812	57	124	53	65	78		
13				127	1,060	39	100	53	94	108		
14				121	1,320	45	85	53	118	108		
15				131	1,420	38	81	50	125	108		
16				133	1,360	55	73	47	95	110		
17				97	854	102	69	45	82	114		
18				174	627	120	60	41	88	111		
19				229	819	114	58	40	116	112		
20				182	1,630	96	58	42	121	111		
21				164	1,310	81	59	39	115	112		
22				160	770	108	48	36	109	111		
23				150	722	96	54	35	132	110		
24				125	412	71	55	36	148	119		
25				78	601	62	57	39	135	129		
26				68	967	70	59	36	134	143		
27				72	948	107	58	38	116	138		
28				86	691	107	59	35	109	132		
29				100	1,020	98	59	31	111	122		
30				104	1,300	100	63	31	108	122		
31				---	1,290	---	74	33	---	122		
Total				4,043	31,037	12,701	2,547	1,574	2,506	3,328		
Mean				135	1,001	423	82.2	50.8	83.5	107		
Max				324	1,630	1,480	141	85	148	143		
Min				68	412	38	48	31	27	78		
Ac-ft				8,020	61,560	25,190	5,050	3,120	4,970	6,600		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2004 AND SEASONS 2005 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	191	188	216	293	1,105	2,002	348	150	140	193	217	192
Max	314	291	473	1,125	4,123	8,558	2,165	383	422	519	596	456
(WY)	(1976)	(1976)	(1969)	(1969)	(1976)	(1975)	(1975)	(1972)	(1972)	(1972)	(1976)	(1976)
Min	119	96.3	104	77.6	72.1	109	44.3	48.8	49.3	89.0	120	99.8
(WY)	(2004)	(1977)	(1977)	(2004)	(2001)	(1977)	(2003)	(2000)	(1977)	(1978)	(1978)	(2004)

* During periods of operation (April 1966 to September 1979, April 1997 to October 2004; April 2005 to current year, seasonal records only).

06085800 SUN RIVER AT SIMMS, MT—Continued

SUMMARY STATISTICS

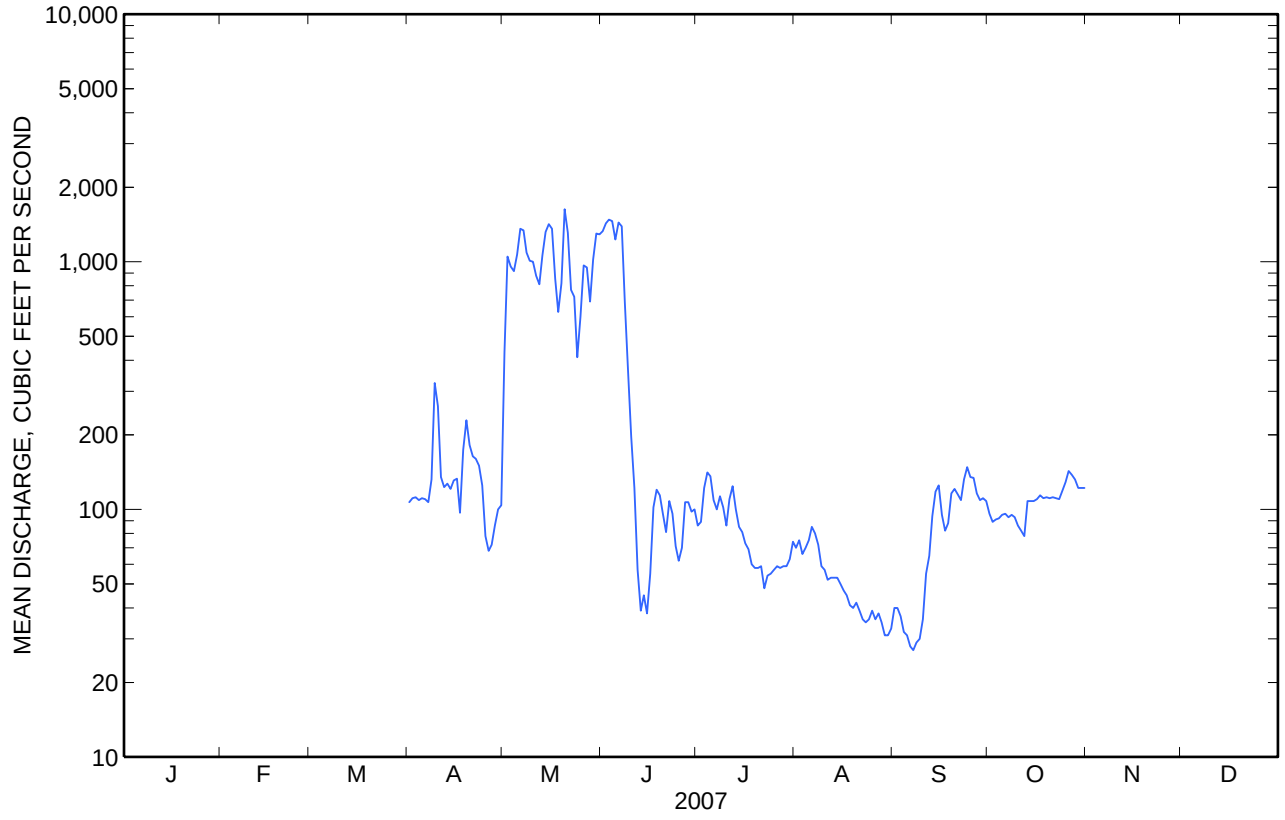
	2007 Season		Water Years 1966 – 2004*		Seasons 2005 – 2007*	
Annual mean			449			
Highest annual mean			1,177	1975		
Lowest annual mean			123	2001		
Highest daily mean	1,630	May 20	35,000	Jun 20, 1975	3,520	May 18, 2005
Lowest daily mean	27	Sep 7	19	Sep 29, 1977	27	May 9, 2006
Annual seven-day minimum			26	Sep 19, 1977		
Maximum peak flow	1,900	May 20	50,000	Jun 9, 1964	4,290	Jun 12, 2006
Maximum peak stage	4.16	May 20	[b]13.70	Jun 9, 1964	5.97	Jun 12, 2006
Instantaneous low flow	[a]26	Sep 6			[c]23	May 10, 2006
Annual runoff (ac-ft)			325,400			
10 percent exceeds			811			
50 percent exceeds			179			
90 percent exceeds			80			

* During periods of operation (April 1966 to September 1979, April 1997 to October 2004; April 2005 to current year, seasonal records only).

[a] Gage height, 0.75 ft.

[b] About, from floodmark.

[c] Gage height, 0. 67 ft.



06085800 SUN RIVER AT SIMMS, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1996 to December 1997, April 2007 to October 2007.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: April 2007 to October 2007, seasonal records..

INSTRUMENTATION. --Water temperature probe installed July 6, 2006 (data not published for water year 2006).

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

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 28.5°C, July 19, 2007; minimum for season, 1.5°C, April 3, 4, and 7, 2007.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 28.5°C, July 19; minimum for season, 1.5°C, April 3, 4, and 7.

TEMPERATURE, WATER, DEGREES CELSIUS
APRIL 2007 TO OCTOBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		April			May			June			July	
1	9.5	5.5	7.0	16.0	10.5	13.5	16.5	12.0	14.0	25.5	16.5	21.0
2	7.0	3.5	5.0	13.5	11.5	12.0	16.5	12.5	14.5	24.5	17.5	21.0
3	7.0	1.5	4.0	11.5	8.5	10.0	16.0	12.5	14.5	26.0	17.5	21.5
4	5.5	1.5	3.5	10.5	6.0	8.0	16.5	13.0	14.5	26.5	18.0	22.5
5	4.0	2.5	3.5	11.5	6.5	9.0	16.0	13.5	15.0	27.5	18.5	23.0
6	3.5	2.0	3.0	12.5	8.0	10.0	13.5	9.5	11.0	27.0	19.0	23.0
7	8.5	1.5	4.5	13.5	9.0	11.5	12.5	8.5	10.5	26.5	20.0	22.5
8	11.0	2.5	6.5	15.0	10.5	12.5	16.5	11.0	13.5	26.5	19.0	22.5
9	9.0	6.5	7.5	16.0	11.0	13.5	17.0	12.5	15.0	23.5	18.0	21.0
10	7.0	3.5	4.5	14.5	11.0	12.5	19.0	14.0	16.0	24.5	16.0	20.5
11	7.0	2.5	4.5	15.5	10.5	13.0	21.0	13.5	17.0	25.5	16.5	21.0
12	9.5	2.0	5.5	17.0	12.0	14.5	21.5	14.0	17.5	27.0	18.0	22.5
13	11.5	4.0	7.5	14.5	9.0	11.5	17.0	13.0	15.0	27.5	19.0	23.0
14	12.0	6.5	9.0	10.0	7.5	8.5	19.5	12.5	16.0	26.5	19.5	23.0
15	11.5	8.5	10.0	13.0	8.0	10.5	21.0	12.5	17.0	27.5	19.0	23.0
16	13.0	6.5	10.0	14.5	10.0	12.0	21.5	13.5	17.5	28.0	19.0	23.5
17	12.5	8.0	10.0	16.0	11.0	13.5	18.5	14.0	16.0	26.0	20.5	23.0
18	10.0	5.5	7.0	18.0	12.0	15.0	19.0	12.5	15.5	28.0	20.0	23.5
19	6.0	4.5	5.5	15.0	12.5	13.5	22.0	12.5	17.0	28.5	20.5	24.0
20	12.0	4.5	7.5	12.5	10.0	11.0	24.5	15.0	19.5	27.5	19.5	23.5
21	13.5	5.5	9.5	11.0	9.0	10.0	26.0	16.5	21.0	26.0	20.5	23.0
22	14.5	7.5	11.0	9.5	8.0	8.5	25.5	17.0	21.5	27.5	18.5	23.0
23	16.0	10.0	12.5	13.0	7.5	9.5	24.5	18.0	21.5	26.5	19.5	23.0
24	17.0	10.0	13.5	14.0	9.5	11.5	24.0	16.5	20.0	24.0	20.5	22.0
25	16.5	9.5	13.0	11.5	8.0	9.5	20.0	14.5	18.0	26.5	18.5	22.0
26	17.0	9.5	12.5	15.5	8.5	12.0	21.5	11.5	16.5	26.0	19.0	22.0
27	12.0	8.5	10.0	14.5	11.5	13.0	23.5	14.0	18.5	26.5	19.0	22.5
28	17.0	8.0	12.5	14.0	10.0	12.0	25.5	16.5	21.0	27.0	18.5	22.5
29	17.0	10.5	13.5	11.5	10.5	11.0	24.0	18.5	21.0	25.0	19.0	22.0
30	18.0	10.5	14.0	13.5	9.5	11.5	25.0	17.5	21.0	24.5	19.0	21.5
31	---	---	---	15.0	10.0	12.5	---	---	---	25.5	18.5	21.5
Month	18.0	1.5	8.0	18.0	6.0	11.5	26.0	8.5	17.0	28.5	16.0	22.5

06085800 SUN RIVER AT SIMMS, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
APRIL 2007 TO OCTOBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		August			September			October	
1	24.5	17.5	21.0	22.5	15.5	19.0	11.0	8.0	9.5
2	25.0	18.0	21.5	22.5	15.5	18.5	11.0	7.0	8.5
3	24.5	18.5	21.5	22.5	15.5	19.0	11.5	7.0	9.0
4	23.5	16.5	19.5	19.0	15.5	17.0	11.0	6.0	8.0
5	22.0	15.5	19.0	19.5	15.0	17.0	9.0	7.0	8.0
6	23.0	16.5	19.5	21.0	14.0	17.0	10.5	6.0	7.5
7	22.5	17.0	19.5	18.0	14.0	15.5	11.5	5.5	8.5
8	23.0	16.0	19.0	19.5	12.5	15.0	12.5	8.0	10.0
9	23.5	16.5	19.5	19.5	11.5	15.0	13.0	8.0	10.5
10	22.5	17.0	19.5	19.0	11.0	15.0	13.5	8.5	11.0
11	22.0	15.0	18.5	20.0	12.5	16.0	12.0	9.0	10.5
12	21.5	15.5	18.0	16.5	12.0	13.5	12.0	8.0	10.0
13	22.0	15.5	18.5	16.5	10.0	13.0	13.5	9.0	11.0
14	22.5	15.5	19.0	16.5	10.0	13.0	12.5	8.0	10.5
15	22.5	16.0	19.0	17.5	11.0	14.0	13.0	7.5	10.5
16	20.0	16.0	18.0	17.0	12.5	14.5	11.5	8.0	10.0
17	22.0	15.5	18.0	15.0	12.0	13.5	10.5	7.5	9.0
18	21.0	15.5	18.0	15.0	10.5	12.5	8.5	5.0	7.0
19	22.0	15.0	18.0	12.5	9.0	10.5	8.5	6.0	7.0
20	18.0	14.5	16.0	9.5	7.5	9.0	8.0	4.0	6.0
21	19.0	13.0	15.5	13.5	7.0	10.0	7.5	3.5	5.5
22	21.0	12.5	16.5	13.0	9.0	11.5	8.5	4.5	6.5
23	20.5	13.5	16.5	12.5	8.0	10.0	12.0	7.5	9.5
24	21.5	13.0	17.0	12.5	7.0	9.5	12.5	8.5	10.5
25	20.5	14.0	16.5	11.0	8.0	9.5	10.5	8.5	9.5
26	20.5	13.5	17.0	13.5	8.0	10.5	9.0	6.0	7.5
27	20.5	14.0	17.0	13.0	8.5	11.0	7.0	3.0	5.0
28	21.5	14.0	17.5	14.5	9.5	12.0	8.0	4.5	6.0
29	22.5	13.5	17.5	12.5	9.0	10.5	8.0	5.5	7.0
30	22.5	14.0	18.0	11.5	6.0	9.0	7.5	5.0	6.5
31	21.0	15.0	18.0	---	---	---	5.0	3.0	4.0
Month	25.0	12.5	18.5	22.5	6.0	13.5	13.5	3.0	8.5

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06088300 MUDDY CREEK NEAR VAUGHN, MT

Upper Missouri Basin
Sun Subbasin

LOCATION.--Lat 47°37′30″, long 111°38′05″ referenced to North American Datum of 1927, in NE ¼ NE ¼ NW ¼ sec.32, T.22 N., R.1 E., Cascade County, MT, 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 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1968 to September 1987, March 1996 to October 2004, April 2005 to October 2007 (seasonal records only), discontinued.

GAGE.--Water-stage recorder. Elevation of gage is 3,441.79 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Seasonal records are good. Natural flow is increased by return flow from Greenfield Irrigation Project. Diversions for irrigation of about 400 acres occur upstream from station and pumped diversions from Muddy Creek upstream from station in SW¼ sec. 2, T. 22 N., R.1 W, to supplement water supply for Benton Lake Wildlife Refuge. U.S. Geological Survey satellite telemeter is located at the station.

06088300 MUDDY CREEK NEAR VAUGHN, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				23	26	139	212	257	55	53		
2				23	26	117	284	237	55	53		
3				22	32	114	203	221	50	52		
4				22	32	132	192	199	53	51		
5				24	26	119	183	154	51	62		
6				24	24	201	168	165	48	64		
7				24	25	242	163	142	49	54		
8				23	152	205	172	166	56	51		
9				22	96	197	172	173	52	49		
10				22	99	132	174	146	48	49		
11				22	156	162	174	137	49	48		
12				22	118	135	162	152	49	46		
13				21	118	124	164	136	55	46		
14				20	174	144	182	127	52	45		
15				20	151	133	169	112	49	45		
16				22	130	160	210	96	46	45		
17				19	154	200	209	88	45	48		
18				43	158	245	219	84	44	45		
19				53	190	207	240	82	44	44		
20				51	202	204	254	82	45	44		
21				38	270	195	279	71	43	43		
22				34	213	219	282	68	41	41		
23				32	227	261	287	68	59	40		
24				31	184	246	257	66	58	39		
25				29	218	302	238	61	43	39		
26				28	246	280	271	60	39	39		
27				27	180	257	229	57	45	38		
28				27	165	239	213	54	55	39		
29				26	146	203	229	51	58	40		
30				27	161	200	295	54	55	51		
31				---	141	---	261	53	---	52		
Total				821	4,240	5,714	6,747	3,619	1,491	1,455		
Mean				27.4	137	190	218	117	49.7	46.9		
Max				53	270	302	295	257	59	64		
Min				19	24	114	162	51	39	38		
Ac-ft				1,630	8,410	11,330	13,380	7,180	2,960	2,890		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 – 2004 AND SEASONS 2005 – 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	33.0	35.3	57.7	39.4	111	205	253	233	125	72.9	53.8	41.1
Max	59.8	65.1	238	162	264	455	367	402	218	145	71.4	58.5
(WY)	(1997)	(1986)	(1978)	(1975)	(1975)	(1969)	(1970)	(1975)	(1972)	(1976)	(1986)	(1986)
Min	19.3	17.5	23.4	21.3	56.3	101	137	117	42.1	40.8	34.9	21.7
(WY)	(1973)	(1985)	(2002)	(2000)	(2001)	(1985)	(1980)	(2007)	(2003)	(2002)	(2002)	(1973)

* During periods of operation (water years July 1968 to September 1987, March 1996 to October 2004; seasonal records April 2005 to October 2007).

06088300 MUDDY CREEK NEAR VAUGHN, MT—Continued

SUMMARY STATISTICS

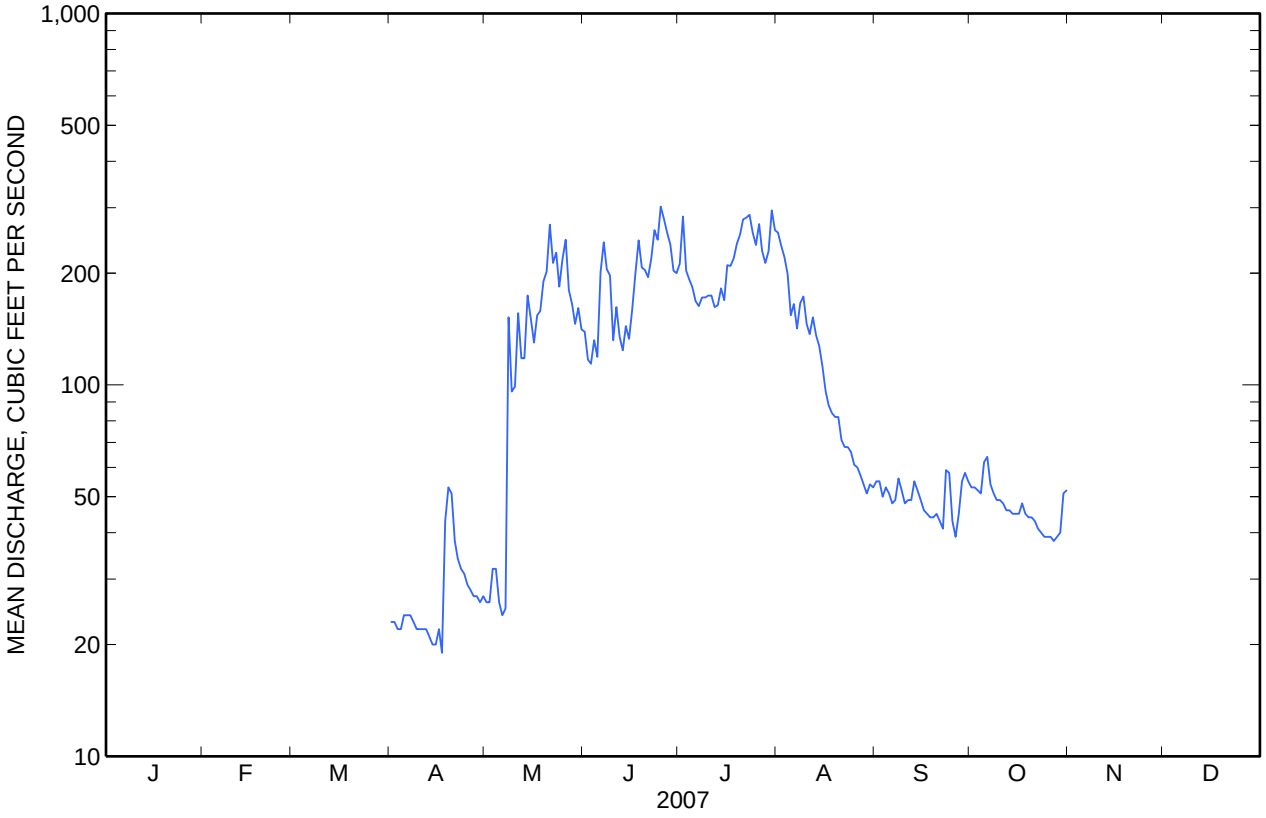
	2007 Season		Water Years 1968 - 2007*		Seasons 2005 – 2007*	
Annual mean			107			
Highest annual mean			160	1969		
Lowest annual mean			77.2	1985		
Highest daily mean	302	Jun 25	2,250	May 7, 1975	1,300	Jun 11, 2006
Lowest daily mean	19	Apr 17	8.0	Dec 8, 1972	19	May 14, 2006
Annual seven-day minimum			13	Dec 8, 1972		
Maximum peak flow	336	Jun 25	3,560	May 22, 1981	1,600	Jun 11, 2006
Maximum peak stage	4.35	Jun 25	[b]14.72	May 22, 1981	[b]10.30	Jun 11, 2006
Instantaneous low flow	[a]13	Apr 17	[c]4.8	Mar 7, 2004	[a]13	Apr 17, 2007
Annual runoff (ac-ft)			77,860			
10 percent exceeds			254			
50 percent exceeds			59			
90 percent exceeds			27			

* During periods of operation (water years July 1968 to September 1987, March 1996 to October 2004; seasonal records April 2005 to October 2007).

[a] Gage height, 2.00 ft.

[b] From floodmark.

[c] May have been lower during a period of ice effect.



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.--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 2006 TO SEPTEMBER 2007

Date	Time	Instantaneous discharge, cfs (00061)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Oct								
18...	1600	63	975	11.0	5.5	80	33	5.6
Apr								
11...	1045	22	1,210	-0.5	3.0	76	43	2.6
May								
17...	1300	182	513	26.0	15.5	86	356	175
Jun								
21...	0915	197	603	15.0	16.0	73	168	89
Jul								
25...	1545	234	605	31.0	22.0	79	142	90
Aug								
28...	1815	48	856	22.0	18.5	94	16	2.1

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06088500 MUDDY CREEK AT VAUGHN, MT

Upper Missouri Basin
Sun Subbasin

LOCATION.--Lat 47°33′39″, long 111°32′26″ referenced to North American Datum of 1927, in SW ¼ SE ¼ NE ¼ sec.24, T.21 N., R.1 E., Cascade County, MT, Hydrologic Unit 10030104, on left bank at Vaughn, and at river mile 1.1.

DRAINAGE AREA.--314 mi².

SURFACE-WATER RECORDS

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

REVISED RECORDS.-- Water Supply Paper (WSP) 856: 1937. WSP 1509: 1934-35; 1941, maximum discharge. WSP 1559: 1956. WSP 1629: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,330 ft, referenced to the National Geodetic Vertical Datum of 1929. 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.--Records are good except those for estimated daily discharges, which are poor. Natural flow is increased by wastage from the Sun River Canal and by return flow from irrigation. Diversions for irrigation of about 700 acres occur upstream from the station. U.S. Geological Survey satellite telemeter is located at the 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.

06088500 MUDDY CREEK AT VAUGHN, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	104	e50	e48	e30	e30	e40	26	26	219	265	364	92
2	118	e55	e45	e35	e32	e45	26	27	202	342	344	90
3	116	70	e50	e40	e35	e55	25	31	195	261	304	80
4	103	70	e60	e35	e38	e50	25	35	216	264	282	78
5	74	63	e55	e35	e50	e60	27	28	195	268	234	84
6	72	59	e55	e35	e45	e70	26	26	269	235	239	82
7	71	59	e60	e35	e40	e60	26	25	334	236	222	83
8	68	57	e65	e35	e35	e55	25	129	293	256	232	90
9	66	55	e70	e38	e32	e52	24	113	269	279	239	92
10	61	55	e60	e30	e32	e50	23	113	202	292	223	91
11	59	55	e55	e20	e30	e55	24	159	227	288	205	78
12	59	54	e55	e17	e28	e65	25	137	199	277	225	82
13	58	54	e52	e20	e25	e50	23	131	176	268	213	90
14	58	53	e50	e22	e20	e35	22	183	191	290	191	91
15	56	49	e45	e25	e30	32	22	176	185	278	171	88
16	60	58	e40	e28	e50	31	23	152	210	329	154	86
17	79	50	e38	e22	e60	31	22	198	261	307	133	81
18	75	54	e40	e22	e80	32	39	173	321	274	120	84
19	74	55	e40	e25	e60	31	58	237	285	296	118	87
20	72	55	e40	e30	e45	29	58	249	276	322	122	90
21	70	51	e40	e25	e40	28	40	349	264	353	113	88
22	70	52	e40	e30	e40	27	34	296	280	349	110	82
23	69	51	e42	e40	e45	27	32	320	316	356	103	93
24	68	51	e42	e50	e50	26	31	272	295	338	102	106
25	67	e40	e45	e60	e50	26	29	294	361	324	97	86
26	65	e35	e42	e50	e45	26	27	345	359	345	99	80
27	63	e35	e35	e50	e40	26	26	268	342	339	101	78
28	63	e30	e30	e45	e40	27	26	243	315	356	100	86
29	62	e40	e25	e45	---	26	26	229	269	374	101	85
30	54	e50	e26	e50	---	26	27	245	261	432	99	86
31	e45	---	e27	e35	---	27	---	227	---	390	94	---
Total	2,199	1,565	1,417	1,059	1,147	1,220	867	5,436	7,787	9,583	5,454	2,589
Mean	70.9	52.2	45.7	34.2	41.0	39.4	28.9	175	260	309	176	86.3
Max	118	70	70	60	80	70	58	349	361	432	364	106
Min	45	30	25	17	20	26	22	25	176	235	94	78
Ac-ft	4,360	3,100	2,810	2,100	2,280	2,420	1,720	10,780	15,450	19,010	10,820	5,140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	98.0	59.5	44.0	34.4	37.2	53.5	41.2	137	241	276	280	171
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)

* During periods of operation (June 1925 to January 1926, April 1934 to September 1968, July 1971 to current year).

06088500 MUDDY CREEK AT VAUGHN, MT—Continued

SUMMARY STATISTICS

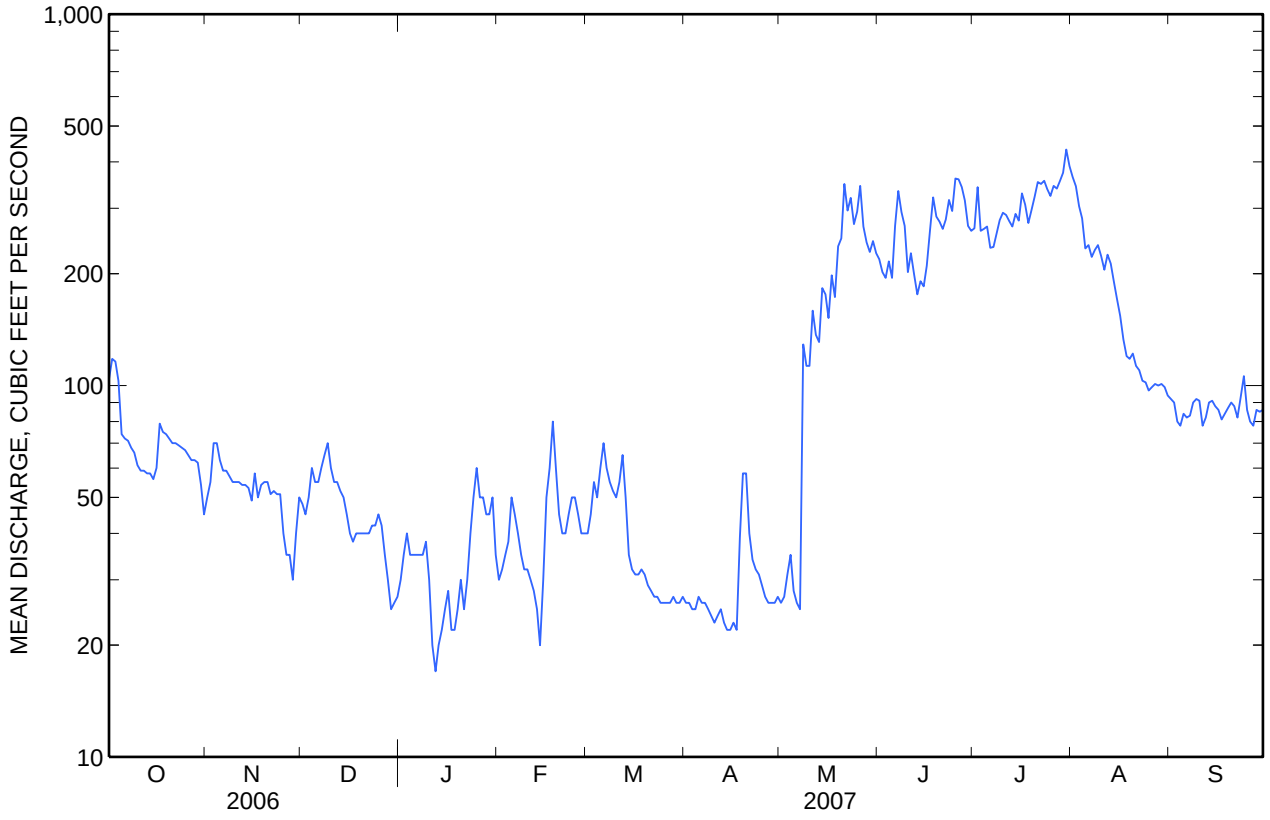
	Calendar Year 2006		Water Year 2007		Water Years 1925 - 2007*	
Annual total	43,194		40,323			
Annual mean	118		110		124	
Highest annual mean					185	1975
Lowest annual mean					61.2	1936
Highest daily mean	1,350	Jun 11	432	Jul 30	3,500	Jun 4, 1953
Lowest daily mean	15	Feb 17	17	Jan 12	4.8	Mar 29, 1977
Annual seven-day minimum	21	Mar 8	22	Jan 11	7.0	Jan 24, 1936
Maximum peak flow			448	Jul 30	[a]7,600	Jun 4, 1953
Maximum peak stage			5.34	Jul 30	[b]16.70	Jun 4, 1953
Instantaneous low flow					[c]2.0	Mar 16, 1972
Annual runoff (ac-ft)	85,680		79,980		89,870	
10 percent exceeds	276		286		293	
50 percent exceeds	59		60		70	
90 percent exceeds	34		26		26	

* During periods of operation (June 1925 to January 1926, April 1934 to September 1968, July 1971 to current year).

[a] From rating curve extended above 3,000 ft³/s on basis of a slope-area measurement of peak flow.

[b] From floodmark, site and datum then in use. Prior to September 30, 1955, at datum 1.0 ft higher.

[c] Gage height, 1.20 ft, result of freezeup.



06088500 MUDDY CREEK AT VAUGHN, MT—Continued

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 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 2006 TO SEPTEMBER 2007

Part 1 of 2

[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/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)	Total nitrogen, water, unfltrd mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd mg/L (00665)	Selenium, water, unfltrd µg/L (01147)
Oct													
19...	1000	74	8.6	982	11.0	6.5	<.020	2.93	.007	3.16	<.006	.010	3.2
Jan													
17...	1215	21	7.9	1,190	2.0	0.0	<.020	3.89	.019	4.23	E.005	.009	3.9
Feb													
22...	1150	41	8.4	1,260	5.0	0.0	.044	5.64	.026	6.02	.010	.071	8.5
Mar													
08...	1050	57	7.9	1,190	7.0	0.0	.022	3.17	.021	3.71	E.003	.091	5.2
Apr													
11...	1300	25	8.7	1,310	3.0	5.0	E.015	3.41	.017	3.78	E.003	.021	5.9
May													
17...	0945	212	8.4	544	15.0	15.5	.027	.529	.008	1.34	.011	.332	1.4
Jun													
21...	1150	263	8.4	576	25.0	19.5	E.019	.508	.014	1.24	E.005	.236	1.1
Jul													
26...	0745	331	8.4	583	19.0	19.5	<.020	.779	.006	1.34	.023	.197	.79
Aug													
27...	1500	102	8.5	816	22.0	18.5	<.020	.561	.005	.91	<.006	.021	.99

06088500 MUDDY CREEK AT VAUGHN, MT—Continued

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007**

Part 2 of 2

Date	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
Oct			
19...	86	59	12
Jan			
17...	43	61	3.5
Feb			
22...	53	34	3.8
Mar			
08...	91	74	11
Apr			
11...	91	45	3.0
May			
17...	84	510	292
Jun			
21...	76	242	172
Jul			
26...	71	340	304
Aug			
27...	84	33	9.1

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06089000 SUN RIVER NEAR VAUGHN, MT

Upper Missouri Basin
Sun Subbasin

LOCATION.--Lat 47°31′33″, long 111°30′40″ referenced to North American Datum of 1927, in SE ¼ SW ¼ SW ¼ sec.32, T.21 N., R.2 E., Cascade County, MT, 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 mi².

SURFACE-WATER 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 Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 786: 1934. WSP 1729: Drainage area. Water Data Report MT-03-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,340 ft, referenced to the National Geodetic Vertical Datum of 1929. 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.--Records are good except those for estimated daily discharges, which are poor. Flow is regulated by Gibson, Pishkun, Willow Creek, and Nilan Reservoirs. Diversion for irrigation of about 110,000 acres occurs upstream from station. U.S. Army Corps of Engineers satellite telemeter is located at the 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.

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	265	e260	e250	e280	e210	e230	195	240	1,650	417	509	227
2	274	e260	e240	e320	e220	e250	202	856	1,790	464	517	233
3	284	e280	e230	e310	e240	e300	e200	e1,200	1,810	363	521	224
4	293	297	e260	e280	e260	390	e215	e1,100	2,040	371	478	207
5	291	276	e310	e280	e320	364	218	1,010	1,760	381	448	201
6	299	260	e290	e280	e290	339	212	1,390	1,920	332	497	197
7	296	256	e280	e280	e250	337	205	1,420	2,210	314	516	190
8	295	248	e320	e280	e240	323	e210	1,360	1,560	346	506	204
9	285	251	e310	e300	e230	290	256	1,260	1,010	374	485	214
10	279	253	e300	e200	e230	271	371	1,240	585	360	443	215
11	272	256	e310	e170	e230	265	e270	1,250	444	359	413	204
12	265	252	e300	e170	e220	269	e240	1,060	342	386	447	210
13	267	250	e300	e180	e210	268	e230	1,090	239	380	457	233
14	273	256	e290	e190	e220	e260	e215	1,520	227	372	403	276
15	269	243	e300	e200	e250	257	205	1,720	237	359	381	291
16	296	258	e280	e220	e280	249	e210	1,540	263	411	374	280
17	339	249	e260	e200	e300	248	209	1,400	368	375	328	245
18	334	241	e270	e210	e280	248	241	993	522	404	290	237
19	321	248	e260	e230	e270	243	402	888	495	423	279	257
20	321	258	e260	e250	e270	238	365	1,720	468	452	308	285
21	329	254	e260	e240	e260	231	297	2,110	418	474	290	288
22	325	253	e260	e250	e250	230	266	1,450	409	476	280	276
23	314	251	e280	e280	e240	233	255	1,310	483	469	269	308
24	302	237	e280	e320	e240	229	246	1,010	443	474	266	380
25	298	e210	e300	e300	e250	222	216	801	537	465	260	342
26	290	e180	e300	e260	e250	220	178	1,580	501	475	262	312
27	282	e170	e290	e240	e240	220	192	1,340	537	466	249	291
28	274	e160	e250	e250	e230	239	196	1,230	560	461	241	285
29	275	e170	e220	e240	---	e260	216	1,160	496	454	236	282
30	259	e200	e230	e220	---	e270	225	1,710	472	566	232	279
31	e250	---	e240	e220	---	205	---	1,720	---	534	237	---
Total	9,016	7,237	8,530	7,650	6,980	8,198	7,158	39,678	24,796	12,957	11,422	7,673
Mean	291	241	275	247	249	264	239	1,280	827	418	368	256
Max	339	297	320	320	320	390	402	2,110	2,210	566	521	380
Min	250	160	220	170	210	205	178	240	227	314	232	190
Ac-ft	17,880	14,350	16,920	15,170	13,840	16,260	14,200	78,700	49,180	25,700	22,660	15,220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2007, BY WATER YEAR (WY)

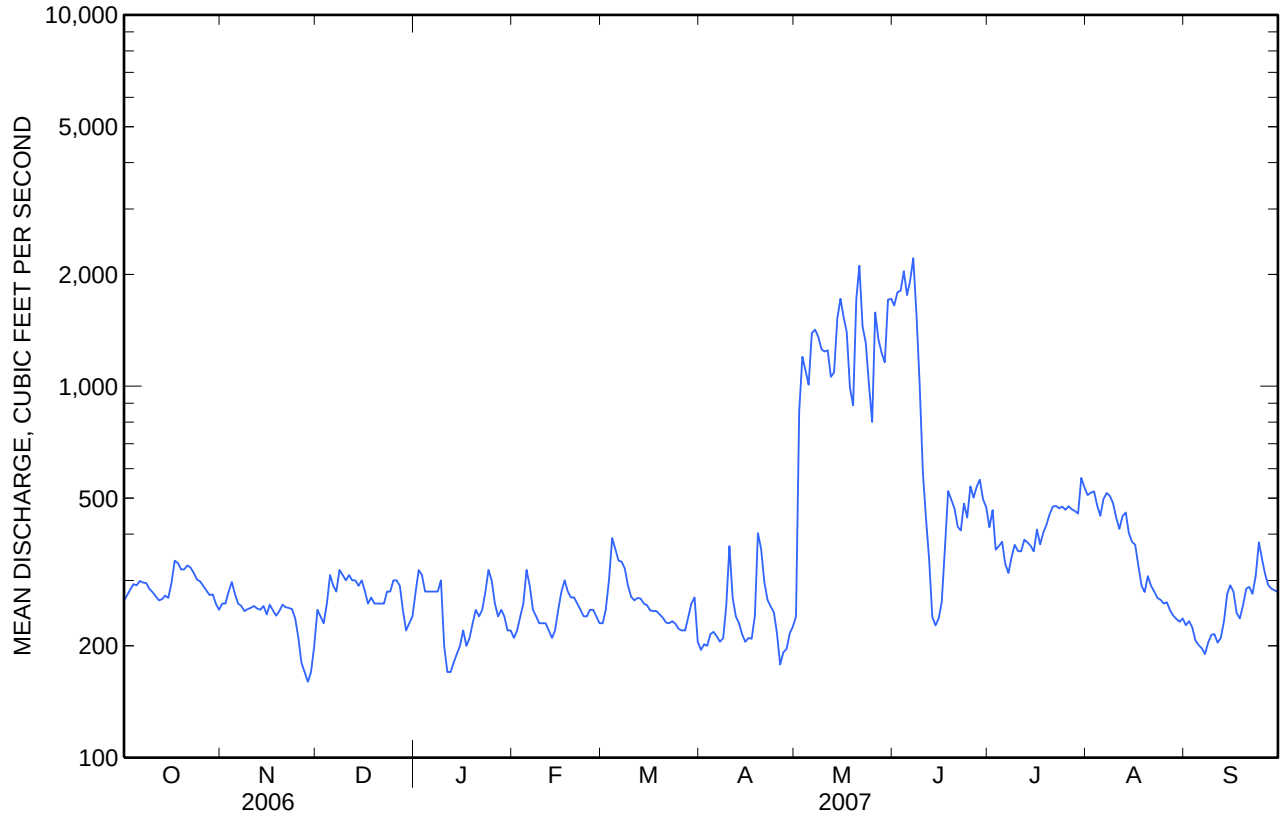
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	376	335	298	255	263	319	484	1,541	2,472	763	557	435
Max	779	908	896	656	601	868	3,000	4,333	8,014	2,508	1,025	1,040
(WY)	(1952)	(1990)	(1996)	(1986)	(1986)	(1969)	(1934)	(1976)	(1964)	(1975)	(1975)	(1993)
Min	143	149	114	66.5	82.4	133	93.3	87.1	280	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

	Calendar Year 2006		Water Year 2007		Water Years 1934 - 2007	
Annual total	191,014		151,295			
Annual mean	523		415		669	
Highest annual mean					1,307	1943
Lowest annual mean					210	1941
Highest daily mean	5,530	Jun 11	2,210	Jun 7	37,000	Jun 10, 1964
Lowest daily mean	100	Feb 17	160	Nov 28	23	May 26, 1941
Annual seven-day minimum	134	Feb 14	190	Nov 24	38	May 21, 1941
Maximum peak flow			2,350	May 21	[a]53,500	Jun 9, 1964
Maximum peak stage			3.61	May 21	[b]23.40	Jun 9, 1964
Instantaneous low flow					[c]20	Apr 24, 1944
Annual runoff (ac-ft)	378,900		300,100		484,900	
10 percent exceeds	843		930		1,350	
50 percent exceeds	279		280		355	
90 percent exceeds	200		213		179	

[a] 42,200 ft³/s in main channel plus 11,300 ft³/s in bypass channel.
[b] From floodmark.
[c] Gage height, 0.52 ft, result of irrigation, site and datum then in use.



06089000 SUN RIVER NEAR VAUGHN, MT—Continued

WATER-QUALITY RECORDS

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

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

REMARKS.--Daily water temperature records are rated good to excellent except those less than 1°C, which are rated good to fair. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF 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 and 18, 2002; minimum, 0.0°C on many days during winter.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 26.0°C, Jul 6; minimum, 0.0°C, many days December through March.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/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)	Total nitrogen, water, unfltrd mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd mg/L (00665)	Selenium, water, unfltrd µg/L (01147)
Oct													
19...	1245	320	8.4	--	13.0	7.0	<.020	1.04	.004	1.17	<.006	E.007	1.1
Jan													
17...	1445	201	8.0	775	1.0	.0	<.020	1.12	.005	1.30	E.004	E.006	1.1
Feb													
22...	1245	251	8.2	784	5.0	.0	<.020	1.28	.006	1.50	E.004	.017	2.0
Mar													
08...	1315	344	8.2	748	10.5	4.5	<.020	.986	.007	1.19	E.003	.028	1.8
Apr													
11...	1630	261	8.6	567	8.0	6.0	E.016	.400	.003	.63	E.003	.019	.84
May													
16...	1630	1,510	8.3	364	25.0	14.5	<.020	.087	E.002	.40	<.006	.090	.38
Jun													
21...	1525	396	8.5	590	31.0	22.5	E.011	.300	.005	.70	.014	.058	.87
Jul													
26...	1000	463	8.5	632	24.0	22.0	E.011	.540	.010	1.01	E.005	.117	.81
Aug													
27...	1140	234	8.6	788	20.0	18.0	E.019	.211	.003	.56	E.004	.033	.68

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007**

Part 2 of 2

Date	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
Oct			
19...	82	49	42
Jan			
17...	53	21	11
Feb			
22...	78	16	11
Mar			
08...	94	21	20
Apr			
11...	86	21	15
May			
16...	88	89	363
Jun			
21...	99	26	28
Jul			
26...	98	102	128
Aug			
27...	92	36	23

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	14.5	13.0	13.5	1.5	1.0	1.0	0.5	0.0	0.0	0.5	0.0	0.0
2	13.5	12.5	13.0	1.5	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0
3	13.0	12.0	12.5	1.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
4	12.5	12.0	12.5	5.0	1.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
5	13.0	11.5	12.0	6.0	5.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
6	14.0	12.5	13.5	8.0	6.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
7	14.0	11.5	13.0	10.0	8.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
8	11.5	10.0	11.0	10.0	8.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
9	10.0	9.0	9.5	8.0	5.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0
10	9.0	8.5	8.5	5.0	3.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0
11	9.0	8.5	8.5	4.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
12	9.5	8.0	9.0	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
13	9.5	8.5	9.0	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.5	8.5	9.0	3.0	2.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0
15	9.5	9.0	9.5	2.5	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
16	9.0	7.5	8.5	3.5	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
17	7.5	6.5	7.0	3.0	1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0
18	6.5	6.0	6.5	2.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
19	7.5	6.5	7.0	2.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
20	7.5	7.0	7.0	3.5	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
21	7.0	6.0	6.5	4.0	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0
22	6.0	5.0	6.0	4.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0
23	7.0	5.5	6.5	3.5	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
24	7.0	6.5	6.5	2.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
25	7.0	6.0	6.5	1.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
26	6.0	5.0	5.5	1.0	0.5	1.0	0.0	0.0	0.0	0.5	0.0	0.0
27	6.0	4.5	5.0	1.0	0.5	0.5	0.0	0.0	0.0	0.5	0.0	0.0
28	6.0	5.5	5.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5	0.0	0.0
29	5.5	3.0	4.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
30	3.0	1.0	2.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
31	1.5	1.0	1.0	---	---	---	0.5	0.0	0.0	0.0	0.0	0.0
Month	14.5	1.0	8.0	10.0	0.5	3.0	0.5	0.0	0.0	0.5	0.0	0.0

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	0.0	0.0	0.0	0.5	0.0	0.0	8.0	6.0	7.0	18.0	13.5	16.0
2	0.0	0.0	0.0	0.5	0.0	0.0	6.0	4.0	5.0	17.0	15.0	16.0
3	0.0	0.0	0.0	0.5	0.0	0.0	6.0	3.0	4.0	15.0	11.0	12.5
4	0.0	0.0	0.0	0.5	0.0	0.0	6.0	3.0	4.0	11.0	9.0	10.0
5	0.0	0.0	0.0	0.5	0.0	0.5	5.0	3.5	4.0	12.0	8.5	10.0
6	0.0	0.0	0.0	3.0	0.5	1.5	4.5	3.0	3.5	13.0	10.5	11.5
7	0.0	0.0	0.0	4.5	2.5	3.5	6.5	2.5	4.5	14.0	11.5	13.0
8	0.0	0.0	0.0	4.5	3.5	4.0	9.0	4.0	6.5	15.5	12.5	14.0
9	0.0	0.0	0.0	4.5	3.0	4.0	8.5	7.0	7.5	16.5	14.5	15.5
10	0.0	0.0	0.0	5.0	3.0	4.0	7.0	5.0	6.0	16.0	14.0	15.0
11	0.0	0.0	0.0	6.5	4.0	5.5	6.0	4.5	5.0	16.5	13.5	15.0
12	0.0	0.0	0.0	9.5	6.0	8.0	7.5	4.0	5.5	17.5	15.5	16.5
13	0.0	0.0	0.0	8.5	7.0	8.0	9.0	6.0	7.5	17.5	13.0	15.5
14	0.0	0.0	0.0	7.0	5.0	6.0	10.5	7.5	9.0	13.0	10.0	11.0
15	0.0	0.0	0.0	6.5	4.0	5.5	11.5	9.5	10.0	13.0	9.5	11.0
16	0.0	0.0	0.0	6.0	5.0	5.5	12.5	9.5	11.0	15.5	12.0	13.5
17	0.5	0.0	0.0	8.5	5.5	7.0	13.0	10.5	11.5	16.5	14.0	15.5
18	0.5	0.0	0.0	9.0	7.5	8.0	11.0	7.0	9.0	18.5	16.0	17.5
19	0.5	0.0	0.0	9.5	7.0	8.0	7.0	5.5	6.0	18.0	16.0	17.0
20	0.5	0.0	0.0	9.0	6.5	8.0	8.5	5.0	6.5	17.0	13.5	15.0
21	0.5	0.0	0.0	7.5	5.0	6.5	10.5	7.5	9.0	13.5	11.5	12.0
22	0.5	0.0	0.0	6.5	5.0	5.5	13.0	9.5	11.5	12.0	9.5	10.0
23	0.0	0.0	0.0	8.5	5.0	7.0	15.0	12.0	13.5	12.0	8.5	10.0
24	0.5	0.0	0.0	11.0	7.0	9.0	16.0	12.5	14.5	13.0	11.0	12.0
25	0.5	0.0	0.0	12.5	9.5	10.5	16.5	13.0	14.5	12.5	11.0	11.5
26	0.5	0.0	0.0	10.5	8.0	9.0	16.5	12.5	14.0	14.5	10.5	12.0
27	0.0	0.0	0.0	8.5	7.0	8.0	14.0	12.0	13.0	16.0	14.0	15.0
28	0.5	0.0	0.0	7.5	5.5	6.5	15.5	11.0	13.0	15.5	13.0	14.0
29	---	---	---	8.0	4.5	6.0	17.0	12.5	14.5	13.0	12.0	12.5
30	---	---	---	7.5	4.5	6.0	17.0	13.0	15.0	14.0	11.5	12.5
31	---	---	---	8.0	5.5	7.0	---	---	---	16.0	13.0	14.0
Month	0.5	0.0	0.0	12.5	0.0	5.5	17.0	2.5	9.0	18.5	8.5	13.5

06089000 SUN RIVER NEAR VAUGHN, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	18.0	14.5	16.0	23.0	19.5	21.5	22.5	20.0	21.5	20.5	18.0	19.5
2	18.5	16.0	17.0	22.5	20.0	21.0	22.5	19.5	21.0	21.0	17.5	19.5
3	18.5	16.0	17.5	23.5	20.0	21.5	23.0	20.5	22.0	21.5	18.0	20.0
4	19.0	16.0	17.5	24.5	20.5	22.5	22.0	20.0	21.0	20.0	18.0	18.5
5	18.5	17.0	17.5	25.0	21.5	23.5	21.0	19.0	20.0	19.0	17.0	18.0
6	17.0	12.0	14.5	26.0	22.5	24.0	21.5	18.5	20.0	19.5	16.5	18.0
7	13.0	10.5	11.5	25.5	22.5	24.0	21.5	19.0	20.0	18.5	16.0	17.0
8	15.0	12.5	13.5	25.0	22.0	23.5	20.5	18.0	19.5	16.5	15.0	15.5
9	17.0	14.5	16.0	23.5	20.5	22.0	21.5	18.5	20.0	16.5	13.0	14.5
10	18.0	16.0	17.0	22.5	19.0	20.5	21.5	19.0	20.0	16.5	13.0	15.0
11	18.5	16.0	17.5	23.0	19.0	21.0	20.5	17.5	19.0	17.5	13.5	16.0
12	19.0	17.0	18.0	24.0	20.0	22.0	20.0	17.0	19.0	17.0	13.0	14.5
13	18.0	15.5	17.0	25.0	21.5	23.0	20.0	17.5	19.0	14.5	11.5	13.0
14	18.0	14.5	16.0	25.5	22.0	23.5	21.0	17.5	19.5	14.5	11.5	13.0
15	19.0	15.5	17.0	25.5	21.5	23.5	21.5	18.0	20.0	15.5	12.5	14.0
16	20.5	16.0	18.0	25.5	22.0	23.5	20.5	18.0	19.5	16.0	13.5	14.5
17	18.5	16.0	17.0	25.5	22.5	24.0	20.5	17.5	19.0	15.0	13.0	14.0
18	17.0	15.0	16.0	25.0	22.0	23.5	20.5	17.5	19.0	15.0	12.5	14.0
19	18.5	15.5	17.0	25.0	22.5	24.0	21.0	17.5	19.0	13.5	10.5	12.0
20	20.5	17.5	19.0	24.5	22.0	23.0	19.0	16.0	17.5	10.5	9.0	9.5
21	22.5	19.0	21.0	24.5	22.0	23.0	17.0	14.5	16.0	11.0	8.5	10.0
22	23.5	20.5	22.0	24.5	21.5	23.0	18.0	14.5	16.5	12.0	10.0	11.0
23	23.0	21.0	22.0	24.5	22.0	23.0	19.0	15.0	17.0	12.0	9.5	11.0
24	22.0	20.0	21.0	23.0	21.5	22.5	19.0	15.5	17.5	11.0	9.0	10.0
25	20.0	16.0	19.0	23.5	20.5	22.0	19.0	16.5	17.5	10.5	9.5	10.0
26	17.5	15.0	16.5	23.5	21.0	22.0	19.0	16.0	17.5	11.5	9.0	10.0
27	19.5	16.0	18.0	24.0	21.0	22.5	19.5	16.0	17.5	12.0	10.0	11.0
28	22.0	18.5	20.0	24.5	21.5	23.0	19.5	16.0	17.5	13.0	11.0	12.0
29	23.0	20.5	21.5	24.0	21.5	23.0	20.0	16.0	18.5	12.0	10.0	11.0
30	22.5	20.0	21.0	23.0	21.0	22.0	21.0	17.0	19.0	10.0	8.0	9.0
31	---	---	---	23.0	20.5	22.0	20.5	18.0	19.5	---	---	---
Month	23.5	10.5	18.0	26.0	19.0	22.5	23.0	14.5	19.0	21.5	8.0	14.0

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06090300 MISSOURI RIVER NEAR GREAT FALLS, MT

Upper Missouri Basin
Upper Missouri-Dearborn Subbasin

LOCATION.--Lat 47°35'04", long 111°03'35" referenced to North American Datum of 1927, in SW ¼ SE ¼ SW ¼ sec.11, T.21 N., R.5 E., Cascade County, MT, 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.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May to July 1953 in Water Supply Paper 1320-B, October 1956 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,807.21 ft, referenced to the National Geodetic Vertical Datum of 1929. 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 are good except those for estimated daily discharges, which are fair. Flow is regulated by Clark Canyon Reservoir (station number 06015300), Canyon Ferry Lake (station number 06058500), and 18 smaller irrigation reservoirs and powerplants upstream. Diversions for irrigation include about 750,400 acres upstream from the station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06090300 MISSOURI RIVER NEAR GREAT FALLS, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,830	4,990	5,430	4,110	4,600	4,700	5,220	6,360	9,710	5,760	4,540	3,700
2	4,790	5,070	5,850	4,530	4,830	4,900	5,310	6,740	9,090	5,680	4,430	4,030
3	4,790	5,040	6,000	5,380	4,770	4,890	5,170	7,640	9,050	5,460	4,400	4,010
4	4,850	5,430	e6,000	6,580	5,160	4,870	5,110	7,640	8,710	5,330	4,180	4,010
5	4,960	5,620	5,880	6,260	6,120	4,990	5,190	8,140	8,580	5,380	4,420	3,760
6	4,950	5,120	e5,900	5,310	6,320	5,080	5,110	8,380	8,150	5,590	4,340	3,870
7	4,890	5,180	e5,200	3,510	5,550	5,250	5,010	8,020	8,560	5,180	4,470	3,750
8	4,970	5,130	5,520	3,770	5,550	5,320	4,940	7,490	11,900	5,620	4,390	3,990
9	4,940	4,920	5,720	4,760	5,030	5,400	4,940	7,070	10,500	5,700	4,420	3,910
10	4,930	5,160	5,570	5,440	4,770	5,320	5,150	7,100	9,090	5,520	4,570	3,890
11	5,050	5,430	5,540	5,610	4,770	5,330	5,170	7,110	8,580	5,340	4,170	4,030
12	4,980	5,310	5,580	4,970	5,140	5,460	5,190	7,120	8,350	5,290	4,480	3,960
13	4,950	5,250	5,100	4,240	4,850	5,310	5,250	7,090	8,460	5,260	4,580	3,880
14	5,050	5,210	5,250	4,970	4,280	6,640	5,110	7,140	7,800	5,020	4,910	3,990
15	4,960	5,290	5,250	4,460	4,270	5,740	5,150	7,720	7,550	5,230	3,850	4,010
16	5,260	5,450	5,400	5,300	4,700	5,580	5,020	7,640	7,340	5,260	4,170	4,000
17	5,240	5,370	5,010	5,490	5,310	5,160	5,150	7,520	7,140	5,220	4,250	4,200
18	5,040	5,360	3,580	e5,600	5,490	5,240	5,570	7,270	6,860	5,120	3,890	4,180
19	5,180	5,300	3,290	e5,700	5,510	5,090	5,580	6,930	6,940	5,060	4,340	4,120
20	5,050	5,290	3,740	e6,000	5,290	5,300	5,950	6,920	6,900	5,110	4,340	4,190
21	5,210	5,150	e4,700	5,930	5,230	5,140	5,820	7,820	6,540	4,910	4,100	4,200
22	5,240	5,380	5,170	5,520	5,240	5,070	5,620	7,500	6,280	4,800	4,140	4,120
23	5,240	5,440	5,270	5,380	5,330	5,030	5,600	7,160	5,930	4,800	4,120	4,280
24	5,290	5,260	5,280	5,420	5,190	5,030	5,670	7,550	5,930	4,610	4,200	4,400
25	5,160	5,310	5,050	5,620	5,170	5,030	5,640	7,570	6,260	4,710	3,970	4,320
26	5,190	5,030	5,560	5,660	5,020	5,060	5,720	8,260	5,800	4,630	4,330	4,450
27	5,150	4,220	5,820	5,430	5,130	5,020	5,790	8,710	5,830	4,640	4,440	4,220
28	5,200	3,770	5,530	5,170	4,880	5,200	5,930	8,830	5,700	4,580	4,090	4,290
29	5,080	4,020	5,360	4,950	---	5,230	5,970	8,640	5,790	4,670	4,190	4,320
30	5,070	4,170	4,180	5,010	---	5,400	6,200	9,220	5,700	4,660	4,080	4,310
31	5,140	---	4,130	4,780	---	5,370	---	9,890	---	4,590	4,140	---
Total	156,630	152,670	160,860	160,860	143,500	162,150	162,250	238,190	229,020	158,730	132,940	122,390
Mean	5,053	5,089	5,189	5,189	5,125	5,231	5,408	7,684	7,634	5,120	4,288	4,080
Max	5,290	5,620	6,000	6,580	6,320	6,640	6,200	9,890	11,900	5,760	4,910	4,450
Min	4,790	3,770	3,290	3,510	4,270	4,700	4,940	6,360	5,700	4,580	3,850	3,700
Ac-ft	310,700	302,800	319,100	319,100	284,600	321,600	321,800	472,400	454,300	314,800	263,700	242,800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2007, BY WATER YEAR (WY)

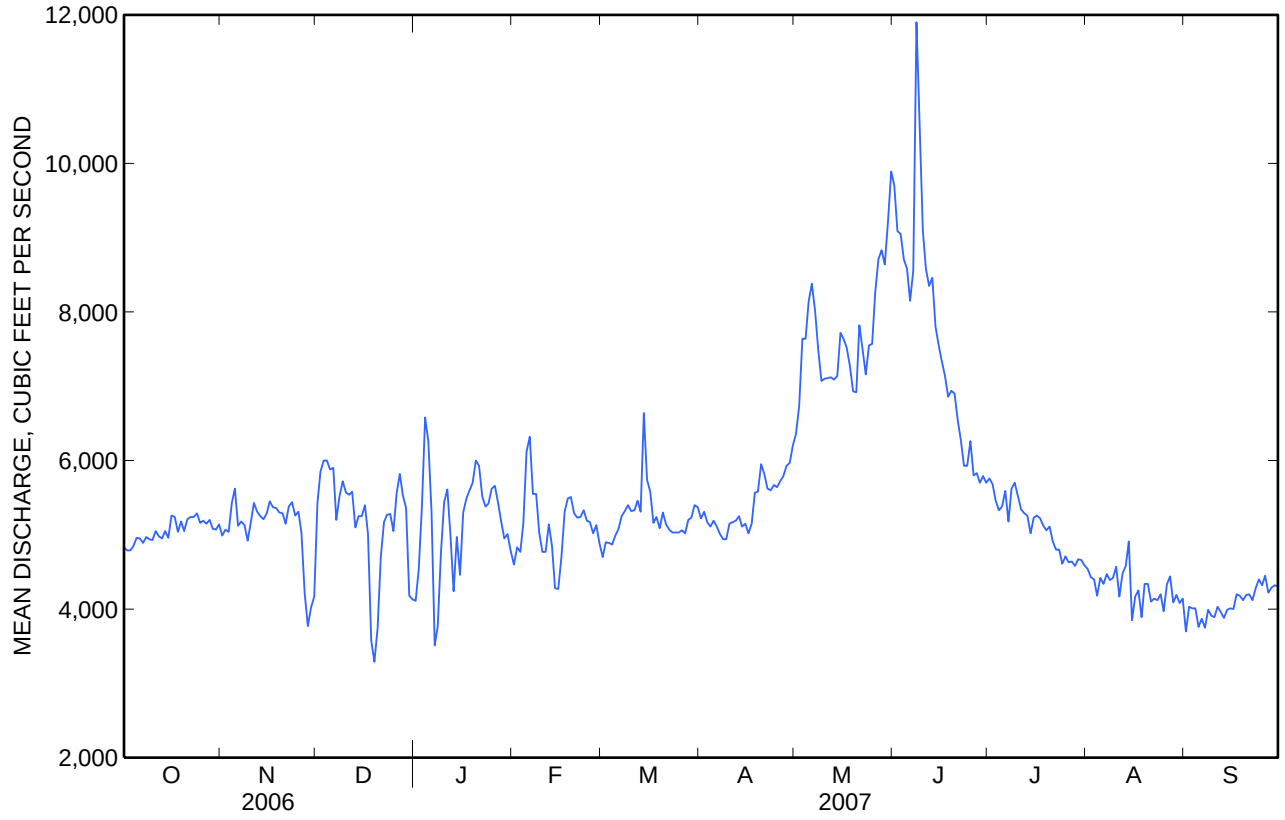
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,718	6,051	6,032	6,191	6,373	6,670	7,328	10,670	13,280	8,386	5,839	5,478
Max	11,940	10,430	11,520	8,232	9,252	10,820	13,200	24,780	30,160	23,560	9,946	9,992
(WY)	(1966)	(1966)	(1960)	(1971)	(1997)	(1968)	(1976)	(1976)	(1964)	(1975)	(1993)	(1984)
Min	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

	Calendar Year 2006		Water Year 2007		Water Years 1957 - 2007	
Annual total	2,290,670		1,980,190			
Annual mean	6,276		5,425		7,335	
Highest annual mean					11,490	1975
Lowest annual mean					4,349	2001
Highest daily mean	17,200	Jun 12	11,900	Jun 8	63,400	Jun 10, 1964
Lowest daily mean	3,100	Feb 18	3,290	Dec 19	1,760	Apr 16, 1961
Annual seven-day minimum	4,390	Dec 17	3,880	Sep 1	2,740	Sep 5, 1959
Maximum peak flow			12,700	Jun 8	[a]72,000	Jun 10, 1964
Maximum peak stage			4.90	Jun 8	[b]9.02	May 24, 1981
Instantaneous low flow					[c]1.0	Apr 16, 1962
Annual runoff (ac-ft)	4,544,000		3,928,000		5,314,000	
10 percent exceeds	9,030		7,200		11,500	
50 percent exceeds	5,530		5,190		6,200	
90 percent exceeds	4,920		4,160		4,210	

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



06090650 LAKE CREEK NEAR POWER, MT

Upper Missouri Basin
Upper Missouri-Dearborn Subbasin

LOCATION.--Lat 47°41′55″, long 111°23′23″ referenced to North American Datum of 1927, in SE ¼ SE ¼ SE ¼ sec.31, T.23 N., R.3 E., Chouteau County, MT, 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 mi², of which 11.4 mi² probably is noncontributing.

SURFACE-WATER RECORDS

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, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Seasonal records are excellent except those for estimated daily discharges, which are fair. Seasonal flows from Muddy Creek are diverted into Lake Creek, most years. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06090650 LAKE CREEK NEAR POWER, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e10	0.24	0.35	0.07	0.00	0.00	14	16		
2			e20	0.23	0.40	0.02	0.00	15	16	13		
3			e50	0.18	0.62	0.00	0.00	30	23	7.9		
4			61	0.18	0.48	0.00	0.00	33	25	14		
5			e40	0.18	0.33	0.00	0.00	36	24	15		
6			e20	0.18	0.31	0.00	0.00	37	25	15		
7			e8.0	0.18	0.28	0.00	0.00	36	26	15		
8			e3.0	0.18	0.26	0.00	0.00	31	26	15		
9			e1.0	0.18	0.24	0.00	0.00	28	26	15		
10			e0.00	0.18	0.22	0.00	0.00	31	26	15		
11			0.00	0.18	0.16	0.00	0.00	35	27	15		
12			0.22	0.18	0.13	0.00	0.00	36	27	15		
13			0.23	0.18	0.11	0.00	0.00	36	26	15		
14			0.00	0.18	0.06	0.00	0.00	37	25	15		
15			0.00	0.17	0.02	0.00	0.00	28	24	15		
16			0.00	0.16	0.02	0.00	0.00	24	23	15		
17			0.02	0.15	0.03	0.00	0.00	20	22	16		
18			0.12	0.30	0.01	0.00	0.00	18	21	15		
19			0.14	0.83	0.00	0.00	0.00	17	20	e15		
20			0.24	7.8	0.00	0.00	0.00	18	19	e15		
21			0.19	3.5	0.08	0.00	0.00	25	17	e15		
22			0.34	1.3	0.15	0.00	0.00	22	9.2	e15		
23			0.40	0.85	0.09	0.00	0.00	20	17	e15		
24			0.40	0.75	0.08	0.00	0.00	18	16	15		
25			0.39	0.73	0.12	0.00	0.00	17	14	15		
26			0.56	0.63	0.11	0.00	0.00	18	14	15		
27			0.47	0.54	0.09	0.00	0.00	19	12	15		
28			0.36	0.52	0.11	0.00	0.00	20	11	15		
29			0.29	0.49	0.15	0.00	0.00	14	12	15		
30			0.24	0.37	0.18	0.00	0.00	18	12	6.3		
31			0.25	---	0.13	---	0.00	15	---	1.5		
Total			217.86	21.72	5.32	0.09	0.00	752.00	599.2	434.7		
Mean			7.03	0.72	0.17	0.00	0.00	24.3	20.0	14.0		
Max			61	7.8	0.62	0.07	0.00	37	27	16		
Min			0.00	0.15	0.00	0.00	0.00	0.00	9.2	1.5		
Ac-ft			432	43	11	0.2	0.00	1,490	1,190	862		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2007, BY WATER YEAR (WY)

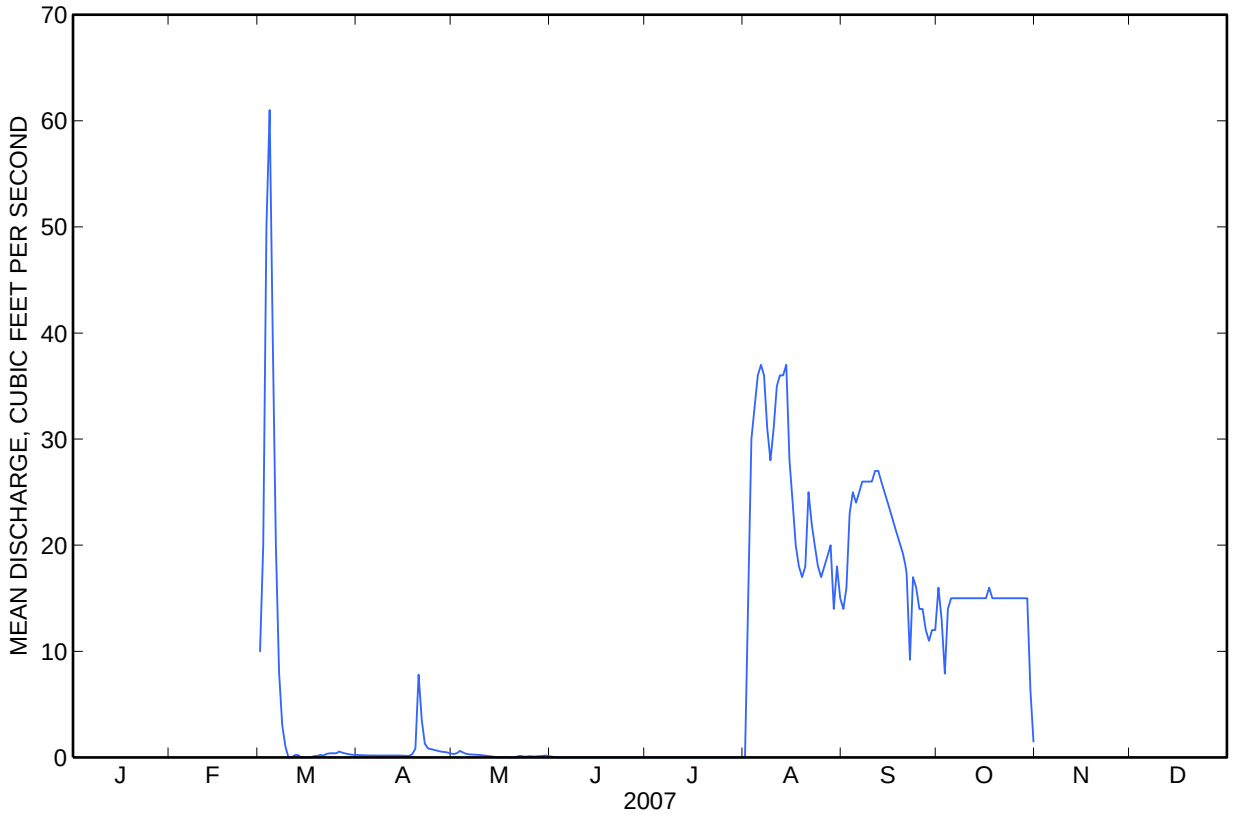
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			4.01	2.68	10.5	11.5	1.09	14.3	24.7	15.7	3.85	
Max			24.8	8.56	30.9	29.8	9.51	35.5	38.1	30.1	10.2	
(WY)			(1993)	(1993)	(1992)	(1991)	(1993)	(1990)	(1990)	(2000)	(1999)	
Min			0.05	0.01	0.06	0.00	0.00	0.35	11.3	0.19	0.22	
(WY)			(2000)	(2003)	(2005)	(2007)	(1992)	(2002)	(2003)	(1994)	(2003)	

06090650 LAKE CREEK NEAR POWER, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1990 - 2007	
Highest daily mean	37	Aug 6	300	Mar 6, 1993
Lowest daily mean	.00	Many days	0.00	Jul 1, 1990[a]
Maximum peak flow	40	Aug 6	[b]300	Mar 6, 1993
Maximum peak stage	1.65	Aug 6	[c]7.30	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.



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06090800 MISSOURI RIVER AT FORT BENTON, MT

Upper Missouri Basin
Upper Missouri-Dearborn Subbasin

LOCATION.--Lat 47°49′03″, long 110°39′59″ referenced to North American Datum of 1927, in NW ¼ SE ¼ SE ¼ sec.23, T.24 N., R.8 E., Chouteau County, MT, 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 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1890 to current year. Records for June 1881 to September 1890, published in Water Supply Paper (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, maximum discharge (M); 1909-18; 1937-38. WSP 1209: 1948, peak discharge. 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, referenced to the National Geodetic Vertical Datum of 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 are good except those for estimated daily discharges, which are fair. Flow is 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 occur upstream from station. Extreme diurnal fluctuation caused by powerplant at Morony Dam. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06090800 MISSOURI RIVER AT FORT BENTON, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,650	4,640	e5,000	4,700	4,440	4,490	5,290	6,900	12,200	5,820	4,230	3,650
2	4,620	4,660	e5,740	3,970	4,870	4,580	5,350	7,150	11,200	5,750	4,180	3,590
3	4,630	4,630	e5,980	4,630	4,920	4,680	5,270	8,240	10,800	5,590	4,150	3,710
4	4,640	4,840	e6,040	5,920	5,040	4,610	5,160	8,570	10,200	5,450	4,070	3,820
5	4,740	5,230	e5,880	5,880	5,860	5,050	5,230	8,730	10,100	5,310	4,140	3,530
6	4,810	4,870	e5,960	5,630	6,610	5,510	5,180	9,130	9,420	5,510	4,250	3,610
7	4,660	4,700	e5,410	4,250	6,000	5,370	5,070	8,900	9,880	5,170	4,260	3,490
8	4,810	4,720	e5,410	3,300	5,780	5,520	5,000	8,110	13,100	5,370	4,340	3,680
9	4,710	4,610	e5,670	4,500	5,920	5,330	4,990	7,650	12,800	5,510	4,190	3,550
10	4,710	4,680	e5,630	4,880	5,080	5,290	5,100	7,560	10,900	5,460	4,550	3,610
11	4,790	4,990	5,620	e5,500	4,740	5,220	5,280	7,600	10,100	5,270	4,160	3,570
12	4,770	4,980	5,500	e5,210	4,720	5,390	5,220	7,600	9,590	5,150	4,290	3,720
13	4,720	4,850	5,220	4,490	4,940	5,490	5,250	7,590	9,500	5,100	4,500	3,560
14	4,740	4,850	5,070	4,770	4,040	6,180	5,160	7,580	9,000	4,910	4,750	3,620
15	4,750	4,770	5,150	4,770	4,140	6,130	5,250	8,110	8,330	4,870	4,100	3,630
16	4,840	4,880	5,190	5,330	4,490	5,560	5,150	8,180	8,160	5,030	3,900	3,690
17	5,130	4,960	5,130	5,420	4,800	5,150	5,230	7,940	7,760	4,920	4,100	3,740
18	4,820	4,880	4,260	5,600	5,320	5,210	5,580	7,820	7,380	4,910	3,940	3,820
19	4,830	4,830	3,670	5,580	5,540	5,000	5,910	7,300	7,300	4,800	3,930	3,720
20	4,780	4,780	3,720	5,200	5,300	5,210	6,220	7,100	7,220	4,760	4,200	3,830
21	4,930	4,670	4,170	5,450	5,030	5,140	6,320	7,990	6,900	4,680	3,850	3,790
22	4,950	4,870	4,730	5,180	5,080	4,980	6,070	8,110	6,460	4,530	4,010	3,750
23	4,940	4,830	4,850	5,070	5,130	5,000	5,970	7,800	6,040	4,400	3,840	3,840
24	4,860	4,750	4,950	5,170	4,960	4,990	6,060	8,000	6,010	4,290	4,000	4,040
25	5,030	4,800	4,700	5,270	5,000	4,950	6,010	8,190	6,300	4,310	3,910	3,930
26	4,740	4,550	4,980	5,450	4,740	4,950	6,170	8,600	5,960	4,270	3,920	4,080
27	4,820	4,260	5,270	5,300	4,950	5,000	6,250	9,850	5,890	4,220	4,120	3,960
28	4,860	e3,840	5,290	5,130	4,730	5,140	6,390	10,000	5,730	4,200	3,830	3,840
29	4,720	e3,950	5,120	4,780	---	5,250	6,420	10,400	5,860	4,290	3,880	3,930
30	4,710	e4,070	5,000	5,360	---	5,360	6,550	11,200	5,740	4,230	3,890	3,900
31	4,740	---	4,750	4,850	---	5,420	---	12,200	---	4,260	3,880	---
Total	148,450	140,940	159,060	156,540	142,170	161,150	168,100	260,100	255,830	152,340	127,360	112,200
Mean	4,789	4,698	5,131	5,050	5,078	5,198	5,603	8,390	8,528	4,914	4,108	3,740
Max	5,130	5,230	6,040	5,920	6,610	6,180	6,550	12,200	13,100	5,820	4,750	4,080
Min	4,620	3,840	3,670	3,300	4,040	4,490	4,990	6,900	5,730	4,200	3,830	3,490
Ac-ft	294,500	279,600	315,500	310,500	282,000	319,600	333,400	515,900	507,400	302,200	252,600	222,500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1891 - 2007, BY WATER YEAR (WY)

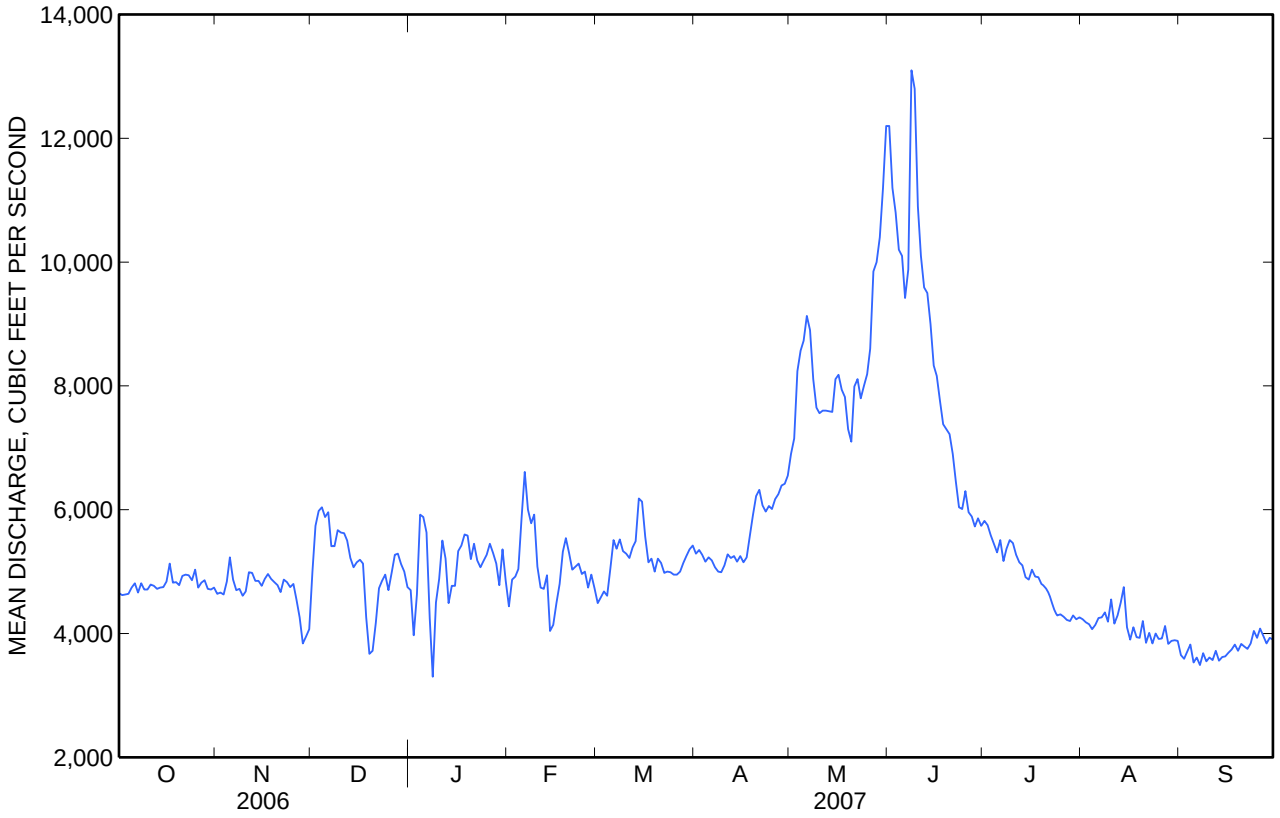
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,277	5,453	5,174	5,054	5,336	6,212	8,029	13,390	18,060	9,006	5,053	4,835
Max	12,610	10,850	11,640	8,380	9,327	11,800	15,540	28,600	53,620	26,580	10,550	10,240
(WY)	(1966)	(1966)	(1960)	(1997)	(1997)	(1910)	(1910)	(1894)	(1908)	(1907)	(1993)	(1984)
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

	Calendar Year 2006		Water Year 2007		Water Years 1891 - 2007	
Annual total	2,246,770		1,984,240			
Annual mean	6,156		5,436		7,573	
Highest annual mean					11,850	1894
Lowest annual mean					3,619	1937
Highest daily mean	18,800	Jun 12	13,100	Jun 8	107,000	Jun 7, 1908
Lowest daily mean	2,990	Feb 18	3,300	Jan 8	627	Jul 5, 1936
Annual seven-day minimum	4,220	Feb 15	3,580	Sep 5	1,190	Jan 10, 1932
Maximum peak flow			[a]14,300	Jun 8	[c]140,000	Jun 6, 1908
Maximum peak stage			[b]9.04	Nov 30	[d]18.50	Jun 6, 1908
Instantaneous low flow					[e]320	Jul 5, 1936
Annual runoff (ac-ft)	4,456,000		3,936,000		5,487,000	
10 percent exceeds	9,260		7,810		14,000	
50 percent exceeds	5,250		5,000		5,600	
90 percent exceeds	4,680		3,910		3,530	

[a] Gage height, 4.72 ft.
[b] Backwater from ice.
[c] About, from rating curve extended over 63,000 ft³/s.
[d] Observed, present datum.
[e] Gage height, -0.05 ft.



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

Marias Basin
Two Medicine Subbasin

LOCATION.--Lat 48°25′36″, long 112°59′20″ referenced to North American Datum of 1927, in SE ¼ SE ¼ SE ¼ sec.23, T.31 N., R.11 W., Glacier County, MT, 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.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 4,180 ft, referenced to the National Geodetic Vertical Datum of 1929. May 1977 to September 1997, gage located at elevation 1.00 ft higher.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Flow is regulated by Lower Two Medicine Lake (station number 06090900). Diversions for irrigation of about 64 acres occur upstream from station. Bureau of Reclamation satellite telemeter is located at the 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.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	39	e28	e150	e85	e40	e40	1,020	525	696	243	175	83
2	41	e30	e130	e90	e45	e38	953	640	780	247	175	83
3	41	e50	e200	e84	e50	e43	740	959	902	238	172	81
4	41	57	e330	e70	e60	e55	498	686	1,080	213	169	80
5	41	49	e320	e66	e80	e90	425	514	1,260	214	169	78
6	40	58	e310	e62	e70	e130	305	453	1,370	212	166	77
7	40	1,170	e350	e64	e50	e125	297	446	1,170	205	163	80
8	42	1,050	e400	e66	e47	e120	293	499	891	210	160	86
9	47	587	e350	e70	e45	118	319	716	708	215	160	82
10	43	445	e300	e60	e50	114	327	1,280	726	235	141	77
11	42	449	e240	e40	e45	128	308	1,320	779	231	140	74
12	40	496	e210	e45	e40	514	304	1,330	740	226	134	74
13	40	480	e210	e50	e36	752	306	1,480	616	223	133	74
14	39	461	e190	e46	e45	424	307	1,280	520	219	131	71
15	37	445	e170	e52	e60	311	339	1,030	467	213	129	66
16	44	464	e140	e60	e65	274	349	852	446	210	128	61
17	48	425	e130	e56	e58	309	358	899	442	209	127	55
18	41	421	e140	e62	e56	452	404	985	427	209	124	52
19	42	420	e135	e70	e60	398	384	1,110	423	204	123	74
20	38	449	e130	e65	e60	450	354	1,180	405	202	121	59
21	33	482	e140	e60	e50	411	340	993	409	198	121	52
22	28	455	e130	e65	e46	339	339	834	406	195	123	47
23	24	e410	e120	e80	e52	305	332	673	409	194	116	83
24	24	e440	e130	e90	e50	337	319	620	384	190	102	83
25	23	e270	e150	e85	e45	699	399	673	375	190	95	46
26	23	e150	e140	e65	e40	721	448	646	340	188	91	41
27	22	e110	e120	e56	e35	577	435	562	305	185	90	46
28	21	e90	e100	e60	e43	543	470	557	285	182	90	43
29	20	e100	e50	e50	---	474	588	567	262	179	88	42
30	e20	e170	e58	e48	---	450	530	601	259	178	86	37
31	e20	---	e70	e50	---	712	---	643	---	175	84	---
Total	1,084	10,711	5,743	1,972	1,423	10,453	12,790	25,553	18,282	6,432	4,026	1,987
Mean	35.0	357	185	63.6	50.8	337	426	824	609	207	130	66.2
Max	48	1,170	400	90	80	752	1,020	1,480	1,370	247	175	86
Min	20	28	50	40	35	38	293	446	259	175	84	37
Ac-ft	2,150	21,250	11,390	3,910	2,820	20,730	25,370	50,680	36,260	12,760	7,990	3,940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2007, BY WATER YEAR (WY)

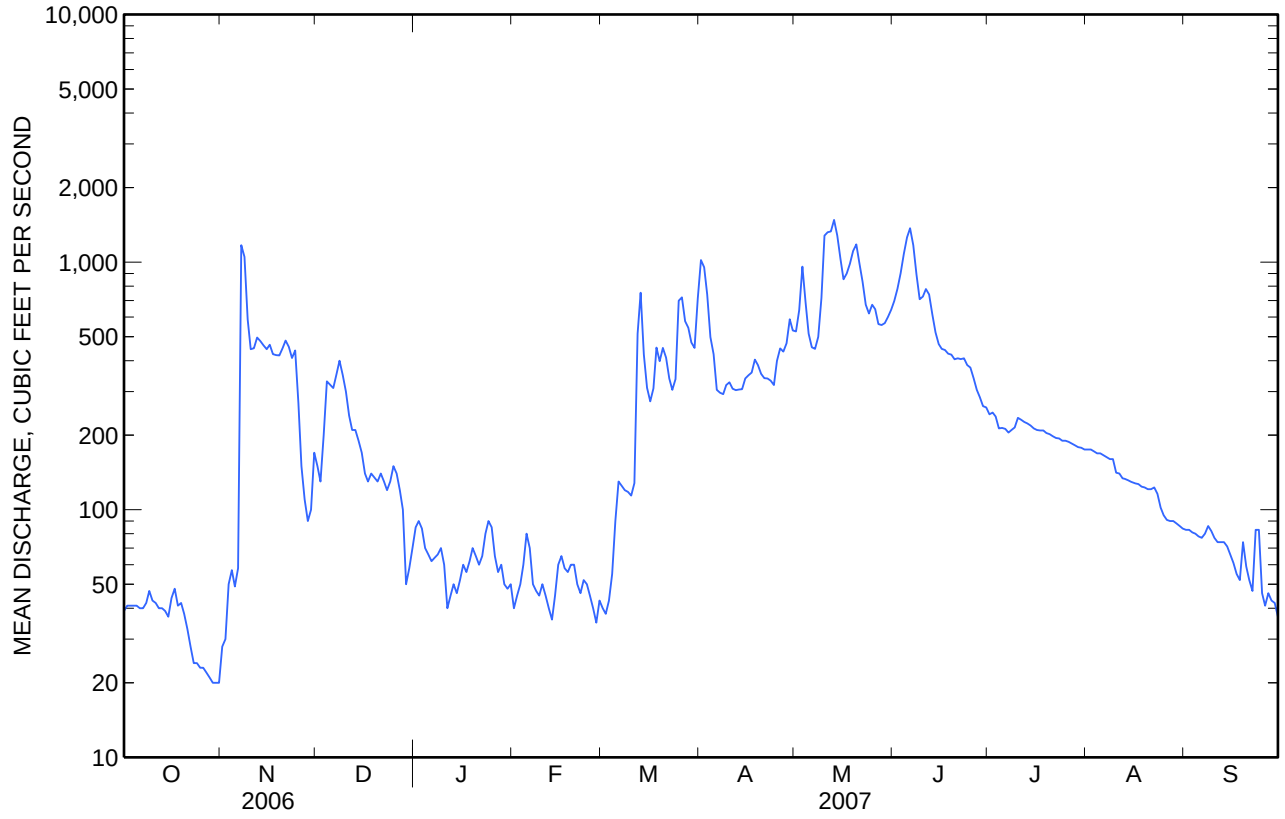
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	89.5	130	79.1	63.8	87.3	148	489	1,130	1,019	348	160	99.6
Max	533	558	394	180	394	474	923	2,040	2,922	656	265	240
(WY)	(1986)	(1996)	(1996)	(1981)	(1996)	(1986)	(1990)	(1991)	(2002)	(2002)	(2002)	(1985)
Min	23.2	18.8	19.7	17.9	26.4	40.5	140	439	282	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

	Calendar Year 2006		Water Year 2007		Water Years 1977 - 2007	
Annual total	126,156		100,456			
Annual mean	346		275		325	
Highest annual mean					542	1991
Lowest annual mean					199	2001
Highest daily mean	2,420	May 21	1,480	May 13	8,600	Jun 7, 1995
Lowest daily mean	20	Oct 29	20	Oct 29	10	Jan 29, 1980
Annual seven-day minimum	21	Oct 25	21	Oct 25	13	Feb 3, 1982
Maximum peak flow			2,040	Nov 7	[b]11,700	May 19, 1991
Maximum peak stage			[a]4.79	Nov 7	[c]8.25	Jun 7, 1995
Annual runoff (ac-ft)	250,200		199,300		235,500	
10 percent exceeds	836		690		921	
50 percent exceeds	130		160		120	
90 percent exceeds	43		42		33	

[a] May have been higher during ice-affected periods.
[b] Gage height, 7.78 ft, previous datum; from rating curve extended above 5,500 ft³/s.
[c] Previous datum.



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

Marias Basin
Two Medicine Subbasin

LOCATION.--Lat 48°22'12", long 112°48'07" referenced to North American Datum of 1927, in NW ¼ SW ¼ SE ¼ sec.8, T.30 N., R.9 W., Glacier County, MT, 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.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1973 to current year. Records prior to October 2006 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, referenced to the National Geodetic Vertical Datum of 1929. May 1951 to September 1973, water-stage recorder at site 3.4 mi upstream (station number 06092500) at different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Four Horns Canal diverts water from right bank in NE¼ 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 of Four Horns Canal are no longer available beginning October 2006. Several unpublished observations of water temperature and specific conductance were made during the year. Bureau of Reclamation satellite telemeter is located at the 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.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	93	e75	e75	e115	e60	84	152	300	356	88	37	31
2	94	e75	e70	e120	e65	76	144	371	393	84	37	31
3	93	e90	e80	e100	e75	85	137	523	422	81	36	30
4	93	98	e100	e90	e95	83	130	444	433	77	35	31
5	92	103	e110	e86	115	87	129	357	466	73	36	31
6	90	102	e100	e90	105	92	121	306	484	71	36	31
7	95	278	e110	e100	e80	87	117	288	465	69	35	32
8	94	393	e130	e120	e75	85	115	298	372	68	35	32
9	95	244	e140	e140	e75	81	116	430	328	65	35	31
10	93	189	e130	e80	e80	80	116	536	337	63	36	30
11	90	165	e120	e60	e75	82	113	503	318	61	36	30
12	90	150	e105	e70	e70	112	111	546	276	59	34	31
13	90	141	e100	e80	e65	184	101	587	245	58	33	31
14	89	133	e95	e70	e70	177	90	476	226	57	33	31
15	88	127	e105	e85	e75	152	94	402	211	54	32	31
16	97	132	e95	e110	e80	138	88	403	201	53	32	30
17	96	124	e80	e100	84	132	87	455	201	52	32	30
18	91	119	e85	e85	85	145	107	528	187	55	32	32
19	92	116	e85	e100	90	155	106	539	172	51	32	45
20	96	119	e80	e85	81	168	101	509	164	49	32	34
21	97	128	e90	e70	e80	171	98	428	158	47	32	32
22	94	129	e85	e90	78	162	97	366	156	46	32	31
23	90	e115	e80	e84	e80	155	94	311	150	44	32	64
24	89	e100	e90	e105	e78	151	100	281	144	44	32	64
25	89	e75	e100	e110	e75	180	124	278	135	43	31	53
26	88	e70	e110	e90	e70	237	154	265	122	44	31	49
27	87	e65	e90	e80	e70	224	172	273	107	42	31	53
28	86	e60	e75	e80	77	205	182	309	101	41	32	54
29	88	e65	e70	e75	---	185	278	304	97	39	31	58
30	83	e80	e85	e75	---	170	288	291	93	37	31	58
31	e80	---	e95	e70	---	153	---	312	---	37	31	---
Total	2,822	3,860	2,965	2,815	2,208	4,278	3,862	12,219	7,520	1,752	1,032	1,151
Mean	91.0	129	95.6	90.8	78.9	138	129	394	251	56.5	33.3	38.4
Max	97	393	140	140	115	237	288	587	484	88	37	64
Min	80	60	70	60	60	76	87	265	93	37	31	30
Ac-ft	5,600	7,660	5,880	5,580	4,380	8,490	7,660	24,240	14,920	3,480	2,050	2,280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2007, BY WATER YEAR (WY)

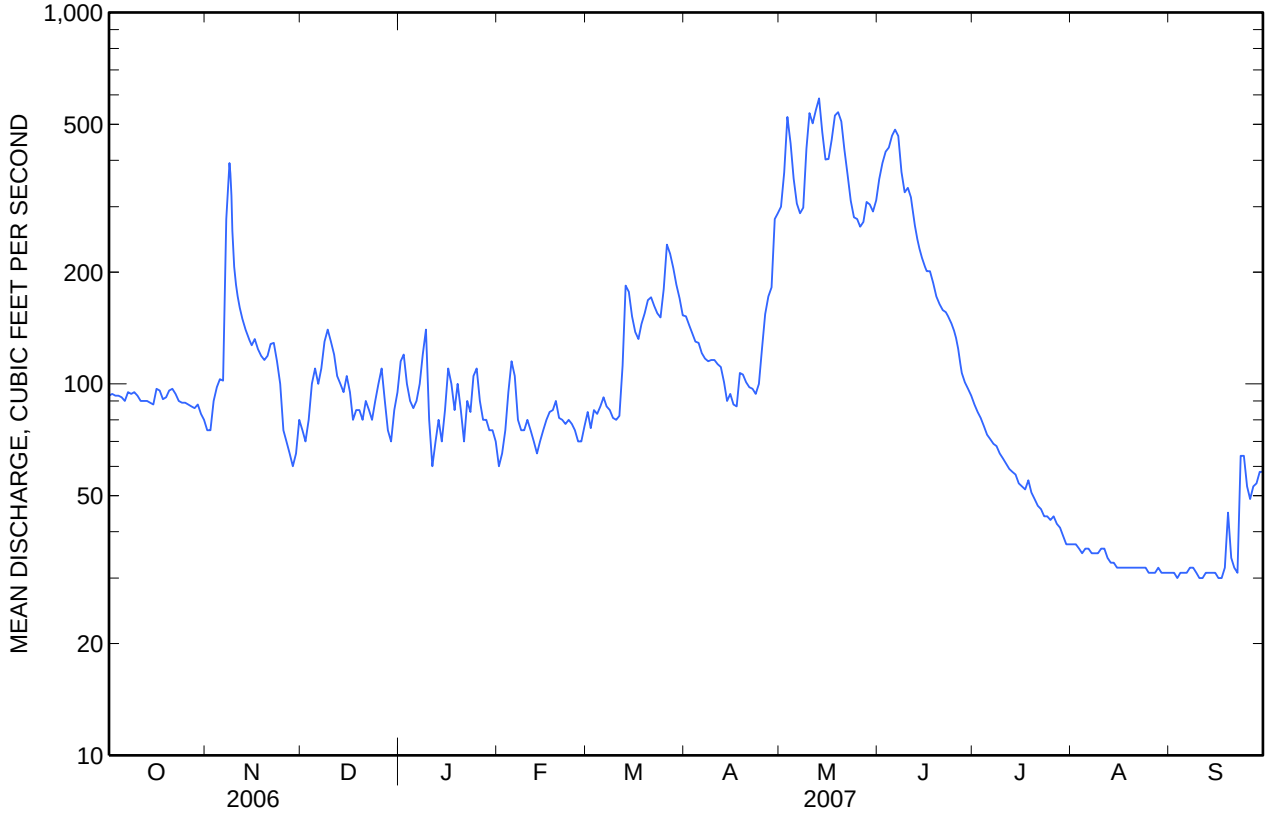
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	81.7	109	95.4	88.3	88.3	94.2	167	484	543	156	70.8	65.5
Max	316	295	184	160	198	205	321	899	2,240	568	184	199
(WY)	(1986)	(1990)	(1976)	(1976)	(1996)	(1986)	(1990)	(1976)	(1975)	(1975)	(1975)	(1993)
Min	9.13	40.9	42.9	57.0	52.5	44.6	61.1	140	58.9	17.5	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

	Calendar Year 2006		Water Year 2007		Water Years 1974 - 2007	
Annual total	55,229		46,484			
Annual mean	151		127		170	
Highest annual mean					350	1975
Lowest annual mean					68.1	1977
Highest daily mean	1,010	May 19	587	May 13	14,000	Jun 19, 1975
Lowest daily mean	34	Aug 24	30	Sep 3	6.5	Sep 17, 1984
Annual seven-day minimum	37	Aug 18	31	Sep 10	7.7	Oct 25, 1977
Maximum peak flow			[a]617	May 13	[c]20,700	Jun 19, 1975
Maximum peak stage			[b]8.47	Jan 7	13.58	Jun 19, 1975
Annual runoff (ac-ft)	109,500		92,200		123,400	
10 percent exceeds	387		299		376	
50 percent exceeds	89		90		94	
90 percent exceeds	60		32		40	

[a] Gage height, 5.89 ft.
[b] Backwater from ice.
[c] From rating curve extended above 7,700 ft³/s, based on comparison with previous site, 3.4 miles upstream.



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Water-Data Report 2007

06098500 CUT BANK CREEK NEAR BROWNING, MT

Marias Basin
Cut Bank Subbasin

LOCATION.--Lat 48°37′00″, long 113°02′06″ referenced to North American Datum of 1927, in NE ¼ NW ¼ SW ¼ sec.15, T.33 N., R.11 W., Glacier County, MT, Hydrologic Unit 10030202, Blackfeet Indian reservation, on right bank 20 ft downstream from bridge on Montana Secondary Highway 464, 4.0 mi north of Browning, and at river mile 73.3.

DRAINAGE AREA.--123 mi².

SURFACE-WATER RECORDS

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

REVISED RECORDS.-- Water Data Report MT-93-1: 1992, maximum discharge.

GAGE.--Water-stage recorder. Elevation of gage is 4,380 ft, referenced to the National Geodetic Vertical Datum of 1929. 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 are fair except those for estimated daily discharges, which are poor. Diversions for irrigation of about 1,200 acres occur upstream from station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06098500 CUT BANK CREEK NEAR BROWNING, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	29	22	e70	e26	e24	e21	172	244	269	117	16	7.2
2	31	22	e70	e30	e25	e22	160	270	299	110	16	7.3
3	32	24	e66	e37	e25	e22	139	383	323	101	14	7.2
4	33	37	e64	e36	e24	e21	127	432	378	97	12	7.1
5	33	37	61	e33	e26	e25	117	345	423	96	12	6.5
6	32	39	53	e29	e24	e40	107	287	438	91	12	6.8
7	32	475	49	e29	e24	e60	97	255	404	91	11	8.6
8	33	1,800	47	e28	e23	56	91	251	333	94	9.6	11
9	34	1,050	45	e28	e23	45	99	308	288	86	8.9	12
10	32	548	43	e25	e25	42	105	424	288	78	8.7	10
11	31	373	40	e20	e24	49	103	401	358	72	8.3	9.2
12	30	282	39	e21	e24	127	100	371	318	65	7.7	9.3
13	28	239	39	e21	e24	249	95	390	264	61	7.4	9.2
14	27	196	38	e22	e23	164	91	383	226	58	8.0	8.8
15	26	166	43	e25	e22	151	95	313	201	56	7.2	8.1
16	29	168	38	e27	e21	137	96	283	194	53	7.2	7.8
17	31	135	e41	e25	e20	149	96	300	201	51	7.7	8.5
18	30	119	e42	e25	e19	183	105	344	196	49	7.1	9.4
19	29	116	e40	e27	e19	204	116	371	190	53	7.5	23
20	31	116	39	e26	e18	203	111	341	189	55	8.1	21
21	34	135	33	e23	e17	198	100	302	195	52	8.0	17
22	32	130	e32	e24	e16	166	94	271	198	47	7.6	14
23	31	114	e31	e25	e16	147	94	237	194	45	8.1	24
24	29	100	e28	e27	e17	139	97	211	189	42	9.0	29
25	28	88	29	e30	e17	244	112	212	173	41	7.8	21
26	28	e85	31	e28	e18	449	146	196	155	40	7.2	19
27	28	e80	31	e28	e20	355	173	181	128	38	8.0	18
28	27	e74	e30	e27	e21	283	179	214	112	34	8.5	18
29	e25	e68	e29	e27	---	226	198	250	112	31	7.8	19
30	e23	e67	e27	e26	---	198	231	235	116	20	7.2	20
31	e23	---	e27	e26	---	180	---	240	---	17	6.9	---
Total	921	6,905	1,295	831	599	4,555	3,646	9,245	7,352	1,941	282.5	397.0
Mean	29.7	230	41.8	26.8	21.4	147	122	298	245	62.6	9.11	13.2
Max	34	1,800	70	37	26	449	231	432	438	117	16	29
Min	23	22	27	20	16	21	91	181	112	17	6.9	6.5
Ac-ft	1,830	13,700	2,570	1,650	1,190	9,030	7,230	18,340	14,580	3,850	560	787

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	57.2	69.4	42.0	35.0	38.2	56.9	135	399	476	173	59.3	39.4
Max	142	230	157	76.9	139	147	217	740	955	344	140	81.8
(WY)	(2006)	(2007)	(1996)	(2005)	(1996)	(2007)	(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	9.11	11.7
(WY)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(1992)	(1992)	(2001)	(2007)	(2001)

* During periods of operation [April 1918 to October 1925 (seasonal records only); April 1991 to current year].

06098500 CUT BANK CREEK NEAR BROWNING, MT—Continued

SUMMARY STATISTICS

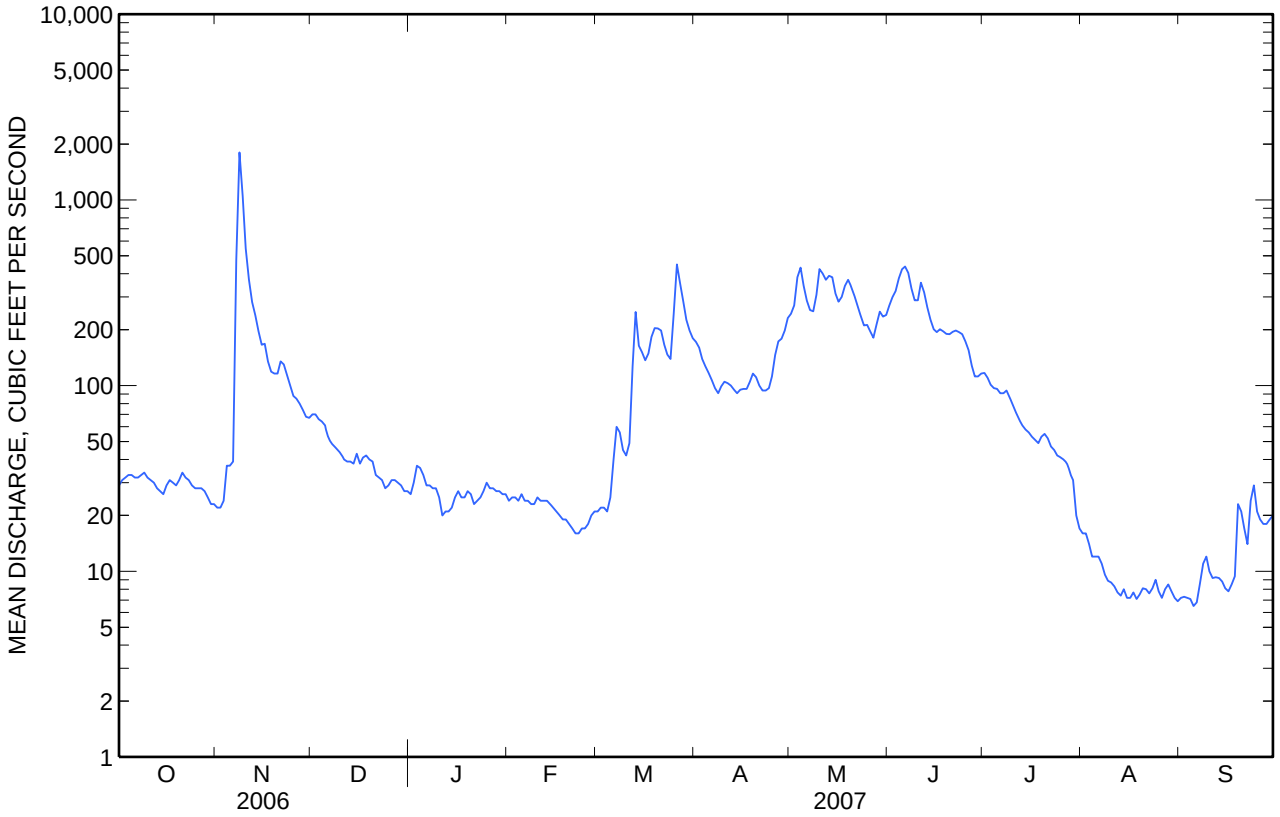
	Calendar Year 2006		Water Year 2007		Water Years 1918 - 2007*	
Annual total	46,444.3		37,969.5			
Annual mean	127		104		125	
Highest annual mean					201	1996
Lowest annual mean					69.0	2001
Highest daily mean	1,800	Nov 8	1,800	Nov 8	3,400	Jun 7, 1995
Lowest daily mean	6.4	Sep 12	6.5	Sep 5	6.4	Sep 12, 2006
Annual seven-day minimum	6.7	Sep 7	7.0	Aug 31	6.7	Sep 7, 2006
Maximum peak flow			2,040	Nov 9	[a]5,480	Jun 7, 1995
Maximum peak stage			4.98	Nov 9	[b]5.59	Jun 7, 1995
Instantaneous low flow					[c]4.9	Nov 22, 1994
Annual runoff (ac-ft)	92,120		75,310		90,390	
10 percent exceeds	368		282		324	
50 percent exceeds	44		39		51	
90 percent exceeds	18		9.3		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 ft³/s.

[b] Previous datum.

[c] Gage height, 0.60 ft, result of freezeup.



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06099500 MARIAS RIVER NEAR SHELBY, MT

Marias Basin

LOCATION.--Lat 48°25'38", long 111°53'20" referenced to North American Datum of 1927, in SE ¼ NW ¼ SE ¼ sec.20, T.31 N., R.2 W., Toole County, MT, 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 mi², of which 518 mi² probably is noncontributing.

SURFACE-WATER RECORDS

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 Water Supply Paper (WSP) 1309.

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

GAGE.--Water-stage recorder. Elevation of gage is 3,087.72 ft, referenced to the National Geodetic Vertical Datum of 1929. 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 are good except those for estimated daily discharges, which are poor. Some regulation occurs 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), which have a combined capacity of 172,630 acre-ft. Diversions for irrigation of about 50,000 acres occurs upstream from station and about 15,000 acres downstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06099500 MARIAS RIVER NEAR SHELBY, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	163	e125	e470	e220	e150	e260	1,060	1,050	1,060	289	76	44
2	158	e140	e430	e250	e160	e270	1,430	1,100	1,130	282	71	39
3	155	e180	e440	e230	e180	e280	1,370	1,340	1,290	271	69	36
4	157	252	e560	e210	e210	e345	1,160	1,880	1,410	256	73	33
5	164	289	e560	e180	e280	e390	891	1,710	1,580	233	70	34
6	170	281	e500	e190	e350	e450	803	1,390	1,840	214	66	33
7	163	258	e460	e210	e250	e500	626	1,190	1,990	202	69	38
8	167	950	e500	e170	e210	e560	589	1,070	1,860	189	70	46
9	187	2,140	e425	e165	e210	e700	568	1,120	1,530	171	72	55
10	196	2,040	e370	e135	e170	e640	573	1,490	1,290	178	76	64
11	204	1,310	e380	e110	e180	e650	614	2,040	1,220	181	84	65
12	203	1,050	e400	e100	e170	e700	598	2,100	1,240	190	79	64
13	199	1,010	e380	e115	e160	e760	584	2,110	1,200	180	68	66
14	196	904	e350	e120	e140	e1,000	563	2,190	1,030	160	67	70
15	195	907	e330	e130	e180	e840	535	2,040	870	152	63	74
16	201	862	e280	e170	e300	742	554	1,760	764	137	60	70
17	217	810	e220	e160	e370	660	568	1,620	752	130	57	66
18	226	e760	e180	e150	e400	632	616	1,650	719	136	60	65
19	225	e820	e180	e180	e380	810	731	1,830	677	126	59	84
20	220	e800	e170	e170	e400	828	743	1,930	626	123	62	136
21	218	e760	e185	e150	e340	866	678	1,890	578	112	51	143
22	219	e720	e190	e170	e300	854	629	1,680	545	103	49	139
23	214	e660	e195	e200	e280	748	597	1,500	523	101	50	153
24	208	e500	e205	e210	e260	673	579	1,280	507	99	51	246
25	201	e450	e215	e210	e270	651	525	1,160	504	86	51	233
26	195	e430	e205	e200	e240	998	584	1,150	480	74	55	207
27	190	e420	e190	e190	e230	1,390	684	1,080	453	75	56	194
28	185	e375	e160	e200	e245	1,290	727	997	393	79	50	175
29	181	e385	e150	e180	---	1,160	780	1,030	350	84	48	160
30	162	e450	e160	e170	---	1,010	1,030	1,040	319	92	48	159
31	e120	---	e170	e180	---	922	---	1,030	---	87	47	---
Total	5,859	21,038	9,610	5,425	7,015	22,579	21,989	46,447	28,730	4,792	1,927	2,991
Mean	189	701	310	175	251	728	733	1,498	958	155	62.2	99.7
Max	226	2,140	560	250	400	1,390	1,430	2,190	1,990	289	84	246
Min	120	125	150	100	140	260	525	997	319	74	47	33
Ac-ft	11,620	41,730	19,060	10,760	13,910	44,790	43,620	92,130	56,990	9,500	3,820	5,930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	397	392	301	253	316	575	1,121	2,659	3,013	1,023	377	348
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	62.2	66.4
(WY)	(2002)	(2002)	(1937)	(1937)	(1936)	(2002)	(1931)	(1977)	(1977)	(1940)	(2007)	(1988)

* During periods of operation (1903-04, 1906, 1912 to current year).

06099500 MARIAS RIVER NEAR SHELBY, MT—Continued

SUMMARY STATISTICS

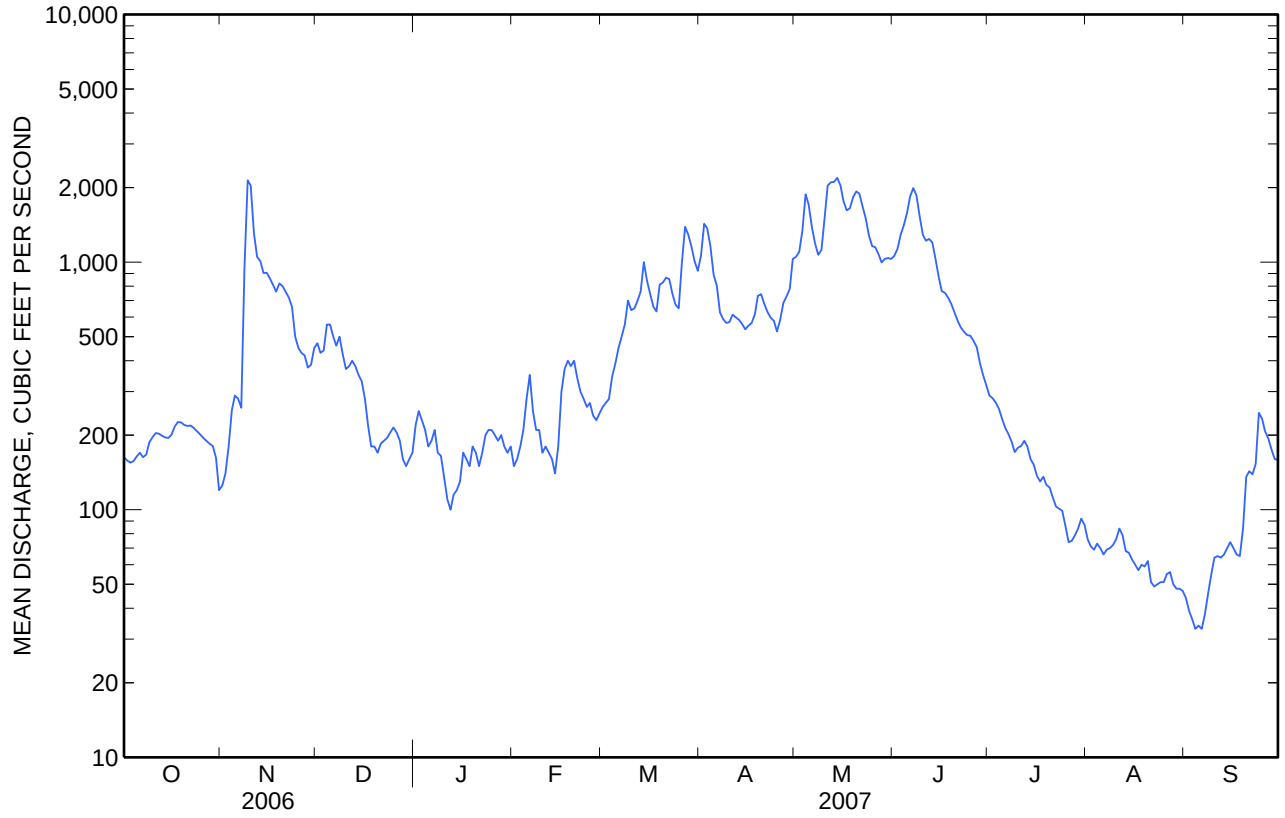
	Calendar Year 2006		Water Year 2007		Water Years 1902 - 2007*	
Annual total	238,016		178,402			
Annual mean	652		489		887	
Highest annual mean					1,929	1927
Lowest annual mean					302	1977
Highest daily mean	3,460	Jun 14	2,190	May 14	109,000	Jun 9, 1964
Lowest daily mean	92	Aug 25	33	Sep 4	10	Aug 20, 1919
Annual seven-day minimum	102	Aug 22	37	Sep 1	21	Jan 25, 1937
Maximum peak flow			2,380	Nov 10	[a]241,000	Jun 9, 1964
Maximum peak stage			5.41	Nov 10	[b]23.64	Jun 9, 1964
Instantaneous low flow					[c]10	Aug 20, 1919
Annual runoff (ac-ft)	472,100		353,900		642,500	
10 percent exceeds	1,750		1,210		2,300	
50 percent exceeds	320		250		392	
90 percent exceeds	141		69		153	

* 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, gage height, 18.21 ft.

[b] From floodmark.

[c] Observed, site and datum then in use.



06101500 MARIAS RIVER NEAR CHESTER, MT

Marias Basin

LOCATION.--Lat 48°18′23″, long 111°04′47″ referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.34, T.30 N., R.5 E., Liberty County, MT, 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 mi², of which 518 mi² probably is noncontributing.

SURFACE-WATER RECORDS

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 Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1629: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,814.03 ft, referenced to the National Geodetic Vertical Datum of 1929 (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 are good. Flow is completely regulated by Lake Elwell since Oct. 28, 1955 (see preceding page). Bureau of Reclamation satellite telemeter is located at the 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.

06101500 MARIAS RIVER NEAR CHESTER, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	513	521	514	492	896	1,100	513	517	508	413	403	411
2	512	527	514	492	896	1,090	513	515	508	410	404	413
3	514	525	514	492	896	1,090	511	515	508	406	403	416
4	515	525	514	492	895	1,090	513	514	508	404	403	422
5	514	524	514	492	895	1,040	511	512	510	403	405	418
6	514	525	514	491	896	939	515	511	507	398	406	417
7	514	525	514	491	895	939	521	513	508	405	406	419
8	514	521	513	489	895	939	514	510	508	408	403	418
9	514	521	511	489	895	939	513	505	509	398	407	418
10	514	525	509	571	895	939	512	507	514	405	407	418
11	514	521	508	636	894	939	513	509	513	408	409	418
12	515	520	508	638	891	939	511	508	511	402	409	418
13	514	522	508	643	889	939	509	514	512	398	408	418
14	515	520	509	647	892	939	509	514	517	405	408	421
15	514	521	508	649	955	939	508	514	515	408	407	423
16	514	519	508	698	1,020	948	511	516	513	407	403	423
17	517	520	506	774	1,020	968	509	514	515	408	404	390
18	515	519	503	843	1,020	968	510	513	514	403	403	373
19	521	525	503	906	1,020	969	514	516	514	405	404	374
20	521	524	503	905	1,020	968	510	514	514	403	400	374
21	523	525	502	903	1,070	968	509	514	515	403	403	372
22	525	525	499	903	1,110	968	510	513	515	403	403	370
23	524	523	498	903	1,100	968	509	514	512	406	406	371
24	525	523	497	903	1,100	968	509	513	509	406	408	369
25	525	521	497	903	1,100	968	508	512	511	403	408	370
26	525	518	497	902	1,100	968	509	510	508	406	410	374
27	525	516	498	903	1,100	968	508	509	515	407	402	374
28	525	514	494	902	1,100	962	508	509	471	406	398	374
29	522	514	493	903	---	859	509	509	413	404	402	374
30	524	514	492	901	---	604	510	508	413	404	413	374
31	523	---	492	901	---	511	---	508	---	403	413	---
Total	16,064	15,643	15,654	22,257	27,355	29,333	15,329	15,870	15,108	12,548	12,568	11,924
Mean	518	521	505	718	977	946	511	512	504	405	405	397
Max	525	527	514	906	1,110	1,100	521	517	517	413	413	423
Min	512	514	492	489	889	511	508	505	413	398	398	369
Ac-ft	31,860	31,030	31,050	44,150	54,260	58,180	30,410	31,480	29,970	24,890	24,930	23,650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	715	580	445	412	450	599	788	1,172	1,632	1,179	891	822
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)

* During periods of operation (April to September 1921, October 1945 to September 1947, October 1955 to current year).

06101500 MARIAS RIVER NEAR CHESTER, MT—Continued

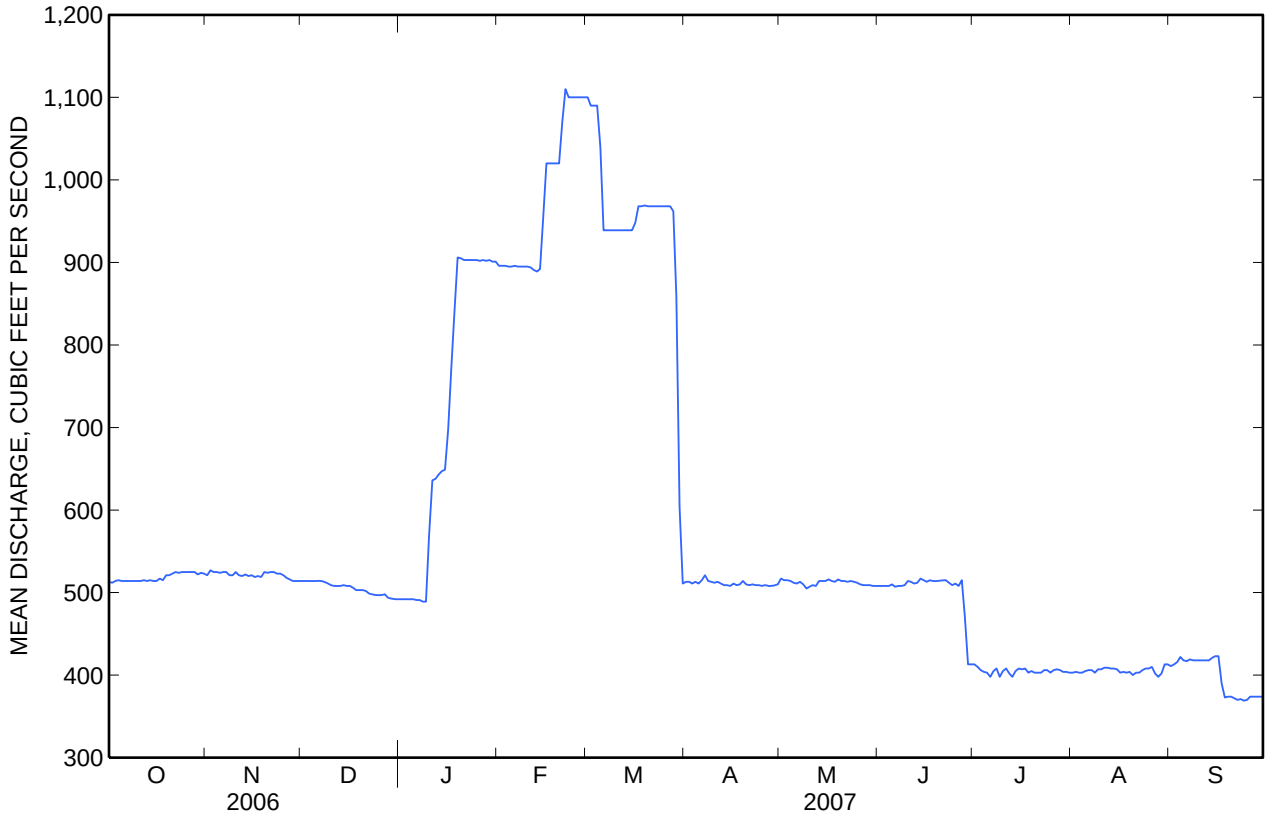
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1921 - 2007*	
Annual total	212,234		209,653			
Annual mean	581		574		806	
Highest annual mean					1,488	1959
Lowest annual mean					97.5	1956
Highest daily mean	4,740	Jun 15	1,110	Feb 22	10,100	Jun 12, 1964
Lowest daily mean	308	Mar 9	369	Sep 24	0.20	Oct 29, 1955
Annual seven-day minimum	309	Mar 7	371	Sep 19	0.20	Oct 29, 1955
Maximum peak flow			1,110	Feb 25	[a]10,400	Jun 16, 1964
Maximum peak stage			4.28	Feb 25	10.63	Jun 16, 1964
Instantaneous low flow					[b]0.20	Nov 10, 1955
Annual runoff (ac-ft)	421,000		415,800		584,000	
10 percent exceeds	674		939		1,560	
50 percent exceeds	515		513		524	
90 percent exceeds	313		403		233	

* 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 Mar. 20, 1947.

[b] Probably less than; during Tiber Dam shutdown.



06102050 MARIAS RIVER NEAR LOMA, MT

Marias Basin

LOCATION.--Lat 47°55′59″, long 110°30′31″ referenced to North American Datum of 1927, in SW ¼ NE ¼ SE ¼ sec.12, T.25 N., R.9 E., Chouteau County, MT, 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 mi², of which 518 mi² probably is noncontributing.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,570 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to June 2001, water-stage recorder at site 4.5 mi upstream at different elevation.

REMARKS.--Records are good. Flow is completely regulated by Lake Elwell. Numerous diversions for irrigation occur upstream from the station. Bureau of Reclamation satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

06102050 MARIAS RIVER NEAR LOMA, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				556	489	461	435	375	345	334		
2				550	491	455	384	376	352	330		
3				556	506	471	383	374	347	328		
4				534	501	472	364	378	345	327		
5				534	489	470	338	379	342	334		
6				531	487	484	330	381	341	314		
7				523	488	451	335	369	362	307		
8				518	487	455	342	353	386	304		
9				518	477	448	362	338	371	299		
10				522	470	448	346	331	372	293		
11				542	474	451	327	319	366	299		
12				534	481	469	321	320	362	300		
13				519	490	460	314	340	366	300		
14				514	547	456	304	347	365	301		
15				504	495	459	312	340	358	298		
16				501	480	473	326	333	367	294		
17				502	475	499	321	323	371	298		
18				520	475	493	312	330	368	298		
19				539	467	481	308	334	352	301		
20				615	471	472	307	343	348	305		
21				531	475	462	321	333	335	304		
22				511	493	450	323	304	329	299		
23				509	477	447	341	326	343	300		
24				503	468	455	360	336	383	297		
25				500	492	472	356	360	354	301		
26				496	481	490	341	337	340	303		
27				493	464	469	341	334	325	305		
28				488	451	458	350	340	332	300		
29				490	477	454	358	324	338	302		
30				493	498	470	371	321	336	303		
31				---	482	---	377	330	---	301		
Total				15,646	14,998	13,955	10,610	10,628	10,601	9,479		
Mean				522	484	465	342	343	353	306		
Max				615	547	499	435	381	386	334		
Min				488	451	447	304	304	325	293		
Ac-ft				31,030	29,750	27,680	21,040	21,080	21,030	18,800		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2007, BY WATER YEAR (WY)

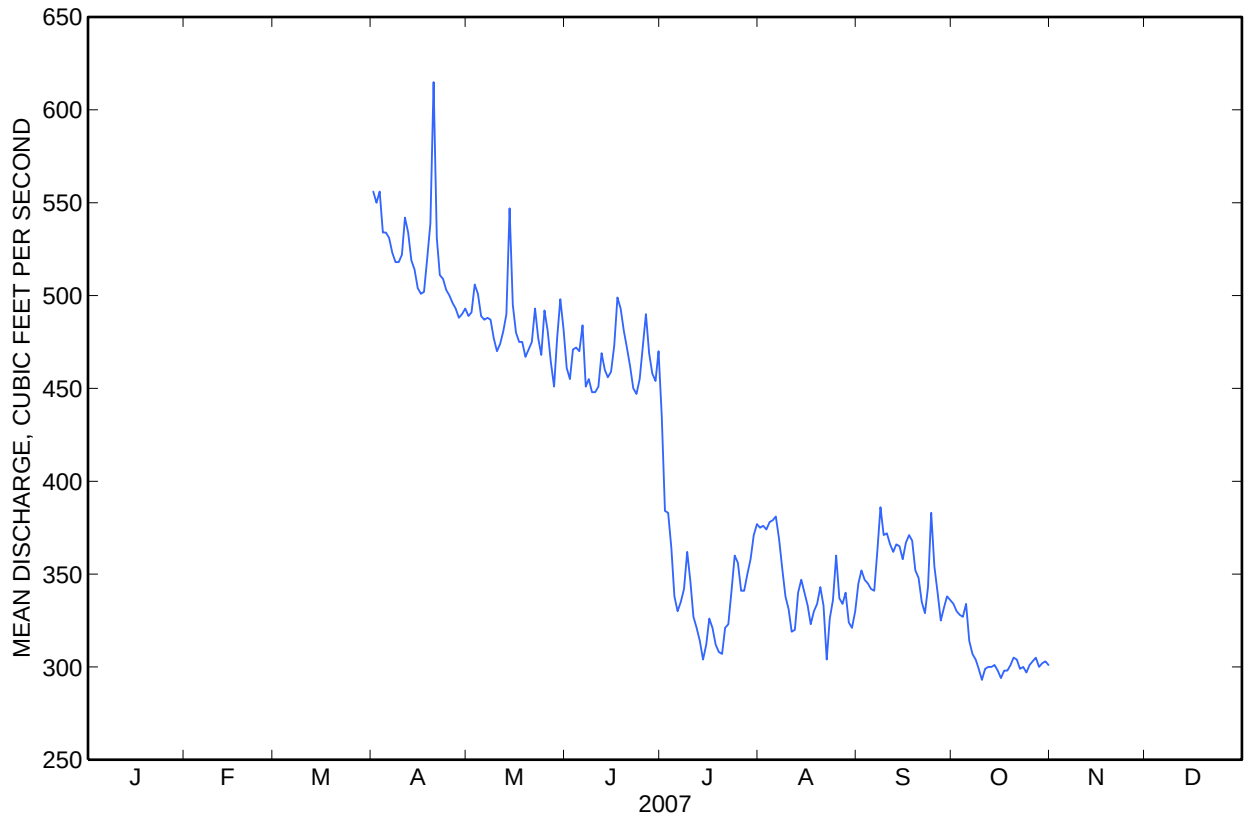
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	298	434	568	778	1,117	1,857	1,165	1,006	943	830	723	402
Max	517	910	1,290	2,184	2,175	6,018	2,990	3,040	3,258	2,750	1,580	908
(WY)	(1968)	(1968)	(1967)	(1972)	(1972)	(1964)	(2002)	(1965)	(1965)	(1966)	(1966)	(1968)
Min	105	110	117	180	441	415	250	137	296	292	78.5	107
(WY)	(1964)	(1964)	(1964)	(1961)	(2002)	(2005)	(1962)	(1961)	(2001)	(1964)	(1963)	(1963)

06102050 MARIAS RIVER NEAR LOMA, MT—Continued

SUMMARY STATISTICS

	For 2007 Season		Water Years 1960 - 2007		Seasons 2001 - 2007	
Annual mean			977			
Highest annual mean			1,330	1967		
Lowest annual mean			522	1963		
Highest daily mean	615	Apr 20	10,300	Jun 16, 1964	5,250	Jun 23, 2002
Lowest daily mean	293	Oct 10	45	Dec 11, 1962	220	Apr 1, 2002
Annual seven-day minimum			49	Dec 5, 1962		
Maximum peak flow	658	Apr 20	10,800	Jun 16, 1964	5,250	Jun 23, 2002
Maximum peak stage	1.47	Apr 20	[a]8.72	Jun 16, 1964	[b]5.29	Jun 24, 2002
Annual runoff (ac-ft)			707,900			
10 percent exceeds			1,940			
50 percent exceeds			800			
90 percent exceeds			180			

[a] From highwater mark.
[b]Site and datum then in use.



06102500 TETON RIVER BELOW SOUTH FORK, NEAR CHOTEAU, MT

Marias Basin
Teton Subbasin

LOCATION.--Lat 47°52′59″, long 112°36′40″ referenced to North American Datum of 1927, in NE ¼ NE ¼ NE ¼ sec.34, T.25 N., R.8 W., Teton County, MT, 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.

DRAINAGE AREA.--105 mi^2.

SURFACE-WATER RECORDS

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, referenced to the National Geodetic Vertical Datum of 1929. June 1947 to October 1954, water-stage recorder 300 ft downstream at different elevation.

REMARKS.--Seasonal records are good except those for July 1 to Aug. 15, which are fair. Negligible diversion for irrigation occurs upstream from station. U.S. Geological Survey satellite telemeter is located at the 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.

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

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				66	133	292	117	75	55	56		
2				66	160	315	114	72	55	56		
3				65	242	343	107	71	54	58		
4				65	243	346	105	70	55	59		
5				65	221	359	105	70	56	60		
6				64	201	357	103	70	56	59		
7				62	190	347	101	70	57	57		
8				63	201	307	101	67	57	59		
9				63	242	286	99	67	57	59		
10				62	287	268	99	68	56	59		
11				63	300	253	97	67	55	60		
12				64	326	236	94	65	56	60		
13				65	347	223	92	64	56	60		
14				64	314	205	91	63	57	59		
15				66	283	197	91	66	56	59		
16				66	274	191	91	68	55	59		
17				67	287	186	90	66	56	59		
18				71	302	173	93	65	57	59		
19				70	306	162	90	66	61	60		
20				69	299	160	89	65	58	60		
21				69	276	156	88	65	57	59		
22				69	257	153	87	65	57	56		
23				69	229	146	88	63	62	57		
24				71	219	147	87	58	60	59		
25				74	219	142	84	57	58	58		
26				77	222	135	81	56	57	59		
27				82	242	129	79	57	57	59		
28				87	272	122	77	56	57	58		
29				105	268	121	77	56	58	58		
30				121	262	117	76	55	57	58		
31				---	267	---	74	55	---	57		
Total				2,130	7,891	6,574	2,867	1,998	1,705	1,815		
Mean				71.0	255	219	92.5	64.5	56.8	58.5		
Max				121	347	359	117	75	62	60		
Min				62	133	117	74	55	54	56		
Ac-ft				4,220	15,650	13,040	5,690	3,960	3,380	3,600		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 – 1954 AND SEASONS 1998 – 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	47.9	46.3	45.1	79.0	296	450	209	105	81.8	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	92.5	61.8	56.8	54.6	44.0	40.7
(WY)	(1950)	(1949)	(1950)	(2001)	(2001)	(2004)	(2007)	(1949)	(2007)	(1950)	(1950)	(1950)

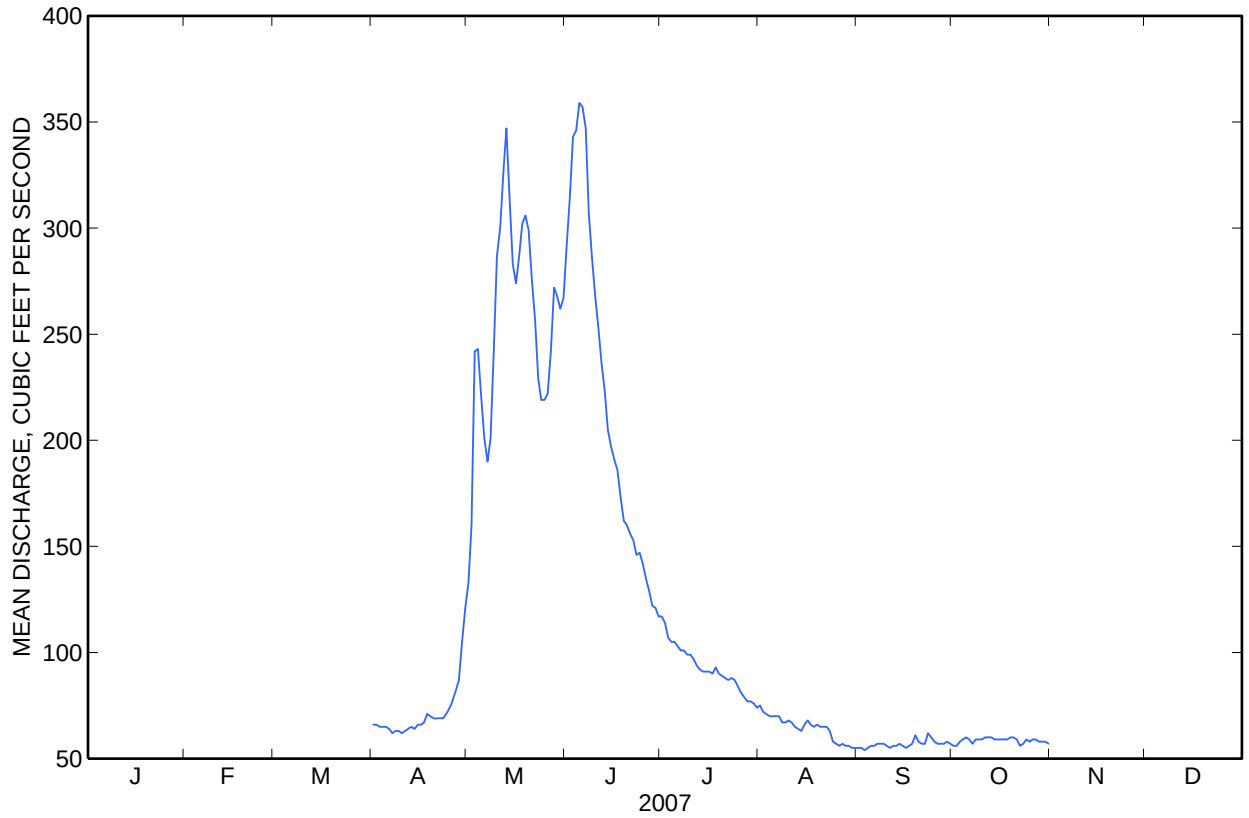
* During periods of operation (water years June 1947 to October 1954; June 1998 to current year, seasonal records only).

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

SUMMARY STATISTICS

	For 2007 Season		Water Years 1947 – 1954*		Seasons 1998 – 2007*	
Annual mean			166			
Highest annual mean			225	1953		
Lowest annual mean			92.9	1949		
Highest daily mean	359	Jun 5	2,380	Jun 5, 1948	1,160	Jun 17, 2002
Lowest daily mean	54	Sep 3	20	Jan 24, 1949	36	Apr 13, 2001
Annual seven-day minimum			22	Jan 24, 1949		
Maximum peak flow	385	Jun 5	[b]2,780	Jun 3, 1948	1,280	Jun 17, 2002
Maximum peak stage	4.89	Jun 5	[c]7.34	Jan 6, 1950	5.78	Jun 17, 2002
Instantaneous low flow	[a]51	Oct 22	[d]12	Mar 28, 1951	[e]35	Apr 15, 2001
Annual runoff (ac-ft)			119,900			
10 percent exceeds			418			
50 percent exceeds			80			
90 percent exceeds			423			

* During periods of operation (water years June 1947 to October 1954; June 1998 to current year, seasonal records only).
[a] Gage height, 3.83 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.
[e] 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 2006 TO SEPTEMBER 2007
Part 1 of 4
[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/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)	Total nitrogen, water, unfltrd, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd mg/L (00665)
Oct												
18...	1230	63	8.2	387	10.0	4.0	<.020	.030	<.002	E.06	<.006	E.005
Jan												
16...	1445	60	7.4	387	8.0	.0	<.020	.057	<.002	.09	E.003	E.007
Apr												
09...	1700	62	8.4	352	8.0	6.5	<.020	.035	<.002	.09	.007	<.008
May												
14...	1730	311	8.4	291	10.0	8.5	<.020	.016	<.002	.08	<.006	E.006
Jun												
20...	0845	168	8.3	325	19.0	7.5	<.020	.023	<.002	.09	<.006	<.008

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 4

Date	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Oct			
18...	87	16	2.7
Jan			
16...	72	22	3.6
Apr			
09...	83	9	1.5
May			
14...	60	4	3.4
Jun			
20...	87	7	3.2

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

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										
09...	1700	190	50.9	14.3	.45	.0	1.15	156	.21	.30
May										
14...	1730	170	46.2	12.8	.47	.0	1.23	145	.21	.21
Jun										
20...	0845	170	46.8	12.6	.40	.0	1.12	152	.18	.34

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solids, tons/acre-ft (70303)	Dissolved solids, tons/d (70302)	Selenium, water, unfltrd µg/L (01147)
Apr						
09...	4.42	38.9	204	.28	34.2	.53
May						
14...	4.25	17.5	170	.23	143	.37
Jun						
20...	4.30	26.6	183	.25	83.2	.41

06108000 TETON RIVER NEAR DUTTON, MT

Marias Basin
Teton Subbasin

LOCATION.--Lat 47°55′49″, long 111°33′07″ referenced to North American Datum of 1927, in SE ¼ SW ¼ SW ¼ sec.12, T.25 N., R.1 E., Teton County, MT, 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.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 3,235 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to July 17, 1965, water-stage recorder at site 1,800 ft downstream at elevation 1.97 ft lower.

REMARKS.--Records are 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 occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

06108000 TETON RIVER NEAR DUTTON, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	13	e11	e10	e12	e7.0	e15	28	35	43	7.2	0.00	0.00
2	13	e13	e8.0	e15	e8.0	e20	28	33	34	6.8	0.00	0.00
3	13	22	e10	e13	e10	e25	27	36	26	5.9	0.00	0.00
4	13	25	e14	e12	e11	e30	26	38	23	5.4	0.00	0.00
5	13	25	e13	e10	e15	e35	27	37	18	3.1	0.00	0.00
6	14	23	e12	e10	e14	e40	28	37	16	3.2	0.00	0.00
7	14	22	e12	e10	e10	e45	29	36	15	3.2	0.00	0.00
8	14	22	e14	e10	e9.0	e50	30	34	15	4.0	0.00	0.00
9	14	22	e15	e11	e8.0	e45	30	37	23	3.5	0.00	0.00
10	15	21	e14	e8.0	e8.0	e45	31	33	22	1.2	0.00	0.00
11	15	20	e13	e5.0	e7.0	e60	32	31	13	0.49	0.00	0.00
12	15	21	e13	e4.0	e6.0	e70	32	30	11	0.03	0.00	0.00
13	16	21	e12	e5.0	e5.5	63	30	31	9.3	1.7	0.00	0.00
14	16	19	e11	e5.0	e5.0	52	29	29	7.4	0.26	0.00	0.00
15	15	16	e11	e5.5	e7.0	43	29	29	10	0.00	0.00	0.92
16	17	e14	e10	e6.0	e12	38	26	30	11	0.00	0.00	3.4
17	17	e12	e9.0	e6.0	e16	35	28	30	14	0.00	0.00	3.6
18	17	e10	e10	e5.5	e25	33	42	27	15	0.00	0.00	3.2
19	16	e10	e10	e7.0	e20	32	55	25	17	0.00	0.00	4.2
20	17	e15	e10	e8.0	e22	31	61	24	18	0.00	0.00	5.6
21	16	25	e10	e7.0	e20	30	70	28	15	0.00	0.00	6.3
22	16	22	e10	e9.0	e20	29	69	26	11	0.00	0.00	5.9
23	17	e18	e11	e12	e18	28	64	30	8.5	0.00	0.00	9.4
24	16	e15	e12	e18	e18	27	59	38	6.9	0.00	0.00	11
25	16	e10	e13	e15	e20	27	54	40	4.4	0.00	0.00	13
26	15	e8.0	e13	e12	e17	27	50	41	5.0	0.00	0.00	9.8
27	15	e7.0	e12	e10	e16	27	47	47	6.8	0.00	0.00	9.1
28	15	e6.0	e9.0	e11	e16	29	43	49	6.3	0.00	0.00	8.6
29	16	e5.0	e8.0	e10	---	28	39	50	8.7	0.00	0.00	9.0
30	12	e8.0	e9.0	e9.0	---	28	37	46	9.6	0.00	0.00	9.0
31	e10	---	e9.0	e9.0	---	27	---	44	---	0.00	0.00	---
Total	461	488.0	347.0	290.0	370.5	1,114	1,180	1,081	442.9	45.98	0.00	112.02
Mean	14.9	16.3	11.2	9.35	13.2	35.9	39.3	34.9	14.8	1.48	0.00	3.73
Max	17	25	15	18	25	70	70	50	43	7.2	0.00	13
Min	10	5.0	8.0	4.0	5.0	15	26	24	4.4	0.00	0.00	0.00
Ac-ft	914	968	688	575	735	2,210	2,340	2,140	878	91	0.00	222

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2007, BY WATER YEAR (WY)

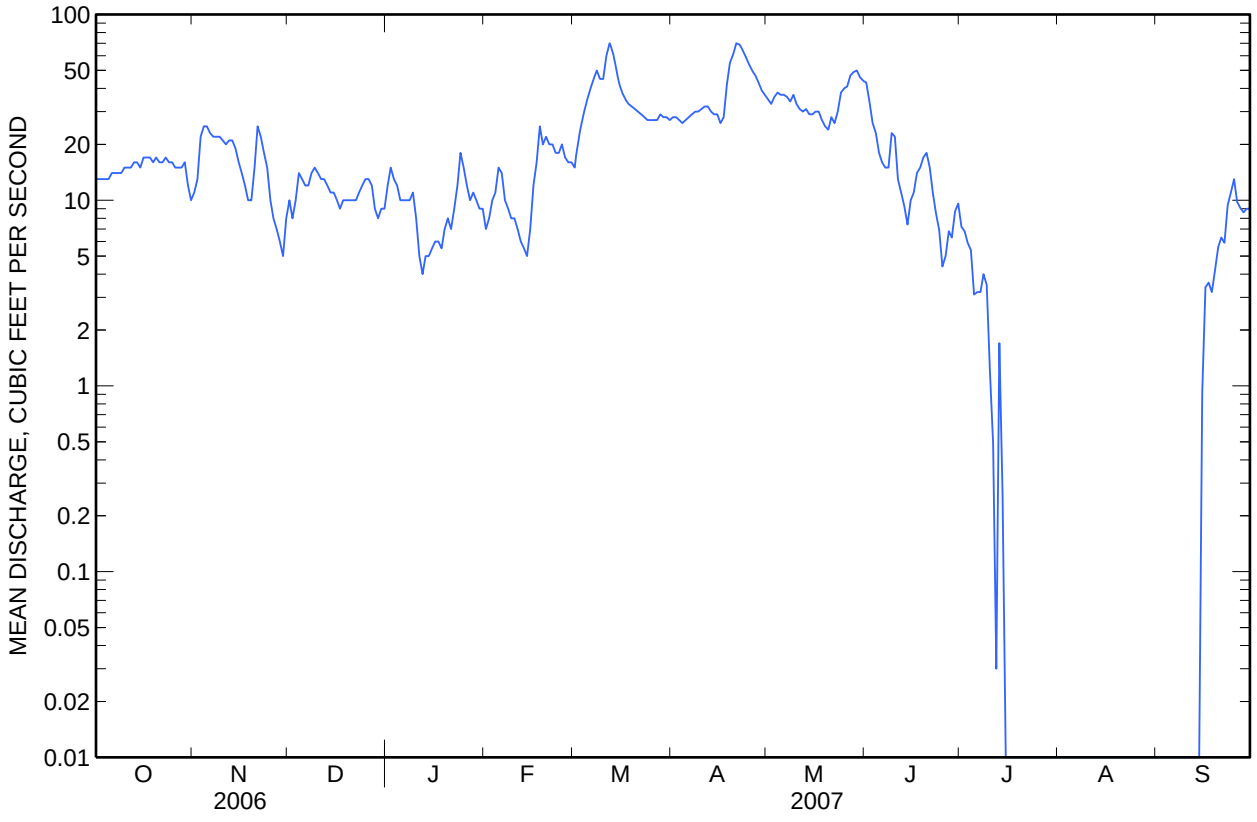
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	66.0	66.8	60.6	52.4	81.1	173	150	229	361	146	67.7	60.9
Max	223	176	209	167	388	819	495	957	2,727	551	263	211
(WY)	(1966)	(1976)	(1960)	(1976)	(1986)	(1969)	(1965)	(1976)	(1964)	(1958)	(1972)	(1993)
Min	14.9	16.3	11.2	9.35	13.2	28.8	32.8	20.1	14.8	1.30	0.00	3.73
(WY)	(2007)	(2007)	(2007)	(2007)	(2007)	(2002)	(2004)	(2000)	(2007)	(1985)	(1988)	(2007)

06108000 TETON RIVER NEAR DUTTON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1954 - 2007	
Annual total	11,660.60		5,932.40			
Annual mean	31.9		16.3		126	
Highest annual mean					350	1964
Lowest annual mean					16.3	2007
Highest daily mean	462	Jun 12	70	Mar 12	20,000	Jun 9, 1964
Lowest daily mean	0.00	Jul 27	0.00	Jul 15	0.00	Jul 21, 1984
Annual seven-day minimum	0.00	Jul 27	0.00	Jul 15	0.00	Jul 21, 1984
Maximum peak flow			[a]unknown		[c]71,300	Jun 9, 1964
Maximum peak stage			[b]unknown		[d]20.48	Jun 9, 1964
Instantaneous low flow					0.00	Jul 21, 1984[f]
Annual runoff (ac-ft)	23,130		11,770		91,390	
10 percent exceeds	59		37		253	
50 percent exceeds	21		13		65	
90 percent exceeds	2.8		0.00		19	

[a] Ice-affected stage-discharge relation.
[b] Maximum may have occurred during period of ice effect, March 6-12.
[c] From slope-area measurement of peak flow.
[d] From floodmark.
[f] No flow at times many years.



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 2006 TO SEPTEMBER 2007
Part 1 of 4
[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/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)	Total nitrogen, water unfltrd mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd mg/L (00665)
Oct												
17...	1500	16	8.5	794	4.0	5.0	<.020	E.012	<.002	.20	<.006	.013
Jan												
16...	1720	6.6	8.1	1,090	4.5	0.0	<.020	.554	.004	.74	E.004	E.008
Apr												
10...	1100	30	8.6	862	6.0	4.5	<.020	.035	E.001	.25	E.004	.011
May												
15...	0915	28	8.6	817	10.0	11.5	E.010	<.016	<.002	.29	E.005	.028
Jun												
20...	1310	18	8.4	801	25.0	22.5	<.020	<.016	<.002	.43	.033	.042

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 4

Date	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Oct			
17...	93	41	1.8
Jan			
16...	52	60	1.1
Apr			
10...	77	31	2.5
May			
15...	91	34	2.6
Jun			
20...	99	40	1.9

06108000 TETON RIVER NEAR DUTTON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 4

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										
10...	1100	380	68.2	52.1	2.35	1.2	54.7	269	8.29	.40
May										
15...	0915	370	62.5	52.5	2.77	1.2	52.1	248	7.64	.42
Jun										
20...	1310	330	49.1	49.4	2.52	1.2	50.2	218	6.96	.43

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 4 of 4

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved-solids, sum of constituents mg/L (70301)	Dissolved-solids, tons/acre-ft (70303)	Dissolved-solids, tons/d (70302)	Selenium, water, unfltrd µg/L (01147)
Apr						
10...	2.85	213	564	.77	45.7	.55
May						
15...	1.96	200	529	.72	40.0	.55
Jun						
20...	1.02	211	501	.68	24.3	.46

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Water-Data Report 2007

06108800 TETON RIVER AT LOMA, MT

Marias Basin
Teton Subbasin

LOCATION.--Lat 47°55′57″, long 110°30′49″ referenced to North American Datum of 1927, in NW ¼ SW ¼ SE ¼ sec.12, T.25 N., R.9 E., Chouteau County, MT, 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 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1998 to current year (no winter records in water year 2007). Prior to October 1, 1999, seasonal records only.

GAGE.--Water-stage recorder. Elevation of gage is 2,560 ft, referenced to National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records are good. U.S. Geological Survey satellite telemeter is located at the station. Numerous diversions occur upstream from station for irrigation.

06108800 TETON RIVER AT LOMA, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00					270	33	31	37	0.00	0.00	0.00
2	0.00					260	37	26	33	0.00	0.00	0.00
3	0.00					256	35	24	30	0.00	0.00	0.00
4	0.00					273	33	28	29	0.00	0.00	0.00
5	0.00					281	32	25	26	0.00	0.00	0.00
6	0.00					386	32	24	22	0.00	0.00	0.00
7	0.00					283	31	26	20	0.00	0.00	0.00
8	0.00					197	30	25	17	0.00	0.00	0.00
9	0.00					102	30	24	14	0.00	0.00	0.00
10	0.00					83	31	19	11	0.00	0.00	0.00
11	0.00					99	33	14	9.0	0.00	0.00	0.00
12	0.00					93	34	14	6.4	0.00	0.00	0.00
13	0.00					110	33	12	4.4	0.00	0.00	0.00
14	0.00					102	31	13	7.5	0.00	0.00	0.00
15	0.00					86	30	11	5.7	0.00	0.00	0.00
16	0.00					76	28	11	4.5	0.00	0.00	0.00
17	0.00					67	28	9.8	6.3	0.00	0.00	0.00
18	0.00					61	30	7.6	4.7	0.00	0.00	0.00
19	0.00					56	37	5.7	4.4	0.00	0.00	0.00
20	0.00					52	45	7.2	3.1	0.00	0.00	0.00
21	0.00					48	48	8.7	2.2	0.00	0.00	0.00
22	0.00					43	51	9.3	1.2	0.00	0.00	0.00
23	0.00					43	58	9.7	0.60	0.00	0.00	0.00
24	0.00					40	62	10	0.43	0.00	0.00	0.00
25	0.00					38	54	9.8	0.51	0.00	0.00	0.00
26	0.00					36	51	12	0.43	0.00	0.00	0.00
27	0.00					36	44	13	0.31	0.00	0.00	0.00
28	0.00					36	44	17	0.23	0.00	0.00	0.00
29	0.00					33	37	19	0.19	0.00	0.00	0.00
30	0.00					33	36	23	0.11	0.00	0.00	0.00
31	0.00					33	---	30	---	0.00	0.00	---
Total	0.00					3,612	1,138	518.8	301.21	0.00	0.00	0.00
Mean	0.00					117	37.9	16.7	10.0	0.00	0.00	0.00
Max	0.00					386	62	31	37	0.00	0.00	0.00
Min	0.00					33	28	5.7	0.11	0.00	0.00	0.00
Ac-ft	0.00					7,160	2,260	1,030	597	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11.7	18.6	15.8	15.4	19.8	66.5	59.7	32.9	101	24.4	8.20	5.96
Max	30.6	44.0	39.5	35.0	31.6	117	109	74.8	304	151	62.6	24.8
(WY)	(2003)	(2003)	(2000)	(2000)	(2000)	(2007)	(2003)	(1999)	(2002)	(1998)	(1998)	(1999)
Min	0.00	0.00	0.82	3.24	11.8	20.2	23.5	10.2	4.98	0.00	0.00	0.00
(WY)	(2002)	(2002)	(2002)	(2004)	(2006)	(2002)	(2004)	(2000)	(2001)	(2007)	(2000)	(2000)

* During periods of operation (June 1998 to current year; no winter record in water year 2007 and seasonal record 1998-99).

06108800 TETON RIVER AT LOMA, MT—Continued

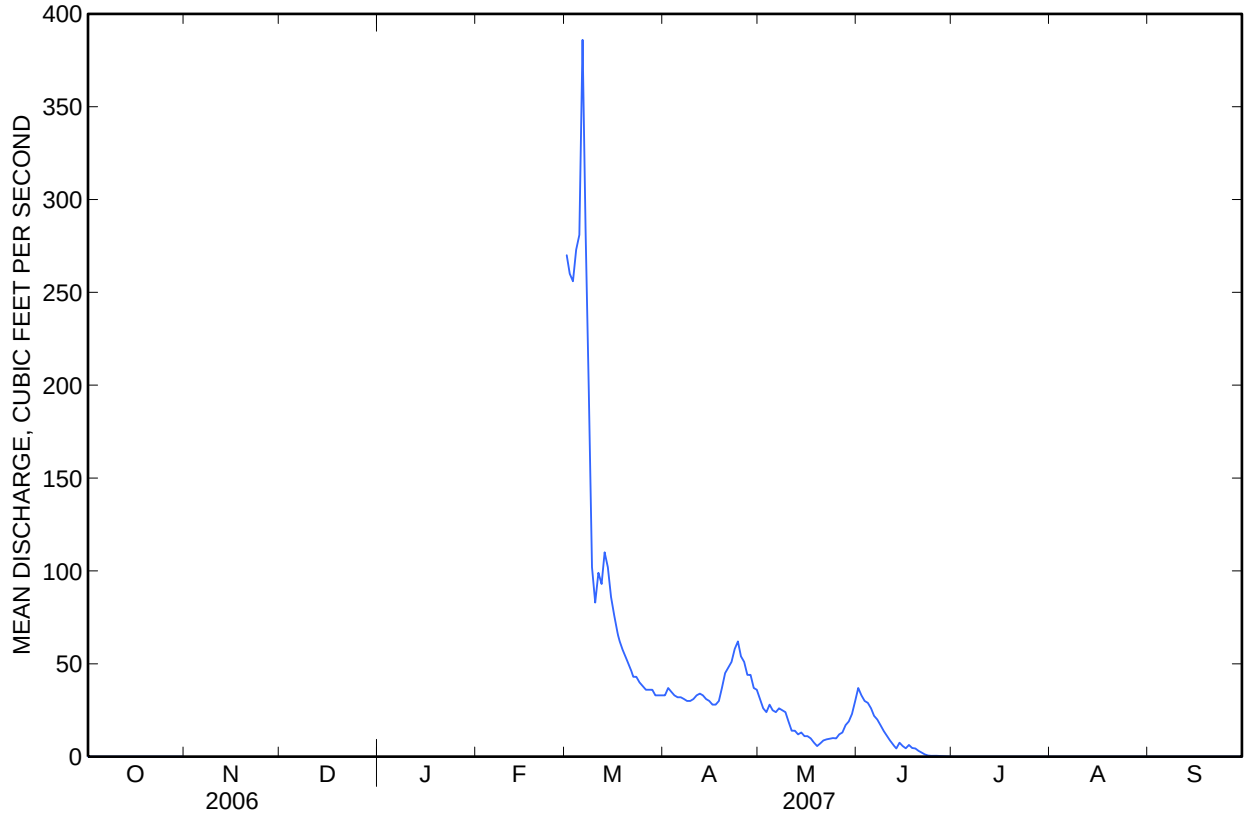
SUMMARY STATISTICS

	Season 2007		Water Years 1998 – 2007*	
Annual mean			27.5	
Highest annual mean			42.6	2003
Lowest annual mean			14.3	2004
Highest daily mean	386	Mar 6	1,740	Jun 13, 2002
Lowest daily mean	0.00	Jul 1	0.00	Jul 30, 1999
Annual seven-day minimum			0.00	Jul 30, 1999
Maximum peak flow	559	Mar 6	[a] 2,000	Jun 13, 2002
Maximum peak stage	3.59	Mar 6	[b] 6.98	Mar 16, 2003
Annual runoff (ac-ft)			19,950	
10 percent exceeds			62	
50 percent exceeds			15	
90 percent exceeds			0.00	

* During periods of operation (June 1998 to current year; no winter record in water year 2007 and seasonal record 1998-99).

[a] Gage height, 5.87 ft.

[b] Backwater from ice, from floodmarks.



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 current year (seasonal record March through June for 2007).

INSTRUMENTATION.--Water temperature probe installed Oct. 20, 1999.

REMARKS.--Seasonal daily water temperature record is rated good. 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 during period of operation (March through June), 32.0°C, June 21 and 22; minimum, 0.0°C Mar. 1-9 and Apr. 7.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
Jan													
17...	0925	.65	7.5	1,780	0.0	0.0	--	--	--	--	--	--	--
Apr													
10...	1430	31	8.6	1,010	7.5	7.0	420	69.6	59.1	2.79	1.6	75.0	262
May													
15...	1400	11	8.5	1,160	18.0	20.5	480	72.5	72.8	4.05	2.0	98.9	249
Jun													
20...	1510	3.4	8.4	1,350	30.0	31.0	480	69.7	74.2	4.15	2.4	122	233

06108800 TETON RIVER AT LOMA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 3
[Remark codes: <, less than; E, estimated.]

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, dissolved, tons/d (70302)	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)	Total nitrogen, water, fltrd, mg/L (62855)
Jan 17...	--	--	--	--	--	--	--	<.020	.358	E.002	.56
Apr 10...	10.8	.39	2.15	299	676	.92	56.6	<.020	<.016	<.002	.22
May 15...	13.1	.45	2.93	376	790	1.07	23.5	E.010	<.016	<.002	.30
Jun 20...	15.5	.46	4.36	493	924	1.26	8.48	<.020	<.016	<.006	.34

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 3
[Remark codes: <, less than; E, estimated.]

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd mg/L (00665)	Selenium, water, unfltrd µg/L (01147)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Jan 17...	E.005	<.008	--	42	29	.05
Apr 10...	<.006	.011	.69	96	20	1.7
May 15...	<.006	.013	.62	99	19	.56
Jun 20...	<.006	.014	.44	18	96	.88

06108800 TETON RIVER AT LOMA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
2007 SEASON

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		March			April			May			June	
1	0.0	0.0	0.0	9.0	6.0	7.5	22.0	11.5	16.5	27.5	15.0	21.0
2	0.0	0.0	0.0	6.0	2.5	4.5	21.5	14.0	17.0	29.5	17.0	23.0
3	0.0	0.0	0.0	8.5	0.5	4.0	16.5	11.0	13.5	30.5	18.5	24.0
4	0.0	0.0	0.0	9.0	1.0	4.5	16.5	7.5	12.0	30.5	19.0	24.5
5	0.0	0.0	0.0	8.5	3.5	5.5	19.5	7.5	13.0	29.5	19.5	23.5
6	0.0	0.0	0.0	8.0	2.0	5.0	21.0	9.0	15.0	21.5	14.5	19.0
7	0.5	0.0	0.0	10.5	0.0	5.0	22.0	11.0	16.5	21.5	12.0	16.5
8	3.0	0.0	1.0	13.0	1.5	7.0	24.5	12.5	18.5	23.0	14.0	18.5
9	7.0	0.0	2.5	9.0	5.0	7.5	22.5	13.5	18.0	24.5	15.0	20.0
10	8.0	1.0	4.0	7.0	3.5	5.5	20.0	12.0	15.5	26.0	17.5	21.5
11	10.5	4.5	7.0	8.5	2.0	5.0	26.0	12.0	18.5	26.5	17.5	21.5
12	13.0	7.5	10.0	11.5	2.5	6.5	28.0	16.0	21.5	25.5	16.0	20.5
13	10.0	5.0	7.5	14.0	3.5	8.5	21.5	13.0	16.5	24.0	14.0	19.0
14	7.0	3.0	5.0	16.0	6.0	10.5	17.5	10.5	13.0	25.0	16.5	20.5
15	8.5	2.0	5.0	14.0	9.0	11.5	23.5	9.0	16.0	26.5	14.5	20.5
16	7.0	3.5	5.5	18.0	8.0	13.0	24.5	12.0	18.0	29.0	16.0	21.5
17	11.0	4.5	7.5	15.5	10.0	13.0	27.5	14.0	20.5	23.0	16.0	20.0
18	9.0	7.0	7.5	12.5	8.0	10.0	26.5	16.5	21.0	21.5	13.0	17.5
19	12.5	5.0	8.0	8.0	4.5	6.0	24.0	14.5	19.0	28.5	14.5	21.5
20	11.5	5.5	8.0	12.5	4.0	8.0	23.0	15.5	19.0	31.5	17.5	24.0
21	10.5	2.5	6.5	16.0	5.0	10.5	20.5	14.0	17.0	32.0	19.0	25.0
22	10.0	3.5	6.5	18.5	7.5	12.5	14.5	11.0	12.0	32.0	19.5	25.5
23	14.5	5.5	9.5	19.0	12.0	15.0	19.0	9.0	13.5	31.5	20.5	25.5
24	16.0	7.0	11.0	20.0	11.0	15.5	20.0	10.5	15.0	28.5	19.5	23.5
25	14.0	9.5	11.5	20.0	11.5	15.5	17.0	12.0	14.0	23.0	16.0	19.5
26	13.5	6.0	10.0	19.0	12.5	15.5	25.0	10.0	17.5	26.5	13.0	19.5
27	11.5	7.0	9.0	18.5	10.5	14.5	26.0	14.0	19.5	26.5	18.0	22.0
28	9.5	5.0	7.0	19.0	11.5	15.0	21.0	15.5	18.0	28.0	18.5	23.5
29	10.5	1.5	5.5	19.0	11.5	15.0	15.5	13.0	14.0	29.0	22.0	25.0
30	12.5	1.5	6.5	21.0	11.5	16.0	20.0	11.5	15.5	28.0	20.5	24.0
31	11.0	4.5	8.0	---	---	---	23.5	13.0	17.5	---	---	---
Month	16.0	0.0	5.5	21.0	0.0	10.0	28.0	7.5	16.5	32.0	12.0	21.5

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Water-Data Report 2007

06109500 MISSOURI RIVER AT VIRGELLE, MT

Fort Peck Lake Basin
Bullwhacker-Dog Subbasin

LOCATION.--Lat 48°00′18″, long 110°15′25″ referenced to North American Datum of 1927, in SW ¼ SW ¼ SE ¼ sec.13, T.26 N., R.11 E., Chouteau County, MT, Hydrologic Unit 10040101, on left bank 0.2 mi upstream from Virgelle ferry, 0.6 mi southwest of Virgelle, 1.8 mi downstream from Spring Coulee, and at river mile 2,034.2.

DRAINAGE AREA.--34,379 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1935 to current year. Prior to October 1953, published as "at Loma."

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,507.50 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1953, water-stage recorder at Loma, 18 mi upstream, 2,543.40 ft.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Flow is regulated by 23 smaller irrigation reservoirs and powerplants, Clark Canyon Reservoir (station number 06015300), Canyon Ferry Lake (station number 06058500), and Lake Elwell (station number 06101300). Diversions for irrigation of about 850,400 acres occur upstream from station. U.S. Army Corps of Engineers satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1908 reached a stage about 2 ft higher than that of June 5, 1953, from information by local residents.

06109500 MISSOURI RIVER AT VIRGELLE, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,240	5,270	e4,820	e4,970	e5,670	e5,870	5,930	7,410	13,100	6,120	4,780	4,490
2	5,090	5,200	e6,040	e4,680	e5,590	e5,720	5,850	7,560	12,300	6,080	4,740	4,080
3	5,060	5,290	e6,480	e5,020	e5,820	e5,910	5,890	8,340	11,600	6,000	4,650	4,370
4	5,050	5,270	e6,690	e5,870	e5,840	e5,900	5,690	9,240	11,300	5,730	4,640	4,390
5	5,090	5,610	e6,650	e6,830	e6,320	e6,020	5,660	9,000	10,900	5,500	4,430	4,370
6	5,210	5,790	e6,570	e6,610	e7,290	e6,300	5,680	9,730	10,500	5,510	4,700	4,140
7	5,210	5,320	e6,470	e5,690	e7,400	6,890	5,560	9,640	10,100	5,630	4,610	4,280
8	5,170	5,300	e5,890	e3,980	e6,750	7,040	5,480	8,920	12,700	5,290	4,740	4,260
9	5,230	5,240	e6,190	e4,390	e6,820	6,620	5,430	8,330	14,500	5,720	4,650	4,390
10	5,190	5,140	e6,330	e5,170	e6,180	6,440	5,440	8,030	12,500	5,770	4,710	4,300
11	5,210	5,370	e6,230	e6,010	e5,900	6,230	5,760	8,050	11,300	5,610	4,810	4,280
12	5,300	5,620	e6,170	e6,200	e5,770	6,270	5,720	8,080	10,600	5,460	4,440	4,380
13	5,240	5,500	e6,120	e5,600	e6,080	6,550	5,720	8,070	10,300	5,390	4,770	4,340
14	5,220	5,420	e5,670	e5,070	e5,620	6,570	5,730	8,050	10,200	5,350	4,860	4,250
15	5,290	5,390	e5,800	e5,670	e5,200	7,670	5,650	8,290	9,340	5,090	5,180	4,350
16	5,240	5,430	e5,750	e5,380	e5,270	6,580	5,690	8,710	9,130	5,370	4,160	4,380
17	5,590	5,540	e5,860	e6,170	e5,780	6,350	5,630	8,400	8,670	5,390	4,460	4,360
18	5,530	5,500	e5,410	e6,430	e6,390	6,040	5,870	8,290	8,410	5,390	4,550	4,520
19	5,330	5,470	e4,160	e6,610	e6,630	6,010	6,580	7,820	8,060	5,280	4,230	4,500
20	5,490	5,420	e3,910	e6,530	e6,660	6,000	6,760	7,530	8,050	5,230	4,690	4,430
21	5,380	5,390	e4,290	e6,740	e6,410	6,110	7,070	7,810	7,830	5,270	4,620	4,480
22	5,490	5,290	e5,110	e6,600	e6,340	5,920	6,870	8,570	7,280	5,060	4,410	4,440
23	5,550	5,490	e5,490	e6,300	e6,340	5,920	6,660	8,250	6,930	4,970	4,430	4,450
24	5,500	5,490	e5,630	e6,240	e6,350	5,880	6,680	8,140	6,650	5,000	4,510	4,660
25	5,550	5,320	e5,600	e6,300	e6,260	5,860	6,660	8,590	6,610	4,840	4,570	4,730
26	5,440	5,600	e5,480	e6,500	e6,160	5,850	6,710	8,650	6,860	4,870	4,320	4,630
27	5,410	5,020	e5,920	e6,510	e6,080	5,910	6,840	10,100	6,400	4,790	4,680	4,730
28	5,380	4,380	e6,150	e6,330	e6,120	5,960	6,960	10,400	6,280	4,830	4,610	4,520
29	5,400	e4,280	e5,920	e6,020	---	6,120	7,000	11,100	6,240	4,780	4,390	4,560
30	5,320	e4,510	e5,870	e6,000	---	6,220	7,030	11,300	6,230	4,810	4,520	4,590
31	5,270	---	e4,930	e5,970	---	6,130	---	12,700	---	4,830	4,440	---
Total	164,670	158,860	177,600	182,390	173,040	192,860	184,200	273,100	280,870	164,960	142,300	132,650
Mean	5,312	5,295	5,729	5,884	6,180	6,221	6,140	8,810	9,362	5,321	4,590	4,422
Max	5,590	5,790	6,690	6,830	7,400	7,670	7,070	12,700	14,500	6,120	5,180	4,730
Min	5,050	4,280	3,910	3,980	5,200	5,720	5,430	7,410	6,230	4,780	4,160	4,080
Ac-ft	326,600	315,100	352,300	361,800	343,200	382,500	365,400	541,700	557,100	327,200	282,300	263,100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2007, BY WATER YEAR (WY)

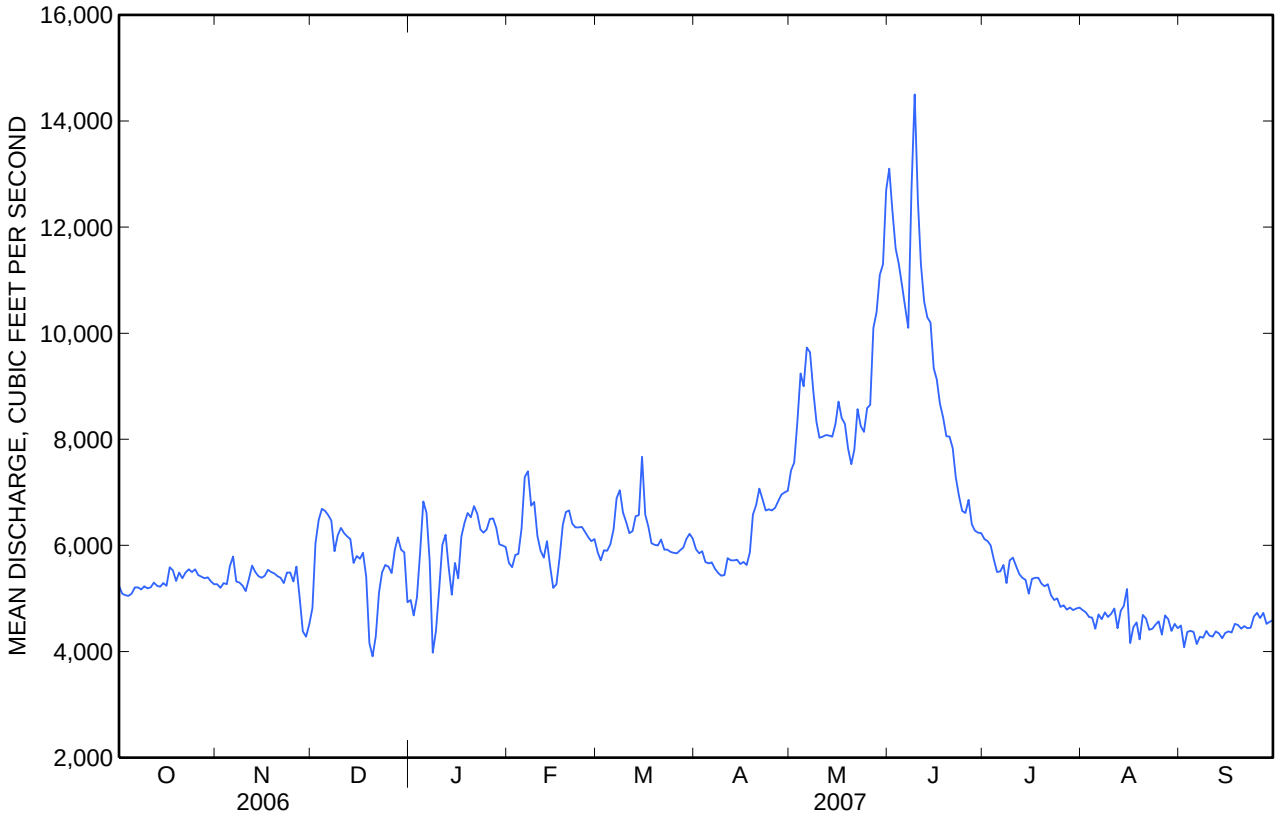
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,094	6,265	6,200	6,204	6,518	7,246	8,544	13,060	17,410	9,533	6,078	5,775
Max	15,340	12,470	12,220	8,997	10,240	14,490	17,720	28,260	51,960	29,670	11,950	11,590
(WY)	(1966)	(1966)	(1960)	(1976)	(1971)	(1978)	(1943)	(1976)	(1948)	(1975)	(1993)	(1965)
Min	3,533	3,207	3,221	2,716	2,600	3,784	4,062	4,819	4,646	3,704	2,821	2,818
(WY)	(1938)	(1938)	(1937)	(1936)	(1937)	(1938)	(1961)	(1992)	(1977)	(1940)	(1937)	(1937)

06109500 MISSOURI RIVER AT VIRGELLE, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1935 - 2007	
Annual total	2,429,250		2,227,500			
Annual mean	6,655		6,103		8,269	
Highest annual mean					13,660	1975
Lowest annual mean					4,152	1937
Highest daily mean	20,900	Jun 12	14,500	Jun 9	119,000	Jun 5, 1953
Lowest daily mean	3,530	Feb 19	3,910	Dec 20	638	Jul 5, 1936
Annual seven-day minimum	4,720	Feb 15	4,270	Sep 2	2,020	Feb 2, 1937
Maximum peak flow			[a]15,200	Jun 9	[c]122,000	Jun 5, 1953
Maximum peak stage			[b]6.91	Feb 6	[d]23.40	Jun 5, 1953
Annual runoff (ac-ft)	4,818,000		4,418,000		5,990,000	
10 percent exceeds	9,700		8,290		14,100	
50 percent exceeds	5,600		5,690		6,600	
90 percent exceeds	5,110		4,470		4,260	

[a] Gage height, 6.35 ft.
[b] Backwater from ice.
[c] From rating curve for former site at Loma, extended above 66,000 ft³/s.
[d] From floodmark.



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Water-Data Report 2007

06114700 JUDITH RIVER NEAR MOUTH, NEAR WINIFRED, MT

Fort Peck Lake Basin
Judith Subbasin

LOCATION.--Lat 47°40′06″, long 109°39′09″ referenced to North American Datum of 1927, in SW ¼ NW ¼ NE ¼ sec.22, T.22 N., R.16 E., Fergus County, MT, Hydrologic Unit 10040103, on right bank 0.2 mi downstream from private road bridge, 5.3 mi south of Judith Landing, 15 mi northwest of Winifred, and at river mile 7.7.

DRAINAGE AREA.--2,731 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,490 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Numerous diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

06114700 JUDITH RIVER NEAR MOUTH, NEAR WINIFRED, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO OCTOBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	253					e340	478	581	2,400	502	199	277	328
2	254					e340	547	565	1,960	569	202	268	323
3	254					e340	570	585	1,710	497	210	264	322
4	258					e500	514	653	1,530	466	217	259	321
5	261					e1,100	509	645	1,470	442	226	260	338
6	261					e1,300	510	598	1,430	441	259	271	351
7	347					e1,500	495	558	1,520	414	259	280	377
8	392					e1,800	479	531	1,810	379	249	299	361
9	352					1,430	472	507	1,690	478	238	297	346
10	320					965	509	492	1,470	314	236	303	339
11	321					777	544	521	1,310	269	238	298	337
12	334					825	545	537	1,220	252	238	273	337
13	328					1,060	529	560	1,150	235	233	277	337
14	317					973	519	616	1,110	239	240	287	337
15	309					719	509	627	1,090	238	250	284	337
16	316					580	514	575	1,050	241	242	286	336
17	335					529	524	524	1,030	237	234	283	344
18	337					508	550	486	1,100	253	243	283	345
19	334					505	669	465	1,050	261	243	290	350
20	371					491	824	487	976	252	258	317	344
21	402					469	848	566	926	248	257	313	342
22	397					450	852	738	929	245	236	309	344
23	377					432	878	1,020	865	250	234	319	345
24	360					419	872	1,330	811	250	255	323	342
25	353					412	841	1,350	1,110	213	266	332	338
26	345					411	803	1,610	836	217	251	328	342
27	340					413	753	1,500	728	220	248	321	352
28	334					529	701	1,240	624	215	242	316	352
29	324					497	649	1,360	569	208	252	320	347
30	337					457	619	1,990	520	201	258	329	342
31	313					448	---	2,660	---	192	270	---	342
Total	10,136					21,519	18,626	26,477	35,994	9,438	7,483	8,866	10,598
Mean	327					694	621	854	1,200	304	241	296	342
Max	402					1,800	878	2,660	2,400	569	270	332	377
Min	253					340	472	465	520	192	199	259	321
Ac-ft	20,100					42,680	36,940	52,520	71,390	18,720	14,840	17,590	21,020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2007, BY WATER YEAR (WY) *

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Mean	261	239	250	263	465	421	436	592	208	183	220	262
Max	288	272	318	329	867	766	854	1,200	304	241	296	327
(WY)	(2006)	(2006)	(2006)	(2006)	(2003)	(2006)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)
Min	239	223	192	217	267	269	157	318	112	143	192	229
(WY)	(2004)	(2001)	(2004)	(2005)	(2005)	(2004)	(2001)	(2001)	(2003)	(2003)	(2003)	(2004)

* During periods of operation [October 2001 to September 2006 and March 2007 to October 2007 (seasonal records only)].

06114700 JUDITH RIVER NEAR MOUTH, NEAR WINIFRED, MT—Continued

SUMMARY STATISTICS

	2007 Season		Water Years 2001 – 2007*	
Annual mean			292	
Highest annual mean			355	2006
Lowest annual mean			243	2001
Highest daily mean	2,660	May 31	6,860	Mar 14, 2003
Lowest daily mean	192	Jul 31	58	Jul 24, 2003
Annual seven-day minimum			64	Jul 19, 2003
Maximum peak flow	2,840	May 31	[b]7,600	Mar 14, 2003
Maximum peak stage	5.90	May 31	[c]11.00	Mar 13, 2003
Instantaneous low flow	[a]182	Jul 31	[d]54	Jul 24, 2003
Annual runoff (ac-ft)			211,600	
10 percent exceeds			437	
50 percent exceeds			254	
90 percent exceeds			159	

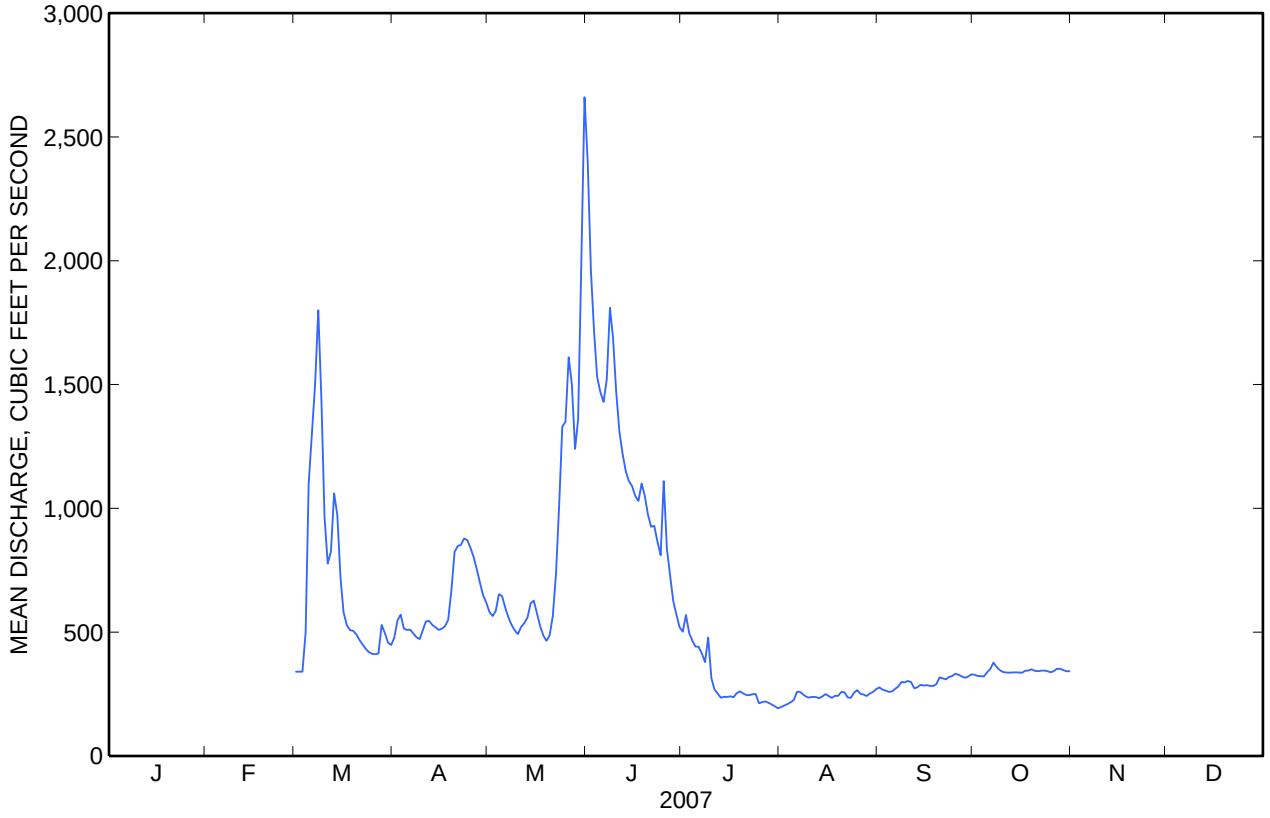
* During periods of operation [October 2001 to September 2006 and March 2007 to October 2007 (seasonal records only)].

[a] Gage height, 2.61 ft.

[b] Gage height, 9.06 ft.

[c] From floodmarks, backwater from ice.

[d] Gage height, 2.26 ft.



06114700 JUDITH RIVER NEAR MOUTH, NEAR WINIFRED, MT—Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE (seasonal records): April 2002 to current year.

INSTRUMENTATION.--Temperature recorder installed Sept. 9, 2000.

REMARKS.--Water temperature record is rated excellent. Missing water temperature data for September 11-12 due to equipment malfunction. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE (seasonal records): Maximum, 32.0°C, July 13, 2002; minimum, 0.0°C, on many days during winter period.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: During period of seasonal operation, maximum, 30.0°C, July 6 and 28; minimum, 0.0°C, Mar. 2 and 3.

TEMPERATURE, WATER, DEGREES CELSIUS
MARCH 2007 TO OCTOBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		March			April			May			June	
1	3.0	1.5	2.0	10.0	8.5	9.5	19.5	13.5	16.5	17.0	13.5	15.0
2	2.5	0.0	1.0	9.0	4.5	6.5	19.5	16.0	17.5	20.0	15.0	17.5
3	3.0	0.0	1.5	7.5	3.5	5.0	18.0	15.0	16.0	22.0	17.0	19.5
4	5.0	1.5	3.0	7.5	3.0	5.5	16.5	12.5	14.5	23.0	18.5	20.5
5	4.0	2.5	3.5	8.0	5.0	6.5	15.5	11.0	13.5	23.0	19.0	21.0
6	4.5	3.5	4.0	8.5	5.0	6.5	16.5	11.0	14.0	20.5	16.5	18.5
7	6.0	4.0	4.5	8.5	3.0	5.5	18.0	12.0	15.0	16.5	14.0	15.5
8	6.0	3.5	4.5	10.5	4.5	7.5	20.5	14.0	17.0	18.0	13.5	16.0
9	6.5	3.0	4.5	9.5	6.5	8.5	21.0	16.0	18.5	19.5	15.0	17.5
10	7.5	3.5	5.5	9.0	6.0	7.5	18.5	14.5	16.0	19.0	17.0	18.0
11	10.0	5.5	7.5	6.5	4.0	5.5	21.0	13.5	17.0	20.5	16.5	18.5
12	11.5	9.0	10.0	10.0	4.0	6.5	23.0	17.0	20.0	21.5	17.0	19.5
13	10.0	8.0	9.0	12.0	5.5	8.5	21.0	15.0	17.5	21.0	17.0	19.0
14	8.0	5.5	6.5	14.5	8.0	11.0	15.0	13.0	14.0	21.5	18.0	19.5
15	8.0	4.5	6.0	14.5	11.0	13.0	17.5	11.0	14.0	20.0	16.5	18.5
16	8.0	5.0	6.5	16.0	11.0	13.5	20.0	13.0	16.5	21.5	17.0	19.0
17	11.0	6.5	8.5	15.0	11.5	13.5	22.5	16.0	19.0	21.0	18.5	19.5
18	10.5	8.0	9.0	14.0	10.0	12.0	23.0	18.0	20.5	18.5	16.0	17.0
19	11.5	7.5	9.5	10.0	6.5	8.0	20.5	17.5	19.0	21.5	15.0	18.0
20	10.5	7.5	9.0	11.0	5.0	8.0	20.5	16.5	18.5	24.0	18.0	20.5
21	10.0	6.5	8.5	13.0	7.0	10.0	18.5	15.5	17.0	25.5	19.5	22.5
22	10.0	6.5	8.5	14.5	9.0	11.5	16.5	11.5	13.0	26.0	20.5	23.5
23	13.0	7.5	10.0	14.5	10.5	13.0	14.5	10.0	12.0	26.0	21.5	23.5
24	14.5	8.0	11.5	16.0	11.5	14.0	13.5	11.5	12.5	24.5	21.0	22.5
25	13.0	10.5	12.0	17.5	12.5	14.5	13.5	12.0	13.0	22.0	14.0	17.0
26	13.0	8.5	11.0	16.5	13.5	15.0	16.0	11.0	13.5	21.0	14.5	17.5
27	12.0	9.0	10.5	16.0	12.0	14.0	19.5	13.5	16.5	22.5	16.5	19.5
28	9.5	5.5	7.0	18.0	12.5	15.0	18.5	16.0	17.5	24.5	18.0	21.0
29	7.5	4.0	5.5	18.0	13.0	15.5	16.5	13.0	14.5	27.0	21.5	24.0
30	8.0	3.5	6.0	19.0	14.5	16.5	13.5	12.0	12.5	26.5	21.5	24.0
31	10.5	5.0	8.0	---	---	---	14.5	12.0	13.5	---	---	---
Month	14.5	0.0	7.0	19.0	3.0	10.0	23.0	10.0	16.0	27.0	13.5	19.5

06114700 JUDITH RIVER NEAR MOUTH, NEAR WINIFRED, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
MARCH 2007 TO OCTOBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		July			August			September			October	
1	27.5	21.5	24.5	26.0	21.0	23.5	24.0	19.0	21.5	12.0	9.5	11.0
2	28.5	21.0	24.5	26.0	19.5	23.0	24.0	18.0	21.0	12.5	9.0	11.0
3	28.5	22.0	25.0	27.5	21.0	24.0	24.0	19.0	21.5	11.5	9.5	10.5
4	28.0	22.0	25.0	26.0	21.0	23.5	23.0	18.5	20.5	11.0	7.0	9.0
5	29.0	22.0	25.5	25.0	20.0	22.5	22.5	19.0	20.5	10.0	8.5	9.0
6	30.0	23.0	26.0	25.5	20.0	22.5	21.0	18.0	19.5	8.5	7.5	8.0
7	27.0	23.0	25.0	25.5	20.0	22.5	20.5	16.5	18.5	11.0	6.0	8.5
8	25.5	22.0	23.5	25.0	19.0	22.0	18.0	15.5	16.5	13.5	9.0	11.0
9	25.0	21.0	22.5	25.0	20.0	22.5	18.0	13.0	15.5	13.5	9.5	11.5
10	25.0	18.0	21.5	24.0	20.0	22.0	18.0	12.5	15.5	13.5	10.0	11.5
11	26.5	19.0	22.5	23.5	18.0	20.5	---	14.0	---	14.0	11.5	12.5
12	28.5	20.0	24.0	24.0	17.0	20.5	---	13.5	---	13.0	10.0	11.5
13	28.0	21.5	25.0	23.0	19.0	21.0	15.5	10.5	13.0	14.0	11.0	12.5
14	29.0	22.5	25.5	24.0	17.5	21.0	16.0	10.0	13.5	13.5	9.5	11.5
15	29.0	21.5	25.0	24.0	18.0	21.0	17.5	11.5	14.5	13.0	9.0	11.5
16	29.5	22.5	26.0	22.0	18.0	20.0	17.5	13.5	15.5	12.0	9.0	11.0
17	27.5	23.5	25.5	23.0	18.5	20.5	16.5	13.5	15.0	12.5	10.0	11.0
18	29.0	23.0	25.5	23.0	19.0	21.0	17.5	13.5	15.5	11.0	8.5	10.0
19	29.5	23.0	26.0	23.5	18.0	20.5	15.5	13.0	14.0	9.5	7.5	8.5
20	29.5	23.0	26.0	21.5	18.0	19.5	14.5	11.0	13.0	9.5	7.0	8.0
21	28.0	23.0	26.0	19.0	16.5	18.0	16.0	11.0	13.5	9.0	6.0	7.5
22	29.5	23.0	26.0	20.5	14.5	17.5	15.5	11.0	13.5	9.5	5.5	7.5
23	29.5	23.5	26.0	19.5	16.0	18.0	14.5	11.5	13.5	12.5	9.0	10.5
24	27.5	22.5	25.0	21.5	15.5	18.5	13.5	10.0	11.5	12.5	8.5	11.0
25	28.5	23.0	25.5	22.0	16.5	19.0	13.0	9.0	11.0	11.5	9.0	9.5
26	27.0	22.5	25.0	22.5	16.5	19.5	13.0	10.0	11.5	10.0	7.5	8.5
27	29.5	22.0	25.5	21.5	17.5	19.5	15.0	9.5	12.0	7.5	4.5	6.0
28	30.0	22.5	26.5	21.0	17.5	19.0	14.5	11.0	13.0	8.0	5.0	6.5
29	29.0	23.0	26.0	22.5	16.0	19.5	13.5	10.0	11.5	9.5	5.5	7.5
30	27.5	22.0	25.0	23.5	17.0	20.5	12.5	8.0	10.5	9.0	6.5	8.0
31	27.0	22.5	25.0	23.0	18.5	21.0	---	---	---	6.5	4.0	5.5
Month	30.0	18.0	25.0	27.5	14.5	21.0	---	8.0	---	14.0	4.0	9.5

06115200 MISSOURI RIVER NEAR LANDUSKY, MT

Fort Peck Lake Basin
Fort Peck Reservoir Subbasin

LOCATION.--Lat 47°37′51″, long 108°41′13″ referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.31, T.22 N., R.24 E., Fergus County, MT, Hydrologic Unit 10040104, C. M. Russell National Wildlife Refuge, on right bank 380 ft upstream from bridge on U.S. Highway 191, 0.9 mi upstream from Armells Creek, 20 mi south of Landusky, and at river mile 1,921.61.

DRAINAGE AREA.--40,987 mi², area at site used prior to Dec. 13, 1968, 40,763 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1934 to current year. Prior to October 1968, published as "at powerplant ferry, near Zortman."

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,239.96 ft, referenced to the National Geodetic Vertical Datum of 1929 (State Highway bench mark). Prior to Feb. 7, 1935, nonrecording gage, and Feb. 7, 1935, to Dec. 12, 1968, water-stage recorder, at site 16.5 mi upstream at elevation 33.06 ft higher.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Flow is regulated by 24 smaller irrigation reservoirs and powerplants, Clark Canyon Reservoir (station number 06015300), Canyon Ferry Lake (station number 06058500), and Lake Elwell (station number 06101300). Diversions for irrigation include about 870,400 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter is located at the station.

06115200 MISSOURI RIVER NEAR LANDUSKY, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,280	5,450	e4,800	e5,200	e6,300	e6,500	6,600	7,370	14,900	6,470	4,830	4,610
2	5,340	5,580	e5,100	e5,300	e6,000	e6,200	6,510	7,570	15,400	6,470	4,820	4,580
3	5,180	5,520	e6,300	e5,000	e5,900	e6,200	6,520	7,840	14,500	6,340	4,750	4,420
4	5,120	5,500	e6,800	e5,300	e6,100	e6,300	6,560	8,200	13,400	6,190	4,720	4,320
5	5,120	5,470	e7,000	e6,200	e6,100	e6,400	6,280	9,160	12,800	5,960	4,650	4,480
6	5,140	5,650	e7,000	e7,100	e6,600	e7,100	6,170	9,080	12,300	5,730	4,630	4,600
7	5,560	5,940	e6,900	e6,900	e7,600	e7,700	6,190	9,680	12,000	5,570	4,680	4,390
8	5,710	5,610	e6,800	e6,000	e7,700	e8,400	6,090	9,830	11,400	5,850	4,740	4,500
9	5,250	5,420	e6,200	e4,300	e7,000	e8,900	5,980	9,380	13,900	5,430	4,660	4,400
10	5,360	5,440	e6,500	e4,700	e7,100	e8,100	5,900	8,810	16,100	5,660	4,760	4,570
11	5,300	5,270	e6,600	e5,500	e6,500	e7,400	5,950	8,470	14,000	5,810	4,570	4,460
12	5,330	5,370	e6,500	e6,300	e6,200	e6,900	6,130	8,460	12,400	5,760	4,850	4,480
13	5,410	5,630	e6,500	e6,500	e6,100	e7,400	6,260	8,560	11,600	5,610	4,570	4,400
14	5,390	5,610	e6,400	e5,900	e6,400	7,980	6,190	8,740	11,200	5,480	4,650	4,560
15	5,330	5,530	e6,100	e5,400	e5,900	7,720	6,160	8,590	11,000	5,460	4,910	4,420
16	5,360	5,520	e6,100	e6,000	e5,500	8,460	6,020	8,600	10,200	5,300	5,150	4,470
17	5,440	5,490	e6,100	e5,700	e5,500	7,580	6,110	9,000	10,500	5,330	4,660	4,480
18	5,560	5,590	e6,200	e6,500	e6,100	7,160	6,060	8,920	9,560	5,520	4,330	4,570
19	5,790	5,670	e5,700	e6,700	e6,700	6,680	6,830	8,720	9,290	5,430	4,610	4,630
20	5,600	5,600	e4,500	e6,900	e6,700	6,710	8,360	8,430	8,840	5,430	4,500	4,760
21	5,750	5,590	e4,200	e6,800	e6,900	6,490	8,360	8,120	8,840	5,380	4,420	4,620
22	5,620	5,520	e4,600	e7,000	e7,000	6,600	8,040	8,300	8,530	5,340	4,770	4,680
23	5,660	5,390	e5,400	e6,900	e6,600	6,460	7,750	9,580	8,030	5,300	4,480	4,630
24	5,680	5,540	e5,800	e6,600	e6,600	6,310	7,490	9,680	7,570	5,240	4,670	4,640
25	5,650	5,610	e5,900	e6,500	e6,700	6,290	7,360	10,200	7,670	5,110	4,570	4,720
26	5,600	5,790	e5,900	e6,600	e6,700	6,250	7,360	10,600	7,120	4,990	4,680	4,920
27	5,720	e5,900	e5,800	e6,800	e6,500	6,200	7,210	10,300	7,470	4,960	4,630	4,810
28	5,460	e5,300	e6,200	e6,800	e6,400	6,890	7,300	11,200	6,780	4,950	4,550	4,900
29	5,540	e4,700	e6,500	e6,600	---	6,510	7,360	11,400	6,700	4,910	4,820	4,800
30	5,560	e4,600	e6,200	e6,300	---	6,540	7,400	12,300	6,490	4,870	4,570	4,710
31	5,460	---	e6,200	e6,300	---	6,560	---	13,000	---	4,900	4,580	---
Total	169,270	164,800	186,800	190,600	181,400	216,890	202,500	288,090	320,490	170,750	144,780	137,530
Mean	5,460	5,493	6,026	6,148	6,479	6,996	6,750	9,293	10,680	5,508	4,670	4,584
Max	5,790	5,940	7,000	7,100	7,700	8,900	8,360	13,000	16,100	6,470	5,150	4,920
Min	5,120	4,600	4,200	4,300	5,500	6,200	5,900	7,370	6,490	4,870	4,330	4,320
Ac-ft	335,700	326,900	370,500	378,100	359,800	430,200	401,700	571,400	635,700	338,700	287,200	272,800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2007, BY WATER YEAR (WY)

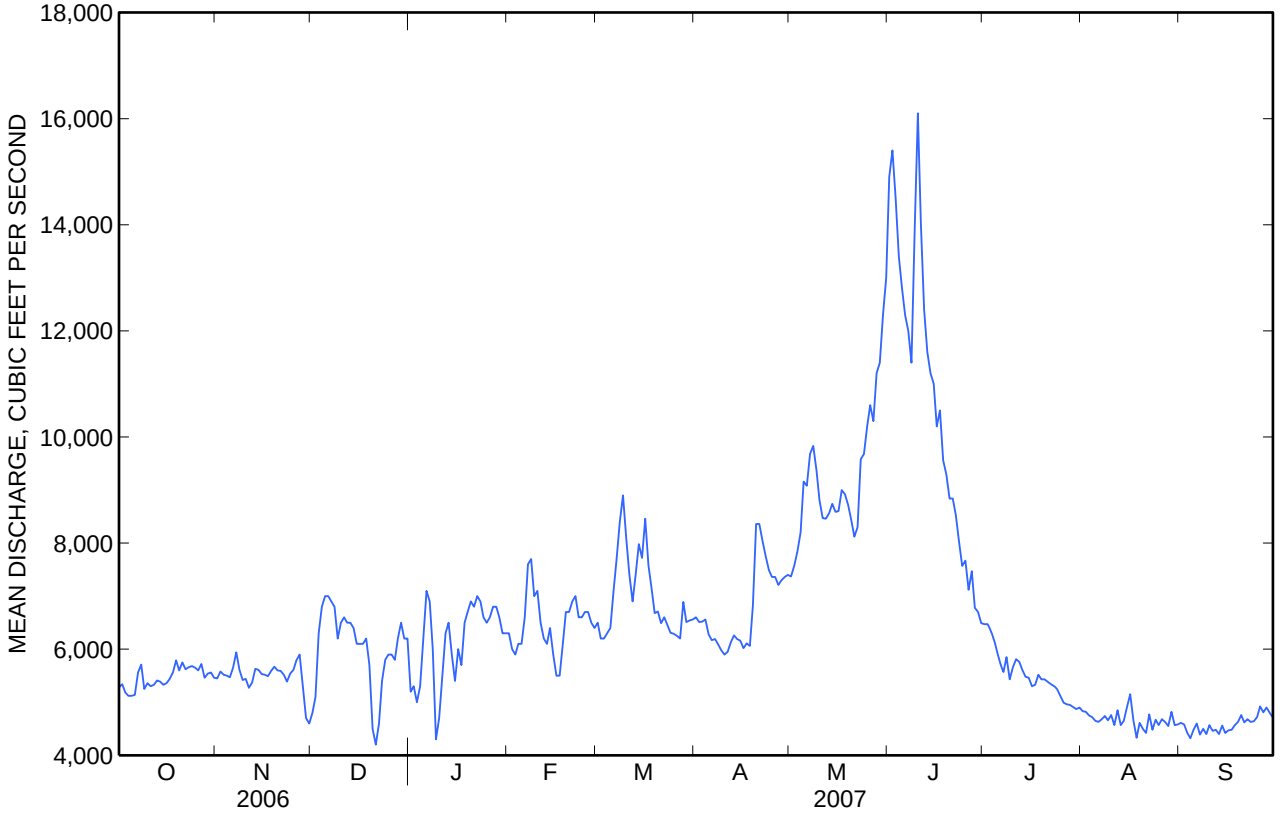
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,446	6,648	6,544	6,551	7,040	8,392	9,379	13,910	18,910	10,440	6,484	6,122
Max	16,480	13,920	13,180	10,840	11,380	19,700	19,240	30,510	55,270	33,590	12,620	12,310
(WY)	(1966)	(1966)	(1960)	(1979)	(1965)	(1978)	(1952)	(1975)	(1948)	(1975)	(1975)	(1965)
Min	3,270	3,581	3,121	2,805	2,511	4,313	4,338	4,860	4,939	3,956	2,075	2,501
(WY)	(1935)	(1938)	(1937)	(1937)	(1936)	(2002)	(1961)	(1992)	(1977)	(1940)	(1934)	(1934)

06115200 MISSOURI RIVER NEAR LANDUSKY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1934 - 2007	
Annual total	2,541,080		2,373,900			
Annual mean	6,962		6,504		8,927	
Highest annual mean					15,280	1975
Lowest annual mean					4,438	1937
Highest daily mean	20,900	Jun 14	16,100	Jun 10	136,000	Jun 6, 1953
Lowest daily mean	3,600	Feb 21	4,200	Dec 21	1,220	Dec 13, 1936
Annual seven-day minimum	4,670	Feb 18	4,440	Sep 3	1,620	Dec 9, 1936
Maximum peak flow			[a]16,600	Jun 10	[c]137,000	Jun 3, 1953
Maximum peak stage			[b]21.16	Mar 13	[b]34.17	Mar 22, 1978
Annual runoff (ac-ft)	5,040,000		4,709,000		6,467,000	
10 percent exceeds	10,300		8,860		15,500	
50 percent exceeds	5,840		6,090		7,180	
90 percent exceeds	5,230		4,630		4,450	

[a] Gage height, 18.94 ft.
[b] Backwater from ice.
[c] Gage height, 22.20 ft, from graph based on gage readings, site and datum then in use.



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Water-Data Report 2007

06119600 MUSSELSHELL RIVER NEAR MARTINSDALE, MT

Musselshell Basin
Upper Musselshell Subbasin

LOCATION.--Lat 46°28′37″, long 110°14′54″ referenced to North American Datum of 1927, in SW ¼ SW ¼ SE ¼ sec.5, T.8 N., R.12 E., Wheatland County, MT, Hydrologic Unit 10040201, on right bank at private road bridge, 1.7 mi downstream from confluence of North and South Forks, 3.2 mi northeast of Martinsdale, and at river mile 362.5.

DRAINAGE AREA.--538 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2003 to current season (seasonal records only).

REVISED RECORDS.-- Water Data Report MT-05-1: 2003; 2004, maximum discharge.

GAGE.--Water-stage recorder. Elevation of gage is 4,660 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Seasonal records are good except those for July 29 to Sept. 4, which are poor. Some regulation occurs by Bair and Martinsdale Reservoirs. Diversions for irrigation of about 21,900 acres occur upstream from station of which about 21,400 acres are flood irrigated. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06119600 MUSSELSHELL RIVER NEAR MARTINSDALE, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e28	26	117	138	19	8.9	3.8	13		
2			e30	29	118	123	21	8.5	3.1	13		
3			e33	26	118	117	20	8.6	2.4	13		
4			34	27	108	109	17	7.4	1.9	14		
5			36	27	83	97	16	7.6	3.0	16		
6			43	27	94	115	13	8.6	3.7	20		
7			87	25	82	134	14	8.9	4.4	21		
8			100	25	89	121	26	8.2	5.6	19		
9			99	23	118	103	16	8.2	5.7	17		
10			55	29	86	77	14	8.0	5.6	18		
11			44	26	113	70	13	7.9	6.1	20		
12			115	25	128	56	12	7.9	5.6	20		
13			239	24	132	74	12	7.0	5.6	22		
14			80	24	164	80	13	6.8	6.0	22		
15			40	22	149	79	15	6.1	6.4	22		
16			33	23	128	61	14	5.3	6.5	22		
17			30	24	132	66	15	5.2	6.6	22		
18			36	26	126	61	17	4.7	6.6	21		
19			30	40	124	50	15	4.8	7.1	20		
20			27	28	136	38	13	5.4	8.4	20		
21			25	23	180	32	11	5.1	8.6	19		
22			25	22	173	32	9.5	5.6	7.6	20		
23			26	38	137	35	9.2	5.5	8.8	19		
24			25	86	83	30	9.5	4.6	10	18		
25			25	89	78	31	12	2.9	10	19		
26			37	99	77	26	15	2.0	11	20		
27			40	106	70	24	15	2.1	11	21		
28			37	105	94	24	14	2.9	12	20		
29			33	122	126	24	14	4.1	12	20		
30			27	137	153	21	11	4.6	13	20		
31			26	---	136	---	9.8	3.9	---	20		
Total			1,545	1,353	3,652	2,048	445.0	187.3	208.1	591		
Mean			49.8	45.1	118	68.3	14.4	6.04	6.94	19.1		
Max			239	137	180	138	26	8.9	13	22		
Min			25	22	70	21	9.2	2.0	1.9	13		
Ac-ft			3,060	2,680	7,240	4,060	883	372	413	1,170		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 2003 - 2007

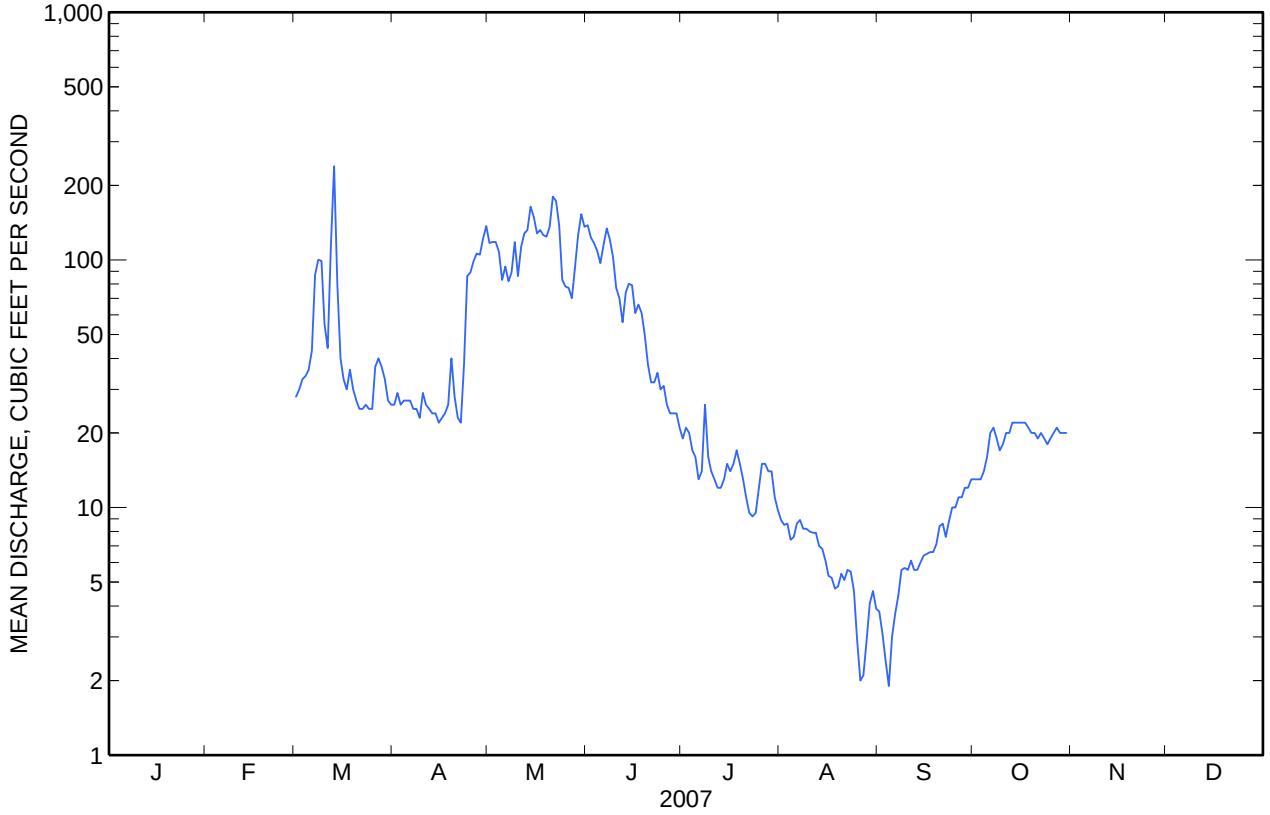
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			49.8	75.2	193	154	44.0	19.8	16.8	26.8		
Max			49.8	151	306	283	77.8	34.3	35.9	41.2		
(WY)			(2007)	(2006)	(2005)	(2005)	(2005)	(2005)	(2005)	(2006)		
Min			49.8	33.4	101	68.3	14.4	6.04	6.94	19.1		
(WY)			(2007)	(2004)	(2004)	(2007)	(2007)	(2007)	(2007)	(2007)		

06119600 MUSSELSHELL RIVER NEAR MARTINSDALE, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 2003 - 2007	
Highest daily mean	239	Mar 13	619	May 22, 2005
Lowest daily mean	1.9	Sep 4	1.9	Sep 4, 2007
Maximum peak flow	336	Mar 13	664	Jun 12, 2004
Maximum peak stage	3.39	Mar 13	4.35	Jun 12, 2004
Instantaneous low flow	1.5	Sep 8	[a]1.5	Aug 26, 2007

[a] Gage height, 1.63 ft.



06120500 MUSSELSHELL RIVER AT HARLOWTON, MT

Musselshell Basin
Upper Musselshell Subbasin

LOCATION.--Lat 46°25′48″, long 109°50′24″ referenced to North American Datum of 1927, in SW ¼ NW ¼ NW ¼ sec.27, T.8 N., R.15 E., Wheatland County, MT, Hydrologic Unit 10040201, on right bank, downstream of bridge on U.S. Highway 191, 1.0 mi southwest of Harlowton, 9.6 mi upstream from American Fork, and at river mile 327.8.

DRAINAGE AREA.--1,125 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1907 to November 1929; March 1930 to December 1932; April to August 1933; February 1934 to current year, seasonal record only for water year 2007. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- Water Supply Paper (WSP) 1309: 1912, 1915 (maximum discharge), 1918, 1925. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,171.46 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by Morrison and Maierle, Inc.). Prior to Dec. 8, 1937, nonrecording gages at site 1.2 mi downstream at different elevations. Dec. 8, 1937 to Aug. 26, 1955, nonrecording gage at previous bridge 50 ft downstream at elevation 2.0 ft higher. Aug. 27, 1955 to Apr. 9, 2003, water-stage recorder 350 ft downstream at same elevation.

REMARKS.--Seasonal records are good except those for estimated daily discharges, which are poor. Some regulation occurs by Bair and Martinsdale Reservoirs. Diversions for irrigation of about 21,900 acres occur upstream from station of which about 21,400 acres are flood irrigated. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06120500 MUSSELSHELL RIVER AT HARLOWTON, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	30					e47	45	134	163	75	41	4.0
2	30					e48	53	126	155	79	38	3.7
3	31					e50	53	127	154	78	35	3.5
4	35					e60	49	127	157	69	35	3.2
5	38					e70	52	110	152	64	36	3.8
6	40					e80	51	99	171	59	36	4.3
7	54					e100	49	100	226	114	33	5.5
8	62					e140	48	87	254	136	29	5.9
9	66					e130	53	102	212	93	22	6.9
10	66					e110	56	107	181	69	18	8.1
11	61					86	57	88	156	64	17	7.6
12	59					74	53	105	121	62	18	6.6
13	57					168	51	116	94	59	16	6.4
14	56					183	48	142	98	58	13	6.5
15	57					83	46	167	107	61	11	6.7
16	63					58	46	142	89	58	11	6.6
17	77					52	46	128	80	56	17	6.3
18	75					47	47	117	86	55	16	6.2
19	73					50	53	118	77	55	16	6.7
20	72					46	63	140	68	53	12	7.5
21	73					43	50	192	73	46	10	8.9
22	83					39	44	211	78	46	10	8.6
23	75					39	45	192	79	46	12	9.1
24	71					41	69	148	90	45	12	9.8
25	68					40	100	115	90	47	13	10
26	67					42	101	112	88	64	12	11
27	65					51	108	103	91	57	8.0	11
28	64					71	110	117	84	52	6.5	11
29	63					64	115	157	79	46	5.7	12
30	66					55	137	183	77	45	5.0	13
31	62					48	---	177	---	43	4.4	---
Total	1,859					2,215	1,898	4,089	3,630	1,954	568.6	220.4
Mean	60.0					71.5	63.3	132	121	63.0	18.3	7.35
Max	83					183	137	211	254	136	41	13
Min	30					39	44	87	68	43	4.4	3.2
Ac-ft	3,690					4,390	3,760	8,110	7,200	3,880	1,130	437

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	72.6	76.7	66.5	58.4	64.8	110	171	396	492	158	74.4	61.6
Max	226	176	206	250	190	500	632	1,957	2,467	751	292	290
(WY)	(1919)	(1942)	(1976)	(1918)	(1996)	(1918)	(1943)	(1917)	(1917)	(1975)	(1993)	(1993)
Min	0.00	0.00	0.00	0.00	10.0	20.4	22.1	11.8	27.9	0.84	0.00	0.00
(WY)	(1932)	(1932)	(1932)	(1932)	(1936)	(1935)	(1931)	(1931)	(1930)	(1936)	(1931)	(1931)

* During periods of operation (July 1907 to November 1929; March 1930 to December 1932; April to August 1933; February 1934 to current year, seasonal records only for 2007).

06120500 MUSSELSHELL RIVER AT HARLOWTON, MT—Continued

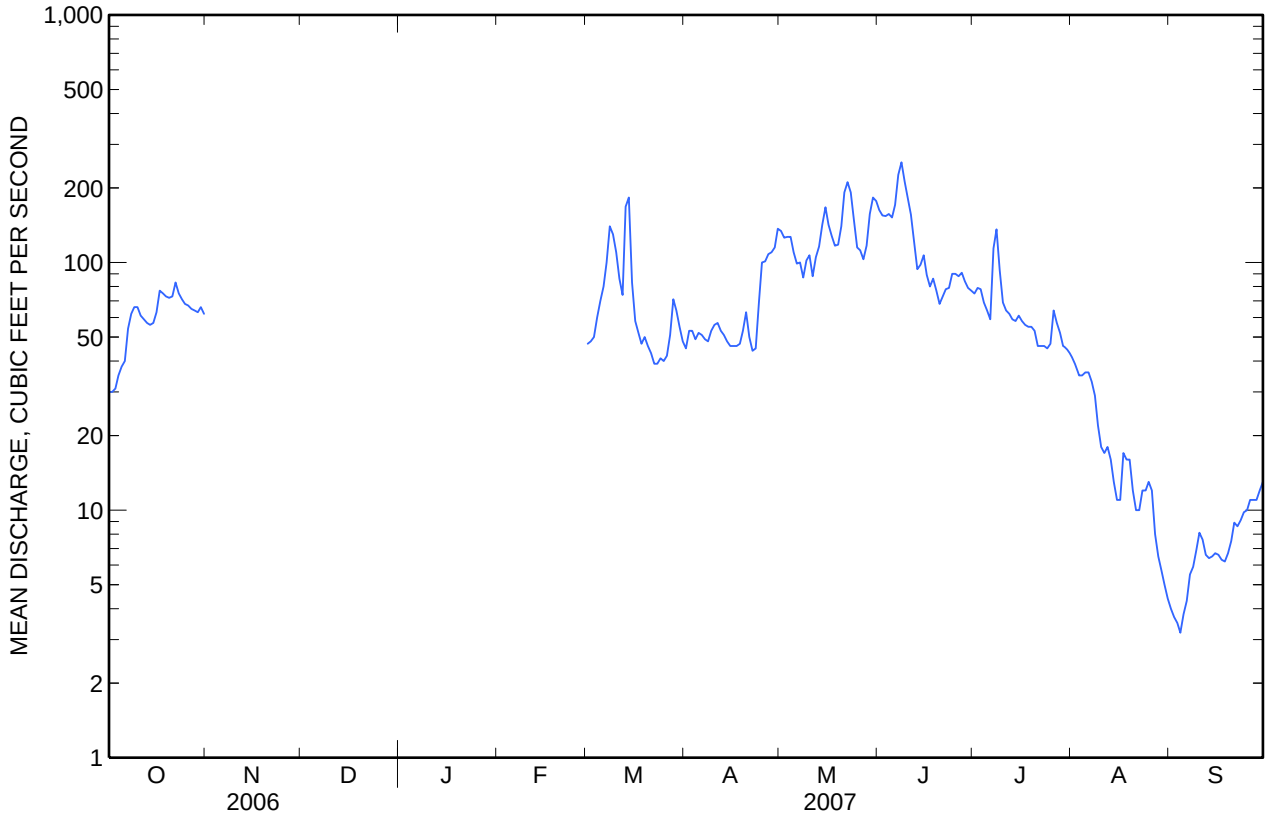
SUMMARY STATISTICS

	2007 Season		Water Years 1907 - 2007*	
Annual mean			153	
Highest annual mean			483	1917
Lowest annual mean			21.1	1935
Highest daily mean	254	Jun 8	6,200	Jun 20, 1975
Lowest daily mean	3.2	Sep 4	0.00	Aug 4, 1910
Annual seven-day minimum			0.00	Aug 4, 1910
Maximum peak flow	886	Jul 7	7,270	Jun 20, 1975
Maximum peak stage	5.04	Jul 7	[b]10.01	Jun 20, 1975
Instantaneous low flow	[a]3.0	Sep 4	0.01	Aug 29, 2001
Annual runoff (ac-ft)			110,900	
10 percent exceeds			349	
50 percent exceeds			74	
90 percent exceeds			25	

* During periods of operation (July 1907 to November 1929; March 1930 to December 1932; April to August 1933; February 1934 to current year, seasonal records only for 2007).

[a] Gage height, 2.35 ft.

[b]Previous site and same datum.



USGS
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Water-Data Report 2007

06123030 MUSSELSHELL RIVER ABOVE MUD CREEK, NEAR SHAWMUT, MT

Musselshell Basin
Upper Musselshell Subbasin

LOCATION.--Lat 46°19′07″, long 109°27′35″ referenced to North American Datum of 1927, in NE ¼ SW ¼ SW ¼ sec.34, T.7 N., R.18 E., Wheatland County, MT, Hydrologic Unit 10040201, on left bank at private road bridge, 14.1 mi downstream from diversion to Deadmans Basin Reservoir, 3.5 mi southeast of Shawmut, 3.7 mi west of Barber, and at river mile 294.8.

DRAINAGE AREA.--1,513 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1998 to current season (seasonal records only).

REVISED RECORDS.-- Water Data Report MT-03-1: 2002, maximum discharge.

GAGE.--Water-stage recorder. Elevation of gage is 3,780 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Seasonal records are good. Diversions for irrigation of about 27,000 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06123030 MUSSELSHELL RIVER ABOVE MUD CREEK, NEAR SHAWMUT, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				6.2	104	130	34	29	3.9	11		
2				9.6	99	122	33	27	3.4	11		
3				8.2	99	116	24	25	2.9	12		
4				7.3	96	112	23	25	2.5	13		
5				7.2	96	121	19	21	2.5	16		
6				7.1	85	113	14	24	2.4	22		
7				6.5	79	128	13	24	2.5	26		
8				6.3	76	143	57	29	2.6	32		
9				6.4	68	138	81	25	2.9	e30		
10				6.0	71	115	58	24	3.2	e22		
11				5.7	74	96	39	20	3.6	e20		
12				5.5	66	79	29	17	3.4	e20		
13				5.4	74	66	27	15	3.6	e28		
14				5.2	94	62	30	14	4.0	e32		
15				5.1	117	62	29	13	5.0	e32		
16				5.6	127	62	26	12	5.7	35		
17				5.4	108	58	20	11	5.1	38		
18				5.6	100	55	20	10	5.8	46		
19				7.6	104	90	27	12	7.2	46		
20				8.1	110	73	34	12	8.0	43		
21				6.6	171	64	27	11	9.0	42		
22				6.0	223	56	23	10	7.8	43		
23				6.3	246	53	21	10	8.4	43		
24				13	182	45	19	9.9	9.4	43		
25				46	135	49	18	9.8	9.7	44		
26				70	110	55	30	9.6	9.7	44		
27				70	101	63	44	8.9	9.9	45		
28				76	95	56	40	8.5	10	46		
29				78	96	44	37	7.3	10	47		
30				86	127	42	30	5.7	11	50		
31				---	135	---	31	4.5	---	48		
Total				587.9	3,468	2,468	957	484.2	175.1	1,030		
Mean				19.6	112	82.3	30.9	15.6	5.84	33.2		
Max				86	246	143	81	29	11	50		
Min				5.1	66	42	13	4.5	2.4	11		
Ac-ft				1,170	6,880	4,900	1,900	960	347	2,040		

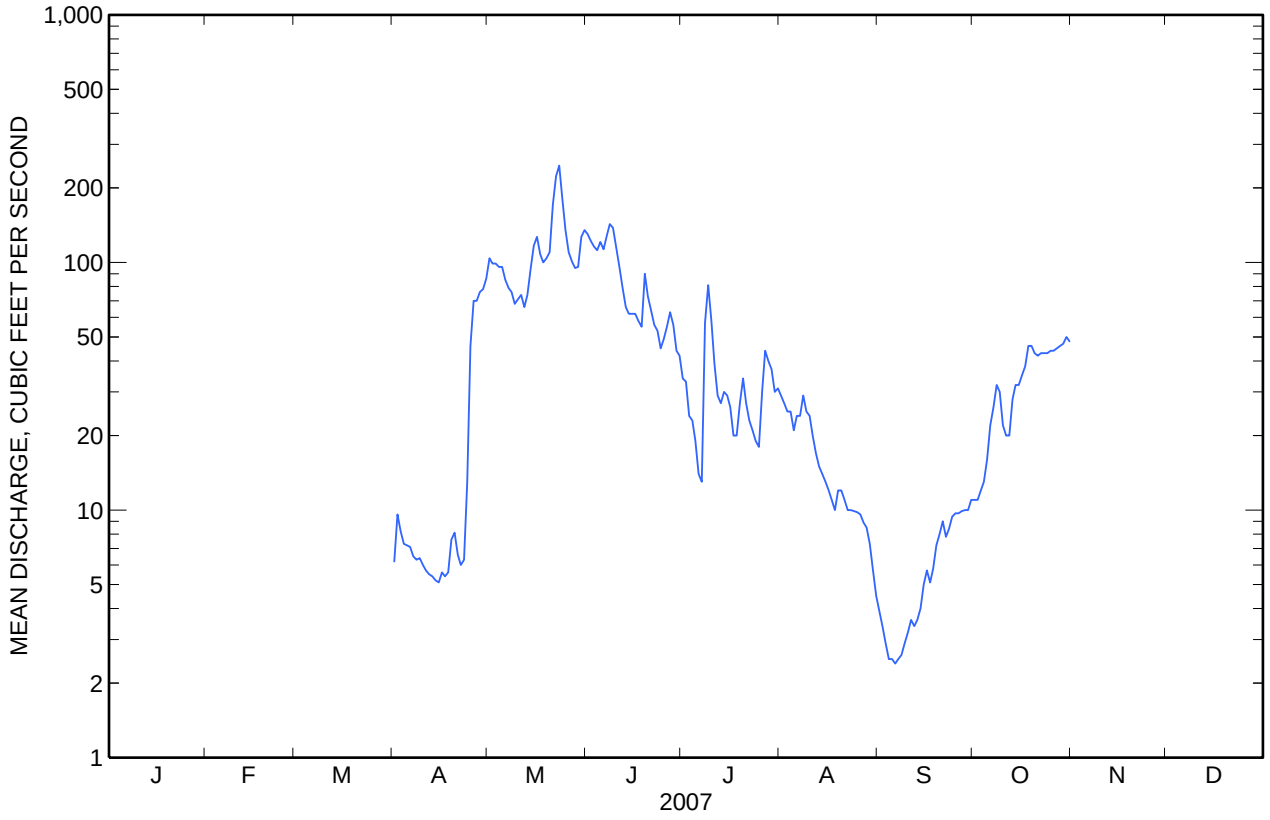
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1998 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				31.3	100	147	69.5	30.9	26.0	38.7		
Max				98.8	324	303	201	97.8	70.8	89.0		
(WY)				(2006)	(2005)	(2005)	(1998)	(1998)	(1998)	(2005)		
Min				3.91	8.96	14.4	9.88	1.68	1.38	3.48		
(WY)				(2002)	(2001)	(2000)	(2000)	(2000)	(2000)	(2002)		

06123030 MUSSELSHELL RIVER ABOVE MUD CREEK, NEAR SHAWMUT, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1998 - 2007	
Highest daily mean	246	May 23	924	May 22, 2005
Lowest daily mean	2.4	Sep 6	0.18	Sep 28, 2001
Maximum peak flow	256	May 23	980	Jun 28, 2005
Maximum peak stage	3.59	May 23	5.20	Jun 28, 2005



06126050 MUSSELSHELL RIVER NEAR LAVINA, MT

Musselshell Basin
Upper Musselshell Subbasin

LOCATION.--Lat 46°17′34″, long 108°53′31″ referenced to North American Datum of 1927, in SW ¼ SW ¼ SE ¼ sec.6, T.6 N., R.23 E., Golden Valley County, MT, Hydrologic Unit 10040201, on left bank, at private bridge 2.2 mi east of Lavina, 4.4 mi downstream from Big Coulee Creek, and at river mile 245.7.

DRAINAGE AREA.--2,970 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1992 to current year (seasonal record only).

GAGE.--Water-stage recorder. Elevation of gage is 3,400 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Seasonal records are fair. Some regulation occurs by Bair (station number 06116500), Martinsdale (station number 06119000), and Deadman's Basin (station number 06122500) Reservoirs. Diversions for irrigation of about 31,900 acres occurs upstream from station, of which about 29,700 acres is flood irrigated. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06126050 MUSSELSHELL RIVER NEAR LAVINA, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				18	79	257	257	93	30	14		
2				22	94	269	238	63	27	13		
3				27	87	252	295	64	26	13		
4				27	82	230	337	58	25	13		
5				26	82	197	322	55	25	16		
6				25	80	220	338	96	25	26		
7				24	77	256	360	88	22	32		
8				23	74	291	413	86	22	31		
9				22	80	321	481	83	23	29		
10				20	96	308	380	81	22	33		
11				19	101	251	339	95	21	29		
12				19	101	196	314	93	18	28		
13				19	100	145	323	87	17	27		
14				19	107	122	329	88	18	30		
15				17	129	122	336	115	17	36		
16				17	174	130	319	124	17	36		
17				17	182	182	303	129	16	38		
18				16	159	173	294	151	17	41		
19				23	183	161	288	165	19	44		
20				26	212	223	295	153	20	49		
21				22	229	183	299	140	22	47		
22				21	349	154	292	112	23	45		
23				20	397	113	276	102	22	45		
24				22	327	95	274	107	18	46		
25				20	277	77	244	87	16	46		
26				25	233	59	189	63	14	48		
27				59	176	159	223	57	12	50		
28				63	153	210	224	55	12	50		
29				70	150	254	217	52	12	52		
30				72	182	274	159	48	14	54		
31				---	237	---	111	28	---	55		
Total				820	4,989	5,884	9,069	2,818	592	1,116		
Mean				27.3	161	196	293	90.9	19.7	36.0		
Max				72	397	321	481	165	30	55		
Min				16	74	59	111	28	12	13		
Ac-ft				1,630	9,900	11,670	17,990	5,590	1,170	2,210		

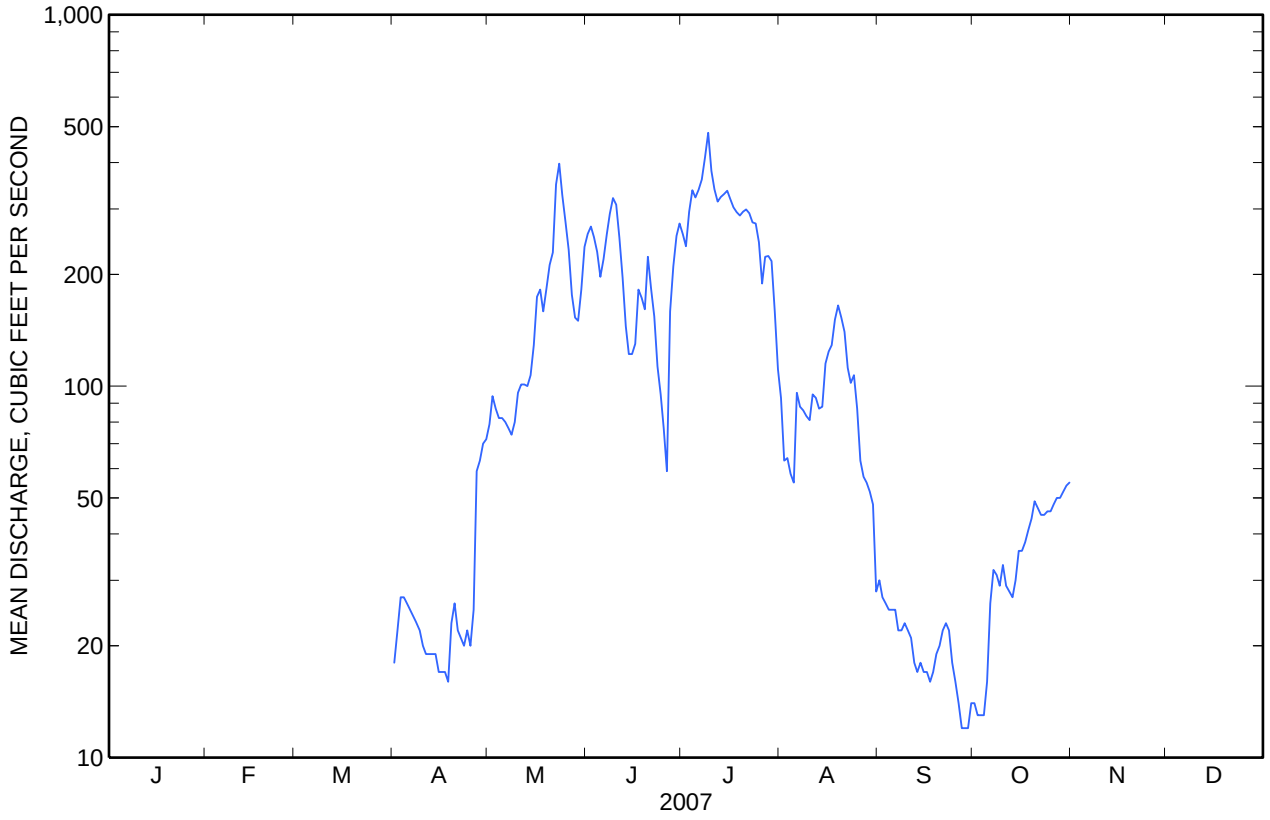
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1992 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				92.2	279	451	290	163	108	79.2		
Max				466	919	2,733	1,061	507	525	335		
(WY)				(1996)	(1997)	(1997)	(1997)	(1993)	(1993)	(1994)		
Min				4.39	36.7	67.8	35.8	3.00	2.22	0.87		
(WY)				(2004)	(2002)	(2001)	(2002)	(2002)	(2000)	(2002)		

06126050 MUSSELSHELL RIVER NEAR LAVINA, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1992 - 2007	
Highest daily mean	481	Jul 9	5,850	Jun 14, 1997
Lowest daily mean	12	Sep 27	0.00	Sep 26, 2001
Maximum peak flow	549	Jul 9	6,220	Jun 14, 1997
Maximum peak stage	4.07	Jul 9	11.13	Jun 14, 1997



06126500 MUSSELSHELL RIVER NEAR ROUNDUP, MT

Musselshell Basin
Middle Musselshell Subbasin

LOCATION.--Lat 46°25′41″, long 108°34′19″ referenced to North American Datum of 1927, in NW ¼ SE ¼ SE ¼ sec.22, T.8 N., R.25 E., Musselshell County, MT, Hydrologic Unit 10040202, on left bank 20 ft downstream from Halfbreed Creek, 0.1 mi upstream from bridge on U.S. Highway 87, 2.0 mi southwest of Roundup, and at river mile 211.6.

DRAINAGE AREA.--4,023 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1946 to current year. Monthly discharge only from October 1947 to September 1949, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1086: 1946. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,188.15 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Sept. 26, 1949, nonrecording gage at present site and elevation.

REMARKS.--Records are good except those for estimated daily discharge, which are poor. Some regulation occurs by Bair (station number 06116500), Martinsdale (station number 06119000) and Deadmans Basin (station number 06122500) Reservoirs. Diversions for irrigation include about 39,100 acres upstream from station, of which about 35,900 acres are flood irrigated. Several unpublished observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter is located at the station.

06126500 MUSSELSHELL RIVER NEAR ROUNDUP, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	41	e40	e15	e15	e15	e15	15	86	264	111	92	31
2	40	e35	e15	e20	e15	e10	18	97	287	111	73	30
3	45	e40	15	e20	e15	e10	23	112	273	126	50	26
4	47	e60	e15	e20	e15	e15	27	102	259	194	47	23
5	49	71	e15	e20	e20	e20	32	99	232	196	43	25
6	49	73	e15	e15	e20	e20	31	98	234	183	46	24
7	55	76	e20	e15	e20	e25	29	90	265	214	73	26
8	62	76	e25	e15	e15	e20	28	52	286	248	63	19
9	73	71	e25	e15	e15	e25	27	52	314	339	61	17
10	91	56	e25	e15	e15	e30	26	64	331	366	57	18
11	100	44	e25	e10	e15	e40	25	85	289	280	57	22
12	101	41	e25	e15	e15	50	24	91	239	254	69	20
13	96	41	e25	e15	e15	51	23	92	197	238	66	18
14	93	42	e25	e15	e15	55	23	97	165	252	60	16
15	91	41	e25	e15	e15	49	20	100	146	248	69	16
16	96	39	e20	e15	e15	34	22	126	139	242	83	16
17	110	40	e15	e10	e15	38	21	162	154	231	88	16
18	112	38	e15	e10	e15	31	21	156	155	213	86	15
19	116	e30	e20	e10	e15	25	28	148	138	205	99	14
20	118	e30	e20	e10	e15	22	31	180	133	202	106	16
21	116	e35	e20	e10	e15	17	34	203	138	221	105	20
22	112	e30	e20	e15	e15	16	29	316	117	220	95	20
23	109	e25	e20	e15	e15	13	28	445	102	213	83	22
24	113	e20	e20	e15	e15	9.7	28	418	91	195	86	23
25	112	e20	e20	e15	e15	7.9	28	306	78	202	90	20
26	107	e20	e20	e15	e15	7.9	29	277	66	149	72	16
27	101	e20	e20	e15	e15	8.2	32	218	62	151	57	14
28	78	e15	e20	e15	e15	9.2	70	188	102	160	54	13
29	71	e15	e20	e15	---	11	76	185	105	152	53	13
30	70	e15	e15	e15	---	12	84	197	118	147	50	12
31	e50	---	e15	e15	---	16	---	230	---	99	46	---
Total	2,624	1,199	610	455	435	712.9	932	5,072	5,479	6,362	2,179	581
Mean	84.6	40.0	19.7	14.7	15.5	23.0	31.1	164	183	205	70.3	19.4
Max	118	76	25	20	20	55	84	445	331	366	106	31
Min	40	15	15	10	15	7.9	15	52	62	99	43	12
Med	93	39	20	15	15	20	28	126	154	205	69	18
Ac-ft	5,200	2,380	1,210	902	863	1,410	1,850	10,060	10,870	12,620	4,320	1,150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2007, BY WATER YEAR (WY)

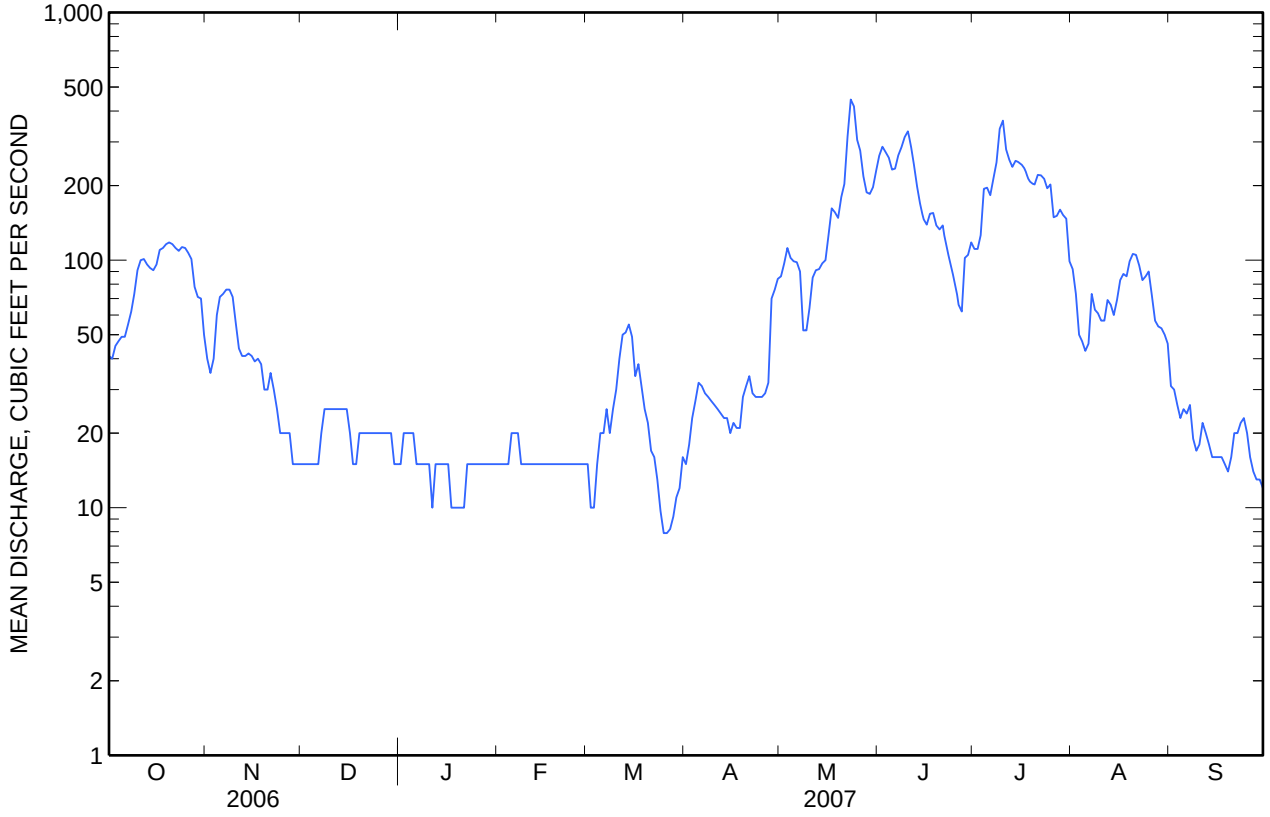
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	76.7	71.9	63.6	61.1	89.7	183	172	400	634	288	181	120
Max	335	242	283	222	414	1,281	788	1,811	4,315	1,308	563	504
(WY)	(1994)	(1994)	(1976)	(1976)	(1971)	(1978)	(1975)	(1976)	(1967)	(1975)	(1993)	(1993)
Min	1.43	3.99	3.65	5.29	5.82	6.81	1.77	30.0	36.6	14.5	2.11	0.01
(WY)	(2002)	(2002)	(2002)	(2002)	(1985)	(2002)	(2002)	(2002)	(2001)	(2002)	(2001)	(2002)

06126500 MUSSELSHELL RIVER NEAR ROUNDUP, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1947 - 2007	
Annual total	30,494.0		26,640.9			
Annual mean	83.5		73.0		[a]195	
Highest annual mean					608	1975
Lowest annual mean					17.6	2002
Highest daily mean	617	Jun 13	445	May 23	8,180	Jun 8, 1967
Lowest daily mean	9.0	Feb 17	7.9	Mar 25	0.00	Sep 4, 2002
Annual seven-day minimum	13	Feb 15	9.4	Mar 24	0.00	Sep 11, 2002
Maximum peak flow			469	May 23	[b]9,610	Jun 18, 1967
Maximum peak stage			2.71	May 23	[c]13.73	Mar 9, 1979
Annual runoff (ac-ft)	60,480		52,840		141,500	
10 percent exceeds	184		202		412	
50 percent exceeds	51		34		93	
90 percent exceeds	20		15		15	

[a] Median of yearly mean discharges, 179 ft³/s, 129,600 ac-ft/yr.
[b] Gage height, 12.45 ft.
[c] Ice jam.



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06127500 MUSSELSHELL RIVER AT MUSSELSHELL, MT

Musselshell Basin
Middle Musselshell Subbasin

LOCATION.--Lat 46°31′23″, long 108°06′30″ referenced to North American Datum of 1927, in SE ¼ SW ¼ SW ¼ sec.20, T.9 N., R.29 E., Musselshell County, MT, Hydrologic Unit 10040202, on left bank 0.9 mi upstream from Hawk Creek, 1 mi west of Musselshell, and at river mile 164.5.

DRAINAGE AREA.--4,568 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1928 to September 1932 (no records December to February for the water years 1930-31), August 1945 to September 1979, October 1982 to September 1983, October 1983 to current season (seasonal record only). Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,984.72 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 8, 1949, nonrecording gage located at site 1 mi downstream at different elevations.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Some regulation occurs by Bair (station number 06116500), Martinsdale (station number 06119000), and Deadman's Basin (station number 06122500) Reservoirs. Diversions for irrigation of about 44,600 acres occur upstream from station, of which about 39,400 acres is flood irrigated. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06127500 MUSSELSHELL RIVER AT MUSSELSHELL, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				14	80	213	65	82	43	14		
2				18	84	231	58	63	35	12		
3				25	93	250	55	53	28	11		
4				26	103	249	70	38	23	12		
5				29	94	245	109	29	19	15		
6				34	92	232	95	25	17	25		
7				35	90	251	90	16	24	30		
8				32	87	256	126	17	27	31		
9				28	52	274	142	24	27	32		
10				26	35	300	207	9.9	22	34		
11				24	52	309	207	13	19	33		
12				26	63	268	159	14	21	33		
13				25	59	227	152	18	24	35		
14				23	62	194	138	18	22	33		
15				24	64	170	150	18	19	33		
16				23	59	154	146	23	18	33		
17				22	83	158	150	34	16	38		
18				23	111	163	162	38	16	43		
19				31	110	156	143	46	13	43		
20				36	98	141	154	58	12	44		
21				35	125	139	142	70	14	44		
22				36	181	138	145	76	14	50		
23				35	321	113	143	75	18	50		
24				33	366	89	142	81	19	50		
25				32	344	85	142	72	23	51		
26				33	260	55	151	75	24	53		
27				33	226	38	129	70	22	53		
28				32	188	23	128	59	19	53		
29				57	169	52	132	51	17	55		
30				66	172	57	133	47	15	57		
31				---	175	---	128	45	---	59		
Total				916	4,098	5,230	4,093	1,357.9	630	1,159		
Mean				30.5	132	174	132	43.8	21.0	37.4		
Max				66	366	309	207	82	43	59		
Min				14	35	23	55	9.9	12	11		
Ac-ft				1,820	8,130	10,370	8,120	2,690	1,250	2,300		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 – 1983 AND SEASONS 1984 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	71.0	108	273	179	337	546	228	133	102	73.5	76.5	77.5
Max	222	460	1,356	859	1,670	4,223	1,376	534	477	328	236	269
(WY)	(1976)	(1971)	(1979)	(1975)	(1976)	(1967)	(1975)	(1993)	(1993)	(1994)	(1976)	(1976)
Min	0.00	0.04	12.7	1.05	0.36	0.49	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1932)	(1932)	(1932)	(2004)	(1931)	(1931)	(1930)	(1931)	(1931)	(1932)	(1932)	(1932)

* During periods of continuous operation 1928-29, 1931-32, 1945-70, 1982-83; seasonal records from October 1983 to current year.

06127500 MUSSELSHELL RIVER AT MUSSELSHELL, MT—Continued

SUMMARY STATISTICS

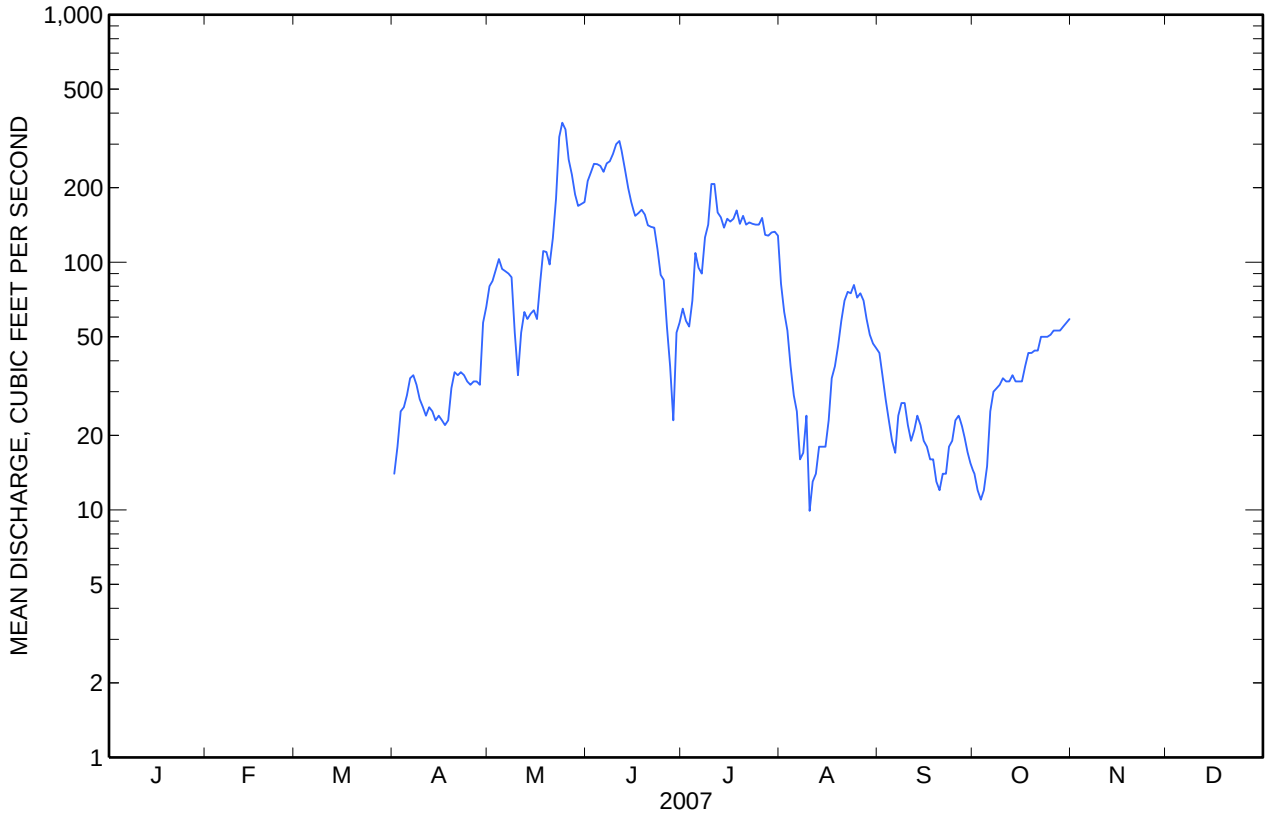
	2007 Season		Water Years 1929 – 1983*		Seasons 1984 – 2007**	
Annual mean			215			
Highest annual mean			609	1975		
Lowest annual mean			34.1	1961		
Highest daily mean	366	May 24	8,600	Jun 19, 1967	6,270	Jun 16, 1997
Lowest daily mean	9.9	Aug 10	0.00	Sep 1, 1929	0.00	Aug 14, 2001
Annual seven-day minimum			0.00	Sep 8, 1929		
Maximum peak flow	382	May 24	[a]9,850	Jun 16, 1967	6,420	Jun 16, 1997
Maximum peak stage	4.06	May 24	[b]12.96	Jun 6, 1979	11.25	Jun 16, 1997
Annual runoff (ac-ft)			155,800			
10 percent exceeds			464			
50 percent exceeds			105			
90 percent exceeds			24			

* During periods of continuous operation 1928-29, 1931-32, 1945-70, 1982-83.

** Seasonal records only from October 1983 to current year.

[a] Gage height, 11.57 ft.

[b] Ice jam.



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06130500 MUSSELSHELL RIVER AT MOSBY, MT

Musselshell Basin
Lower Musselshell Subbasin

LOCATION.--Lat 46°59′41″, long 107°53′18″ referenced to North American Datum of 1927, in SW ¼ NW ¼ NW ¼ sec.11, T.14 N., R.30 E., Petroleum County, MT, Hydrologic Unit 10040205, on right bank, downstream side of bridge on State Highway 20, 0.3 mi west of Mosby, 10.9 mi downstream from Flatwillow Creek, and at river mile 60.0.

DRAINAGE AREA.--7,846 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May to November 1929, March 1930 to September 1932, February 1934 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1559: 1935-36. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,493.23 ft, referenced to the National Geodetic Vertical Datum of 1929. Dec. 6, 1962 to Mar. 14, 1966, water-stage recorder at site 900 ft downstream at different elevation. Mar. 15, 1966 to Dec. 11, 1973, water-stage recorder and nonrecording gages at site 400 ft downstream at same elevation. Dec. 12, 1973 to Oct. 1, 1981, nonrecording gage at site 400 ft downstream at same elevation. Oct. 1, 1981 to July 25, 1995, water-stage recorder at site 400 ft upstream from bridge at elevation 2.67 ft higher. See WSP 2116 for history of changes prior to 1962.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Some regulation occurs by Bair (station number 06116500), Martinsdale (station number 06119000) and Deadmans Basin (station number 06122500) Reservoirs. Diversions for irrigation include about 47,000 acres upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06130500 MUSSELSHELL RIVER AT MOSBY, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	36	e25	e20	e15	e15	e20	28	108	2,480	182	55	33
2	37	e25	e20	e15	e15	e15	33	118	1,920	151	45	27
3	35	e30	e20	e20	e15	e15	42	123	1,350	135	38	25
4	36	e50	e25	e20	e15	e20	40	139	1,020	120	24	23
5	36	63	e25	e15	e20	e25	39	127	856	103	24	19
6	36	65	e25	e15	e20	e100	42	123	790	86	30	16
7	41	71	e25	e15	e15	768	45	114	813	76	22	14
8	42	70	e25	e15	e15	1,440	45	96	1,060	74	15	14
9	45	70	e25	e15	e15	674	52	90	1,360	66	8.4	12
10	47	71	e25	e15	e15	416	62	75	1,290	51	7.7	10
11	53	77	e25	e15	e15	356	56	58	1,050	51	6.2	11
12	60	73	e25	e15	e15	343	52	35	889	60	5.1	16
13	71	67	e25	e15	e15	257	49	26	802	98	6.7	16
14	84	56	e25	e15	e15	204	49	27	728	76	7.6	13
15	86	52	e25	e15	e15	217	44	33	671	68	5.3	11
16	87	46	e20	e15	e25	260	41	17	608	54	7.3	11
17	94	44	e15	e15	e20	197	38	12	699	43	6.0	14
18	100	43	e15	e15	e20	144	35	6.1	668	53	5.1	15
19	110	e45	e15	e15	e20	118	49	5.1	590	59	4.7	14
20	115	44	e15	e15	e25	95	175	6.4	538	72	5.0	12
21	135	41	e15	e15	e20	83	287	357	503	69	4.8	10
22	144	40	e15	e15	e20	70	164	325	460	60	4.3	9.5
23	125	42	e15	e15	e20	61	144	955	437	61	2.8	9.6
24	113	36	e15	e15	e20	53	123	1,630	406	52	21	11
25	109	e25	e15	e15	e20	46	144	1,440	369	59	38	10
26	105	e20	e20	e15	e20	40	133	1,980	326	62	45	11
27	105	e20	e20	e15	e20	36	123	1,360	279	66	46	14
28	106	e20	e20	e15	e20	38	123	1,270	252	71	49	16
29	104	e20	e15	e15	---	34	117	1,250	225	72	49	20
30	100	e20	e15	e15	---	28	116	1,020	203	57	40	20
31	e50	---	e15	e15	---	27	---	1,480	---	54	34	---
Total	2,447	1,371	620	475	505	6,200	2,490	14,405.6	23,642	2,361	662.0	457.1
Mean	78.9	45.7	20.0	15.3	18.0	200	83.0	465	788	76.2	21.4	15.2
Max	144	77	25	20	25	1,440	287	1,980	2,480	182	55	33
Min	35	20	15	15	15	15	28	5.1	203	43	2.8	9.5
Ac-ft	4,850	2,720	1,230	942	1,000	12,300	4,940	28,570	46,890	4,680	1,310	907

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	77.8	77.1	67.9	72.9	164	436	273	503	842	305	108	108
Max	478	337	278	376	1,858	4,658	1,917	3,772	4,967	2,153	870	787
(WY)	(1994)	(1994)	(1979)	(1997)	(1971)	(1978)	(1979)	(1975)	(1967)	(1975)	(1993)	(1986)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91	0.00	0.00	0.00
(WY)	(1932)	(1932)	(1931)	(1932)	(1932)	(1932)	(2003)	(1931)	(1935)	(1961)	(1934)	(1934)

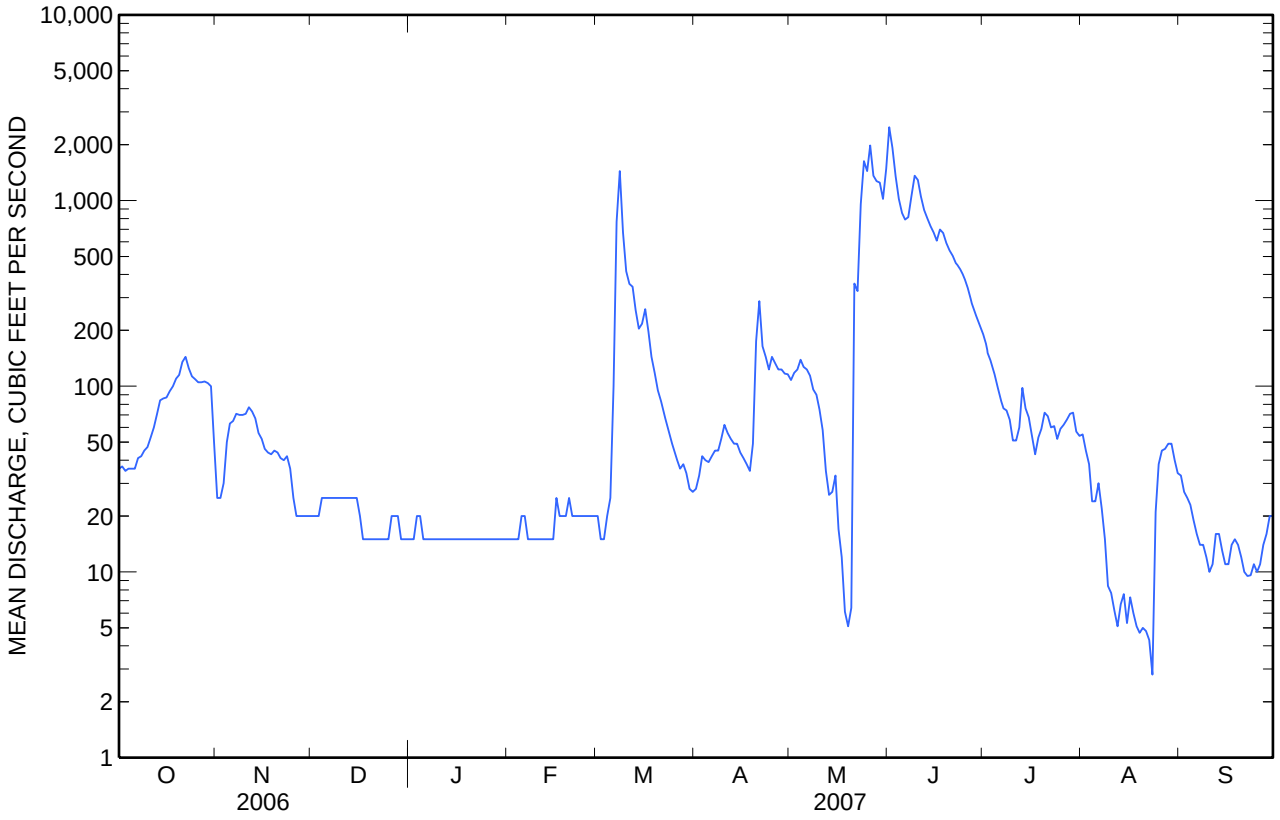
* During periods of operation (1931-32, 1935 to current year).

06130500 MUSSELSHELL RIVER AT MOSBY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1931 - 2007*	
Annual total	24,348.23		55,635.7			
Annual mean	66.7		152		[a]255	
Highest annual mean					1,089	1978
Lowest annual mean					8.12	2002
Highest daily mean	904	Apr 7	2,480	Jun 1	15,700	Jun 18, 1944
Lowest daily mean	0.00	Aug 9	2.8	Aug 23	0.00	Oct 1, 1930
Annual seven-day minimum	0.00	Aug 9	4.7	Aug 17	0.00	Oct 1, 1930
Maximum peak flow			2,740	Jun 1	[b]18,000	Jun 18, 1944
Maximum peak stage			7.35	Jun 1	[c]15.10	Mar 12, 1979
Annual runoff (ac-ft)	48,290		110,400		184,500	
10 percent exceeds	180		410		550	
50 percent exceeds	35		38		79	
90 percent exceeds	14		14		0.10	

* During periods of operation (1931-32, 1935 to current year).
[a] Median of yearly discharges, 173 ft³/s, 125,300 ac-ft/yr.
[b] Gage height, 14.43 ft, from rating curve extension above 10,000 ft³/s.
[c] From floodmark, backwater from ice.



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06131200 NELSON CREEK NEAR VAN NORMAN, MT

Fort Peck Lake Basin
Fort Peck Reservoir Subbasin

LOCATION.--Lat 47°32′08″, long 106°09′11″ referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.36, T.21 N., R.43 E., McCone County, MT, Hydrologic Unit 10040104, on left bank at downstream side of bridge on State Highway 24, 1.5 mi upstream from Fort Peck Lake, and 19 mi northeast of Van Norman.

DRAINAGE AREA.--100.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1975 to September 1985, February 2000 to September 2004, October 2006 to September 2007.

GAGE.--Water-stage recorder. Elevation of gage is 2,300 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversions for irrigation of about 163 acres occur upstream from station of which about 158 acres are flood irrigated. Some storage in stock ponds upstream. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06131200 NELSON CREEK NEAR VAN NORMAN, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	e0.00	e0.00	0.00	0.00	e0.50	0.54	0.02	11	0.00	0.00	0.00
2	0.00	e0.00	e0.00	0.00	0.00	e0.00	0.36	0.01	2.5	0.00	0.00	0.00
3	0.00	e0.00	0.00	0.00	0.00	e0.50	0.29	0.01	1.0	0.00	0.00	0.00
4	0.00	e0.00	0.00	0.00	0.00	e2.0	0.26	0.15	0.48	0.00	0.00	0.00
5	0.00	e0.00	0.00	0.00	0.00	e10	0.22	0.40	0.37	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	e60	0.19	0.31	0.34	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	e30	0.16	0.71	0.23	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	24	0.13	0.61	0.17	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	7.1	0.12	0.41	0.11	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	3.5	0.14	0.23	0.07	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	4.5	0.17	0.18	0.05	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.78	0.15	0.13	0.03	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.53	0.18	0.10	0.02	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.44	0.20	0.12	0.03	0.00	0.00	0.00
15	0.00	e0.00	0.00	0.00	0.00	0.35	0.20	0.10	0.02	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	e0.00	0.26	0.15	0.11	0.01	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	e0.50	0.22	0.11	0.08	34	0.00	0.00	0.00
18	0.00	e0.00	0.00	0.00	e2.0	0.20	0.08	0.19	1.1	0.00	0.00	0.00
19	0.00	e0.00	0.00	0.00	e6.0	0.16	0.06	0.12	0.18	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	e20	0.14	0.15	0.09	0.02	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	e50	0.13	0.17	0.10	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	e25	0.14	0.12	0.11	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	e10	0.14	0.13	14	0.00	0.00	0.00	0.00
24	0.00	e0.00	0.00	0.00	e5.0	0.11	0.09	10	0.00	0.00	0.00	0.00
25	0.00	e0.00	0.00	0.00	e2.0	0.09	0.07	49	28	0.00	0.00	0.00
26	0.00	e0.00	0.00	0.00	e1.0	0.08	0.07	21	1.3	0.00	0.00	0.00
27	0.00	e0.00	0.00	0.00	e0.50	0.07	0.07	3.5	0.19	0.00	0.00	0.00
28	0.00	e0.00	0.00	0.00	e0.00	0.09	0.05	1.1	0.01	0.00	0.00	0.00
29	0.00	e0.00	0.00	0.00	---	0.27	0.04	0.50	0.00	0.00	0.00	0.00
30	e0.00	e0.00	0.00	0.00	---	0.59	0.03	0.43	0.00	0.00	0.00	0.00
31	e0.00	---	0.00	0.00	---	0.70	---	29	---	0.00	0.00	---
Total	0.00	0.00	0.00	0.00	122.00	147.59	4.70	132.82	81.23	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	4.36	4.76	0.16	4.28	2.71	0.00	0.00	0.00
Max	0.00	0.00	0.00	0.00	50	60	0.54	49	34	0.00	0.00	0.00
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00
Ac-ft	0.00	0.00	0.00	0.00	242	293	9.3	263	161	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.15	0.02	0.02	0.33	2.32	5.44	2.89	1.56	1.68	2.26	1.15	1.02
Max	1.47	0.14	0.15	2.90	19.0	37.4	39.9	13.1	5.64	16.0	9.37	15.4
(WY)	(1982)	(1979)	(1976)	(1983)	(1982)	(1978)	(1979)	(1978)	(1977)	(1978)	(1981)	(1978)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00
(WY)	(1977)	(1977)	(1977)	(1977)	(1978)	(2002)	(2000)	(2001)	(1981)	(1980)	(1977)	(1976)

* During periods of operation (October 1975 to September 1985, February 2000 to September 2004, October 2006 to September 2007).

06131200 NELSON CREEK NEAR VAN NORMAN, MT—Continued

SUMMARY STATISTICS

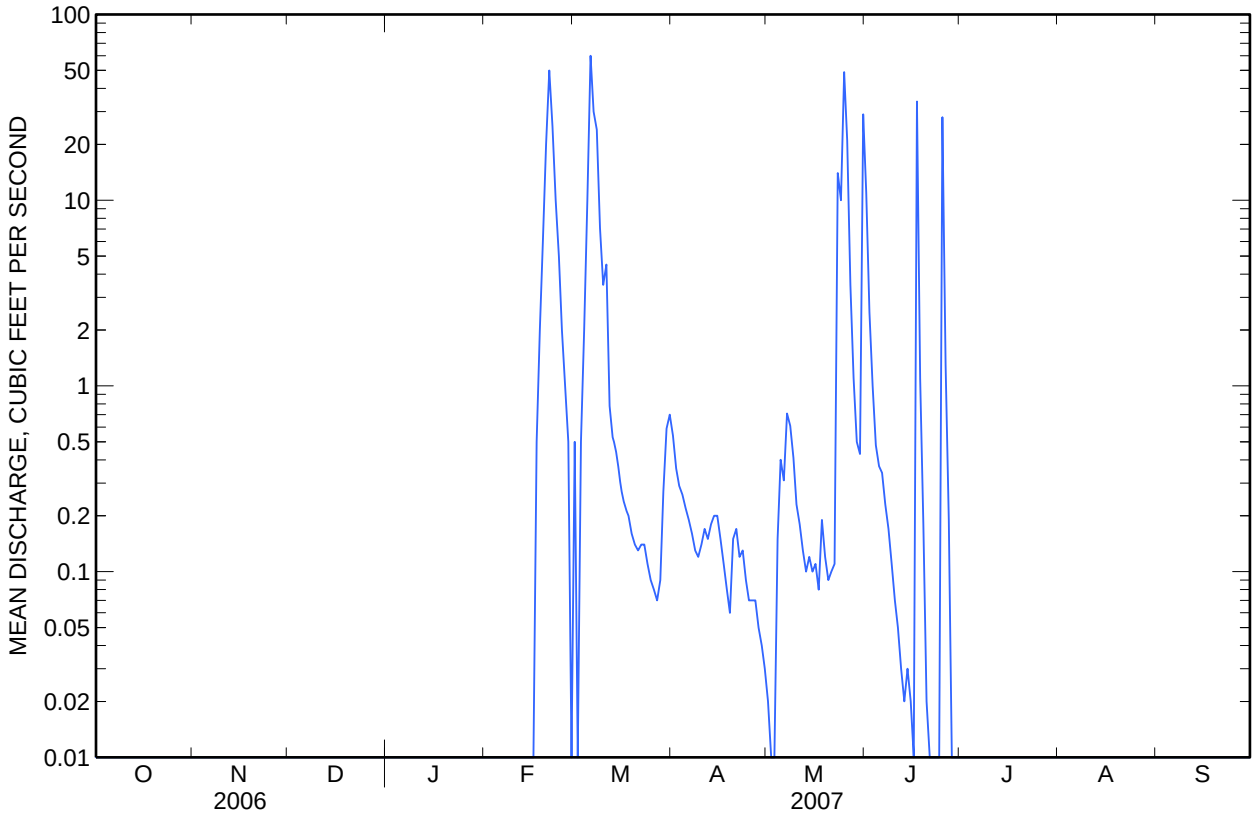
	Water Year 2007		Water Years 1976 - 2007*	
Annual total	488.34			
Annual mean	1.34		1.62	
Highest annual mean			7.57	1978
Lowest annual mean			0.14	1980
Highest daily mean	60	Mar 6	445	Jul 4, 1978
Lowest daily mean	0.00	Oct 1	0.00	Oct 1, 1975 [c]
Annual seven-day minimum	0.00	Oct 1	0.00	Oct 1, 1975
Maximum peak flow	[a]202	May 25	1,750	Jul 4, 1978
Maximum peak stage	[b]6.68	Mar 5	9.30	Jul 4, 1978
Instantaneous low flow	0.00	Oct 1	0.00	Oct 1, 2006
Annual runoff (ac-ft)	969		1,170	
10 percent exceeds	0.56		1.0	
50 percent exceeds	0.00		0.00	
90 percent exceeds	0.00		0.00	

* During periods of operation (October 1975 to September 1985, February 2000 to September 2004, October 2006 to September 2007).

[a] Gage height, 5,36 ft.

[b] Backwater from ice.

[c] No flow at times most years.



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06131500 FORT PECK LAKE AT FORT PECK, MT

Fort Peck Lake Basin
Fort Peck Reservoir Subbasin

LOCATION.--Lat 48°00′26″, long 106°23′49″ referenced to North American Datum of 1927, in sec.14, T.26 N., R.41 E., McCone County, MT, Hydrologic Unit 10040104, in No. 4 emergency gate shaft of Fort Peck Dam on Missouri River at Fort Peck, 2 mi downstream from Bear Creek, 9.5 mi southwest of Nashua, 9.5 mi upstream from Milk River, and at river mile 1,771.6.

DRAINAGE AREA.--57,500 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1937 to current year. (Monthend contents only, except October 1938 to September 1940, when elevations were included.) Monthend contents for October 1937 to August 1938, published only in Water Supply Paper (WSP) 1309. Daily elevations and contents for May to June 1964, published in WSP 1840-B. Prior to October 1970, published as "Fort Peck Reservoir." Daily elevations are on file at the USGS Water Science Center located in Helena, Montana.

REVISED RECORDS.-- WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Prior to May 1, 1941, nonrecording gage at same site and elevation. Elevation of gage is 2095.00 ft, referenced to the National Geodetic Vertical Datum of 1929.

COOPERATION.--Elevations and capacity table furnished by U.S. Army Corps of Engineers.

REMARKS.--Reservoir is formed by earthfill dam completed in 1939; storage began in 1937. The following capacity figures are from capacity table effective July 1, 1973; see previous reports for superseded figures. Total capacity is 18,910,000 acre-ft between elevation 2,095.00 ft, invert of lower ring gates, and 2,250.00 ft, top of 25 ft gates. Elevation of spillway crest is 2,225.00 ft. Normal operating level is 17,930,000 acre-ft, elevation, 2,246.00 ft. Dead storage is 542,800 acre-ft below elevation 2,095.00 ft. Minimum operating level is 4,283,000 acre-ft, elevation, 2,160.00 ft, for on-site power generation. Figures given herein represent total contents; usable contents published in previous water-supply papers for October 1950 to September 1955. Water is used for navigation, recreation, flood control, and power generation. Elevations materially affected by wind.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 19,310,000 acre-ft, July 15-17, 1975, elevation, 2,251.6 ft; minimum since first filling, 5,061,000 acre-ft, Jan. 25, 26, 1956, elevation, 2,167.67 ft, by capacity table used Mar. 1, 1940, to Dec. 31, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,482,000 acre-ft, July 6, elevation, 2,203.21 ft; minimum, 8,440,000 acre-ft, Mar. 4, elevation, 2,196.23.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2006 TO SEPTEMBER 2007

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2,202.57	9,384,000	--
October 31	2,202.48	9,370,000	-14,000
November 30	2,201.26	9,184,000	-186,000
December 31	2,199.43	8,909,000	-275,000
Calendar Year 2006	--	--	-319,000
January 31	2,197.51	8,626,000	-283,000
February 28	2,196.30	8,451,000	-175,000
March 31	2,197.52	8,627,000	+176,000
April 30	2,198.75	8,808,000	+181,000
May 31	2,200.76	9,108,000	+300,000
June 30	2,203.12	9,468,000	+360,000
July 31	2,202.33	9,347,000	-121,000
August 31	2,200.89	9,128,000	-219,000
September 30	2,200.32	9,042,000	-86,000
Water Year 2007	--	--	-342,000

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06132000 MISSOURI RIVER BELOW FORT PECK DAM, MT

Missouri-Poplar Basin
Prarie Elk-Wolf Subbasin

LOCATION.--Lat 48°02′39″, long 106°21′21″ referenced to North American Datum of 1927, in NW ¼ sec.6, T.26 N., R.42 E., McCone County, MT, Hydrologic Unit 10060001, on right bank 2 mi upstream from Milk River, 6 mi south of Nashua, 8 mi downstream from Fort Peck Dam, and at river mile 1,763.5.

DRAINAGE AREA.--57,556 mi².

SURFACE-WATER RECORDS

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

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,018 ft, referenced to the National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Apr. 14, 1938, at site 0.7 mi upstream at different elevation; Apr. 14, 1938, to Sept. 30, 1963, at present site at elevation 2.00 ft higher, all water-stage recorders. Since Oct. 1, 1969, published discharge is determined by flow meters and spillway discharge at Fort Peck Dam.

COOPERATION.--Records since Oct. 1, 1969, are furnished by U.S. Army Corps of Engineers; 2 to 4 discharge measurements are made each year and the records are reviewed by the U.S. Geological Survey. Records for March 1934 to September 1969 collected and computed by the U.S. Geological Survey.

REMARKS.--Flow is completely regulated by Fort Peck Dam. Diversions for irrigation of about 880,400 acres occur upstream from station. Operational level in Fort Peck Lake was reached beginning 1944 water year. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,000 ft³/s including 32,000 ft³/s inflow from spillway 1 mi downstream from station, Aug. 8, 1946; maximum gage height observed, 12.30 ft, Mar. 10, 1936 (ice jam), site and elevation then in use; maximum daily reverse flow, 400 ft³/s, Mar. 29, 1943, backwater from Milk River.

06132000 MISSOURI RIVER BELOW FORT PECK DAM, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,500	5,800	9,200	10,200	10,700	8,400	5,900	5,600	6,700	5,700	7,200	6,900
2	5,800	5,900	8,600	9,700	10,600	8,700	6,100	5,800	7,200	6,000	6,900	7,000
3	5,800	5,900	8,500	9,700	10,600	8,000	4,800	6,500	7,100	6,100	6,900	7,000
4	6,400	5,700	8,800	9,400	11,100	7,400	5,100	6,800	7,300	5,900	6,900	7,000
5	5,700	5,800	8,800	10,300	11,000	5,800	5,200	6,600	6,900	5,800	6,900	7,000
6	5,500	6,000	9,300	10,200	10,400	5,500	4,200	6,800	6,800	6,700	7,300	7,000
7	5,600	5,900	9,000	10,500	10,800	5,700	4,000	6,600	7,000	6,700	6,900	6,900
8	5,600	6,700	9,300	10,100	11,300	5,800	4,100	7,000	5,800	6,800	7,100	6,700
9	5,900	7,200	8,900	9,400	10,900	6,000	4,100	6,600	5,800	6,800	6,900	6,900
10	5,800	7,340	9,200	9,500	10,300	6,100	4,200	6,200	5,800	6,800	7,000	6,900
11	5,800	6,940	9,200	10,400	10,500	5,770	4,000	6,900	6,100	6,900	6,900	5,700
12	5,700	7,030	9,600	9,100	10,300	6,000	4,000	8,200	5,900	6,900	6,800	5,100
13	5,900	7,020	10,300	9,700	11,700	7,300	4,100	7,300	4,900	6,500	6,900	4,000
14	6,100	7,000	9,700	10,100	11,800	6,100	3,900	7,000	5,600	6,900	7,000	4,100
15	5,800	7,000	10,200	9,800	11,600	5,900	4,100	7,600	5,800	6,700	7,100	4,000
16	5,500	7,400	10,200	9,500	11,600	5,800	4,000	6,900	5,800	6,900	7,000	4,000
17	5,500	7,500	10,400	9,300	11,200	6,100	4,100	6,600	5,900	7,500	7,100	4,000
18	5,600	7,700	9,800	9,400	11,200	6,100	3,900	6,300	5,800	7,000	7,000	4,000
19	6,000	7,800	8,700	9,600	10,700	6,200	3,900	6,500	5,800	7,100	7,000	4,000
20	6,100	8,300	8,500	10,000	11,400	6,200	4,000	6,500	5,800	6,800	6,900	3,800
21	5,600	8,100	8,900	9,800	11,400	6,300	4,000	6,900	5,800	6,900	6,900	4,100
22	5,500	7,800	9,900	10,700	11,700	6,100	4,000	7,000	5,800	6,800	7,100	3,900
23	6,300	7,900	10,100	10,800	11,300	5,800	4,100	6,700	5,800	7,000	6,900	4,000
24	5,800	7,600	10,000	10,700	8,800	5,800	4,000	7,200	5,700	6,900	6,800	4,100
25	5,600	7,600	9,500	11,000	9,000	5,800	3,900	6,600	5,700	6,800	6,900	3,900
26	5,900	7,800	9,900	10,800	9,000	5,900	3,900	7,100	6,000	6,900	7,100	4,000
27	6,000	7,700	10,200	10,500	8,800	5,900	4,100	6,900	5,900	7,100	7,100	4,000
28	5,300	8,300	10,100	10,700	8,600	5,900	3,900	7,200	6,200	7,000	7,000	4,000
29	5,200	7,800	9,800	10,800	---	6,200	4,000	6,700	6,200	6,900	6,800	4,100
30	5,200	8,600	10,200	10,700	---	5,700	4,900	7,000	5,800	6,900	6,900	4,000
31	5,200	---	9,600	10,600	---	6,100	---	6,800	---	7,000	7,000	---
Total	177,200	215,130	294,400	313,000	298,300	194,370	128,500	210,400	182,700	208,700	216,200	152,100
Mean	5,716	7,171	9,497	10,100	10,650	6,270	4,283	6,787	6,090	6,732	6,974	5,070
Max	6,400	8,600	10,400	11,000	11,800	8,700	6,100	8,200	7,300	7,500	7,300	7,000
Min	5,200	5,700	8,500	9,100	8,600	5,500	3,900	5,600	4,900	5,700	6,800	3,800
Ac-ft	351,500	426,700	583,900	620,800	591,700	385,500	254,900	417,300	362,400	414,000	428,800	301,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,820	8,821	9,097	9,727	9,659	7,293	7,143	8,416	8,569	9,782	11,580	11,150
Max	28,800	21,150	13,330	14,010	15,240	13,390	17,230	18,830	26,190	35,030	26,180	27,120
(WY)	(1956)	(1998)	(1944)	(1971)	(1979)	(1982)	(1979)	(1979)	(1975)	(1975)	(1955)	(1948)
Min	3,016	2,085	1,490	1,390	1,180	1,050	856	950	832	1,163	3,449	2,997
(WY)	(1994)	(1947)	(1946)	(1946)	(1945)	(1944)	(1945)	(1944)	(1944)	(1945)	(1963)	(1992)

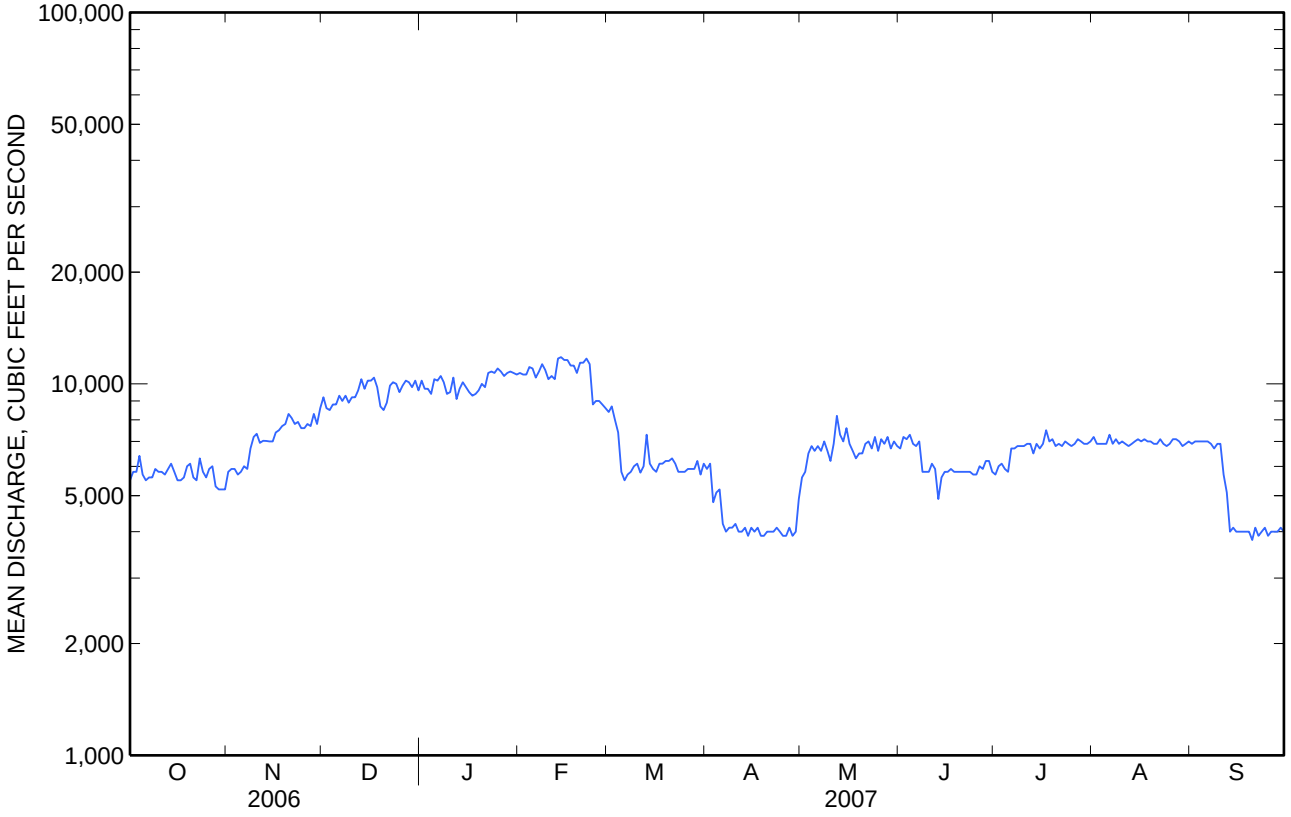
* Period of record after operational level in Fort Peck Lake was reached.

06132000 MISSOURI RIVER BELOW FORT PECK DAM, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1944 - 2007*	
Annual total	2,659,550		2,591,000			
Annual mean	7,286		7,099		9,339	
Highest annual mean					14,950	1975
Lowest annual mean					5,313	1963
Highest daily mean	10,400	Dec 17	11,800	Feb 14	35,400	Jul 7, 1975
Lowest daily mean	4,500	Jun 15	3,800	Sep 20	16	Apr 6, 1978
Annual seven-day minimum	5,120	Apr 1	3,970	Sep 16	161	Mar 26, 1944
Instantaneous low flow					161	Mar 26, 1944
Annual runoff (ac-ft)	5,275,000		5,139,000		6,766,000	
10 percent exceeds	8,600		10,300		14,600	
50 percent exceeds	7,800		6,900		8,180	
90 percent exceeds	5,500		4,100		4,130	

* Period of record after operational level in Fort Peck Lake was reached.



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06132200 SOUTH FORK MILK RIVER NEAR BABB, MT

Milk Basin
Milk Headwaters Subbasin

LOCATION.--Lat 48°45'14", long 113°10'00" referenced to North American Datum of 1927, in NE ¼ NW ¼ NW ¼ sec.34, T.35 N., R.12 W., Glacier County, MT, Hydrologic Unit 10050001, Blackfeet Indian Reservation, on right bank 0.4 mi upstream from bridge on FAS 464 ("Duck Lake Road"), 14.4 mi southeast of Babb, 15.2 mi northwest of Browning, and at river mile 17.3.

DRAINAGE AREA.--70.4 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1961 to current season (seasonal records only).

REVISED RECORDS.-- Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,731.6 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated periods and Aug. 15 to Sept. 20, which are poor. Many small diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06132200 SOUTH FORK MILK RIVER NEAR BABB, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated.]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e14	44	40	37	13	1.5	2.3	7.1		
2			e14	45	40	35	13	2.1	2.4	6.2		
3			e15	40	54	33	12	2.6	2.7	6.4		
4			e17	39	73	32	10	2.7	3.8	11		
5			e17	37	54	30	10	2.6	3.5	17		
6			e23	34	46	32	9.7	2.7	2.9	18		
7			e29	31	41	41	8.8	3.0	2.8	21		
8			e40	36	38	42	9.0	3.4	4.2	25		
9			e50	49	37	36	9.6	3.3	4.8	23		
10			38	46	36	33	9.8	3.6	4.0	18		
11			41	41	36	33	8.3	3.5	4.3	15		
12			e160	38	35	30	7.5	3.7	3.5	13		
13			178	37	36	28	6.8	3.1	3.6	11		
14			81	36	46	27	9.1	2.9	3.6	10		
15			e50	36	43	27	8.0	2.8	4.2	9.9		
16			48	37	39	28	7.1	4.2	4.1	9.2		
17			62	36	36	41	6.1	5.6	3.6	8.6		
18			77	38	36	38	4.4	4.7	3.4	8.1		
19			68	44	35	30	7.7	3.7	9.2	8.1		
20			64	49	35	26	20	3.9	14	8.8		
21			58	50	35	22	12	2.0	14	11		
22			47	44	40	20	9.8	2.4	10	11		
23			46	41	42	18	7.1	2.8	14	9.1		
24			42	40	40	16	6.1	4.7	23	8.7		
25			62	40	47	16	5.5	4.6	15	10		
26			95	41	52	16	5.0	4.7	11	10		
27			70	41	46	16	5.1	4.5	8.3	11		
28			56	40	48	14	4.7	5.1	6.7	10		
29			45	39	61	15	3.1	4.7	6.3	9.2		
30			42	40	52	14	2.4	3.6	6.4	9.0		
31			42	---	43	---	1.9	2.7	---	8.5		
Total			1,691	1,209	1,342	826	252.6	107.4	201.6	361.9		
Mean			54.5	40.3	43.3	27.5	8.15	3.46	6.72	11.7		
Max			178	50	73	42	20	5.6	23	25		
Min			14	31	35	14	1.9	1.5	2.3	6.2		
Ac-ft			3,350	2,400	2,660	1,640	501	213	400	718		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1961 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean		46.0	31.4	64.0	82.2	86.7	35.2	16.6	14.4	16.1		
Max		46.0	136	153	239	465	96.6	42.6	43.8	37.0		
(WY)		(1963)	(1972)	(1969)	(1967)	(1975)	(1975)	(1993)	(1993)	(1986)		
Min		46.0	5.76	20.7	10.2	0.89	0.00	0.38	0.22	5.07		
(WY)		(1963)	(2001)	(1984)	(1977)	(1977)	(1977)	(2001)	(2001)	(1964)		

06132200 SOUTH FORK MILK RIVER NEAR BABB, MT—Continued

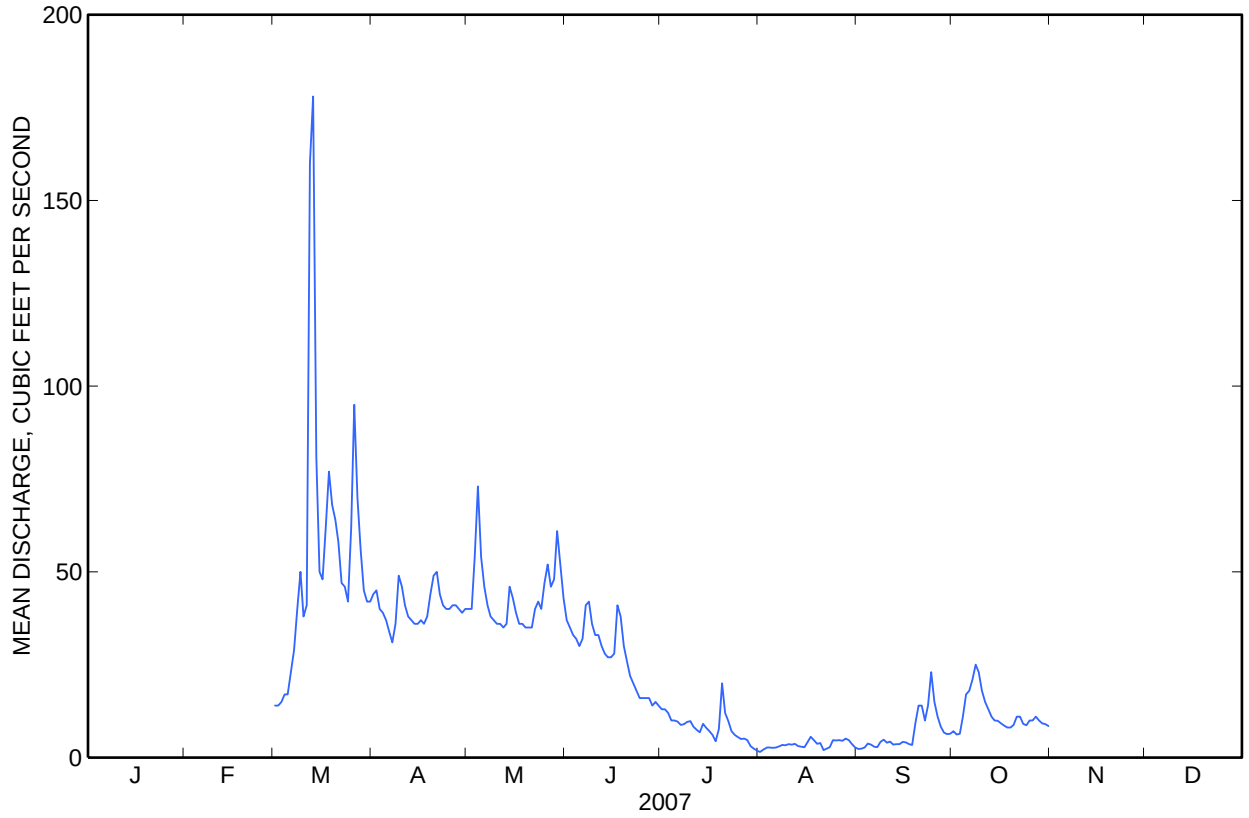
SUMMARY STATISTICS

	Season 2007		Seasons 1961-2007	
Highest daily mean	178	Mar 13	5,590	Jun 20, 1975
Lowest daily mean	1.5	Aug 1	0.00	Aug 23, 1973
Maximum peak flow	[a]266	Mar 12	[c]12,000	Jun 8, 1964
Maximum peak stage	[b]4.27	Sep 20	7.17	Feb 24, 1986
Instantaneous low flow			0.00	Aug 23, 1973

[a] Gage height, 4.22 ft.

[b] Backwater from beaver dam.

[c] Gage height, 6.61 ft, from rating curve extended above 400 ft³/s, on basis of slope-area measurement of peak flow.



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06133000 MILK RIVER AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY

Upper Missouri Basin
Upper Milk Subbasin

LOCATION.--Lat 49°00′27″, long 112°32′42″ referenced to North American Datum of 1927, Hydrologic Unit is unknown, in NE¼ sec.1, T.1, R.20 W., Hydrologic Unit 10050001, fourth meridian, in Alberta, on left bank 0.8 mi north of international boundary, 22 mi upstream from North Milk River, 23 mi southwest of Milk River, Alberta, and at river mile 656.4.

DRAINAGE AREA.--401 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1931 to current season (seasonal records only). Prior to October 1961, published as South Fork Milk River near international boundary.

REVISED RECORDS.-- Water Supply Paper 1389: 1934, maximum discharge (M); 1935; 1936 (M); 1937; 1942 (M); 1947-48 (M). Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,820 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Aug. 9, 1948, and Aug. 9, 1948, to Oct. 31, 1958, water-stage recorders at sites 0.4 mi and 0.5 mi downstream, respectively, at different elevations.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Several diversions for irrigation occur upstream from station. Environment Canada satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06133000 MILK RIVER AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e23	93	76	85	10	0.00	0.00	0.53		
2			e27	99	78	66	7.9	0.00	0.00	0.74		
3			e37	e92	83	56	7.1	0.00	0.00	0.67		
4			e42	e90	113	53	5.9	0.00	0.00	0.49		
5			e69	e84	151	46	4.2	0.00	0.00	0.64		
6			e96	e78	120	56	2.8	0.00	0.00	1.1		
7			e177	e69	96	50	2.5	0.00	0.00	1.1		
8			e265	e73	82	55	2.2	0.00	0.00	1.4		
9			e283	e78	73	63	1.9	0.00	0.00	9.2		
10			e247	96	67	55	1.4	0.00	0.00	16		
11			e222	113	64	45	1.2	0.00	0.00	19		
12			e207	105	60	40	0.81	0.00	0.00	18		
13			e247	102	61	38	0.49	0.00	0.00	16		
14			e230	97	62	38	0.39	0.00	0.00	14		
15			e196	93	68	35	0.32	0.00	0.00	12		
16			e152	85	78	32	0.18	0.00	0.00	11		
17			e127	84	70	32	0.18	0.00	0.00	11		
18			e131	85	64	43	0.14	0.00	0.00	10		
19			e173	91	58	56	0.07	0.00	0.00	9.4		
20			e160	105	54	45	0.04	0.00	0.00	9.3		
21			e141	115	51	35	0.00	0.00	0.00	8.9		
22			e127	120	50	28	0.00	0.00	0.00	9.0		
23			e115	113	52	23	0.00	0.00	0.00	8.8		
24			e114	104	68	20	0.00	0.00	0.00	9.6		
25			e106	97	72	18	0.00	0.00	0.32	11		
26			126	91	69	15	0.00	0.00	1.1	10		
27			190	91	73	13	0.00	0.00	0.67	e8.9		
28			158	88	75	12	0.00	0.00	0.46	e10		
29			123	82	81	11	0.00	0.00	0.74	10		
30			e103	78	119	10	0.00	0.00	0.60	11		
31			95	---	110	---	0.00	0.00	---	11		
Total			4,509	2,791	2,398	1,174	49.72	0.00	3.89	269.77		
Mean			145	93.0	77.4	39.1	1.60	0.00	0.13	8.70		
Max			283	120	151	85	10	0.00	1.1	19		
Min			23	69	50	10	0.00	0.00	0.00	0.49		
Ac-ft			8,940	5,540	4,760	2,330	99	0.00	7.7	535		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1931 - 2007

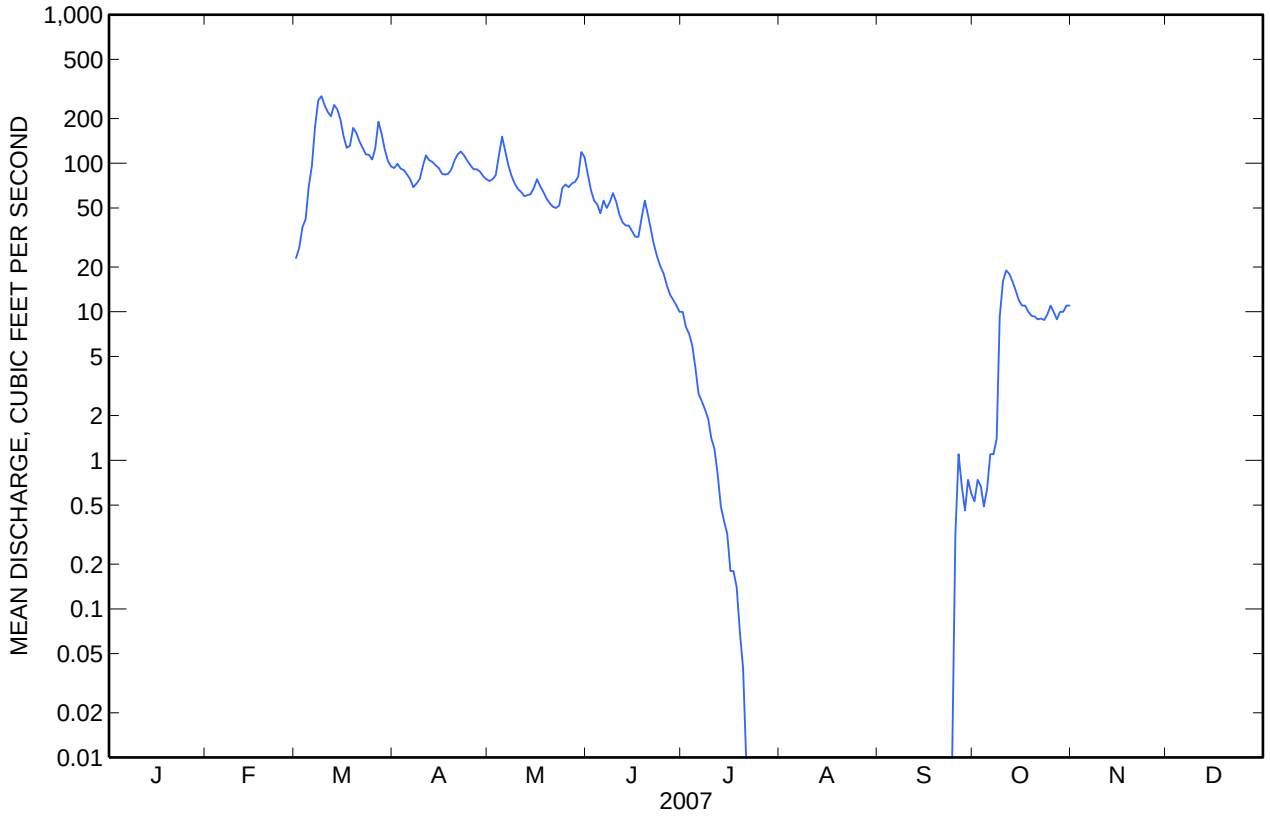
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean		68.0	103	203	201	176	55.7	19.7	20.0	24.6		
Max		99.0	717	615	679	907	348	142	168	133		
(WY)		(1963)	(1972)	(1969)	(1967)	(2002)	(1951)	(1951)	(1951)	(1952)		
Min		37.0	1.95	41.5	13.3	3.07	0.01	0.00	0.00	0.00		
(WY)		(1935)	(2002)	(1941)	(1941)	(1977)	(1977)	(1939)	(1939)	(1964)		

06133000 MILK RIVER AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1931 - 2007	
Highest daily mean	283	Mar 9	5,410	Jun 9, 1964
Lowest daily mean	0.00	Many days	0.00	Jul 31, 1931
Maximum peak flow	[a]300	Mar 9	[c]7,930	Jun 9, 1964
Maximum peak stage	[b]5.79	Mar 13	[b]12.55	Mar 18, 1976

[a] About
[b] Backwater from ice.
[c] Gage height, 9.77 ft.



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Water-Data Report 2007

06133500 NORTH FORK MILK RIVER ABOVE ST. MARY CANAL, NEAR BROWNING, MT

Milk Basin
Milk Headwaters Subbasin

LOCATION.--Lat 48°58′15″, long 113°03′22″ referenced to North American Datum of 1927, in NE ¼ NE ¼ SW ¼ sec.16, T.37 N., R.11 W., Glacier County, MT, Hydrologic Unit 10050001, Blackfeet Indian Reservation, on left bank 2.3 mi upstream from outlet of canal, 2.3 mi south of international boundary, 29 mi north of Browning, and at river mile 58.3.

DRAINAGE AREA.--59 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1911 to July 1912 and June to July 1918 (published as "near Browning"), May 1919 to current season (seasonal records only). Monthly discharge only for some periods published in WSP 1309.

REVISED RECORDS.-- Water Data Report (WDR) 1983: drainage area. WDR 1997: drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,240 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to June 20, 1921, nonrecording gages at several sites within 1 mi of present site at different elevations. June 20, 1921 to Mar. 19, 1997 water-stage recorder at site 0.5 mile downstream from current site at elevation 15 ft lower.

COOPERATION.--This is one of a number of stations which are maintained jointly by the United States and Canada.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Many small diversions for irrigation occur upstream from station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06133500 NORTH FORK MILK RIVER ABOVE ST. MARY CANAL, NEAR BROWNING, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			16	16	16	16	10	8.2	7.8	9.3		
2			16	16	15	15	10	8.5	7.8	8.9		
3			16	16	27	14	10	8.5	7.8	8.4		
4			e20	16	27	14	9.6	8.1	7.8	9.0		
5			e25	16	18	14	9.3	8.2	8.0	9.9		
6			e80	16	16	16	9.1	9.3	7.8	11		
7			e100	16	15	22	8.9	8.8	9.0	11		
8			46	17	15	17	9.2	8.4	12	12		
9			16	19	15	14	9.4	8.2	9.7	10		
10			18	17	15	14	9.4	8.4	9.5	9.6		
11			e30	18	15	13	9.3	8.5	8.8	9.4		
12			e40	18	15	13	9.0	8.5	9.5	9.3		
13			21	21	15	12	9.0	8.3	10	9.5		
14			15	21	17	12	9.3	8.5	10	9.3		
15			15	19	17	12	9.8	8.3	9.9	9.3		
16			15	18	15	13	9.4	7.9	9.1	9.3		
17			18	17	14	15	9.2	8.2	9.4	10		
18			21	18	14	15	9.3	8.2	9.5	9.0		
19			18	21	14	14	9.2	7.9	15	9.0		
20			18	22	14	12	9.4	8.0	14	9.4		
21			17	23	15	11	9.1	7.9	12	9.3		
22			16	26	21	11	8.9	7.8	9.1	9.4		
23			16	26	18	10	8.7	8.3	14	9.5		
24			17	22	19	10	8.6	9.3	16	9.5		
25			20	19	21	10	8.7	9.0	13	9.3		
26			18	18	19	10	9.0	8.2	12	9.4		
27			17	17	16	10	9.0	8.2	12	10		
28			17	16	25	10	8.7	8.5	12	11		
29			16	16	31	10	8.4	8.6	10	11		
30			16	16	20	10	8.3	8.2	9.8	11		
31			16	---	17	---	8.2	7.9	---	11		
Total			750	557	551	389	283.4	258.8	312.3	303.0		
Mean			24.2	18.6	17.8	13.0	9.14	8.35	10.4	9.77		
Max			100	26	31	22	10	9.3	16	12		
Min			15	16	14	10	8.2	7.8	7.8	8.4		
Ac-ft			1,490	1,100	1,090	772	562	513	619	601		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1911 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			23.7	36.7	33.4	29.8	19.3	16.3	18.1	17.6		
Max			72.1	167	164	147	101	65.5	86.8	55.0		
(WY)			(1997)	(1948)	(1967)	(1995)	(1995)	(1951)	(1911)	(1996)		
Min			8.14	9.47	7.14	6.95	4.12	3.30	3.90	4.95		
(WY)			(2001)	(2002)	(1941)	(1988)	(1985)	(1940)	(1940)	(1941)		

* During periods of operation (May 1911 to July 1912, June to July 1918, May 1919 to current season).

06133500 NORTH FORK MILK RIVER ABOVE ST. MARY CANAL, NEAR BROWNING, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1911 – 2007*	
Highest daily mean	100	Mar 7	1,320	Apr 22, 1953
Lowest daily mean	7.8	Many days	1.7	Sep 17, 1940
Maximum peak flow	[a]150	Mar 7	[c]3,090	May 8, 1967
Maximum peak stage	[b]7.46	Mar 7	[d]10.50	Mar 19, 1997

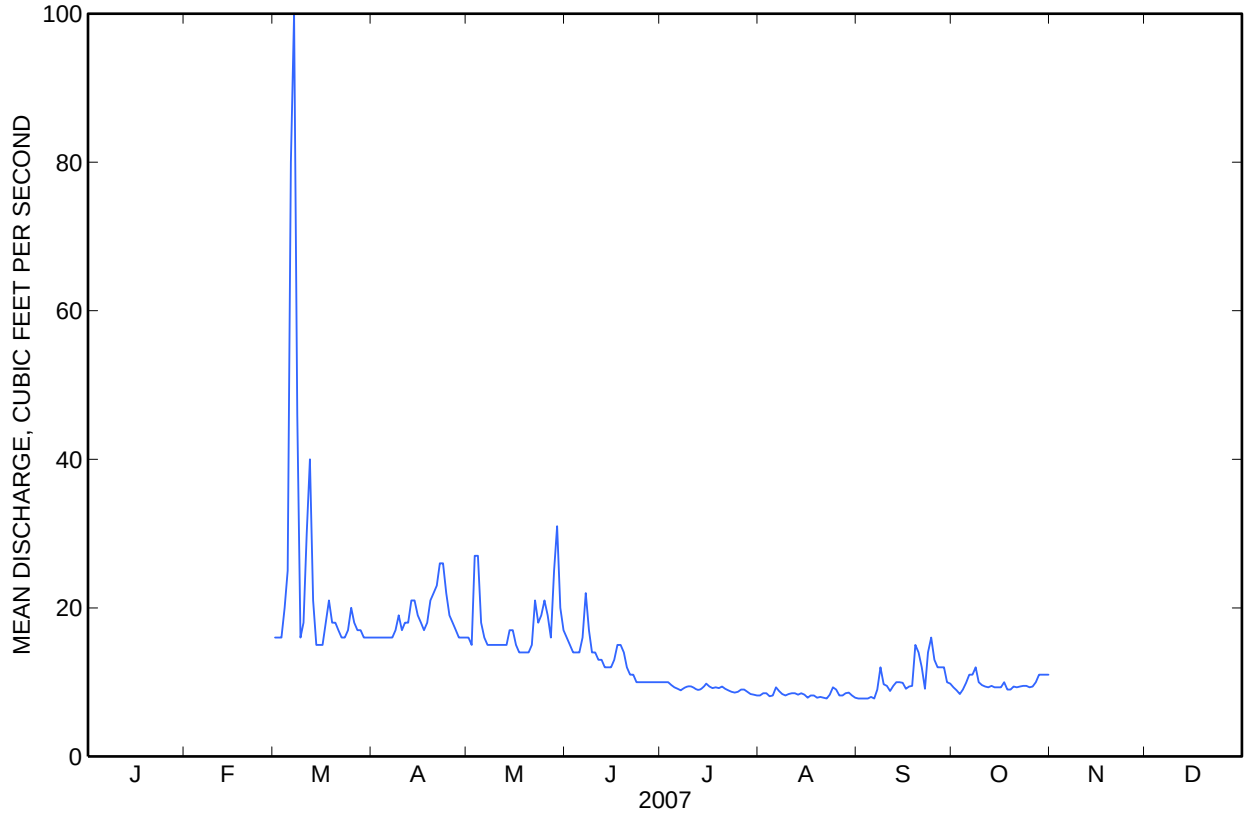
* During periods of operation (May 1911 to July 1912, June to July 1918, May 1919 to current season).

[a] About.

[b] Backwater from ice.

[c] Gage height, 7.95 ft, from rating curve extended above 130 ft³/s, on basis of slope-area measurements of peak flow at gage heights 7.55 ft and 7.95 ft, at previous site and datum.

[d] Backwater from ice, gage height, 9.07 ft, from floodmarks at previous site, which was destroyed.



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Water-Data Report 2007

06134000 NORTH MILK RIVER NEAR INTERNATIONAL BOUNDARY

Upper Missouri Basin
Upper Milk Subbasin

LOCATION.--Lat 49°01′19″, long 112°58′16″ referenced to North American Datum of 1927, Hydrologic Unit is unknown, in SW¼NE¼ sec.11, T.1, R.23 W., fourth meridian, in Alberta, Hydrologic Unit 10050001, on right bank 0.4 mi upstream from highway bridge, 1.6 mi north of international boundary, 2.8 mi east of Whiskey Gap, Alberta, 11 mi southeast of Kimball, Alberta, and at river mile 49.9.

DRAINAGE AREA.--91.8 mi^2, area at site used Apr. 12, 1930, to Aug. 15, 1962, 97.4 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1909 to October 1912 (seasonal records only), January 1913 to October 1922, March 1923 to current season (seasonal records only). Records for November and December 1912, published in Water Supply Paper (WSP) 1309, have been found to be unreliable and should not be used. Published as "near Kimball, Alberta" 1913-16. Prior to February 1962, published as North Fork Milk River near international boundary.

REVISED RECORDS.-- Water Supply Paper 1309: 1909-13, 1915, maximum discharge (M); 1920 (M); 1937 (M). WSP 1559: 1948 (M). WSP 1729: 1944(M). W 1983: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 4,112.16 ft, refrenced to the Canadian Geodetic Vertical Datum 1928. Prior to May 1913, nonrecording gage located at site 2 mi downstream at different elevation. May 1, 1913, to Apr. 11, 1930, water-stage recorder located 700 ft downstream at different elevation. Apr. 12, 1930, to Aug. 15, 1962, water-stage recorder located 1,500 ft downstream at different elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Since 1917, flow increased during irrigation season by water from St. Mary Canal (station number 05018500). Several small diversions for irrigation occur upstream from station. Water Survey of Canada satellite telemeter is located at the station.

06134000 NORTH MILK RIVER NEAR INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e17	629	456	491	452	607	207	11		
2			e16	632	456	480	452	607	134	9.6		
3			e17	629	487	487	445	604	93	10		
4			e29	625	487	494	505	604	60	10		
5			e106	625	463	501	618	604	41	11		
6			e283	622	463	509	639	607	22	11		
7			e353	622	463	512	643	607	18	11		
8			e136	622	459	498	646	604	19	11		
9			e74	632	456	530	646	600	18	11		
10			e58	622	456	586	639	604	12	11		
11			e424	625	487	586	639	597	11	10		
12			e431	629	544	583	636	597	10	10		
13			410	636	593	576	632	593	10	10		
14			452	607	604	576	632	593	10	10		
15			519	565	614	565	632	590	9.9	10		
16			547	558	622	561	629	586	9.5	10		
17			569	523	618	565	629	586	9.7	10		
18			593	501	618	558	629	583	10	10		
19			600	512	618	551	632	583	14	11		
20			607	484	618	544	625	579	15	11		
21			611	459	622	509	625	565	13	11		
22			632	466	629	480	622	561	11	11		
23			629	459	618	427	618	526	14	11		
24			632	459	622	367	614	505	19	11		
25			625	452	622	371	614	498	14	11		
26			622	452	607	357	611	491	12	11		
27			629	452	604	353	614	494	11	11		
28			629	452	618	353	611	470	12	11		
29			629	452	622	399	611	399	12	11		
30			632	452	607	452	607	353	12	e11		
31			629	---	551	---	607	311	---	e11		
Total			13,140	16,455	17,304	14,821	18,754	17,108	863.1	329.6		
Mean			424	548	558	494	605	552	28.8	10.6		
Max			632	636	629	586	646	607	207	11		
Min			16	452	456	353	445	311	9.5	9.6		
Ac-ft			26,060	32,640	34,320	29,400	37,200	33,930	1,710	654		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 - 2007

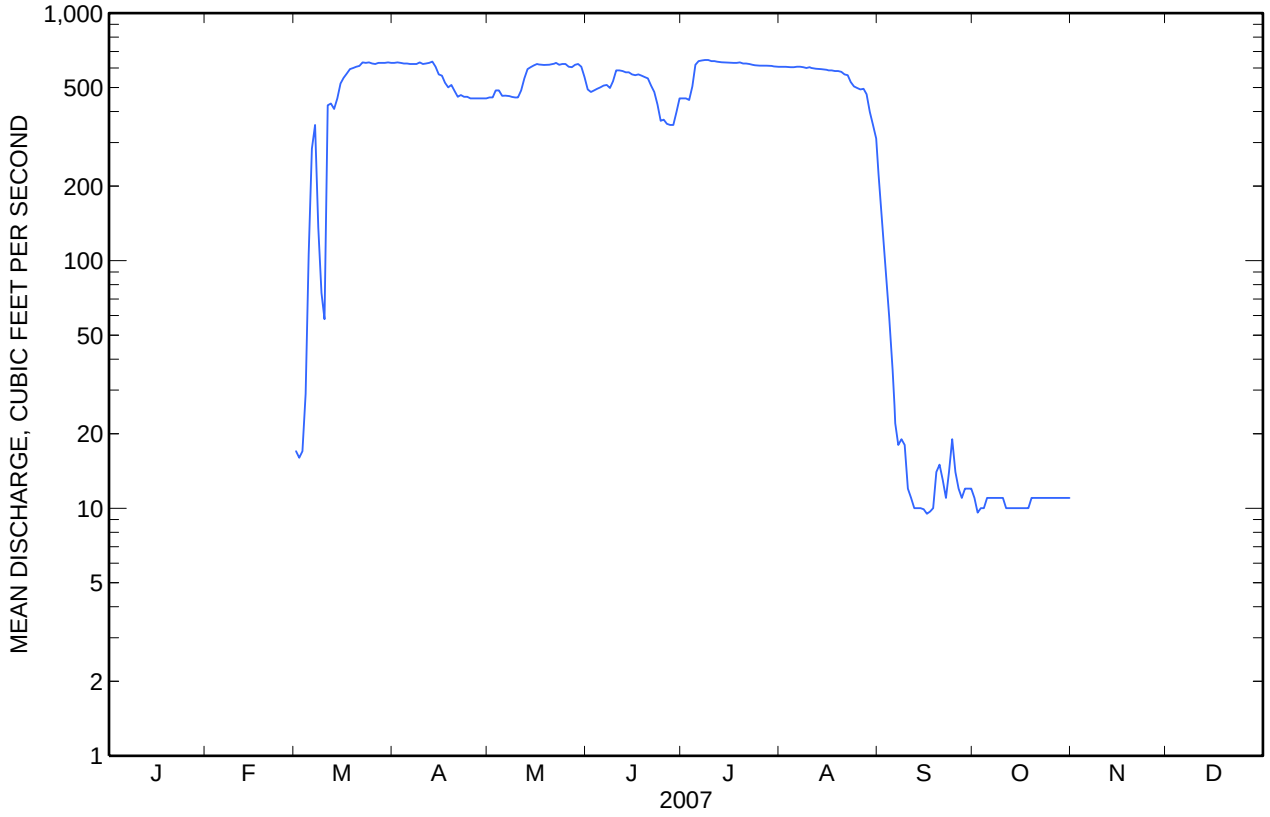
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	20.6	17.5	72.0	208	430	524	558	530	304	57.2	46.9	20.0
Max	45.8	34.9	424	633	732	745	727	721	702	524	176	34.5
(WY)	(1918)	(1917)	(2007)	(1991)	(2001)	(1976)	(1936)	(1969)	(2002)	(1951)	(1940)	(1917)
Min	9.46	6.25	9.67	23.6	38.6	43.5	84.3	16.0	5.57	6.06	12.2	10.9
(WY)	(1921)	(1922)	(2002)	(1940)	(1918)	(1952)	(2002)	(1982)	(1988)	(1942)	(1922)	(1921)

06134000 NORTH MILK RIVER NEAR INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1917 - 2007	
Highest daily mean	646	Jul 8	2,170	Jun 7, 1995
Lowest daily mean	9.5	Sep 16	0.00	Mar 1, 1940
Maximum peak flow	[a]653	Jul 9	[c]3,670	Jun 6, 1995
Maximum peak stage	[b]4.84	Mar 7	[b]6.89	Jun 6, 1995

[a] Gage height, 3.11 ft.
[b] Backwater from ice.
[c] From rating curve extended above 1,500 ft³/s.



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Water-Data Report 2007

06134500 MILK RIVER AT MILK RIVER, ALBERTA

Upper Missouri Basin
Upper Milk Subbasin

LOCATION.--Lat 49°08′37″, long 112°04′44″ referenced to North American Datum of 1927, in NE ¼ sec.21, T.2., R.16 W., fourth meridian, in Alberta, Hydrologic Unit 10050002, on right bank 5 ft downstream from highway bridge at Milk River, Alberta, 22 mi downstream from North Milk River, and at river mile 613.4.

DRAINAGE AREA.--1,050 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1909 to October 1910 (no winter records), April 1911 to current year. Monthly discharge only for June 1909, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1309: 1912. WSP 1599: 1916; 1927, maximum discharge (M); 1947 (M). Water Data Report (WDR) 1983: Drainage area. WDR 1984: 1983 (M).

GAGE.--Water-stage recorder. Elevation of gage is 3,402.78 ft, referenced to the Canadian Geodetic Vertical Datum 1928. Prior to June 17, 1919, nonrecording gages, and June 17, 1919, to Nov. 2, 1921, water-stage recorder at several sites 300 ft upstream at elevation 0.61 ft higher. Nov. 3, 1921, to Aug. 28, 1947, water-stage recorder at site 60 ft upstream at present elevation. Aug. 29, 1947, to Nov. 10, 1976, water-stage recorder located 700 ft downstream on left bank at present elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Since 1917, flow increased during irrigation season by water from St. Mary Canal (station number 05018500). Several diversions for irrigation upstream from station. Environment Canada satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06134500 MILK RIVER AT MILK RIVER, ALBERTA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	53	e41	e22	e42	e23	e49	742	544	685	463	611	309
2	50	e41	e28	e44	e22	e48	812	547	600	463	600	236
3	47	e46	e40	e48	e22	e56	788	572	576	463	597	168
4	44	e49	e42	e47	e24	e67	795	611	572	452	600	120
5	43	e58	e40	e49	e26	e84	791	643	579	501	600	92
6	42	e58	e39	e48	e24	e233	777	636	611	597	604	70
7	42	e58	e40	e49	e23	e675	756	597	600	611	597	57
8	41	e55	e41	e48	e23	e1,060	752	579	597	611	590	49
9	43	e50	e42	e45	e25	e727	763	561	586	618	586	41
10	44	e49	e43	e38	e26	e611	777	544	622	618	590	36
11	47	e42	e43	e35	e26	e569	788	544	671	618	586	31
12	46	e39	e46	e32	e26	e802	788	579	660	618	579	30
13	46	e37	e49	e31	e25	e908	780	643	653	614	579	25
14	46	e39	e48	e29	e25	925	798	699	660	611	572	21
15	47	e41	e50	e28	e35	862	766	710	667	614	569	18
16	50	e42	e49	e27	e49	823	720	717	664	607	569	16
17	52	e40	e45	e26	e55	848	706	731	667	604	572	16
18	52	e38	e42	e28	e58	791	667	720	667	607	572	20
19	52	e41	e39	e30	e54	795	639	710	664	600	576	23
20	53	e34	e36	e33	e53	819	650	706	660	600	579	22
21	57	e29	e35	e37	e54	784	625	710	643	600	565	24
22	63	e30	e39	e41	e54	784	607	724	597	597	558	23
23	65	e26	e41	e47	e55	777	625	720	561	593	569	30
24	63	e23	e43	e48	e59	763	607	735	487	593	533	29
25	60	e20	e44	e48	e61	763	593	735	413	590	501	27
26	58	e19	e44	e49	e57	756	576	738	396	590	494	24
27	54	e11	e42	e47	e53	784	561	717	374	597	494	24
28	51	e11	e41	e40	e51	819	558	724	367	600	505	21
29	e50	e17	e41	e33	---	773	547	749	371	600	473	20
30	e48	e23	e42	e29	---	756	547	745	413	604	403	18
31	e44	---	e43	e25	---	749	---	759	---	614	351	---
Total	1,553	1,107	1,279	1,201	1,088	20,260	20,901	20,649	17,283	18,068	17,174	1,640
Mean	50.1	36.9	41.3	38.7	38.9	654	697	666	576	583	554	54.7
Max	65	58	50	49	61	1,060	812	759	685	618	611	309
Min	41	11	22	25	22	48	547	544	367	452	351	16
Ac-ft	3,080	2,200	2,540	2,380	2,160	40,190	41,460	40,960	34,280	35,840	34,060	3,250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	100	56.0	34.0	30.7	60.5	233	502	660	721	615	553	348
Max	555	216	133	268	616	1,025	1,384	1,179	1,633	965	795	713
(WY)	(1951)	(1952)	(1952)	(1928)	(1986)	(1972)	(1917)	(1967)	(1953)	(1951)	(1976)	(1959)
Min	7.83	8.74	2.06	0.00	0.00	3.44	94.5	236	162	192	29.2	3.65
(WY)	(1989)	(2002)	(1923)	(1923)	(1922)	(1922)	(1945)	(1918)	(1952)	(2002)	(1982)	(2001)

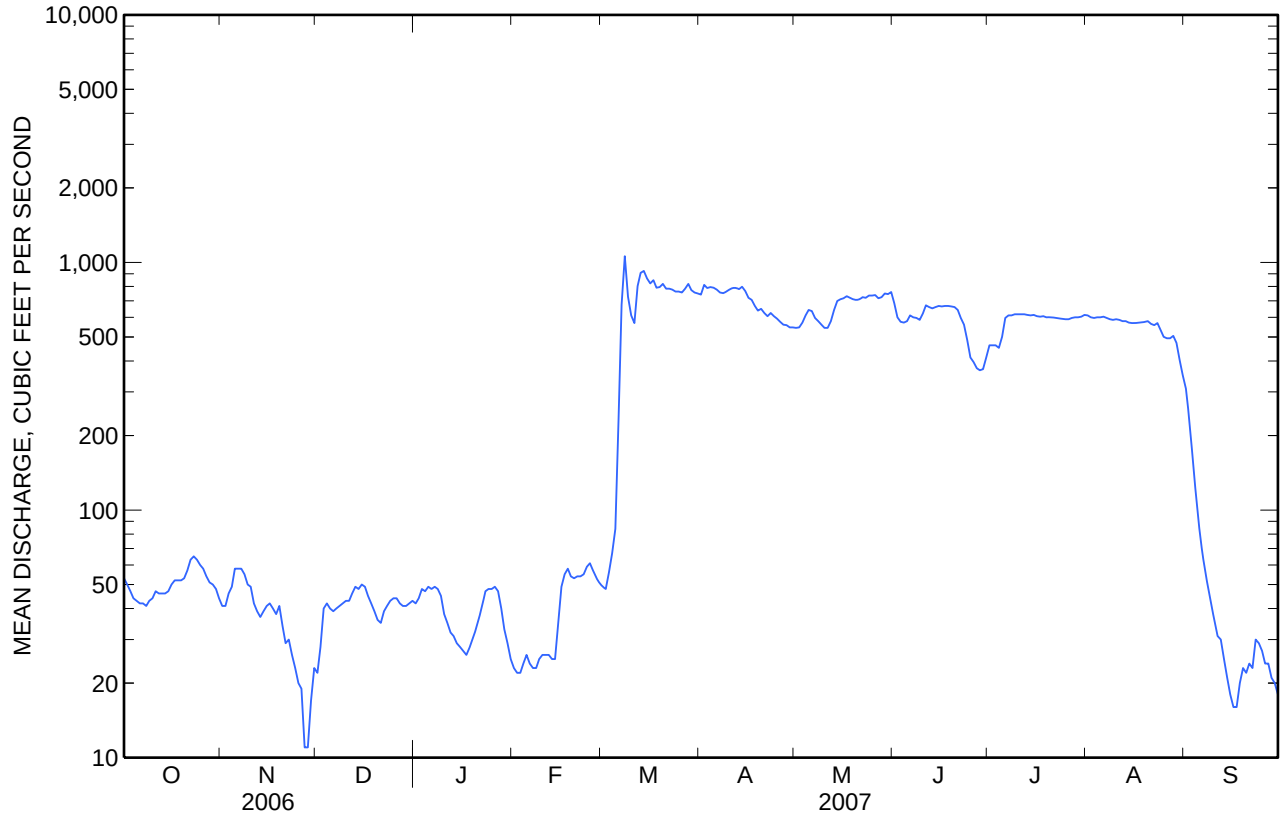
* Flow increased during irrigation season by water from St. Mary Canal.

06134500 MILK RIVER AT MILK RIVER, ALBERTA—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1917 - 2007*	
Annual total	138,572		122,203			
Annual mean	380		335		327	
Highest annual mean					489	1953
Lowest annual mean					157	1921
Highest daily mean	1,260	Apr 7	1,060	Mar 8	7,840	Jun 11, 2002
Lowest daily mean	11	Nov 27	11	Nov 27	0.00	Jan 19, 1922
Annual seven-day minimum	18	Nov 25	18	Nov 25	0.00	Jan 19, 1922
Maximum peak flow			[a]1,200	Mar 8	9,850	Feb 25, 1986
Maximum peak stage			[b]5.92	Mar 8	[c]12.46	Feb 25, 1986
Annual runoff (ac-ft)	274,900		242,400		237,100	
10 percent exceeds	773		749		739	
50 percent exceeds	516		120		158	
90 percent exceeds	40		26		13	

* Flow increased during irrigation season by water from St. Mary Canal.
[a] About
[b] Backwater from ice.
[c] From floodmarks, backwater from ice.



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06135000 MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

Upper Missouri Basin
Milk Subbasin

LOCATION.--Lat 48°58′29″, long 110°25′19″ referenced to North American Datum of 1927, in NW ¼ SW ¼ SE ¼ sec.9, T.37 N., R.9 E., Hill County, MT, Hydrologic Unit 10050002, on left bank 1.6 mi south of international boundary, 1.7 mi upstream from Lost River, 10 mi northwest of Simpson, 35.5 mi north of Rudyard, and at river mile 479.6.

DRAINAGE AREA.--2,525 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1909 to current season (seasonal records only). A few winter records were collected and are on file in the USGS Water Science Center located in Helena, Montana. Monthly discharge only for April 1912, published in Wate Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1086: 1927, 1935. WSP 1559: 1920, maximum discharge(M); 1922 (M); 1926; 1928 (M); 1929; 1930 (M); 1932 (M). WSP 1729: 1912-13, 1921-22, 1929 (M). Water Data Report (WDR) MT-94-1 (M). WDR 1983: Drainage area. WDR MT-98-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,660 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Mar. 1, 1998, water-stage recorder or nonrecording gages at several sites within 15 mi upstream at different elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by the United States and Canada.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Since 1917, flow has increased during irrigation season by water from St. Mary Canal (station number 05018500). Many diversions for irrigation occur upstream from station. Bureau of Reclamation satellite telemeter is located at the station.

06135000 MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e130	729	604	681	288	497	410	36		
2			e140	734	625	705	285	496	357	35		
3			e150	764	621	754	302	504	308	35		
4			e180	740	615	666	380	e520	281	35		
5			e230	727	638	558	377	e527	222	37		
6			e400	722	608	563	345	e530	169	40		
7			e600	717	613	569	316	e513	143	40		
8			e900	709	618	571	325	515	125	39		
9			e1,400	701	620	578	470	494	110	36		
10			e1,700	710	594	582	510	489	101	31		
11			e1,200	738	603	579	525	500	91	28		
12			821	760	595	556	540	e518	80	27		
13			653	740	566	592	542	e513	72	29		
14			735	738	552	637	536	e506	66	30		
15			906	709	594	625	522	484	60	27		
16			883	725	684	627	515	467	55	26		
17			867	748	729	632	505	466	49	26		
18			811	719	710	647	508	477	44	24		
19			854	742	716	665	512	503	57	22		
20			778	839	723	628	691	509	66	23		
21			781	864	727	620	541	504	55	25		
22			790	806	e712	597	541	499	47	25		
23			786	740	700	596	539	491	64	24		
24			763	671	e696	577	529	493	180	23		
25			747	673	e691	547	531	493	122	23		
26			746	657	714	515	537	e504	78	22		
27			750	638	706	447	531	e462	54	21		
28			747	632	735	343	512	e431	45	20		
29			738	608	758	314	495	e431	41	20		
30			794	606	720	298	499	e445	37	19		
31			749	---	699	---	490	446	---	18		
Total			22,729	21,606	20,486	17,269	14,739	15,227	3,589	866		
Mean			733	720	661	576	475	491	120	27.9		
Max			1,700	864	758	754	691	530	410	40		
Min			130	606	552	298	285	431	37	18		
Ac-ft			45,080	42,860	40,630	34,250	29,230	30,200	7,120	1,720		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			373	567	710	781	614	542	379	124		
Max			1,522	1,691	1,943	2,561	1,046	886	740	566		
(WY)			(1978)	(1965)	(1927)	(2002)	(1951)	(1927)	(1972)	(1990)		
Min			9.88	80.1	257	200	262	77.4	2.21	0.16		
(WY)			(2002)	(1945)	(1918)	(1952)	(1977)	(1982)	(2001)	(2002)		

* Flow increased during irrigation season by water from St. Mary Canal.

06135000 MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

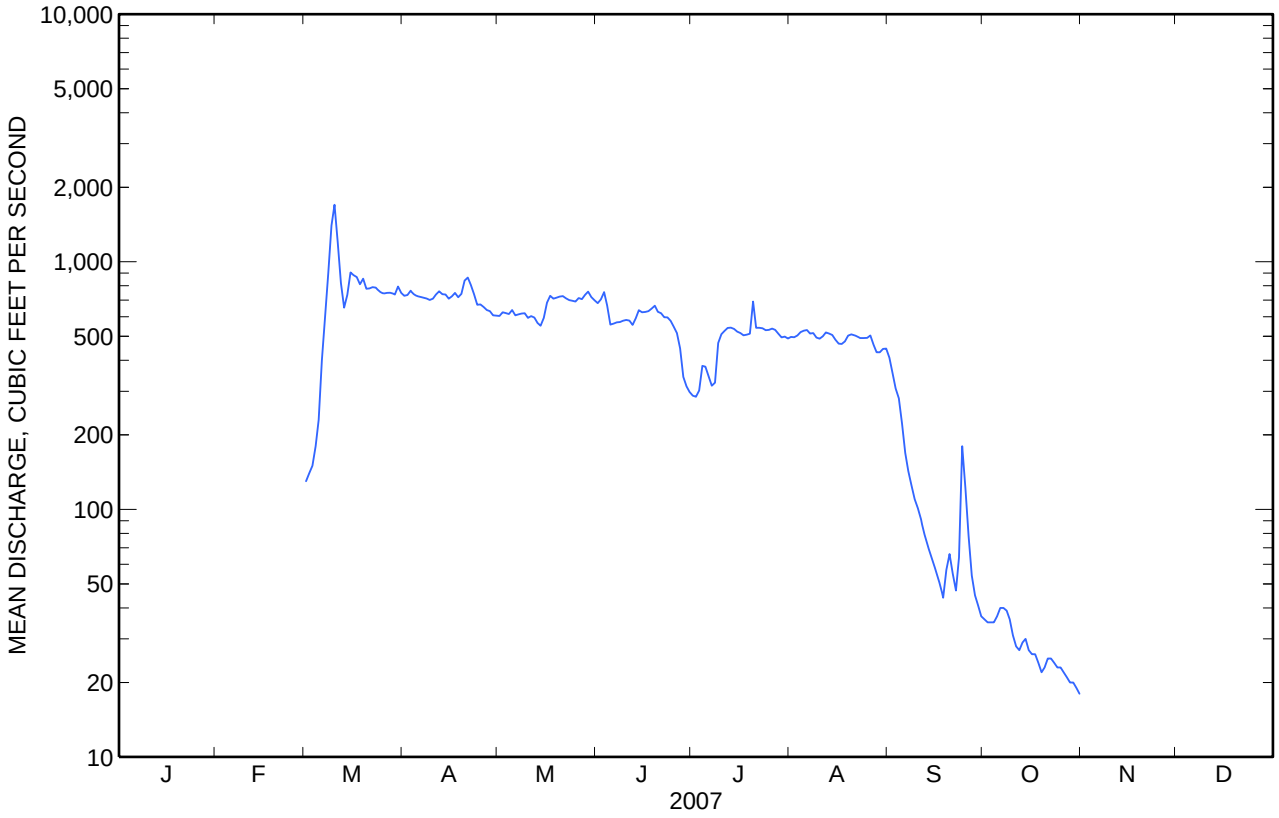
	2007 Season		Seasons 1917 - 2007*	
Highest daily mean	1,700	Mar 10	12,400	Jun 12, 2002
Lowest daily mean	18	Oct 31	0.00	Feb 1, 1922
Maximum peak flow	[a]2,000	Mar 10	[c]14,400	Jun 12, 2002
Maximum peak stage	[b]8.99	Mar 10	[b]15.03	Mar 13, 1996

* Flow increased during irrigation season by water from St. Mary Canal.

[a] About.

[b] Backwater from ice jam.

[c] Gage height, 10.78 ft, from floodmarks.



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06136500 FRESNO RESERVOIR NEAR HAVRE, MT

Milk Basin
Upper Milk Subbasin

LOCATION.--Lat 48°36'04", long 109°56'45" referenced to North American Datum of 1927, in SE ¼ sec.19, T.33 N., R.14 E., Hill County, MT, Hydrologic Unit 10050002, at dam on Milk River, 13 mi west of Havre and at river mile 437.3.

DRAINAGE AREA.--3,766 mi², of which 670 mi² is probably noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1, 1940 to current year. Records prior to September 1940, published only in Water Supply Paper (WSP) 1309. March to May 1952 daily elevations and contents published in WSP 1260-B. April to July 1953 scattered daily elevations and contents published in WSP 1320-B. Records of daily contents are in files of the USGS Water Science Center located in Helena, Montana. Nonrecording gage read daily.

REVISED RECORDS.--WSP 1729: Drainage area.

COOPERATION.--Records furnished by Bureau of Reclamation.

REMARKS.--Elevation of gage is at sea level (levels by Bureau of Reclamation). Reservoir is formed by earthfill dam with concrete spillway completed in 1939. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 103,000 acre-ft, between elevation 2,530.00 ft, invert of tunnel inlet, and 2,575.00 ft, spillway crest, from capacity table effective Feb. 1, 1983. Elevation of maximum water surface is 2,592.93 ft, 224,700 acre-ft. Crest of dam is 2,596.10 ft. There are no gates in the spillway. Dead storage is 448 acre-ft, below elevation 2,530.00 ft. Figures given herein represent usable contents. Water is used for irrigation and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 154,000 acre-ft, Apr. 3, 1952, elevation, 2,579.3 ft, of which 26,800 acre-ft was uncontrolled storage, capacity table then in use; no storage Feb. 18 to Mar. 6, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 93,810 acre-ft, May 31, elevation, 2,575.28 ft; minimum observed, 38,230 acre-ft, Feb. 19, elevation, 2,558.88 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2006 TO SEPTEMBER 2007

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2,560.37	41,690	--
October 31	2,560.93	43,030	+1,340
November 30	2,560.94	43,060	+30
December 31	2,560.21	41,310	-1,750
Calendar Year 2006	--	--	-5,410
January 31	2,559.45	39,530	-1,780
February 28	2,559.65	40,000	+470
March 31	2,571.11	74,990	+34,990
April 30	2,575.10	92,920	+17,930
May 31	2,575.28	93,810	+890
June 30	2,574.68	90,880	-2,930
July 31	2,567.89	62,880	-28,000
August 31	2,562.39	46,700	-16,180
September 30	2,559.61	39,900	-6,800
Water Year 2007	--	--	-1,790

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06139500 BIG SANDY CREEK NEAR HAVRE, MT

Milk Basin
Big Sandy Subbasin

LOCATION.--Lat 48°31′36″, long 109°50′27″ referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.18, T.32 N., R.15 E., Hill County, MT, Hydrologic Unit 10050005, on right bank, 6 mi upstream from mouth, 7.7 mi west southwest of Havre post office, and 22 mi downstream from Sage Creek.

DRAINAGE AREA.--1,805 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1946 to November 1953 (monthly discharge only for February 1946, published in WSP 1309 as "Big Sandy Creek near Assinniboine"), annual maximum, water years 1955-67 (published as "Big Sandy Creek near Assinniboine"), and May 1984 to current year (seasonal records only).

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,510 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair. Diversions for irrigation of about 1,000 acres occur upstream from station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 30, 1978, reached a stage of 15.15 ft, from floodmarks, discharge, about 6,000 ft^3/s.

06139500 BIG SANDY CREEK NEAR HAVRE, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				11	87	38	103	2.5	0.89			
2				11	82	60	111	2.7	0.80			
3				14	80	63	121	3.0	0.73			
4				14	75	63	136	2.8	0.61			
5				16	69	65	145	2.7	0.65			
6				14	62	71	141	2.9	0.65			
7				13	56	77	131	2.9	0.87			
8				13	42	74	115	2.7	1.0			
9				14	28	81	100	2.9	1.2			
10				17	20	84	76	2.9	1.1			
11				17	7.2	86	65	2.3	0.89			
12				17	4.3	83	56	1.9	4.9			
13				17	2.8	78	50	1.6	7.6			
14				16	2.4	67	41	1.5	7.2			
15				14	2.9	58	31	1.4	7.1			
16				13	4.8	46	25	1.2	8.3			
17				12	5.3	28	22	1.2	9.3			
18				12	4.7	10	14	1.2	9.0			
19				15	3.3	5.5	12	1.2	9.4			
20				16	1.4	4.1	11	1.5	9.8			
21				28	1.6	3.6	8.5	1.7	9.3			
22				85	1.7	2.9	6.3	1.7	6.9			
23				72	2.2	2.9	5.8	1.4	6.4			
24				52	1.6	10	5.0	1.4	5.9			
25				38	4.6	33	3.1	1.4	3.9			
26				29	5.3	37	3.7	1.1	2.9			
27				25	6.1	46	3.1	1.1	2.3			
28				36	7.7	57	3.2	1.0	1.6			
29				73	15	83	2.4	0.92	1.6			
30				83	23	107	2.7	0.90	1.5			
31				---	30	---	2.2	0.88	---			
Total				807	738.9	1,524.0	1,552.0	56.50	124.29			
Mean				26.9	23.8	50.8	50.1	1.82	4.14			
Max				85	87	107	145	3.0	9.8			
Min				11	1.4	2.9	2.2	0.88	0.61			
Ac-ft				1,600	1,470	3,020	3,080	112	247			

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1946 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	0.48	6.68	61.3	56.2	14.0	27.1	18.5	5.02	3.92	7.96	0.04	0.02
Max	3.39	19.5	343	1,218	108	222	137	85.9	54.4	54.5	0.31	0.14
(WY)	(1947)	(1947)	(1947)	(1952)	(1986)	(1953)	(1993)	(1993)	(1993)	(1987)	(1953)	(1953)
Min	0.00	0.00	0.63	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1948)	(1948)	(1949)	(2002)	(1949)	(1949)	(1946)	(1946)	(1946)	(1947)	(1947)	(1947)

* During periods of operation.

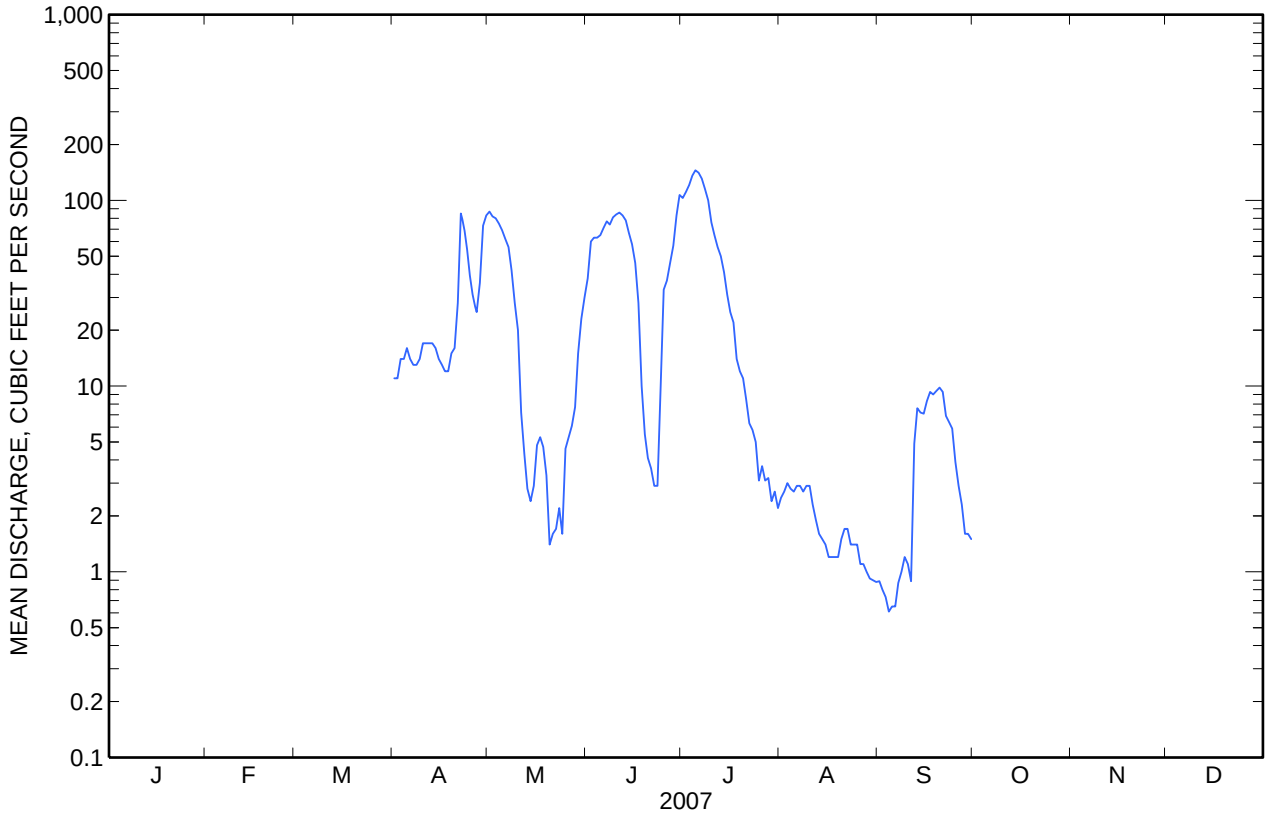
06139500 BIG SANDY CREEK NEAR HAVRE, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1946 – 2007*	
Highest daily mean	145	Jul 5	5,100	Apr 3, 1952
Lowest daily mean	0.61	Sep 4	0.00	Feb 1, 1946
Maximum peak flow	161	Jul 6	5,570	Apr 3, 1952
Maximum peak stage	4.27	Jul 6	[a]14.70	Apr 3, 1952

* During periods of operation.

[a] From floodmarks.



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06140500 MILK RIVER AT HAVRE, MT

Milk Basin
Middle Milk Subbasin

LOCATION.--Lat 48°33′50″, long 109°41′42″ referenced to North American Datum of 1927, in SE ¼ NE ¼ NE ¼ sec.6, T.32 N., R.16 E., Hill County, MT, Hydrologic Unit 10050004, on left bank, 1.25 mi upstream from Bullhook Creek and 7th Avenue East highway bridge in Havre, 8.2 mi downstream from Big Sandy Creek, 15.8 mi downstream from Fresno Dam, and at river mile 419.2.

DRAINAGE AREA.--5,785 mi², of which 670 mi² is probably non-contributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May to November 1898, April 1899 to November 1922, March, April 1923, March, April 1952 [gage heights only, in Water Supply Paper (WSP) 1260-B], June 1953 (in WSP 1320-B), September 1954 to September 2006, seasonal records beginning March 2007. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.-- WSP 1309: 1899-1900; 1902-4; 1907-8; 1909, maximum discharge (M); 1912; 1917 (M); 1920 (M). WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,465.24 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1902, nonrecording gage at site 0.75 mi downstream at different elevation. Nov. 4, 1902, to Aug. 6, 1980, nonrecording gages 1.25 mi downstream on 7th Avenue East highway bridges, all at elevations then in use.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 6,000 acres occur upstream from station. Since 1917, flow has increased during irrigation season by water from St. Mary Canal (station number 05018500). Since 1939, flow has been regulated by Fresno Reservoir (station number 06136500). A U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06140500 MILK RIVER AT HAVRE, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
SEASON OCTOBER 2006 TO OCTOBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	49					e50	447	666	787	607	785	669	47
2	52					e50	467	663	790	597	781	669	46
3	54					e60	477	675	795	608	781	670	46
4	56					e70	468	685	791	809	811	669	46
5	56					e90	470	654	779	828	836	674	47
6	57					e120	454	655	784	866	825	673	48
7	57					e200	429	649	797	860	776	643	46
8	53					e250	424	647	759	863	772	591	46
9	53					e230	421	639	737	857	754	556	44
10	53					e250	459	633	717	838	745	524	45
11	54					e300	446	616	699	826	740	434	48
12	53					285	260	597	674	847	748	312	46
13	53					193	452	600	666	906	746	172	46
14	52					147	485	603	649	901	745	88	46
15	52					126	484	619	651	901	741	82	45
16	52					123	477	621	637	890	709	81	46
17	52					124	508	708	670	883	703	79	47
18	51					115	524	728	699	915	687	78	45
19	50					102	565	811	648	916	673	81	45
20	54					98	580	812	647	915	673	80	44
21	51					90	554	809	655	925	673	80	44
22	50					129	603	765	657	926	668	78	45
23	50					222	621	753	662	919	630	94	44
24	50					245	613	693	637	930	642	87	44
25	50					246	614	693	654	913	645	72	44
26	50					247	634	626	678	894	643	67	44
27	49					369	653	628	622	889	643	66	44
28	47					455	657	660	609	840	647	64	44
29	44					448	672	707	616	827	667	57	44
30	43					450	673	745	622	825	672	48	44
31	36					448	---	765	---	816	673	---	42
Total	1,583					6,332	15,591	21,125	20,788	26,337	22,234	8,538	1,402
Mean	51.1					204	520	681	693	850	717	285	45.2
Max	57					455	673	812	797	930	836	674	48
Min	36					50	260	597	609	597	630	48	42
Ac-ft	3,140					12,560	30,920	41,900	41,230	52,240	44,100	16,940	2,780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 – 2006 AND SEASON 2007*

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Mean	75.0	53.0	56.8	89.1	307	508	803	811	778	576	322	141
Max	325	160	780	1,400	2,106	2,700	2,191	2,188	2,045	1,303	956	628
(WY)	(1976)	(1900)	(1918)	(1916)	(1918)	(1899)	(1967)	(1908)	(1902)	(1978)	(1993)	(1994)
Min	0.00	0.00	0.00	0.00	5.00	25.0	61.4	35.2	15.3	0.00	0.00	0.00
(WY)	(1906)	(1906)	(1906)	(1922)	(1919)	(1983)	(1905)	(1905)	(1910)	(1910)	(1905)	(1906)

* During periods of operation (May 1898 to November 1898, April 1898 to November 1922, March 1923 to April 1923, September 1954 to September 2006, seasonal records beginning March 2007).

06140500 MILK RIVER AT HAVRE, MT—Continued

SUMMARY STATISTICS

	Season 2007		Water Years 1898 - 2007*	
Annual mean			378	
Highest annual mean			727	1965
Lowest annual mean			39.2	1905
Highest daily mean	930	Jul 24, 2007	[a]16,000	Apr 12, 1899
Lowest daily mean	36	Oct 31, 2006	0.00	Jul 11, 1898 [b]
Annual seven-day minimum			0.00	Aug 15, 1905
Maximum peak flow	962	Jul 21, 2007	[c]20,000	Apr 12, 1899
Maximum peak stage	4.24	Jul 21,2007	[d]19.30	Apr 12, 1899
Annual runoff (ac-ft)			273,800	
10 percent exceeds			1,040	
50 percent exceeds			130	
90 percent exceeds			28	

SUMMARY STATISTICS

	Water Years 1900 - 1916**		Water Years 1917 - 2007***	
Annual mean	273.7		408	
Highest annual mean	571	1916	727	1965
Lowest annual mean	39.2	1905	160	1919
Highest daily mean	9,600	Jun 9, 1908	9,150	Mar 20, 1918
Lowest daily mean	[a]0.00	Aug 16, 1904	0.00	Jan 1, 1922
Annual seven-day minimum	0.00	Aug 15, 1905	0.00	Jan 1, 1922
Maximum peak flow	11,000	Jun 9, 1908	[e]11,400	Apr 3, 1952
Maximum peak stage	16.5	Jun 9, 1908	18.60	Apr 3, 1952
Annual runoff (ac-ft)	198,300		295,900	
10 percent exceeds	640		1,080	
50 percent exceeds	110		159	
90 percent exceeds	5.0		30	

* During periods of operation (May 1898 to November 1898, April 1898 to November 1922, March 1923 to April 1923, September 1954 to September 2006, seasonal records beginning March 2007).

** Prior to operation of St. Mary Canal.

*** Post operation of St. Mary Canal.

[a] Observed.

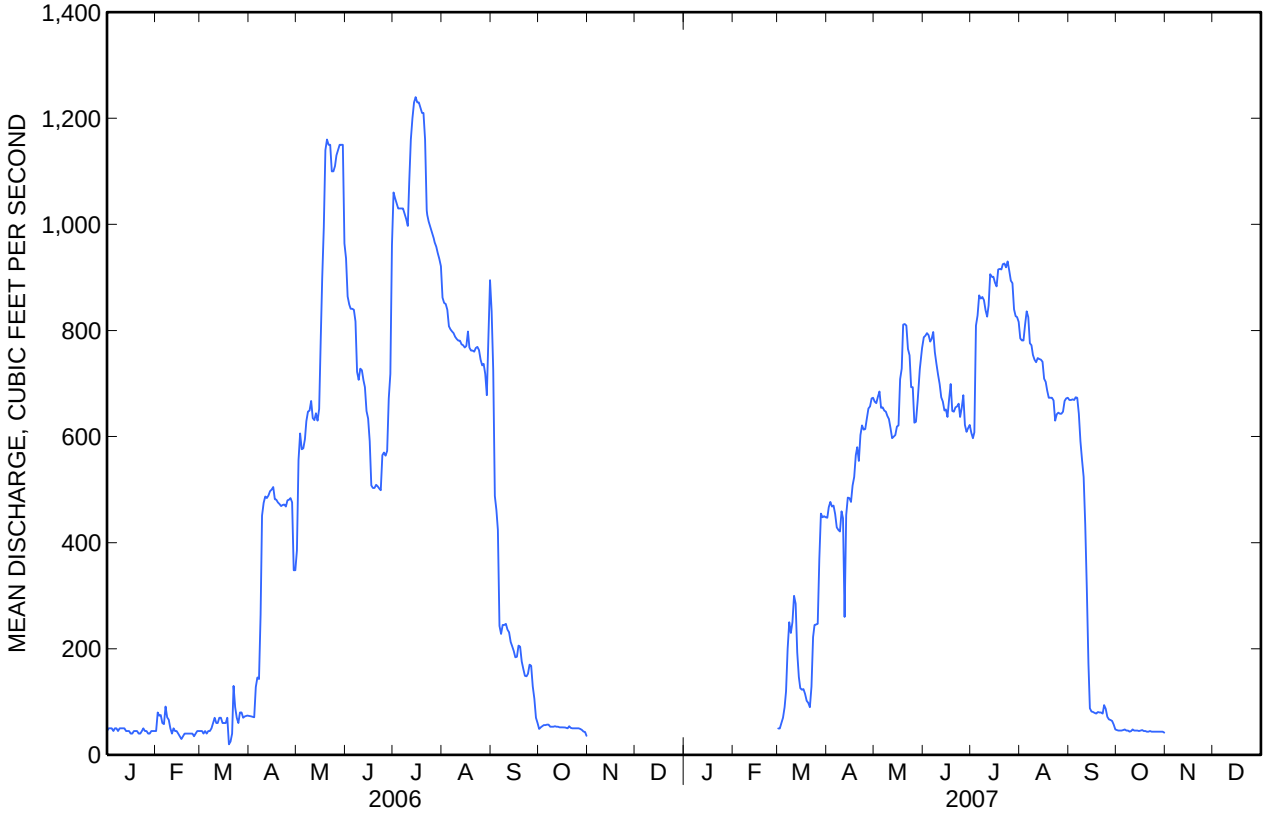
[b] Observed, no flow at times in several years.

[c] Observed, from rating curve extended above 5,200 ft³/s.

[d] Site and datum then in use, from floodmark.

[e] Observed, about.

06140500 MILK RIVER AT HAVRE, MT—Continued



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Water-Data Report 2007

06142400 CLEAR CREEK NEAR CHINOOK, MT

Milk Basin
Middle Milk Subbasin

LOCATION.--Lat 48°34′44″, long 109°23′26″ referenced to North American Datum of 1927, in SE ¼ NW ¼ NW ¼ sec.33, T.33 N., R.18 E., Blaine County, MT, Hydrologic Unit 10050004, on right bank, 7 mi west of Chinook, and at river mile 2.5.

DRAINAGE AREA.--135 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1984 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 2,470 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. Diversions for irrigation of about 2,000 acres occur upstream from station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperatures and specific conductance were made during the year.

06142400 CLEAR CREEK NEAR CHINOOK, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				e16	57	85	29	0.47	0.03			
2				e16	51	75	26	0.31	0.02			
3				17	51	71	27	0.17	0.02			
4				16	55	65	23	0.10	0.03			
5				20	46	60	20	0.00	0.07			
6				26	39	60	19	0.00	0.03			
7				24	38	121	18	0.04	0.06			
8				22	36	128	18	0.00	0.19			
9				20	33	99	21	0.00	0.41			
10				19	30	79	22	0.00	0.44			
11				24	33	68	20	0.00	0.26			
12				26	30	60	18	0.00	0.27			
13				23	31	53	16	0.00	0.63			
14				22	39	51	13	0.01	0.83			
15				19	36	48	12	0.02	0.90			
16				18	32	46	9.9	0.01	0.46			
17				22	25	49	7.7	0.03	0.07			
18				26	19	64	8.5	0.09	0.00			
19				43	18	64	6.7	0.10	0.21			
20				73	19	57	4.4	0.12	0.71			
21				81	22	48	3.5	0.13	0.74			
22				73	28	42	2.7	0.04	0.55			
23				69	51	38	3.0	0.02	0.72			
24				65	69	42	3.4	0.01	0.96			
25				66	60	45	4.1	e0.01	0.80			
26				70	58	46	3.8	e0.02	0.68			
27				73	54	40	2.7	e0.03	0.50			
28				70	50	35	2.2	0.03	0.36			
29				65	56	31	1.8	0.06	0.21			
30				60	90	28	1.2	0.06	0.19			
31				---	101	---	0.82	0.05	---			
Total				1,184	1,357	1,798	368.42	1.93	11.35			
Mean				39.5	43.8	59.9	11.9	0.06	0.38			
Max				81	101	128	29	0.47	0.96			
Min				16	18	28	0.82	0.00	0.00			
Ac-ft				2,350	2,690	3,570	731	3.8	23			

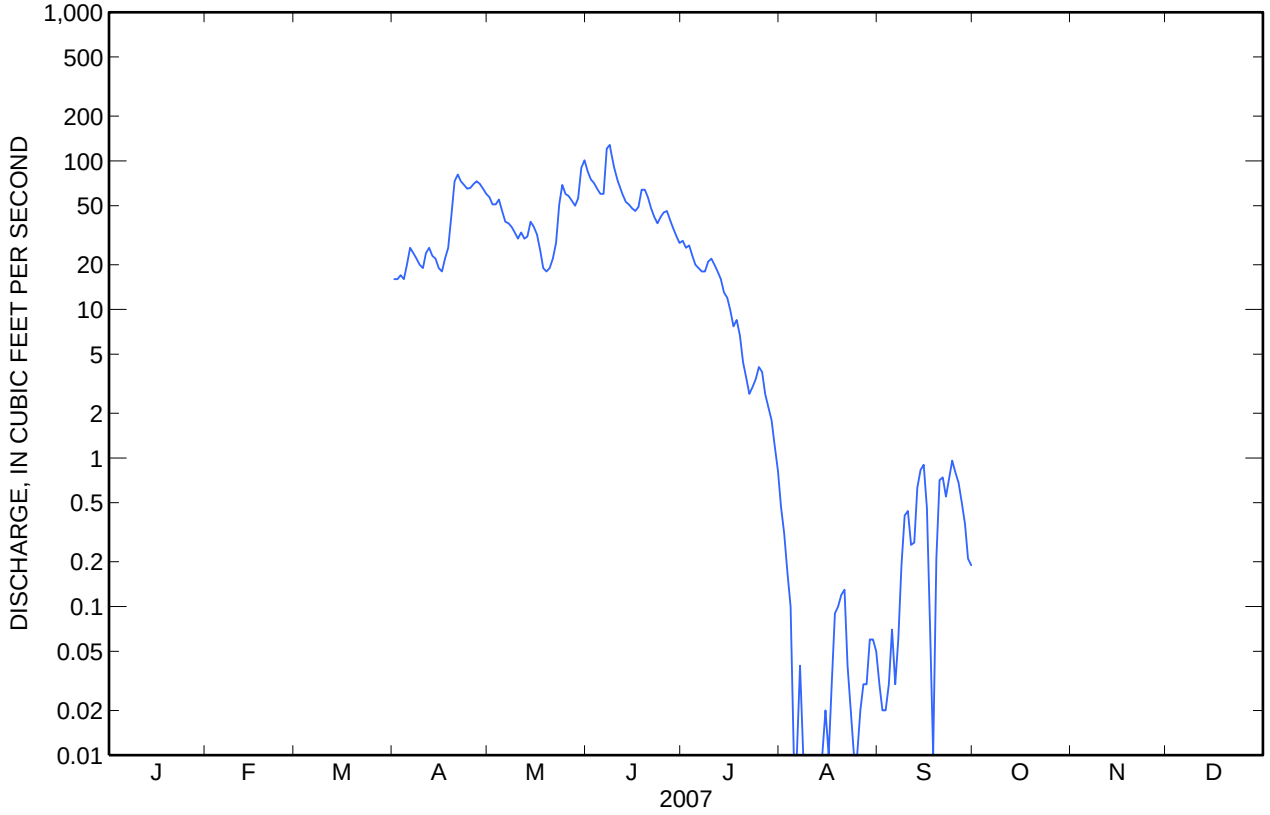
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1984 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				11.7	19.4	18.7	8.44	2.35	3.46	13.6		
Max				46.0	137	74.0	51.4	34.9	47.4	42.9		
(WY)				(1994)	(1986)	(1986)	(1993)	(1993)	(1986)	(1987)		
Min				0.00	0.00	0.00	0.00	0.00	0.00	0.00		
(WY)				(2002)	(2001)	(2001)	(1985)	(1984)	(1984)	(2000)		

06142400 CLEAR CREEK NEAR CHINOOK, MT—Continued

	Season 2007		Seasons 1984 - 2007	
Highest daily mean	128	Jun 8	360	Sep 25, 1986
Lowest daily mean	0.00	Aug 5	0.00	Jul 5, 1984[a]
Annual seven-day minimum			0.00	Jul 5, 1984
Maximum peak flow	148	Jun 7	571	Sep 25, 1986
Maximum peak stage	3.93	Jun 7	8.23	Sep 25, 1986

[a] No flow at times most seasons.



06144260 ALTAWAN RESERVOIR NEAR GOVENLOCK, SASKATCHEWAN

Upper Missouri Basin
Lodge Subbasin

LOCATION.--Lat 49°10′00″, long 109°55′00″ referenced to North American Datum of 1927, in SW ¼ sec.35, T.2., R.30 W., third meridian, Hydrologic Unit 10050007, at dam on Lodge Creek, 6.3 mi southwest of Govenlock, and at river mile 113.5.

DRAINAGE AREA.--373 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1966 to current season (seasonal records only). February 1960 to current season published in reports of Department of the Environment, Canada. Water-stage recorder. Elevation of gage is 2,918.0, referenced to the Geodetic Survey of Canada datum. Prior to July 7, 1967, nonrecording gage in gate was read every ten days during irrigation season.

REVISED RECORDS.--Water Data Report 1983, drainage area.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway and control works as well as an emergency earthen spillway, which was completed in 1959. The following capacity figures are from revised capacity table effective Jan. 1, 1983. All elevations are referenced to the Geodetic Survey of Canada datum. Usable capacity is 5,440 acre-ft between elevation 2,918.0 ft, bottom of outlet works, and 2,952.0 ft, maximum design level. No dead storage. Water is used for irrigation. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,300 acre-ft, Sept. 26, 1986, elevation, 2,958.10 ft; no contents Mar. 1, 1960, Oct. 6-31, 1984, Mar. 1-18, and Oct. 3-31, 1985.

EXTREMES FOR CURRENT SEASON.--Maximum contents, 5,300 acre-ft, May 13, elevation, 2,951.69 ft; minimum, 706 acre-ft, Oct. 31, elevation, 2,934.82 ft.

SEASONAL MONTHEND CONTENTS
FEBRUARY 2007 TO OCTOBER 2007

Date	Contents (acre-feet)
February 28	1,660
March 31	2,760
April 30	5,040
May 31	1,480
June 30	1,560
July 31	1,440
August 31	741
September 30	728
October 31	706

06144270 SPANGLER DITCH NEAR GOVENLOCK, SASKATCHEWAN

Upper Missouri Basin
Lodge Subbasin

LOCATION.--Lat 49°09′16″, long 109°54′58″ referenced to North American Datum of 1927, in NW ¼ sec.26, T.2., R.30 W., third meridian, Hydrologic Unit 10050007, on right bank 0.9 mi south of Altawan Dam, and 6.8 mi southwest of Govenlock.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1966 to current season (seasonal records only). March 1950 to current season, in reports of Department of the Environment, Canada. Some estimates of monthly diversion in several years prior to 1932.

GAGE.--Water-stage recorder. Elevation of gage is 2,920 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to March 1950, nonrecording gages at several sites within 2 mi of present site at different elevations. March 1950 to July 8, 1960, water-stage recorder at site 350 ft downstream at different elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Canal diverts water from right bank of Lodge Creek in SW¼ sec.35, T.2, R.30 W., third meridian, for irrigation of 1,320 acres in Spangler irrigation project. Water Survey of Canada satellite telemeter is located at the station.

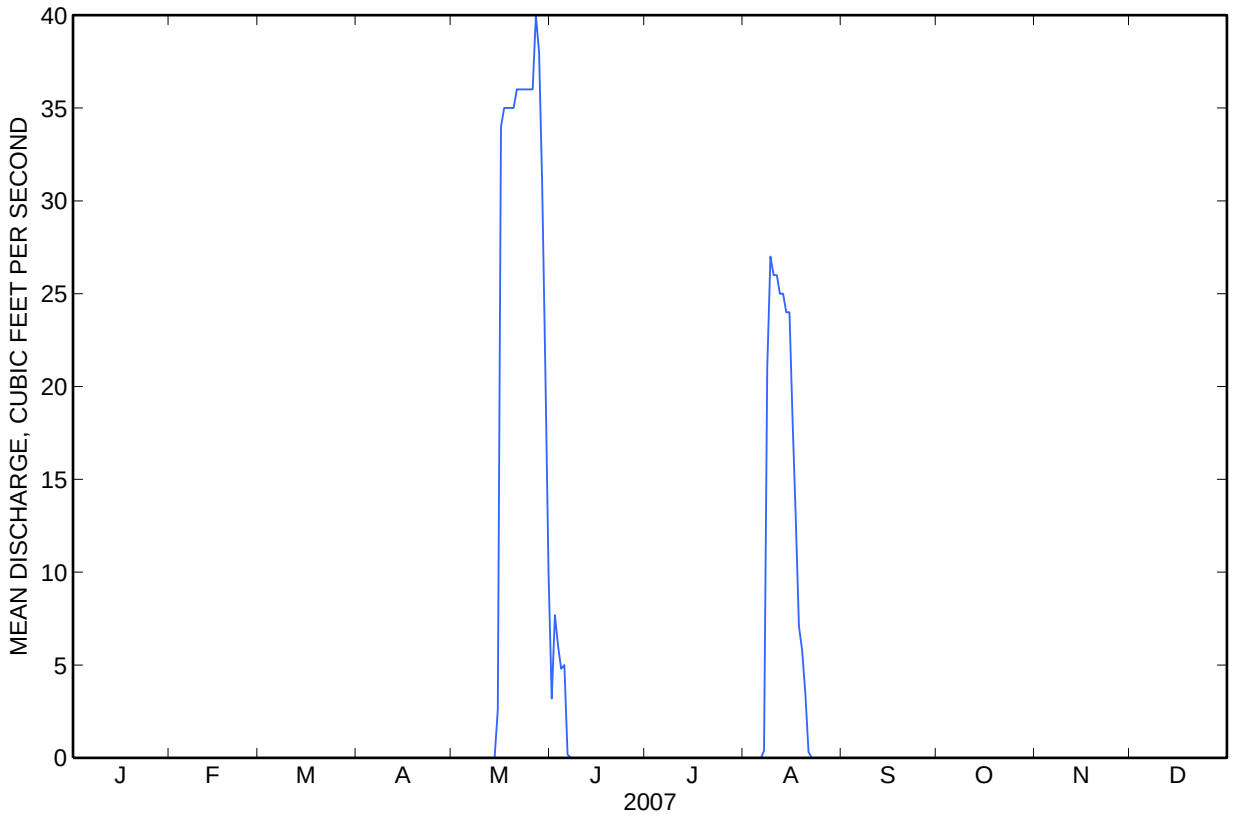
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft^3/s, Apr. 22, 1950, July 9, 1985; no flow most of each season.

06144270 SPANGLER DITCH NEAR GOVENLOCK, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	3.2	0.00	0.00	0.00	0.00		
2			0.00	0.00	0.00	7.7	0.00	0.00	0.00	0.00		
3			0.00	0.00	0.00	6.0	0.00	0.00	0.00	0.00		
4			0.00	0.00	0.00	4.8	0.00	0.00	0.00	0.00		
5			0.00	0.00	0.00	5.0	0.00	0.00	0.00	0.00		
6			0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00		
7			0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00		
8			0.00	0.00	0.00	0.00	0.00	21	0.00	0.00		
9			0.00	0.00	0.00	0.00	0.00	27	0.00	0.00		
10			0.00	0.00	0.00	0.00	0.00	26	0.00	0.00		
11			0.00	0.00	0.00	0.00	0.00	26	0.00	0.00		
12			0.00	0.00	0.00	0.00	0.00	25	0.00	0.00		
13			0.00	0.00	0.00	0.00	0.00	25	0.00	0.00		
14			0.00	0.00	0.00	0.00	0.00	24	0.00	0.00		
15			0.00	0.00	2.6	0.00	0.00	24	0.00	0.00		
16			0.00	0.00	34	0.00	0.00	18	0.00	0.00		
17			0.00	0.00	35	0.00	0.00	13	0.00	0.00		
18			0.00	0.00	35	0.00	0.00	7.1	0.00	0.00		
19			0.00	0.00	35	0.00	0.00	5.8	0.00	0.00		
20			0.00	0.00	35	0.00	0.00	3.5	0.00	0.00		
21			0.00	0.00	36	0.00	0.00	0.32	0.00	0.00		
22			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	40	0.00	0.00	0.00	0.00	0.00		
28			0.00	0.00	38	0.00	0.00	0.00	0.00	0.00		
29			0.00	0.00	31	0.00	0.00	0.00	0.00	0.00		
30			0.00	0.00	21	0.00	0.00	0.00	0.00	0.00		
31			0.00	---	10	---	0.00	0.00	---	0.00		
Total			0.00	0.00	532.60	26.88	0.00	246.11	0.00	0.00		
Mean			0.00	0.00	17.2	0.90	0.00	7.94	0.00	0.00		
Max			0.00	0.00	40	7.7	0.00	27	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	1,060	53	0.00	488	0.00	0.00		

06144270 SPANGLER DITCH NEAR GOVENLOCK, SASKATCHEWAN—Continued



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Water-Data Report 2007

06144350 MIDDLE CREEK NEAR SASKATCHEWAN BOUNDARY

Upper Missouri Basin
Lodge Subbasin

LOCATION.--Lat 49°25′30″, long 110°03′08″ referenced to North American Datum of 1927, in SW ¼ sec.34, T.5., R.1 W., fourth meridian, in Alberta, Hydrologic Unit 10050007, on left bank 2 mi upstream from Middle Creek Reservoir, 2 mi west of Saskatchewan boundary, 18 mi northwest of Govenlock, Saskatchewan, and at river mile 65.7.

DRAINAGE AREA.--118 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current season (seasonal records only). Prior to March 1982, published as "Middle Creek near Alberta boundary". June 1910 to April 1915, published as "at McKinnon's Ranch" and September 1949 to current season in reports of Department of the Environment, Canada.

REVISED RECORDS.-- Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,381.13 ft referenced to the Geodetic Survey of Canada datum. At different elevations prior to Mar. 1, 1951 (nonrecording gages) and Mar. 1 1951 to July 5, 1961, where water-stage recorder was located at site 0.3 mi downstream.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Minor diversions for irrigation occur upstream from station. Water Survey of Canada telemeter is located at the station.

06144350 MIDDLE CREEK NEAR SASKATCHEWAN BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.11	1.5	1.2	0.18	0.18	0.04	0.00	0.04		
2			e0.11	1.0	1.0	0.14	0.14	0.04	0.00	0.04		
3			e0.11	0.81	0.95	0.14	0.11	0.04	0.00	0.04		
4			e0.11	0.67	0.92	0.14	0.11	0.04	0.00	0.04		
5			e0.11	0.60	0.81	0.11	0.11	0.04	0.11	0.04		
6			e0.11	0.53	1.1	0.25	0.07	0.04	0.04	0.04		
7			e0.11	0.49	2.1	0.32	0.04	0.04	0.04	0.04		
8			e0.11	0.49	1.3	0.25	0.04	0.04	0.04	0.04		
9			e0.11	0.53	0.88	0.18	0.04	0.07	0.04	0.99		
10			e0.11	0.64	0.71	0.18	0.04	0.07	0.04	0.07		
11			e0.14	0.57	0.60	0.14	0.04	0.07	0.04	0.04		
12			e1.1	0.49	0.57	0.11	0.04	0.07	0.04	0.04		
13			e0.21	0.53	0.53	0.07	0.04	0.07	0.04	0.04		
14			e0.07	0.95	0.46	0.11	0.04	0.07	0.04	0.04		
15			e0.04	1.2	0.42	0.11	0.04	0.07	0.04	0.04		
16			e0.04	0.99	0.39	0.11	0.04	0.07	0.04	0.04		
17			e0.14	1.7	0.35	0.11	0.04	0.07	0.04	0.04		
18			e0.25	9.6	0.32	0.11	0.04	0.07	0.04	0.04		
19			e0.14	14	0.32	0.07	0.04	0.07	0.04	0.04		
20			e0.14	53	0.32	0.07	0.04	0.07	0.04	0.04		
21			e0.14	91	0.32	0.07	0.04	0.07	0.04	0.04		
22			e0.11	40	0.28	0.07	0.04	0.07	0.04	0.04		
23			e0.21	16	0.25	0.07	0.04	0.07	0.04	0.04		
24			e1.1	9.9	0.25	0.07	0.04	0.07	0.04	0.04		
25			e1.8	6.3	0.25	0.11	0.04	0.07	0.04	0.04		
26			e1.2	8.1	0.25	0.11	0.04	0.07	0.04	0.04		
27			e29	6.5	0.25	0.25	0.04	0.07	0.04	0.04		
28			18	3.5	0.21	0.28	0.04	0.07	0.04	0.04		
29			10	2.2	0.21	0.25	0.04	0.04	0.04	0.04		
30			4.9	1.5	0.21	0.21	0.04	0.04	0.04	0.04		
31			2.4	---	0.21	---	0.04	0.00	---	0.04		
Total			72.23	275.29	17.94	4.39	1.72	1.80	1.11	2.22		
Mean			2.33	9.18	0.58	0.15	0.06	0.06	0.04	0.07		
Max			29	91	2.1	0.32	0.18	0.07	0.11	0.99		
Min			0.04	0.49	0.21	0.07	0.04	0.00	0.00	0.04		
Ac-ft			143	546	36	8.7	3.4	3.6	2.2	4.4		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1910 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			13.5	35.5	10.6	3.68	1.72	0.69	0.93	0.43		
Max			74.2	330	136	45.1	20.0	6.99	24.8	2.38		
(WY)			(1960)	(1952)	(1967)	(1953)	(1963)	(1993)	(1986)	(1966)		
Min			0.00	0.04	0.08	0.08	0.02	0.00	0.00	0.05		
(WY)			(1950)	(2001)	(2001)	(2000)	(2001)	(2001)	(1962)	(1999)		

* During period of operation, interrupted records.

06144350 MIDDLE CREEK NEAR SASKATCHEWAN BOUNDARY—Continued

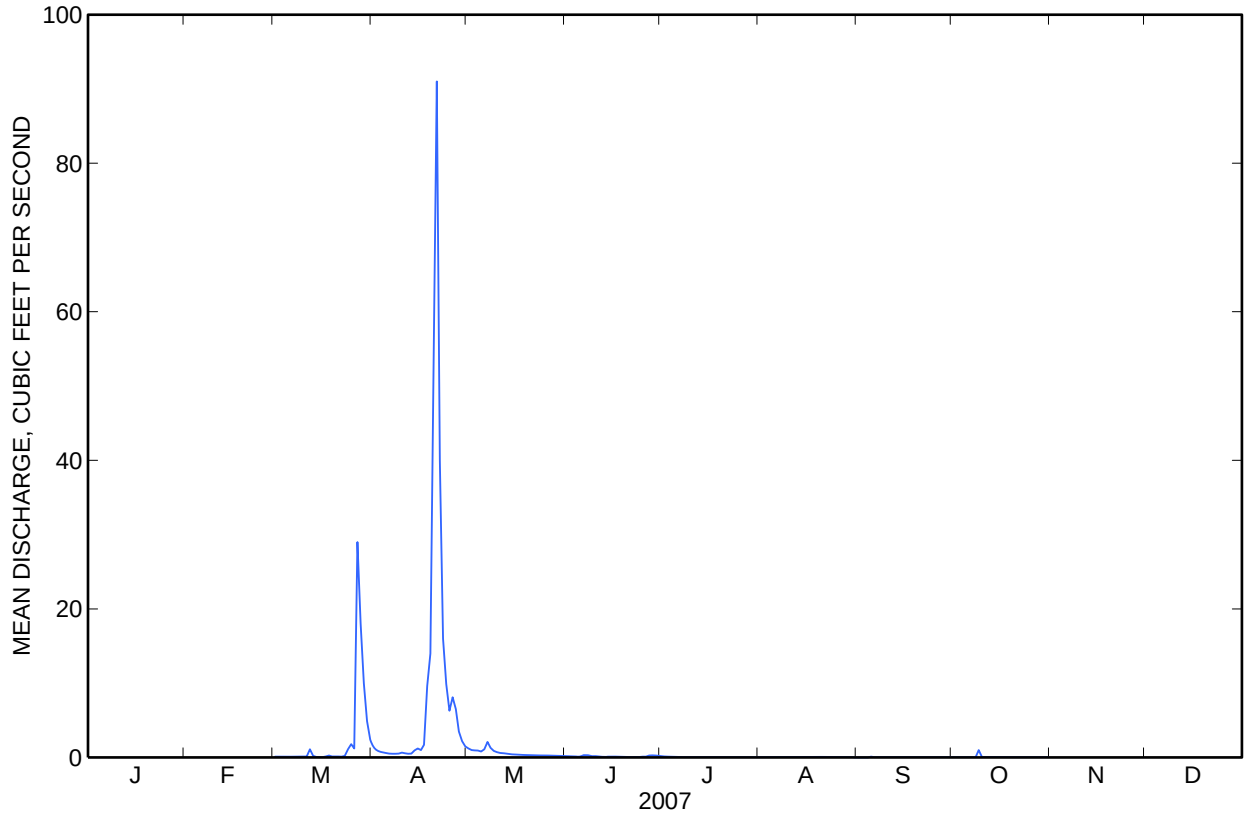
SUMMARY STATISTICS

	2007 Season		Seasons 1910 - 2007*	
Highest daily mean	91	Apr 21	2,560	Apr 15, 1952
Lowest daily mean	0	Many days	0.00	Mar 1, 1950
Maximum peak flow	109	Apr 20	[a]4,980	Apr 15, 1952
Maximum peak stage	5.75	Apr 20	[b]10.27	Apr 15, 1952

* During period of operation, interrupted records.

[a] From rating curve extended above 600 ft³/s on basis of slope-area measurement of peak flow.

[b] Previous site and datum.



06144395 MIDDLE CREEK BELOW MIDDLE CREEK RESERVOIR, NEAR GOVENLOCK, SASKATCHEWAN

Upper Missouri Basin
Lodge Subbasin

LOCATION.--Lat 49°24′44″, long 109°55′06″ referenced to North American Datum of 1927, in SW ¼ sec.25, T.5., R.30 W., third meridian, Hydrologic Unit 10050007, on right bank 9.1 mi downstream from Middle Creek Reservoir, 14 mi northwest of Govenlock, and at river mile 57.6.

DRAINAGE AREA.--149 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1972 to current season (seasonal records only). July 1909 to May 1931, September 1935 to October 1936, and April 1972 to current season in reports of Department of the Environment, Canada. Published as "at Ross Ranch" 1909-20, "at Downes and Robert's Ranch" 1920-23, and "at Wright's Ranch" 1920-31, 1935-36. Discharge measurements only during 1928 season.

REVISED RECORDS.-- Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,300 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to April 1972, non-recording gages at two sites within 2 mi of present site, at different elevations.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Flow is completely regulated by Middle Creek Reservoir (station number 06144360). Many diversions for irrigation occur upstream from station. At high reservoir levels, flow may be diverted to Lodge Creek through Middle Creek Reservoir. Diversions for irrigation of 920 acres occur between Middle Creek Reservoir and station. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 77 ft³/s, May 3, 1985; no flow at times most seasons.

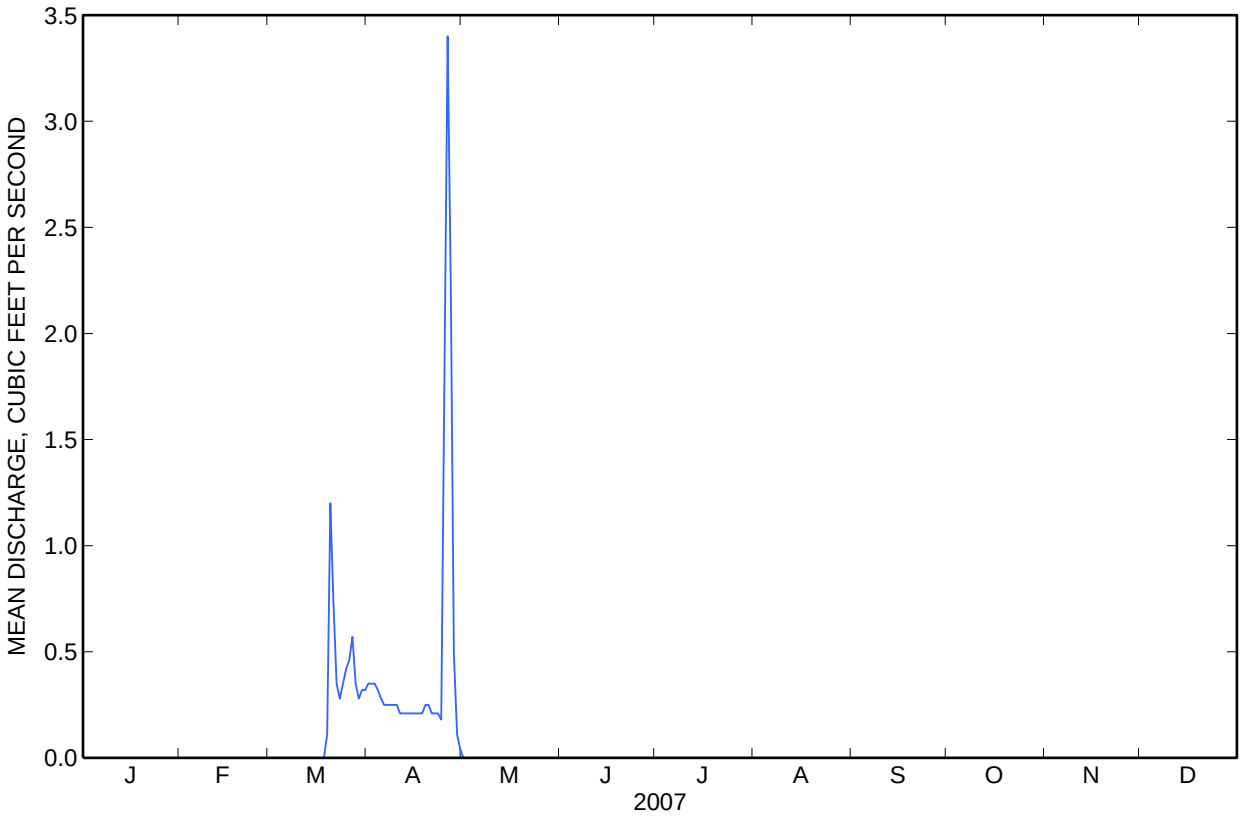
06144395 MIDDLE CREEK BELOW MIDDLE CREEK RESERVOIR, NEAR GOVENLOCK, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00		
2			e0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00		
3			e0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00		
4			e0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00		
5			e0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00		
6			e0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
7			e0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
8			e0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
9			e0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
10			e0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
11			e0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
12			e0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
13			e0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
14			e0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
15			e0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
19			0.11	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
20			1.2	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
21			0.74	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
22			0.35	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
23			0.28	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
24			0.35	0.18	0.00	0.00	0.00	0.00	0.00	0.00		
25			0.42	1.8	0.00	0.00	0.00	0.00	0.00	0.00		
26			0.46	3.4	0.00	0.00	0.00	0.00	0.00	0.00		
27			0.57	2.2	0.00	0.00	0.00	0.00	0.00	0.00		
28			0.35	0.49	0.00	0.00	0.00	0.00	0.00	0.00		
29			0.28	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
30			0.32	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
31			0.32	---	0.00	---	0.00	0.00	---	0.00		
Total			5.75	13.93	0.00	0.00	0.00	0.00	0.00	0.00		
Mean			0.19	0.46	0.00	0.00	0.00	0.00	0.00	0.00		
Max			1.2	3.4	0.00	0.00	0.00	0.00	0.00	0.00		
Min			0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			11	28	0.00	0.00	0.00	0.00	0.00	0.00		

06144395 MIDDLE CREEK BELOW MIDDLE CREEK RESERVOIR, NEAR GOVENLOCK, SASKATCHEWAN—Continued



06144440 MIDDLE CREEK NEAR GOVENLOCK, SASKATCHEWAN

Upper Missouri Basin
Lodge Subbasin

LOCATION.--Lat 49°13′42″, long 109°48′57″ referenced to North American Datum of 1927, in NW ¼ sec.23, T.3., R.29 W., third meridian, Hydrologic Unit 10050007, on left bank 43.9 mi downstream from Middle Creek Reservoir, 0.3 mi northwest of Govenlock, and at river mile 22.8.

DRAINAGE AREA.--253 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1986 to current season (seasonal records only). March 1968 to current season in reports of Department of the Environment, Canada.

GAGE.--Water-stage recorder. Elevation of gage is 3,010 ft, referenced to the National Geodetic Vertical Datum of 1929.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Natural flow of stream is affected by Middle Creek Reservoir (station 06144360), several smaller reservoirs, diversions for irrigation, and return flow from irrigated areas. At high reservoir levels, flow may be diverted to Lodge Creek through Middle Creek Reservoir. Water Survey of Canada satellite telemeter is located at the station.

06144440 MIDDLE CREEK NEAR GOVENLOCK, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e1.1	1.3	0.04	0.00	0.00	0.00	0.00		
2			e0.00	2.9	1.5	0.04	0.00	0.00	0.00	0.00		
3			e0.00	2.2	2.5	0.04	0.00	0.00	0.00	0.00		
4			e0.00	0.46	2.4	0.04	0.00	0.00	0.00	0.00		
5			e0.00	0.25	2.2	0.00	0.00	0.00	0.00	0.00		
6			e0.00	0.18	1.9	0.04	0.00	0.00	0.00	0.00		
7			e0.00	0.21	1.6	0.04	0.00	0.00	0.00	0.00		
8			e0.00	0.07	1.3	0.00	0.00	0.00	0.00	0.00		
9			e0.00	1.1	1.2	0.00	0.00	0.00	0.00	0.00		
10			e0.00	4.8	0.99	0.00	0.00	0.00	0.00	0.00		
11			e0.00	1.1	0.95	0.00	0.00	0.00	0.00	0.00		
12			e0.00	0.28	0.95	0.00	0.00	0.00	0.00	0.00		
13			e1.0	0.11	0.99	0.00	0.00	0.00	0.00	0.00		
14			e5.2	0.07	0.85	0.00	0.00	0.00	0.00	0.00		
15			e5.0	0.07	0.71	0.00	0.00	0.00	0.00	0.00		
16			e3.3	0.18	0.49	0.00	0.00	0.00	0.00	0.00		
17			e2.2	0.28	0.42	0.00	0.00	0.00	0.00	0.00		
18			e1.7	0.67	0.35	0.00	0.00	0.00	0.00	0.00		
19			e1.2	8.6	0.21	0.00	0.00	0.00	0.00	0.00		
20			e1.1	11	0.18	0.00	0.00	0.00	0.00	0.00		
21			e0.99	10	0.18	0.00	0.00	0.00	0.00	0.00		
22			e0.92	9.1	0.14	0.00	0.00	0.00	0.00	0.00		
23			e1.2	9.0	0.14	0.00	0.00	0.00	0.00	0.00		
24			e1.4	6.4	0.11	0.00	0.00	0.00	0.00	0.00		
25			e3.1	4.8	0.07	0.00	0.00	0.00	0.00	0.00		
26			e3.6	3.8	0.07	0.00	0.00	0.00	0.00	0.00		
27			e3.1	3.0	0.04	0.00	0.00	0.00	0.00	0.00		
28			e4.4	2.4	0.04	0.00	0.00	0.00	0.00	0.00		
29			e4.0	1.9	0.04	0.00	0.00	0.00	0.00	0.00		
30			e2.3	1.6	0.04	0.00	0.00	0.00	0.00	0.00		
31			e0.92	---	0.04	---	0.00	0.00	---	0.00		
Total			46.63	87.63	23.90	0.24	0.00	0.00	0.00	0.00		
Mean			1.50	2.92	0.77	0.01	0.00	0.00	0.00	0.00		
Max			5.2	11	2.5	0.04	0.00	0.00	0.00	0.00		
Min			0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.00		
Ac-ft			92	174	47	0.5	0.00	0.00	0.00	0.00		

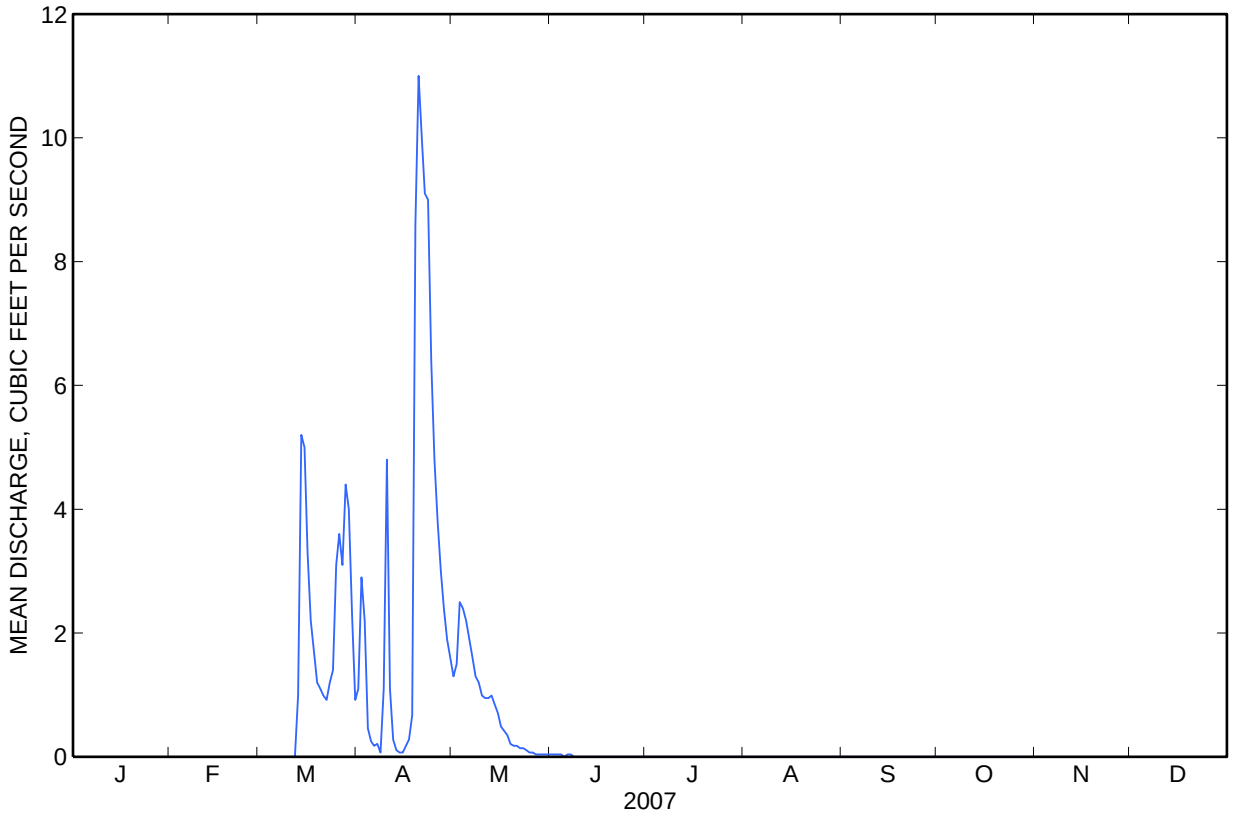
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1986 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			9.91	4.92	2.33	3.09	0.54	0.12	2.65	0.49		
Max			53.2	36.4	6.79	14.3	5.45	2.20	56.9	4.04		
(WY)			(1997)	(1996)	(1997)	(1988)	(1993)	(1993)	(1986)	(1987)		
Min			0.00	0.83	0.27	0.00	0.00	0.00	0.00	0.00		
(WY)			(2002)	(1992)	(1992)	(1992)	(1990)	(1986)	(1987)	(1991)		

06144440 MIDDLE CREEK NEAR GOVENLOCK, SASKATCHEWAN—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1986 - 2007	
Highest daily mean	11	Apr 20	724	Sep 26, 1986
Lowest daily mean	0.0	Many days	0.00	Feb 19, 1986
Maximum peak flow	13	Apr 20	1,190	Sep 25, 1986
Maximum peak stage	4.50	Apr 20	9.81	Sep 25, 1986



06144450 MIDDLE CREEK ABOVE LODGE CREEK, NEAR GOVENLOCK, SASKATCHEWAN

Upper Missouri Basin
Lodge Subbasin

LOCATION.--Lat 49°06'01", long 109°49'02" referenced to North American Datum of 1927, in NE ¼ sec.4, T.2., R.29 W., third meridian, Hydrologic Unit 10050007, on left bank, 0.7 mi upstream from Lodge Creek, and 9 mi south of Govenlock.

DRAINAGE AREA.--276 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1962 to October 1966 and February 1986 to current season. Seasonal records only. March 1911 to May 1931 and March 1962 to current season in reports of Department of the Environment, Canada. Published as "at Hammond's Ranch" 1911-31.

GAGE.--Water-stage recorder. Elevation of gage is 2,830 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Mar. 1, 1962, nonrecording gage was located at site 1,000 ft downstream at different elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Natural flow of stream is affected by Middle Creek Reservoir (station 06144360), several smaller reservoirs, diversions for irrigation, and return flow from irrigated areas. At high reservoir levels flow may be diverted to Lodge Creek through Middle Creek Reservoir. Water Survey of Canada satellite telemeter is located at the station.

06144450 MIDDLE CREEK ABOVE LODGE CREEK, NEAR GOVENLOCK, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
3			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
4			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
5			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
6			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
7			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
8			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
9			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
19			0.00	1.7	0.00	0.00	0.00	0.00	0.00	0.00		
20			0.00	3.6	0.00	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00		
22			0.00	1.9	0.00	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
28			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
29			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
31			0.00	---	0.00	---	0.00	0.00	---	0.00		
Total			0.00	8.90	0.00	0.00	0.00	0.00	0.00	0.00		
Mean			0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00		
Max			0.00	3.6	0.00	0.00	0.00	0.00	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	18	0.00	0.00	0.00	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1911 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			11.8	48.4	12.1	6.16	3.59	0.49	2.37	0.52		
Max			71.8	457	222	61.1	35.1	9.76	63.3	8.35		
(WY)			(1997)	(1917)	(1927)	(1965)	(1923)	(1915)	(1986)	(1987)		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
(WY)			(1919)	(1991)	(1989)	(1926)	(1914)	(1911)	(1912)	(1913)		

* During periods of seasonal operation (March 1911 to May 1931, March 1962 to October 1966, and February 1986 to current season).

06144450 MIDDLE CREEK ABOVE LODGE CREEK, NEAR GOVENLOCK, SASKATCHEWAN—Continued

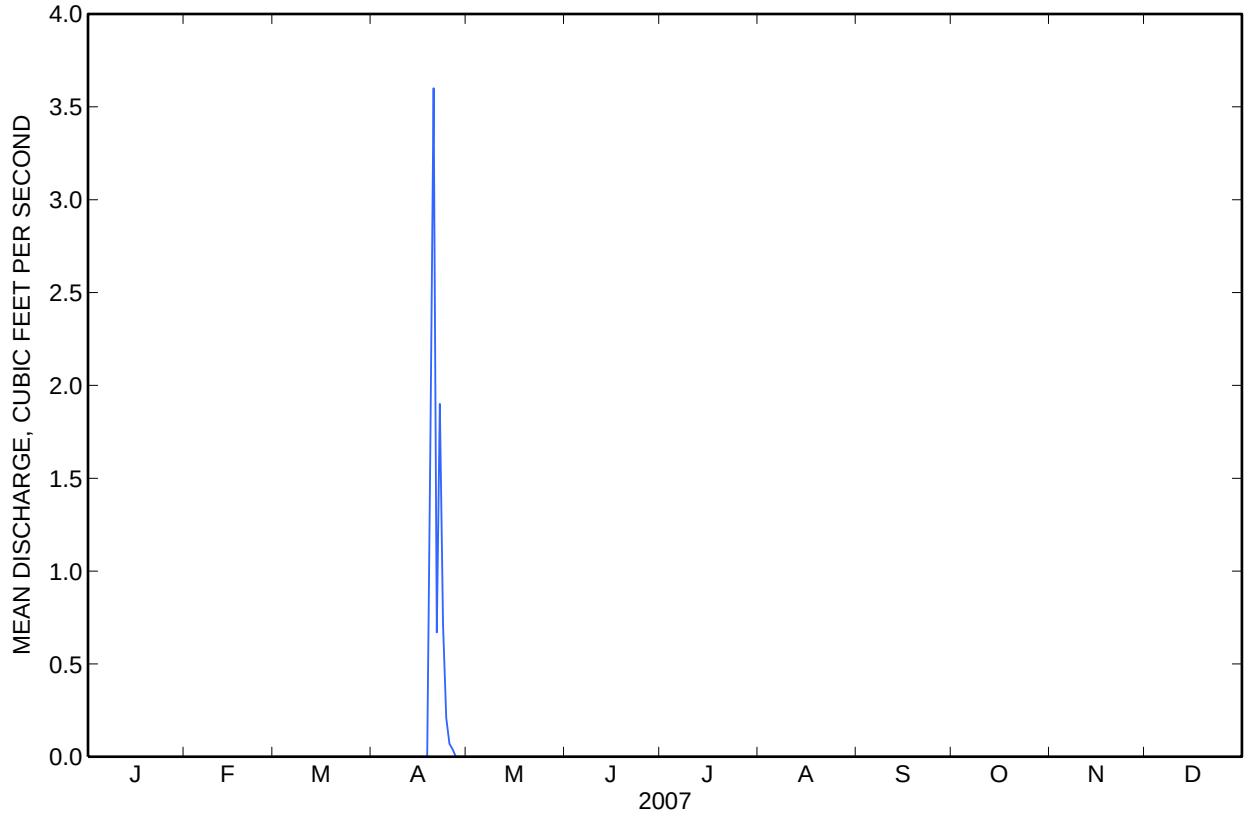
SUMMARY STATISTICS

	2007 Season		Seasons 1911 - 2007*	
Highest daily mean	3.6	Apr 20	1,170	Apr 24, 1922
Lowest daily mean	0.00	Many days	0.00	Mar 13, 1911
Maximum peak flow	9.1	Apr 20	[a]1,280	Apr 24, 1922
Maximum peak stage	4.70	Apr 20	[b]13.84	Sep 26, 1986

* During periods of seasonal operation (March 1911 to May 1931, March 1962 to October 1966, and February 1986 to current season).

[a] Observed; gage height, 10.05 ft, site and datum then in use.

[b] Discharge, 738 ft³/s.



06145500 LODGE CREEK BELOW MCRAE CREEK, AT INTERNATIONAL BOUNDARY

Upper Missouri Basin
Lodge Subbasin

(International Gaging Station)

LOCATION.--Lat 49°00′19″, long 109°43′02″ referenced to North American Datum of 1927, in SW ¼ sec.5, T.1., R.28 W., third meridian, in Saskatchewan, Hydrologic Unit 10050007, on right bank 0.3 mi downstream from McRae Creek, 0.4 mi north of international boundary, 0.8 mi northeast of Willow Creek Port of Entry, 31 mi north of Havre, and at river mile 84.3.

DRAINAGE AREA.--825 mi², of which 88 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1951 to current season (seasonal records only). Prior to October 1951, records were collected on both McRae Coulee (1927-51) and Lodge Creek above McRae Coulee (1910-51). Summations are equivalent to records at this site. Prior to March 1965, published as "below McRae Coulee."

REVISED RECORDS.-- Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,731.0 ft, referenced to the International Boundary Survey datum.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Natural flow is affected by numerous storage reservoirs, diversions for irrigation of about 3,000 acres, and return flow from irrigated areas. Water Survey of Canada satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06145500 LODGE CREEK BELOW MCRAE CREEK, AT INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	1.2	13	0.00	0.00	0.00	0.00		
2			0.00	0.00	0.92	8.4	0.00	0.00	0.00	0.00		
3			0.00	0.04	0.85	5.0	0.00	0.00	0.00	0.00		
4			0.00	0.04	0.71	3.5	0.00	0.00	0.00	0.00		
5			0.00	0.04	0.49	2.6	0.00	0.00	0.00	0.00		
6			0.00	0.04	0.39	2.2	0.00	0.00	0.00	0.00		
7			0.00	0.04	0.28	1.9	0.00	0.00	0.00	0.00		
8			0.00	0.04	0.21	1.4	0.00	0.00	0.00	0.00		
9			0.00	0.04	0.14	1.1	0.00	0.00	0.00	0.00		
10			0.00	0.04	0.07	0.88	0.00	0.00	0.00	0.00		
11			0.00	0.04	0.07	0.74	0.00	0.00	0.00	0.00		
12			12	0.04	0.04	0.57	0.00	0.00	0.00	0.00		
13			12	0.00	0.04	0.42	0.00	0.00	0.00	0.00		
14			3.9	0.00	0.04	0.35	0.00	0.00	0.00	0.00		
15			1.5	0.00	0.04	0.28	0.00	0.00	0.00	0.00		
16			0.67	0.00	0.04	0.21	0.00	0.00	0.00	0.00		
17			0.39	0.00	0.04	0.25	0.00	0.00	0.00	0.00		
18			0.25	0.00	0.04	0.18	0.00	0.00	0.00	0.00		
19			e0.18	0.07	70	0.14	0.00	0.00	0.00	0.00		
20			e0.11	83	118	0.11	0.00	0.00	0.00	0.00		
21			0.04	118	119	0.07	0.00	0.00	0.00	0.00		
22			0.00	33	118	0.04	0.00	0.00	0.00	0.00		
23			0.00	20	116	0.04	0.00	0.00	0.00	0.00		
24			0.00	11	114	0.04	0.00	0.00	0.00	0.00		
25			0.00	7.1	114	0.04	0.00	0.00	0.00	0.00		
26			0.00	5.5	111	0.04	0.00	0.00	0.00	0.00		
27			0.00	4.3	108	0.04	0.00	0.00	0.00	0.00		
28			0.00	3.4	104	0.00	0.00	0.00	0.00	0.00		
29			0.00	2.4	91	0.00	0.00	0.00	0.00	0.00		
30			0.00	1.8	34	0.00	0.00	0.00	0.00	0.00		
31			0.00	---	17	---	0.00	0.00	---	0.00		
Total			31.04	289.97	1,239.61	43.54	0.00	0.00	0.00	0.00		
Mean			1.00	9.67	40.0	1.45	0.00	0.00	0.00	0.00		
Max			12	118	119	13	0.00	0.00	0.00	0.00		
Min			0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00		
Ac-ft			62	575	2,460	86	0.00	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1952 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			52.0	129	37.9	24.0	9.17	2.11	12.7	1.34		
Max			374	1,899	500	294	174	33.1	678	52.3		
(WY)			(1997)	(1952)	(1967)	(1965)	(1955)	(1993)	(1986)	(1987)		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
(WY)			(1953)	(1992)	(1992)	(1963)	(1958)	(1954)	(1952)	(1953)		

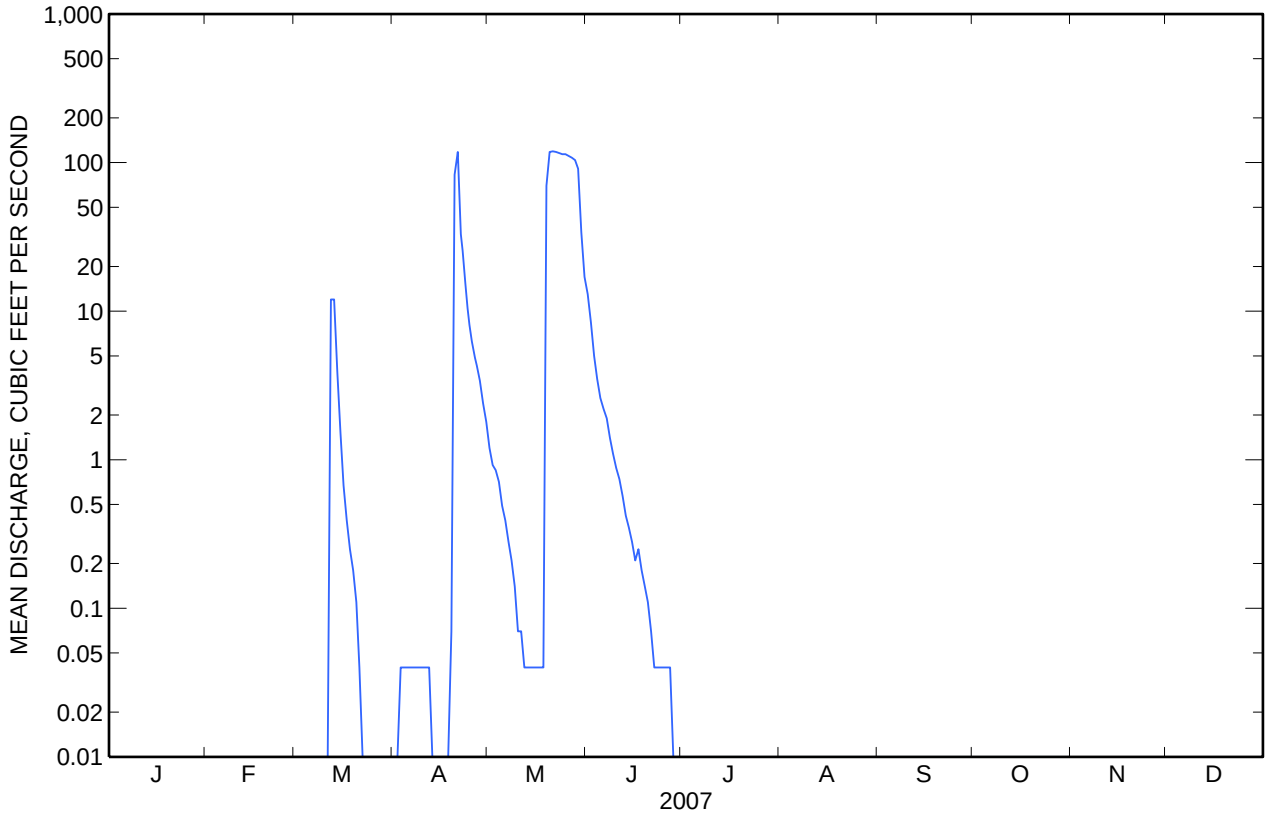
06145500 LODGE CREEK BELOW MCRAE CREEK, AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1952 - 2007	
Highest daily mean	119	May 21	7,770	Sep 26, 1986
Lowest daily mean	0.0	Many days	0.00	Mar 1, 1952 [a]
Maximum peak flow	121	May 22	[b]9,890	Sep 25, 1986
Maximum peak stage	3.85	May 22	16.36	Sep 25, 1986

[a] No flow most years.

[b] From rating curve extended 4,000 ft³/s on basis of slope-area measurement of peak flow.



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Water-Data Report 2007

06147950 GAFF DITCH NEAR MERRYFLAT, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°26'05", long 109°50'07" referenced to North American Datum of 1927, in NW ¼ sec.34, T.5., R.29 W., third meridian, Hydrologic Unit 10050008, on left bank about 200 ft downstream from headgates, and 4 mi southwest of Merryflat.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1972 to current season (seasonal record only). March 1964 to current season in reports of Department of the Environment, Canada.

GAGE.--Water-stage recorder. Elevation of gage is 3,350 ft, referenced to the National Geodetic Vertical Datum of 1929.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair. Water is diverted from left bank of Battle Creek in NW¼ sec.34, T.5, R.29 W., third meridian, for irrigation of about 890 acres along Battle Creek. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 42 ft^3/s, Apr. 22, 1971; no flows at times each season.

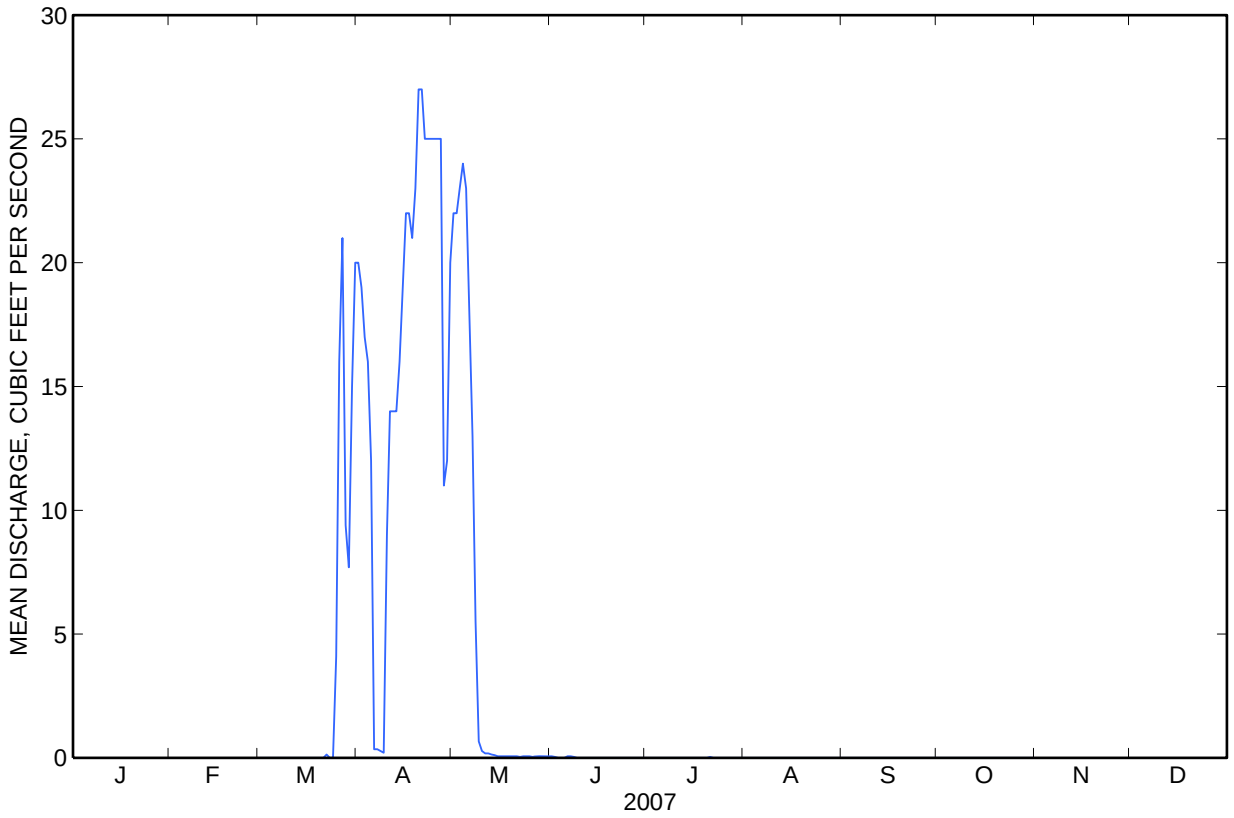
06147950 GAFF DITCH NEAR MERRYFLAT, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	20	22	0.07	0.00	0.00	0.00	0.00		
2			e0.00	19	22	0.04	0.00	0.00	0.00	0.00		
3			e0.00	17	23	0.00	0.00	0.00	0.00	0.00		
4			e0.00	16	24	0.00	0.00	0.00	0.00	0.00		
5			e0.00	12	23	0.00	0.00	0.00	0.00	0.00		
6			e0.00	0.35	18	0.07	0.00	0.00	0.00	0.00		
7			e0.00	0.35	13	0.07	0.00	0.00	0.00	0.00		
8			e0.00	0.28	5.5	0.04	0.00	0.00	0.00	0.00		
9			e0.00	0.21	0.67	0.00	0.00	0.00	0.00	0.00		
10			e0.00	9.0	0.28	0.00	0.00	0.00	0.00	0.00		
11			e0.00	14	0.18	0.00	0.00	0.00	0.00	0.00		
12			e0.00	14	0.18	0.00	0.00	0.00	0.00	0.00		
13			e0.00	14	0.14	0.00	0.00	0.00	0.00	0.00		
14			e0.00	16	0.11	0.00	0.00	0.00	0.00	0.00		
15			e0.00	19	0.07	0.00	0.00	0.00	0.00	0.00		
16			e0.00	22	0.07	0.00	0.00	0.00	0.00	0.00		
17			e0.00	22	0.07	0.00	0.00	0.00	0.00	0.00		
18			e0.00	21	0.07	0.00	0.00	0.00	0.00	0.00		
19			e0.00	23	0.07	0.00	0.00	0.00	0.00	0.00		
20			e0.00	27	0.07	0.00	0.00	0.00	0.00	0.00		
21			e0.00	27	0.07	0.00	0.04	0.00	0.00	0.00		
22			e0.14	25	0.04	0.00	0.00	0.00	0.00	0.00		
23			e0.00	25	0.07	0.00	0.00	0.00	0.00	0.00		
24			e0.00	25	0.07	0.00	0.00	0.00	0.00	0.00		
25			e4.1	25	0.07	0.00	0.00	0.00	0.00	0.00		
26			16	25	0.04	0.00	0.00	0.00	0.00	0.00		
27			21	25	0.07	0.00	0.00	0.00	0.00	0.00		
28			9.4	11	0.07	0.00	0.00	0.00	0.00	0.00		
29			7.7	12	0.07	0.00	0.00	0.00	0.00	0.00		
30			15	20	0.07	0.00	0.00	0.00	0.00	0.00		
31			20	---	0.07	---	0.00	0.00	---	0.00		
Total			93.34	506.19	153.19	0.29	0.04	0.00	0.00	0.00		
Mean			3.01	16.9	4.94	0.01	0.00	0.00	0.00	0.00		
Max			21	27	24	0.07	0.04	0.00	0.00	0.00		
Min			0.00	0.21	0.04	0.00	0.00	0.00	0.00	0.00		
Ac-ft			185	1,000	304	0.6	0.08	0.00	0.00	0.00		

06147950 GAFF DITCH NEAR MERRYFLAT, SASKATCHEWAN—Continued



06148500 CYPRESS LAKE WEST INFLOW CANAL NEAR WEST PLAINS, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°28′18″, long 109°37′08″ referenced to North American Datum of 1927, in SE ¼ sec.18, T.6., R.27 W., third meridian, Hydrologic Unit 10050008, on left bank 2.5 mi downstream from canal headgates, 5.5 mi northeast of West Plains, and 13 mi northwest of Consul.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1939 to current season (seasonal records only). Monthly discharge only for some periods, published in Water Supply Paper 1309.

GAGE.--Water-stage recorder. Elevation of gage is 3,210 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1956, at site 2.3 mi upstream at different elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Canal diverts water from Battle Creek in NW¼ sec.1, T.6, R.28 W., third meridian, for storage in Cypress Lake. Part or all of flow may be returned to Battle Creek via Cypress Lake west inflow canal drain (station 06148700) 0.4 mi downstream. Water Survey of Canada satellite telemeter is located at the station.

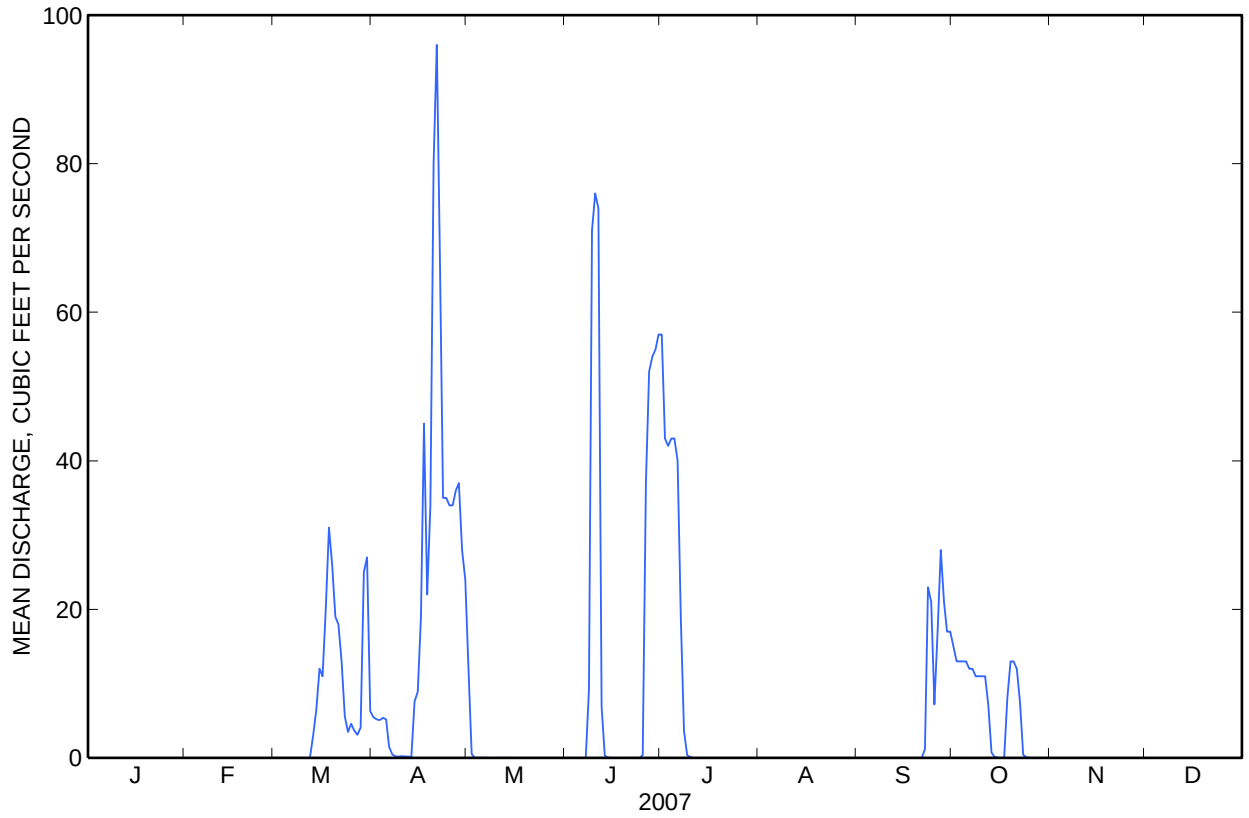
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 884 ft^3/s, Apr. 27, 1965; no flow at times each season.

06148500 CYPRESS LAKE WEST INFLOW CANAL NEAR WEST PLAINS, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e5.5	12	0.00	57	0.00	0.00	15		
2			e0.00	e5.2	0.53	0.00	43	0.00	0.00	13		
3			e0.00	e5.1	0.04	0.00	42	0.00	0.00	13		
4			e0.00	e5.4	0.07	0.00	43	0.00	0.00	13		
5			e0.00	e5.2	0.04	0.00	43	0.00	0.00	13		
6			e0.00	1.5	0.00	0.00	40	0.00	0.00	12		
7			e0.00	0.46	0.00	0.00	19	0.00	0.00	12		
8			e0.00	0.21	0.00	9.2	3.6	0.00	0.00	11		
9			e0.00	0.18	0.00	71	0.35	0.00	0.00	11		
10			e0.00	0.25	0.00	76	0.11	0.00	0.00	11		
11			e0.00	0.21	0.04	74	0.00	0.00	0.00	11		
12			e0.00	0.18	0.04	6.9	0.00	0.00	0.00	7.1		
13			e3.0	0.14	0.00	0.28	0.00	0.00	0.00	0.71		
14			e6.5	7.6	0.00	0.07	0.00	0.00	0.00	0.14		
15			e12	8.9	0.00	0.00	0.00	0.00	0.00	0.04		
16			e11	19	0.00	0.00	0.00	0.00	0.00	0.00		
17			e20	45	0.00	0.00	0.00	0.00	0.00	0.00		
18			e31	22	0.00	0.00	0.00	0.00	0.00	8.1		
19			e26	34	0.00	0.00	0.00	0.00	0.00	13		
20			e19	80	0.00	0.00	0.00	0.00	0.00	13		
21			e18	96	0.00	0.00	0.00	0.00	0.00	12		
22			e13	68	0.00	0.00	0.00	0.00	1.2	7.5		
23			e5.6	35	0.00	0.00	0.00	0.00	23	0.42		
24			e3.5	35	0.00	0.00	0.00	0.00	21	0.07		
25			e4.6	34	0.00	0.39	0.00	0.00	7.2	0.04		
26			e3.7	34	0.00	37	0.00	0.00	17	0.00		
27			e3.1	36	0.00	52	0.00	0.00	28	0.00		
28			e4.1	37	0.00	54	0.00	0.00	21	0.00		
29			e25	28	0.00	55	0.00	0.00	17	0.00		
30			e27	24	0.00	57	0.00	0.00	17	0.00		
31			e6.3	---	0.00	---	0.00	0.00	---	0.00		
Total			242.40	673.03	12.76	492.84	291.06	0.00	152.40	197.12		
Mean			7.82	22.4	0.41	16.4	9.39	0.00	5.08	6.36		
Max			31	96	12	76	57	0.00	28	15		
Min			0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			481	1,330	25	978	577	0.00	302	391		

06148500 CYPRESS LAKE WEST INFLOW CANAL NEAR WEST PLAINS, SASKATCHEWAN—Continued



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06148700 CYPRESS LAKE WEST INFLOW CANAL DRAIN NEAR OXARAT, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°28′25″, long 109°36′38″ referenced to North American Datum of 1927, in NW ¼ sec.17, T.6., R.27 W., third meridian, Hydrologic Unit 10050008, on left bank about 500 ft downstream from drain gate on Cypress Lake west inflow canal, 0.5 mi upstream from Battle Creek, and 4 mi northwest of Oxarat.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current season (seasonal records only). March 1955 to current season in reports of Department of the Environment, Canada.

GAGE.--Water-stage recorder. Elevation of gage is 3,200 ft, referenced to the National Geodetic Vertical Datum of 1929.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are poor. Drain used as an emergency bypass to return diverted water to Battle Creek. It may also be used to return stored water from Cypress Lake when lake stage is high.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 450 ft^3/s, Apr. 20, 1955; no flow at times each season.

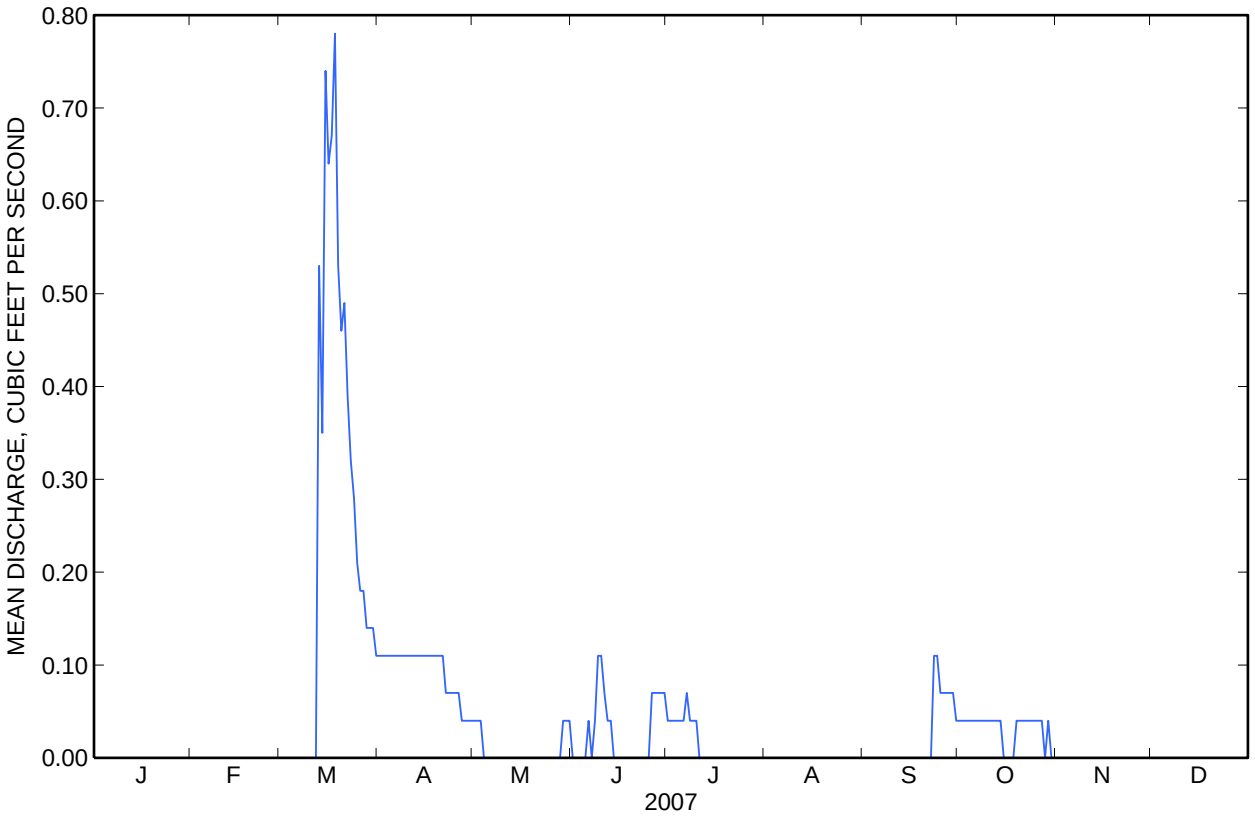
06148700 CYPRESS LAKE WEST INFLOW CANAL DRAIN NEAR OXARAT, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	0.11	0.04	0.00	0.04	0.00	0.00	0.04		
2			e0.00	0.11	0.04	0.00	0.04	0.00	0.00	0.04		
3			e0.00	0.11	0.04	0.00	0.04	0.00	0.00	0.04		
4			e0.00	0.11	0.00	0.00	0.04	0.00	0.00	0.04		
5			e0.00	0.11	0.00	0.00	0.04	0.00	0.00	0.04		
6			e0.00	0.11	0.00	0.04	0.04	0.00	0.00	0.04		
7			e0.00	0.11	0.00	0.00	0.07	0.00	0.00	0.04		
8			e0.00	0.11	0.00	0.04	0.04	0.00	0.00	0.04		
9			e0.00	0.11	0.00	0.11	0.04	0.00	0.00	0.04		
10			e0.00	0.11	0.00	0.11	0.04	0.00	0.00	0.04		
11			e0.00	0.11	0.00	0.07	0.00	0.00	0.00	0.04		
12			e0.00	0.11	0.00	0.04	0.00	0.00	0.00	0.04		
13			e0.53	0.11	0.00	0.04	0.00	0.00	0.00	0.04		
14			e0.35	0.11	0.00	0.00	0.00	0.00	0.00	0.04		
15			e0.74	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
16			e0.64	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
17			e0.67	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
18			e0.78	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
19			0.53	0.11	0.00	0.00	0.00	0.00	0.00	0.04		
20			0.46	0.11	0.00	0.00	0.00	0.00	0.00	0.04		
21			0.49	0.11	0.00	0.00	0.00	0.00	0.00	0.04		
22			0.39	0.07	0.00	0.00	0.00	0.00	0.00	0.04		
23			0.32	0.07	0.00	0.00	0.00	0.00	0.11	0.04		
24			0.28	0.07	0.00	0.00	0.00	0.00	0.11	0.04		
25			0.21	0.07	0.00	0.00	0.00	0.00	0.07	0.04		
26			0.18	0.07	0.00	0.07	0.00	0.00	0.07	0.04		
27			0.18	0.04	0.00	0.07	0.00	0.00	0.07	0.04		
28			0.14	0.04	0.00	0.07	0.00	0.00	0.07	0.00		
29			0.14	0.04	0.04	0.07	0.00	0.00	0.07	0.04		
30			0.14	0.04	0.04	0.07	0.00	0.00	0.04	0.00		
31			0.11	---	0.04	---	0.00	0.00	---	0.00		
Total			7.28	2.82	0.24	0.80	0.43	0.00	0.61	0.96		
Mean			0.23	0.09	0.01	0.03	0.01	0.00	0.02	0.03		
Max			0.78	0.11	0.04	0.11	0.07	0.00	0.11	0.04		
Min			0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			14	5.6	0.5	1.6	0.9	0.00	1.2	1.9		

06148700 CYPRESS LAKE WEST INFLOW CANAL DRAIN NEAR OXARAT, SASKATCHEWAN—Continued



06149000 CYPRESS LAKE WEST OUTFLOW CANAL NEAR WEST PLAINS, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°28′14″, long 109°35′18″ referenced to North American Datum of 1927, in SW ¼ sec.16, T.6., R.27 W., third meridian, Hydrologic Unit 10050008, on left bank 1.1 mi downstream from Cypress Lake West Dam, 6 mi northeast of West Plains, and 13 mi north of Consul.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1940 to current season (seasonal records only). Monthly discharge only for some periods, published in Water Supply Paper 1309.

GAGE.--Water-stage recorder. Elevation of gage is 3,180 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Sept. 18, 1952, at site 1 mi upstream and 300 ft downstream from Cypress Lake West Dam at different elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair. Canal diverts water from Cypress Lake in NW¼ sec.15, T.6, R.27 W., third meridian, for irrigation of 5,500 acres in Battle Creek basin in Saskatchewan. Water may be delivered to Battle Creek or diverted into Vidora Ditch at gate structure near lower end of canal. Water Survey of Canada satellite telemeter is located at the station.

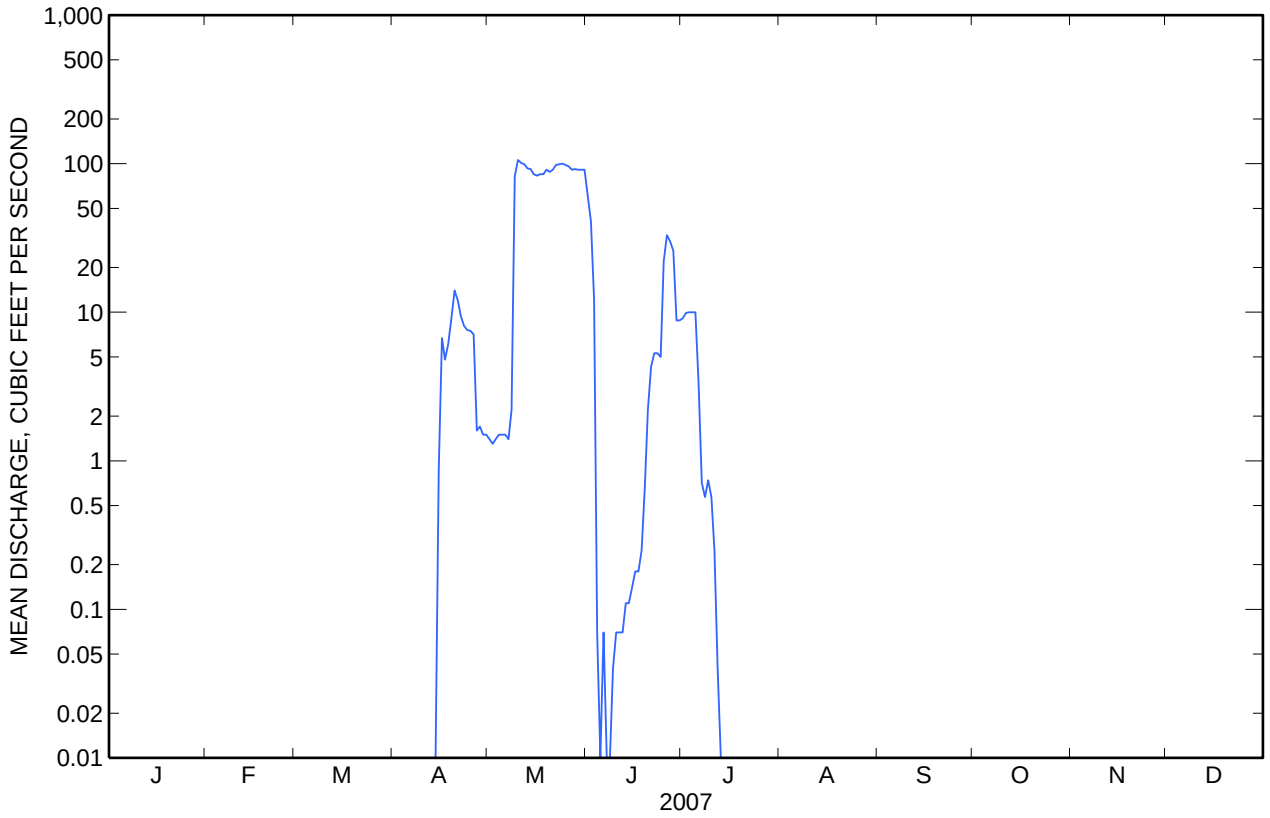
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 304 ft^3/s, May 4, 1951; no flow at times each season.

06149000 CYPRESS LAKE WEST OUTFLOW CANAL NEAR WEST PLAINS, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	1.4	61	9.1	0.00	0.00	0.00		
2			0.00	0.00	1.3	41	9.9	0.00	0.00	0.00		
3			0.00	0.00	1.4	12	10	0.00	0.00	0.00		
4			0.00	0.00	1.5	0.07	10	0.00	0.00	0.00		
5			0.00	0.00	1.5	0.00	10	0.00	0.00	0.00		
6			0.00	0.00	1.5	0.07	3.3	0.00	0.00	0.00		
7			0.00	0.00	1.4	0.00	0.71	0.00	0.00	0.00		
8			0.00	0.00	2.2	0.00	0.57	0.00	0.00	0.00		
9			0.00	0.00	82	0.04	0.74	0.00	0.00	0.00		
10			0.00	0.00	106	0.07	0.57	0.00	0.00	0.00		
11			0.00	0.00	101	0.07	0.25	0.00	0.00	0.00		
12			0.00	0.00	99	0.07	0.04	0.00	0.00	0.00		
13			0.00	0.00	93	0.11	0.00	0.00	0.00	0.00		
14			0.00	0.00	92	0.11	0.00	0.00	0.00	0.00		
15			0.00	0.88	85	0.14	0.00	0.00	0.00	0.00		
16			0.00	6.7	83	0.18	0.00	0.00	0.00	0.00		
17			0.00	4.8	85	0.18	0.00	0.00	0.00	0.00		
18			0.00	6.1	85	0.25	0.00	0.00	0.00	0.00		
19			0.00	9.1	91	0.67	0.00	0.00	0.00	0.00		
20			0.00	14	88	2.2	0.00	0.00	0.00	0.00		
21			0.00	12	91	4.3	0.00	0.00	0.00	0.00		
22			0.00	9.4	98	5.3	0.00	0.00	0.00	0.00		
23			0.00	8.1	99	5.3	0.00	0.00	0.00	0.00		
24			0.00	7.6	100	5.0	0.00	0.00	0.00	0.00		
25			0.00	7.5	98	22	0.00	0.00	0.00	0.00		
26			0.00	7.1	96	33	0.00	0.00	0.00	0.00		
27			0.00	1.6	91	30	0.00	0.00	0.00	0.00		
28			0.00	1.7	92	26	0.00	0.00	0.00	0.00		
29			0.00	1.5	91	8.8	0.00	0.00	0.00	0.00		
30			0.00	1.5	91	8.8	0.00	0.00	0.00	0.00		
31			0.00	---	91	---	0.00	0.00	---	0.00		
Total			0.00	99.58	2,140.2	266.73	55.18	0.00	0.00	0.00		
Mean			0.00	3.32	69.0	8.89	1.78	0.00	0.00	0.00		
Max			0.00	14	106	61	10	0.00	0.00	0.00		
Min			0.00	0.00	1.3	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	198	4,250	529	109	0.00	0.00	0.00		

06149000 CYPRESS LAKE WEST OUTFLOW CANAL NEAR WEST PLAINS, SASKATCHEWAN—Continued



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Water-Data Report 2007

06149100 VIDORA DITCH NEAR CONSUL, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°27′27″, long 109°35′30″ referenced to North American Datum of 1927, in SW ¼ sec.9, T.6., R.27 W., third meridian, Hydrologic Unit 10050008, on left bank 0.5 mi downstream from headgate near lower end of Cypress Lake west outflow canal, and 12 mi north of Consul.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current season (seasonal records only). March 1952 to current season in reports of Department of the Environment, Canada.

GAGE.--Water-stage recorder. Elevation of gage is 3,200 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1963, at elevation 1.0 ft higher.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair. Canal diverts water from Cypress Lake west outflow canal in NE¼ sec.8, T.6, R.27 W., third meridian, for irrigation of about 2,140 acres in the Battle Creek basin. Water may be delivered either to this canal or returned to Battle Creek from Cypress Lake. Water Survey of Canada satellite telemeter is located at the station.

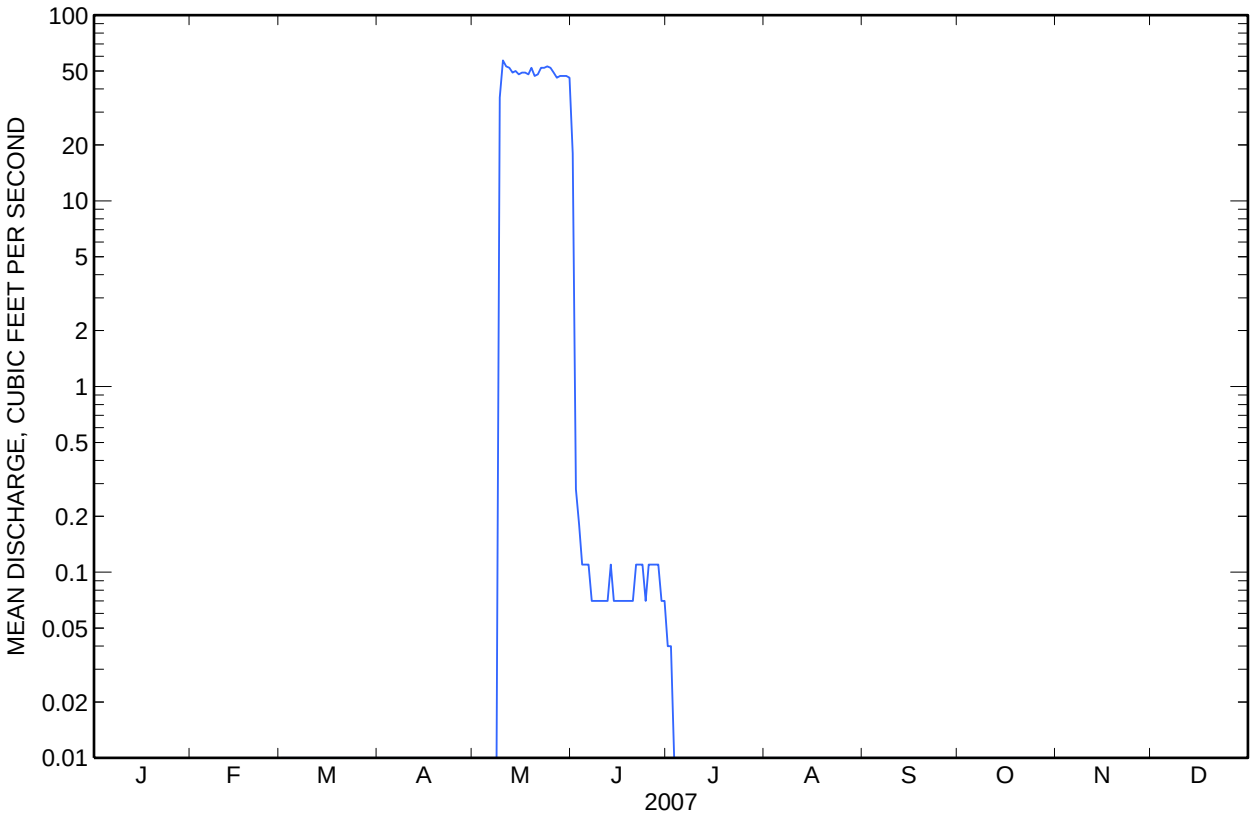
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 101 ft^3/s, May 26, 1988; no flow at times each season.

06149100 VIDORA DITCH NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	18	0.04	0.00	0.00	0.00		
2			0.00	0.00	0.00	0.28	0.04	0.00	0.00	0.00		
3			0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00		
4			0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00		
5			0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00		
6			0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00		
7			0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00		
8			0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00		
9			0.00	0.00	36	0.07	0.00	0.00	0.00	0.00		
10			0.00	0.00	57	0.07	0.00	0.00	0.00	0.00		
11			0.00	0.00	53	0.07	0.00	0.00	0.00	0.00		
12			0.00	0.00	52	0.07	0.00	0.00	0.00	0.00		
13			0.00	0.00	49	0.11	0.00	0.00	0.00	0.00		
14			0.00	0.00	50	0.07	0.00	0.00	0.00	0.00		
15			0.00	0.00	48	0.07	0.00	0.00	0.00	0.00		
16			0.00	0.00	49	0.07	0.00	0.00	0.00	0.00		
17			0.00	0.00	49	0.07	0.00	0.00	0.00	0.00		
18			0.00	0.00	48	0.07	0.00	0.00	0.00	0.00		
19			0.00	0.00	52	0.07	0.00	0.00	0.00	0.00		
20			0.00	0.00	47	0.07	0.00	0.00	0.00	0.00		
21			0.00	0.00	48	0.11	0.00	0.00	0.00	0.00		
22			0.00	0.00	52	0.11	0.00	0.00	0.00	0.00		
23			0.00	0.00	52	0.11	0.00	0.00	0.00	0.00		
24			0.00	0.00	53	0.07	0.00	0.00	0.00	0.00		
25			0.00	0.00	52	0.11	0.00	0.00	0.00	0.00		
26			0.00	0.00	49	0.11	0.00	0.00	0.00	0.00		
27			0.00	0.00	46	0.11	0.00	0.00	0.00	0.00		
28			0.00	0.00	47	0.11	0.00	0.00	0.00	0.00		
29			0.00	0.00	47	0.07	0.00	0.00	0.00	0.00		
30			0.00	0.00	47	0.07	0.00	0.00	0.00	0.00		
31			0.00	---	46	---	0.00	0.00	---	0.00		
Total			0.00	0.00	1,129.00	20.79	0.08	0.00	0.00	0.00		
Mean			0.00	0.00	36.4	0.69	0.00	0.00	0.00	0.00		
Max			0.00	0.00	57	18	0.04	0.00	0.00	0.00		
Min			0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	2,240	41	0.2	0.00	0.00	0.00		

06149100 VIDORA DITCH NEAR CONSUL, SASKATCHEWAN—Continued



06149200 RICHARDSON DITCH NEAR CONSUL, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°21′50″, long 109°32′12″ referenced to North American Datum of 1927, near center of south line of sec.11, T.5., R.27 W., third meridian, Hydrologic Unit 10050008, on left bank 420 ft downstream from headgate, and 4.8 mi north of Consul.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current season (seasonal records only). 1910-12, 1914, 1916-20, 1922-33, 1935, July 1946 to current season in reports of Department of the Environment, Canada. Estimates of seasonal diversion only in most seasons prior to 1946.

GAGE.--Water-stage recorder. Prior to June 26, 1949, nonrecording gages at different sites and elevations. June 26, 1949, to Aug. 28, 1963, water-stage recorder at present site at elevation 1.00 ft higher.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Ditch diverts from left bank of Battle Creek in SW¼ sec.11, T.5, R.27 W., third meridian, for irrigation of about 1,330 acres along Battle Creek. Water Survey of Canada satellite telemeter is located at the station.

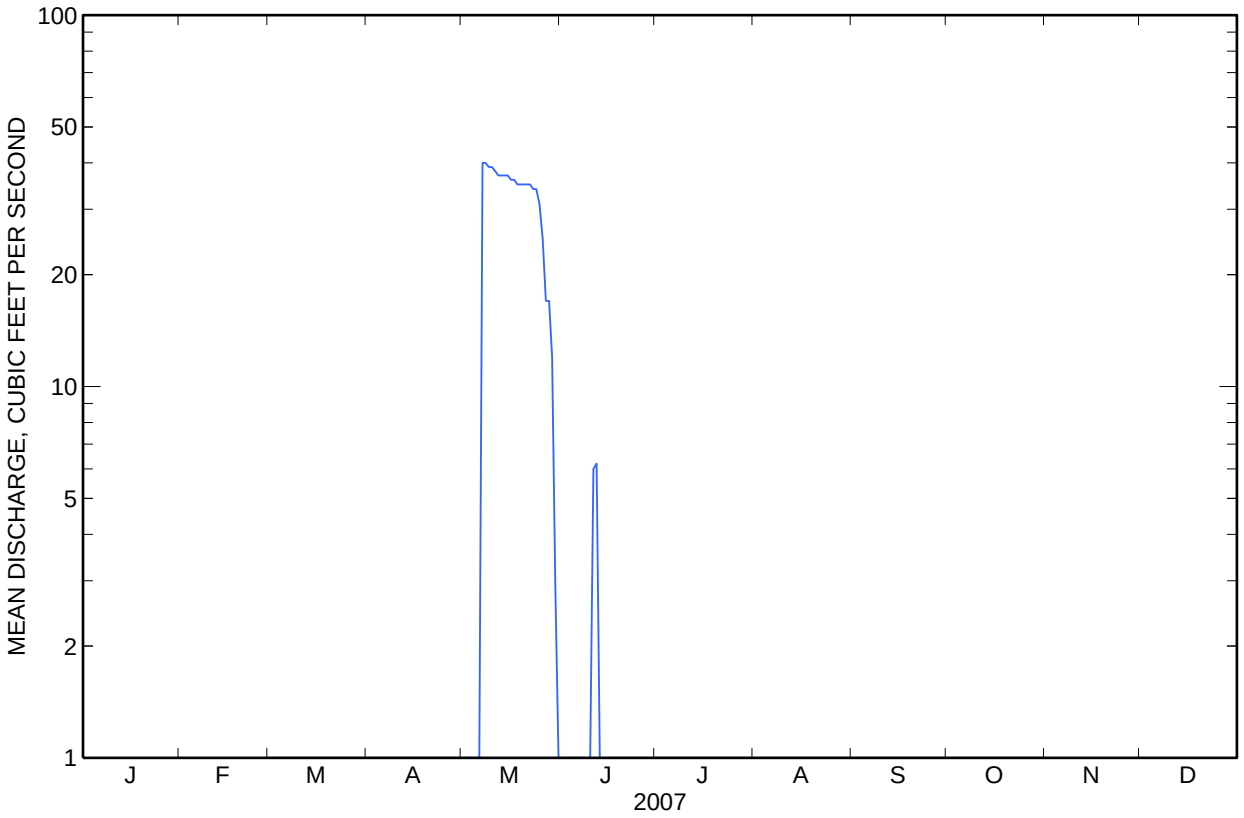
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 72 ft^3/s, June 15, 1974; no flow at times each season.

06149200 RICHARDSON DITCH NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
3			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
4			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
5			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
6			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
7			0.00	0.00	40	0.00	0.00	0.00	0.00	0.00		
8			0.00	0.00	40	0.00	0.00	0.00	0.00	0.00		
9			0.00	0.00	39	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.00	39	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.00	38	6.0	0.00	0.00	0.00	0.00		
12			0.00	0.00	37	6.2	0.00	0.00	0.00	0.00		
13			0.00	0.00	37	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	37	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	37	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	34	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	34	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	31	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	25	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	17	0.00	0.00	0.00	0.00	0.00		
28			0.00	0.00	17	0.00	0.00	0.00	0.00	0.00		
29			0.00	0.00	12	0.00	0.00	0.00	0.00	0.00		
30			0.00	0.00	2.9	0.00	0.00	0.00	0.00	0.00		
31			0.00	---	0.00	---	0.00	0.00	---	0.00		
Total			0.00	0.00	763.90	12.20	0.00	0.00	0.00	0.00		
Mean			0.00	0.00	24.6	0.41	0.00	0.00	0.00	0.00		
Max			0.00	0.00	40	6.2	0.00	0.00	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	1,520	24	0.00	0.00	0.00	0.00		

06149200 RICHARDSON DITCH NEAR CONSUL, SASKATCHEWAN—Continued



06149300 MCKINNON DITCH NEAR CONSUL, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°20′00″, long 109°29′40″ referenced to North American Datum of 1927, in NW ¼ sec.30, T.4., R.26 W., third meridian, Hydrologic Unit 10050008, on right bank 1.0 mi downstream from headgate on Battle Creek, and 2.7 mi northeast of Consul.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current season (seasonal records only). 1911-26, 1929-31, and March 1938 to current season in reports of Department of the Environment, Canada. Estimates of seasonal diversions only in many years prior to 1947.

GAGE.--Water-stage recorder. Prior to September 1949, nonrecording gages at various sites and elevations. Sept. 4, 1949, to Aug. 29, 1963, water-stage recorder at present site at elevation 1.00 ft higher.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Ditch diverts water from right bank of Battle Creek in NE¼ sec.30, T.4, R.26 W., third meridian, for irrigation of about 1,320 acres along Battle Creek. Water Survey of Canada satellite telemeter is located at the station.

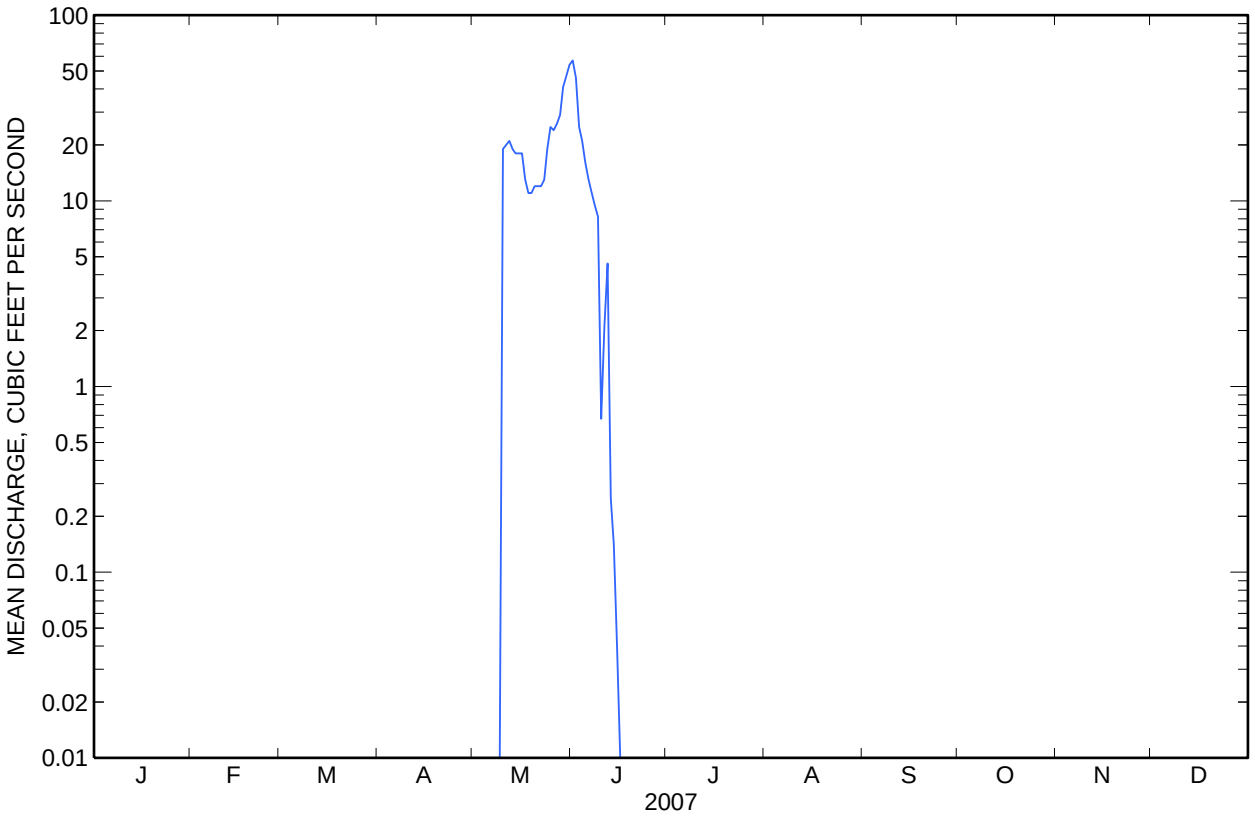
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 68 ft^3/s, June 18, 1975; no flow at times each season.

06149300 MCKINNON DITCH NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	57	0.00	0.00	0.00	0.00		
2			0.00	0.00	0.00	46	0.00	0.00	0.00	0.00		
3			0.00	0.00	0.00	25	0.00	0.00	0.00	0.00		
4			0.00	0.00	0.00	21	0.00	0.00	0.00	0.00		
5			0.00	0.00	0.00	16	0.00	0.00	0.00	0.00		
6			0.00	0.00	0.00	13	0.00	0.00	0.00	0.00		
7			0.00	0.00	0.00	11	0.00	0.00	0.00	0.00		
8			0.00	0.00	0.00	9.4	0.00	0.00	0.00	0.00		
9			0.00	0.00	0.00	8.2	0.00	0.00	0.00	0.00		
10			0.00	0.00	19	0.67	0.00	0.00	0.00	0.00		
11			0.00	0.00	20	2.1	0.00	0.00	0.00	0.00		
12			0.00	0.00	21	4.6	0.00	0.00	0.00	0.00		
13			0.00	0.00	19	0.25	0.00	0.00	0.00	0.00		
14			0.00	0.00	18	0.14	0.00	0.00	0.00	0.00		
15			0.00	0.00	18	0.04	0.00	0.00	0.00	0.00		
16			0.00	0.00	18	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	13	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	11	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	11	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	12	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	12	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	12	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	13	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	19	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	25	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	24	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	26	0.00	0.00	0.00	0.00	0.00		
28			0.00	0.00	29	0.00	0.00	0.00	0.00	0.00		
29			0.00	0.00	41	0.00	0.00	0.00	0.00	0.00		
30			0.00	0.00	47	0.00	0.00	0.00	0.00	0.00		
31			0.00	---	54	---	0.00	0.00	---	0.00		
Total			0.00	0.00	482.00	214.40	0.00	0.00	0.00	0.00		
Mean			0.00	0.00	15.5	7.15	0.00	0.00	0.00	0.00		
Max			0.00	0.00	54	57	0.00	0.00	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	956	425	0.00	0.00	0.00	0.00		

06149300 MCKINNON DITCH NEAR CONSUL, SASKATCHEWAN—Continued



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06149400 NASHLYN CANAL NEAR CONSUL, SASKATCHEWAN

Upper Missouri Basin
Battle Subbasin

LOCATION.--Lat 49°13′57″, long 109°33′27″ referenced to North American Datum of 1927, in NE ¼ sec.22, T.3., R.27 W., third meridian, Hydrologic Unit 10050008, on left bank 0.8 mi downstream from headgate on Battle Creek, and 5.9 mi south of Consul.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current season (seasonal records only); 1912, 1914-35, 1938 to current season in reports of Department of the Environment, Canada. Prior to March 1950, estimates of seasonal diversions only in many seasons. Prior to Mar. 1, 1971, published as "Stirling and Nash Ditch".

GAGE.--Water-stage recorder. Prior to Sept. 21, 1949, water-stage recorder at present site or nonrecording gages at site 0.5 mi downstream at different elevations.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Ditch diverts water from left bank of Battle Creek in SW¼ sec.27, T.3, R.27 W., third meridian, for irrigation of about 1,880 acres along Battle Creek. Water Survey of Canada satellite telemeter is located at the station.

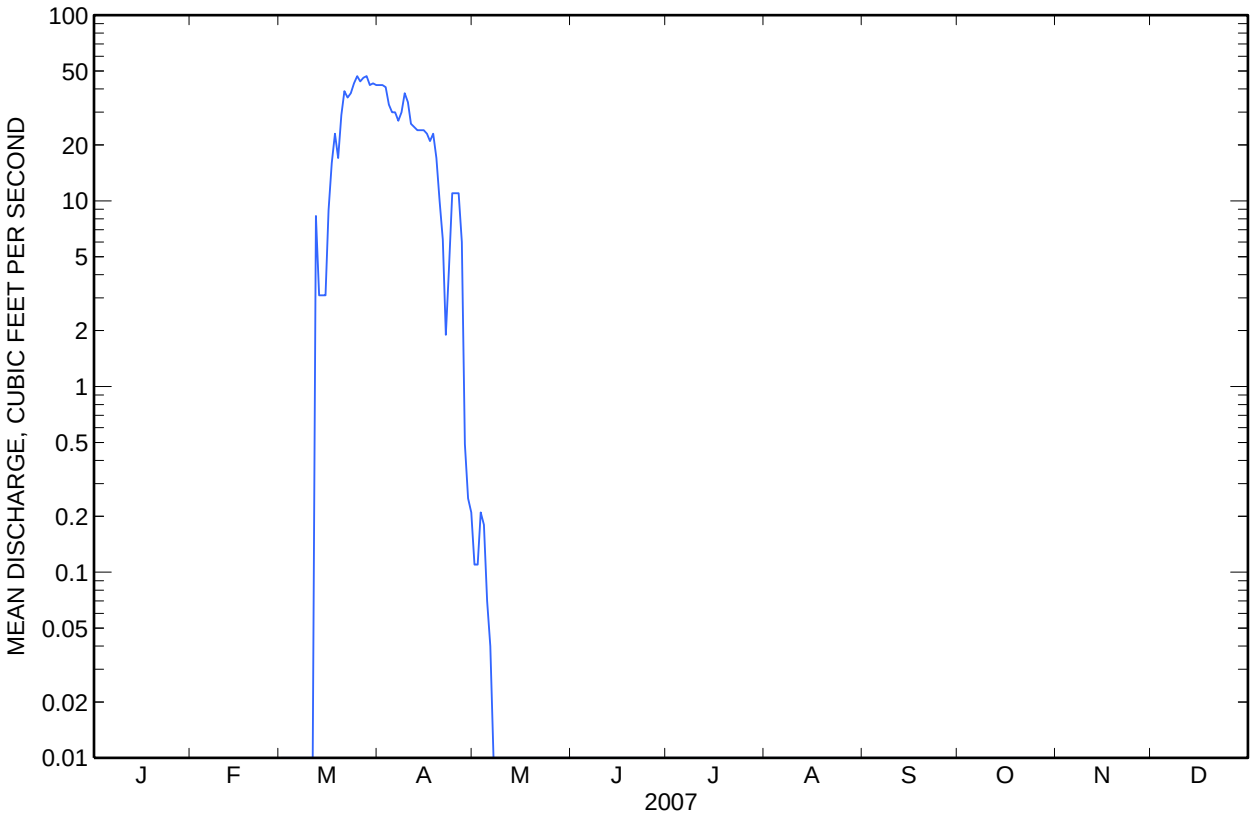
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 85 ft^3/s, Apr. 14, 1952; no flow at times each season.

06149400 NASHLYN CANAL NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	42	0.11	0.00	0.00	0.00	0.00	0.00		
2			0.00	42	0.11	0.00	0.00	0.00	0.00	0.00		
3			0.00	41	0.21	0.00	0.00	0.00	0.00	0.00		
4			0.00	33	0.18	0.00	0.00	0.00	0.00	0.00		
5			0.00	30	0.07	0.00	0.00	0.00	0.00	0.00		
6			0.00	30	0.04	0.00	0.00	0.00	0.00	0.00		
7			0.00	27	0.00	0.00	0.00	0.00	0.00	0.00		
8			0.00	30	0.00	0.00	0.00	0.00	0.00	0.00		
9			0.00	38	0.00	0.00	0.00	0.00	0.00	0.00		
10			0.00	34	0.00	0.00	0.00	0.00	0.00	0.00		
11			0.00	26	0.00	0.00	0.00	0.00	0.00	0.00		
12			8.3	25	0.00	0.00	0.00	0.00	0.00	0.00		
13			3.1	24	0.00	0.00	0.00	0.00	0.00	0.00		
14			3.1	24	0.00	0.00	0.00	0.00	0.00	0.00		
15			3.1	24	0.00	0.00	0.00	0.00	0.00	0.00		
16			8.9	23	0.00	0.00	0.00	0.00	0.00	0.00		
17			16	21	0.00	0.00	0.00	0.00	0.00	0.00		
18			23	23	0.00	0.00	0.00	0.00	0.00	0.00		
19			17	17	0.00	0.00	0.00	0.00	0.00	0.00		
20			29	10	0.00	0.00	0.00	0.00	0.00	0.00		
21			39	6.2	0.00	0.00	0.00	0.00	0.00	0.00		
22			36	1.9	0.00	0.00	0.00	0.00	0.00	0.00		
23			38	4.4	0.00	0.00	0.00	0.00	0.00	0.00		
24			43	11	0.00	0.00	0.00	0.00	0.00	0.00		
25			47	11	0.00	0.00	0.00	0.00	0.00	0.00		
26			44	11	0.00	0.00	0.00	0.00	0.00	0.00		
27			46	6.0	0.00	0.00	0.00	0.00	0.00	0.00		
28			47	0.49	0.00	0.00	0.00	0.00	0.00	0.00		
29			42	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
30			43	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
31			42	---	0.00	---	0.00	0.00	---	0.00		
Total			578.50	616.45	0.72	0.00	0.00	0.00	0.00	0.00		
Mean			18.7	20.5	0.02	0.00	0.00	0.00	0.00	0.00		
Max			47	42	0.21	0.00	0.00	0.00	0.00	0.00		
Min			0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			1,150	1,220	1.4	0.00	0.00	0.00	0.00	0.00		

06149400 NASHLYN CANAL NEAR CONSUL, SASKATCHEWAN—Continued



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06149500 BATTLE CREEK AT INTERNATIONAL BOUNDARY

Upper Missouri Basin
Battle Subbasin

(International Gaging Station)

LOCATION.--Lat 49°00′07″, long 109°25′18″ referenced to North American Datum of 1927, in SE ¼ sec.4, T.1, R.26 W., third meridian, Hydrologic Unit 10050008, on left bank 600 ft north of international boundary, in Saskatchewan, 8 mi upstream from Woodpile Coulee, 30 mi north of Chinook, MT, and at mile 69.8.

DRAINAGE AREA.--997 mi² of which 378 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1917 to current season (seasonal records only most seasons). Monthly discharge only for March 1918 and March 1928, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1389: 1935, maximum discharge (M); 1936; 1937-38 (M). WSP 1729: 1924, 1926, 1932 (monthly discharge only). Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,729.8 ft, referenced to the International Boundary Commission Survey Datum.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Natural flow of stream is affected by storage reservoirs, diversions for irrigation of about 9,500 acres, and return flow from irrigated areas. Water may be diverted into or from Frenchman River basin through Cypress Lake. Water Survey of Canada satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06149500 BATTLE CREEK AT INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.04	55	23	22	23	e7.1	1.4	5.1		
2			0.04	31	22	22	20	e5.7	1.4	12		
3			0.04	21	36	30	20	e4.6	1.6	9.5		
4			0.04	13	27	52	16	e4.1	1.4	7.5		
5			0.04	10	34	57	13	e3.5	1.4	6.4		
6			0.04	12	37	52	10	e3.2	1.3	5.2		
7			0.04	10	38	36	7.8	e3.0	1.1	4.0		
8			0.04	10	40	22	9.0	e2.8	1.8	3.1		
9			0.04	11	40	19	11	e2.6	2.4	3.0		
10			0.07	14	28	20	9.7	e2.6	2.2	3.1		
11			0.14	10	13	20	7.6	2.9	2.2	2.8		
12			11	11	9.4	18	6.9	2.5	2.1	3.1		
13			11	11	12	16	5.4	2.2	1.9	3.1		
14			7.0	11	18	11	7.9	2.2	2.3	4.0		
15			4.9	22	21	7.8	12	1.9	2.3	2.8		
16			4.1	28	24	8.3	13	1.9	2.1	2.4		
17			4.9	22	27	11	8.9	2.1	1.9	2.4		
18			6.3	15	42	19	9.4	3.3	1.9	2.9		
19			13	13	48	26	9.6	2.9	3.5	2.8		
20			22	179	34	24	7.5	2.7	4.3	12		
21			18	99	35	23	6.1	2.3	5.4	12		
22			16	93	31	24	5.5	2.0	5.7	12		
23			18	86	30	24	5.4	2.7	9.6	11		
24			15	61	27	32	4.6	2.9	13	7.7		
25			20	43	28	38	4.9	2.8	11	6.5		
26			18	29	32	32	5.5	2.6	13	7.1		
27			70	26	28	24	16	2.1	16	5.3		
28			82	18	20	22	25	1.9	12	3.9		
29			57	27	23	23	17	1.8	7.7	3.1		
30			55	31	33	30	e13	1.7	5.8	2.4		
31			63	---	28	---	e9.5	1.6	---	7.8		
Total			516.77	1,022	888.4	765.1	340.2	88.2	139.7	176.0		
Mean			16.7	34.1	28.7	25.5	11.0	2.85	4.66	5.68		
Max			82	179	48	57	25	7.1	16	12		
Min			0.04	10	9.4	7.8	4.6	1.6	1.1	2.4		
Ac-ft			1,030	2,030	1,760	1,520	675	175	277	349		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			49.0	122	55.9	32.4	16.4	6.90	7.95	8.04		
Max			353	1,526	538	261	250	50.7	332	57.7		
(WY)			(1997)	(1952)	(1927)	(1927)	(1955)	(1975)	(1986)	(1987)		
Min			0.00	4.34	0.77	0.00	0.00	0.00	0.00	0.00		
(WY)			(1936)	(1981)	(1937)	(1937)	(1919)	(1919)	(1919)	(1920)		

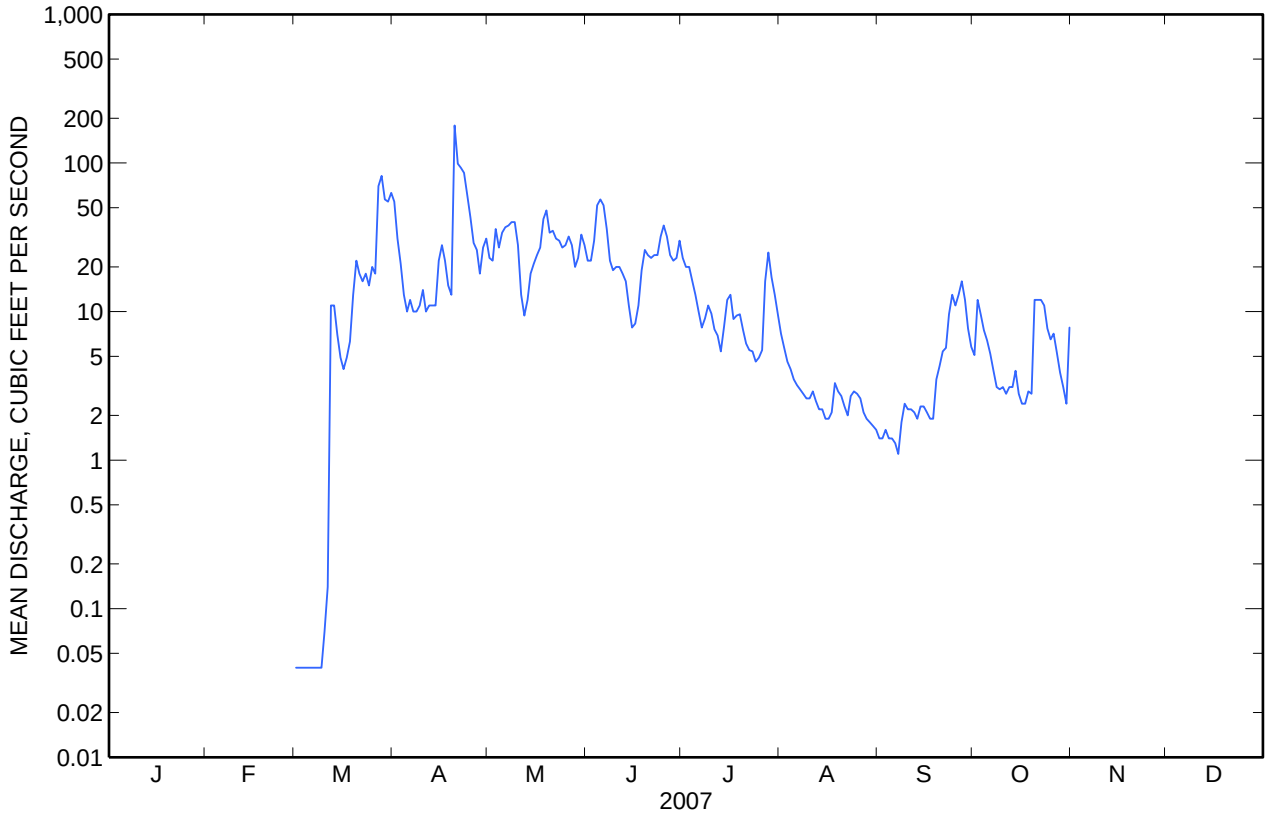
06149500 BATTLE CREEK AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1917 - 2007	
Highest daily mean	179	Apr 20	5,590	Apr 15, 1952
Lowest daily mean	0.04	Mar 1	0.00	Mar 1, 1918 [a]
Maximum peak flow	269	Apr 20	[b]9,780	Sep 25, 1986
Maximum peak stage	5.20	Apr 20	11.57	Sep 25, 1986

[a] No flow most years.

[b] From rating curve extended above 4,400 ft³/s on basis of slope-area measurement of peak flow.



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Water-Data Report 2007

06151500 BATTLE CREEK NEAR CHINOOK, MT

Milk Basin
Battle Subbasin

LOCATION.--Lat 48°38′58″, long 109°13′54″ referenced to North American Datum of 1927, in NW ¼ SW ¼ NE ¼ sec.3, T.33 N., R.19 E., Blaine County, MT, Hydrologic Unit 10050008, on left bank, 4 mi north of Chinook, and at river mile 14.

DRAINAGE AREA.--1,623 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1905 to September 1921 (monthly discharge only, published in Water Supply Paper 1309), June 1984 to current year (seasonal records only). Published as North Fork Milk River near Chinook prior to 1913.

REVISED RECORDS.--Water Data Report 2006: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,410 ft, referenced to the National Geodetic Vertical Datum of 1929. Apr. 22, 1905 to Apr. 8, 1918, chain gage located 100 ft downstream, and Apr. 9, 1918 to Sept. 30, 1921, chain gage located on bridge 600 ft downstream at same elevation but different from present elevation.

REMARKS.--Records are fair. Diversions for irrigation of about 11,000 acres occur upstream from station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06151500 BATTLE CREEK NEAR CHINOOK, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				41	6.6	26	18	0.11	0.00			
2				48	9.3	28	16	0.05	0.00			
3				45	14	25	19	0.53	0.00			
4				33	12	22	14	3.2	0.00			
5				20	16	20	15	2.2	0.00			
6				13	18	29	13	2.3	0.00			
7				8.7	14	44	15	0.48	0.01			
8				5.6	19	43	11	0.17	0.04			
9				5.3	20	37	6.6	0.08	0.01			
10				6.0	21	28	2.7	0.08	0.00			
11				5.9	24	22	1.4	0.07	0.01			
12				5.1	22	19	0.77	0.06	0.04			
13				6.6	16	18	0.88	0.06	0.05			
14				6.3	13	17	4.3	0.06	0.03			
15				3.7	12	15	11	0.06	0.02			
16				3.3	8.8	14	10	0.05	0.02			
17				1.0	12	17	8.8	0.03	0.01			
18				2.2	16	16	7.7	0.04	0.03			
19				15	13	11	7.0	0.04	0.12			
20				11	20	6.6	6.3	0.05	0.12			
21				42	34	7.8	7.6	0.02	0.11			
22				163	30	19	0.65	0.09	0.10			
23				119	29	18	1.4	0.15	0.18			
24				96	27	18	1.6	0.15	0.23			
25				75	28	21	0.49	0.02	0.24			
26				54	26	22	0.68	0.01	0.24			
27				36	22	27	0.40	0.06	0.26			
28				26	24	27	1.3	0.09	6.0			
29				21	26	23	2.0	0.10	7.4			
30				13	25	20	1.0	0.02	9.2			
31				---	23	---	1.3	0.00	---			
Total				930.7	600.7	660.4	206.87	10.43	24.47			
Mean				31.0	19.4	22.0	6.67	0.34	0.82			
Max				163	34	44	19	3.2	9.2			
Min				1.0	6.6	6.6	0.40	0.00	0.00			
Ac-ft				1,850	1,190	1,310	410	21	49			

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1984 - 2007

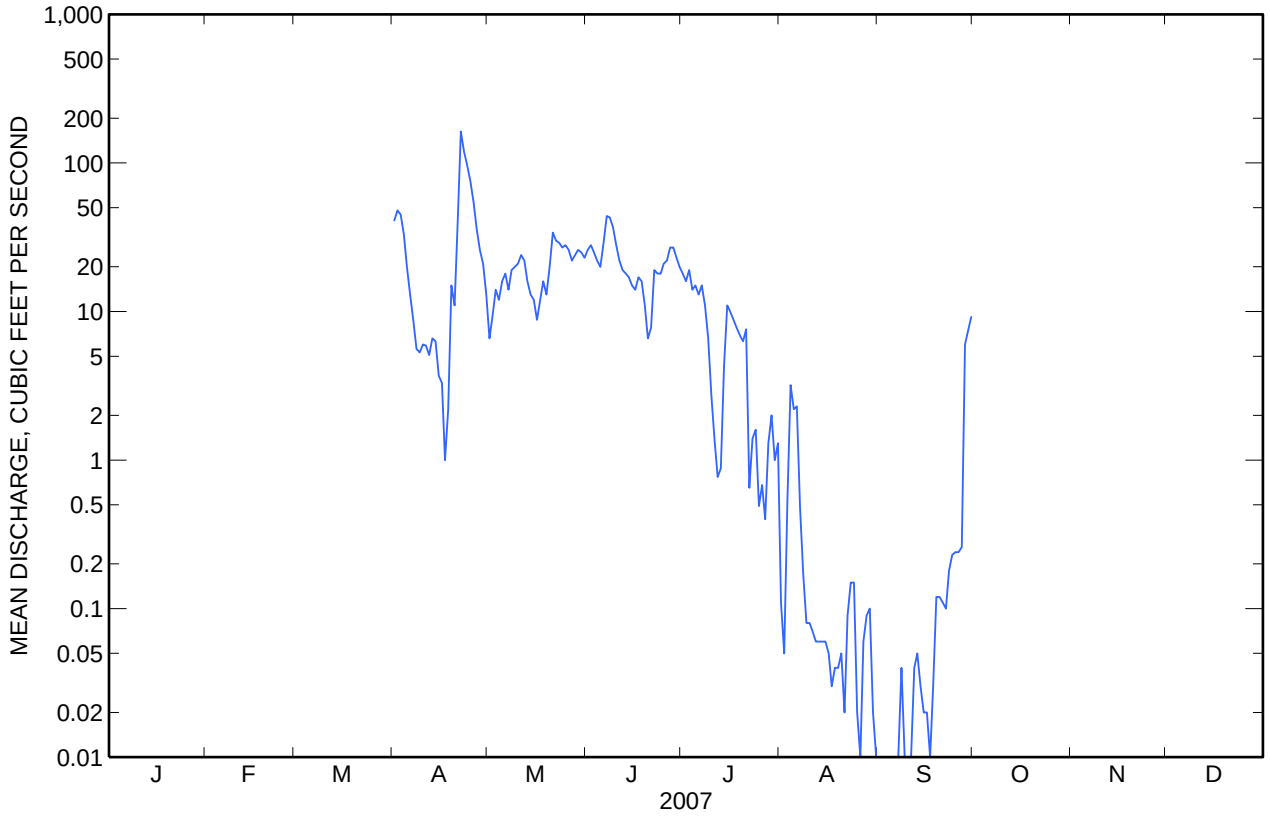
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			3.97	54.1	24.0	22.1	12.3	3.02	41.8			
Max			3.97	539	101	48.3	57.6	15.3	910			
(WY)			(2000)	(1996)	(1986)	(2002)	(2000)	(2002)	(1986)			
Min			3.97	0.03	0.00	0.09	0.02	0.00	0.00			
(WY)			(2000)	(2002)	(2002)	(1984)	(1984)	(2001)	(1984)			

06151500 BATTLE CREEK NEAR CHINOOK, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1984 - 2007	
Highest daily mean	163	Apr 22	12,000	Sep 26, 1986
Lowest daily mean	0.00	Aug 31	0.00	Jul 12, 1984 [a]
Maximum peak flow	193	Apr 22	19,400	Sep 26, 1986
Maximum peak stage	3.16	Apr 22	22.91	Sep 26, 1986

[a] No flow at times most seasons.



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Water-Data Report 2007

06154100 MILK RIVER NEAR HARLEM, MT

Milk Basin
Middle Milk Subbasin

LOCATION.--Lat 48°29'22", long 108°45'28" referenced to North American Datum of 1927, in NE ¼ SE ¼ NE ¼ sec.32, T.32 N., R.23 E., Blaine County, MT, Hydrologic Unit 10050004, Fort Belknap Indian Reservation, on right bank 30 ft downstream from U.S. Highway 2 bridge, 0.6 mi northeast of unincorporated community of Fort Belknap Agency, 3.5 mi southeast of Harlem, and at river mile 332.2.

DRAINAGE AREA.--9,822 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1959 to September 1969, October 1982 to current year (seasonal record beginning 1994 water year). Gage heights only for period Apr. 3-25, 1952, published as "at Fort Belknap" in 1260-B.

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,319.48 ft, referenced to the National Geodetic Vertical Datum of 1929. Apr. 3-25, 1952, nonrecording gage on old bridge 200 ft downstream at different elevation. Nov. 1, 1959, to Mar. 12, 1968, nonrecording gage or water-stage recorder at several sites within 0.5 mi of present site at different elevation.

REMARKS.—Records are good except those for estimated daily discharges, which are fair. Flow increased during irrigation season by water from St. Mary Canal (station number 05018500). Flow is mainly regulated by Fresno Reservoir (station number 06136500) since 1939. Diversions for irrigation of about 60,000 acres of which about 13,000 acres lie downstream from station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1952 reached a stage of about 23.5 ft, present site and elevation.

06154100 MILK RIVER NEAR HARLEM, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e70	530	795	652	281	357	221	97		
2			e70	520	800	630	274	345	221	95		
3			e70	532	816	619	283	337	225	88		
4			e80	553	825	610	271	334	240	82		
5			e80	549	834	594	272	320	219	83		
6			e100	542	829	554	395	328	218	84		
7			e120	536	806	611	438	335	242	83		
8			e140	526	775	644	455	351	241	83		
9			e180	503	749	685	449	322	262	82		
10			e210	499	715	649	439	320	250	80		
11			e280	493	689	585	415	325	318	80		
12			e370	519	680	546	386	323	398	78		
13			e300	510	666	520	370	335	363	78		
14			e400	371	649	500	387	341	282	78		
15			473	461	574	465	438	331	206	76		
16			342	527	513	484	478	314	153	74		
17			267	524	478	459	430	310	108	73		
18			232	545	451	442	424	303	83	72		
19			215	581	542	448	428	314	68	74		
20			203	647	581	406	399	328	66	75		
21			188	744	626	347	384	312	62	73		
22			180	755	612	320	399	315	49	71		
23			168	837	589	324	414	305	42	70		
24			158	827	559	315	416	287	50	69		
25			206	803	569	324	399	266	77	69		
26			287	774	527	367	398	268	90	69		
27			295	761	498	363	396	250	89	67		
28			303	768	462	374	408	250	92	70		
29			389	775	449	337	411	256	100	73		
30			509	794	555	309	384	251	97	73		
31			540	---	624	---	387	241	---	72		
Total			7,425	18,306	19,837	14,483	12,108	9,574	5,132	2,391		
Mean			240	610	640	483	391	309	171	77.1		
Max			540	837	834	685	478	357	398	97		
Min			70	371	449	309	271	241	42	67		
Ac-ft			14,730	36,310	39,350	28,730	24,020	18,990	10,180	4,740		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 – 1993 AND SEASONS 1994 – 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	69.4	84.5	429	538	643	572	555	396	332	194	94.4	71.8
Max	139	200	2,287	2,935	3,506	1,506	2,484	726	1,913	949	289	198
(WY)	(1990)	(1987)	(1996)	(1965)	(1967)	(1965)	(1965)	(1965)	(1986)	(1987)	(1987)	(1987)
Min	19.0	26.5	37.1	54.4	129	232	138	10.3	20.9	37.4	31.2	25.9
(WY)	(1985)	(1985)	(2002)	(1961)	(2001)	(1985)	(2001)	(1988)	(1988)	(1989)	(1964)	(1985)

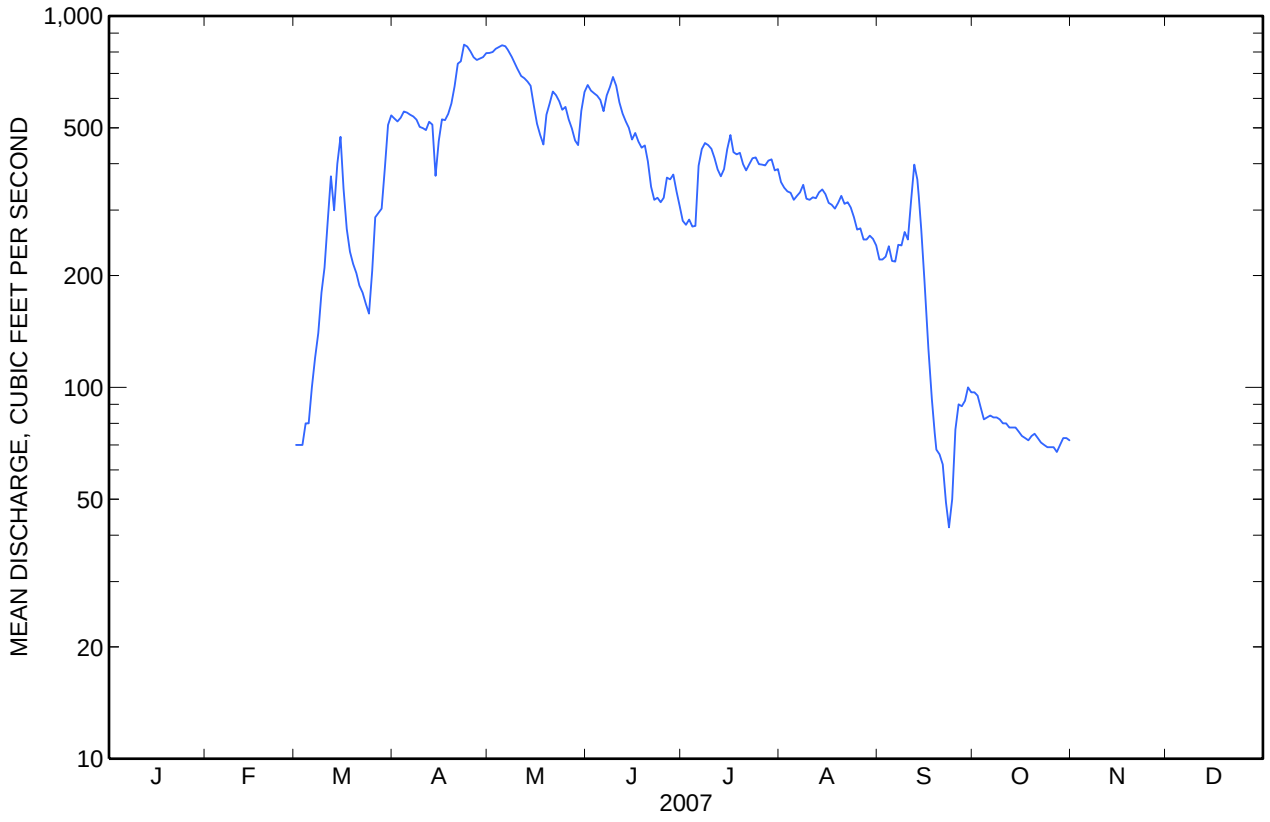
* During periods of operation (1960-69, 1983 to current year; seasonal records beginning water year 1994).

06154100 MILK RIVER NEAR HARLEM, MT—Continued

SUMMARY STATISTICS

	Season 2007		Water Years 1960 - 1993		Seasons 1994 – 2007*	
Annual mean			349			
Highest annual mean			857	1965		
Lowest annual mean			139	1984		
Highest daily mean	837	Apr 23	12,900	Sep 29, 1986	6,190	Mar 18,1996
Lowest daily mean	42	Sep 23	0.00	Aug 10, 1988 [a]	2.5	Apr 6, 2001
Annual seven-day minimum			0.00	Aug 24, 1988		
Maximum peak flow	852	Apr 23	13,900	Sep 29, 1986	6,450	Mar 18, 1996
Maximum peak stage	7.80	Apr 23	25.73	Sep 29, 1986	23.88	Mar 18, 1996
Instantaneous low flow			0.00	Aug 1, 1988		
Annual runoff (ac-ft)			253,200			
10 percent exceeds			682			
50 percent exceeds			180			
90 percent exceeds			39			

* During periods of operation (1960-69, 1983 to current year; seasonal records beginning water year 1994).
[a] No flow on many days in August and September 1988.



06154400 PEOPLES CREEK NEAR HAYS, MT

Milk Basin
Peoples Subbasin

LOCATION.--Lat 48°13′25″, long 108°42′48″ referenced to North American Datum of 1927, in SW ¼ sec.35, T.29 N., R.23 E., Blaine County, MT, Hydrologic Unit 10050009, on right bank 45 ft downstream from bridge on State Highway 66, 2.5 mi downstream from Myrtle Creek, 16.4 mi north of Hays, and at river mile 47.2.

DRAINAGE AREA.--220 mi^2.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,714.10 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Some storage occurs in numerous stock and beaver ponds and diversions for irrigation of about 1,300 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06154400 PEOPLES CREEK NEAR HAYS, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.11	0.09	e0.00	e0.00	e0.00	e0.15	9.9	6.7	38	27	0.00	0.00
2	0.09	0.10	e0.00	e0.00	e0.00	e0.15	9.3	6.2	52	28	0.00	0.00
3	0.10	0.09	e0.00	e0.00	e0.00	e0.15	12	6.8	39	19	0.00	0.00
4	0.10	0.10	e0.00	e0.00	e0.05	e0.20	17	7.6	30	14	0.00	0.02
5	0.10	0.08	e0.00	e0.00	e0.05	e0.50	14	7.1	26	11	0.00	0.02
6	0.11	0.07	e0.00	e0.00	e0.05	e1.0	11	6.9	25	7.2	0.00	0.03
7	0.16	0.06	e0.00	e0.00	e0.00	e1.0	8.8	7.6	30	8.3	0.00	0.06
8	0.11	0.03	e0.50	e0.00	e0.00	e0.90	7.9	6.8	31	6.9	0.00	0.05
9	0.13	0.04	e0.30	e0.00	e0.00	e4.0	8.4	5.6	47	4.3	0.00	0.05
10	0.13	0.03	e0.20	e0.00	e0.05	e10	7.6	4.5	82	2.3	0.01	0.05
11	0.17	0.03	e0.20	e0.00	e0.00	30	7.9	3.6	55	1.6	0.01	0.07
12	0.16	0.04	e0.20	e0.00	e0.00	16	7.6	3.6	44	2.5	0.00	0.06
13	0.11	0.03	e0.20	e0.00	e0.00	16	7.1	4.5	40	1.1	0.00	0.07
14	0.13	0.04	e0.20	e0.00	e0.00	21	7.0	5.9	39	e5.5	0.00	0.06
15	0.16	0.02	e0.20	e0.00	e0.05	36	6.4	5.8	37	e3.0	0.03	0.07
16	0.15	0.01	e0.20	e0.00	e0.10	28	4.9	6.5	38	0.95	0.05	0.05
17	0.16	0.03	e0.00	e0.00	e0.20	14	2.9	7.2	57	0.60	0.05	0.06
18	0.15	0.02	e0.00	e0.00	e0.20	8.6	3.9	6.6	56	0.53	0.07	0.09
19	0.16	0.02	e0.00	e0.00	e0.20	7.6	10	6.4	50	0.07	0.07	0.05
20	0.23	0.03	e0.00	e0.00	e0.20	5.6	14	7.0	64	0.01	0.08	0.03
21	0.15	0.05	e0.00	e0.00	e0.15	4.7	17	8.2	67	0.00	0.08	0.03
22	0.13	0.06	e0.00	e0.00	e0.15	3.7	22	9.2	61	0.00	0.07	0.03
23	0.14	0.06	e0.00	e0.00	e0.15	2.9	18	14	52	0.00	0.06	0.04
24	0.16	0.06	e0.00	e0.00	e0.15	1.5	16	15	47	0.00	0.07	0.03
25	0.17	0.07	e0.00	e0.00	e0.15	1.0	14	21	48	0.00	0.07	0.02
26	0.15	e0.02	e0.00	e0.00	e0.15	0.97	12	32	45	0.00	0.06	0.04
27	0.15	e0.00	e0.00	e0.00	e0.15	0.80	9.7	35	43	0.00	0.06	0.04
28	0.09	e0.00	e0.00	e0.00	e0.15	2.1	8.4	43	39	0.00	0.04	0.04
29	0.11	e0.00	e0.00	e0.00	---	3.6	7.7	30	36	0.00	0.00	0.06
30	0.11	e0.00	e0.00	e0.00	---	4.2	7.2	32	31	0.00	0.00	0.06
31	0.09	---	e0.00	e0.00	---	9.6	---	34	---	0.00	0.02	---
Total	4.17	1.28	2.20	0.00	2.35	235.92	309.6	396.3	1,349	143.86	0.90	1.28
Mean	0.13	0.04	0.07	0.00	0.08	7.61	10.3	12.8	45.0	4.64	0.03	0.04
Max	0.23	0.10	0.50	0.00	0.20	36	22	43	82	28	0.08	0.09
Min	0.09	0.00	0.00	0.00	0.00	0.15	2.9	3.6	25	0.00	0.00	0.00
Ac-ft	8.3	2.5	4.4	0.00	4.7	468	614	786	2,680	285	1.8	2.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2007, BY WATER YEAR (WY)

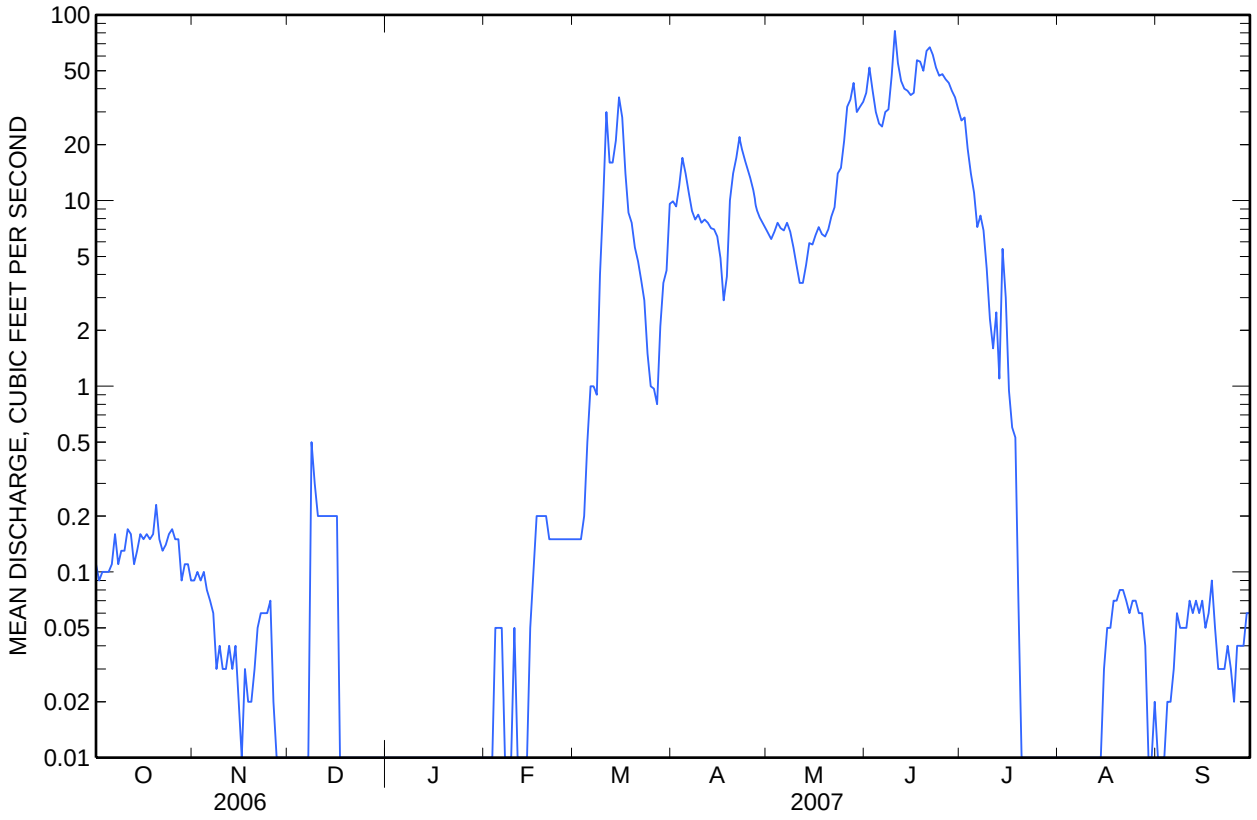
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3.09	2.99	2.45	3.13	8.15	27.1	16.7	27.6	20.4	7.66	2.14	3.25
Max	37.1	20.5	12.9	30.0	74.9	285	122	190	123	51.5	21.3	57.6
(WY)	(1987)	(1987)	(1987)	(1971)	(1971)	(1979)	(1979)	(1975)	(1982)	(1975)	(1975)	(1986)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.03	0.00	0.00	0.00
(WY)	(1972)	(1972)	(1972)	(1972)	(1998)	(2002)	(2002)	(2001)	(2001)	(1972)	(1967)	(1969)

06154400 PEOPLES CREEK NEAR HAYS, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1967 - 2007	
Annual total	516.39		2,446.86			
Annual mean	1.41		6.70		[c]10.2	
Highest annual mean					47.8	1979
Lowest annual mean					0.10	2001
Highest daily mean	14	Mar 26	82	Jun 10	1,000	Mar 7, 1979
Lowest daily mean	0.00	Jan 5	0.00	Many days	0.00	Dec 1, 1966
Annual seven-day minimum	0.00	Jan 22	0.00	Nov 27	0.00	Dec 1, 1966
Maximum peak flow			[a]92	Jun 10	[d]8,460	Jun 8, 1972
Maximum peak stage			[b]6.35	Feb 19	15.03	Jun 8, 1972
Annual runoff (ac-ft)	1,020		4,850		7,410	
10 percent exceeds	5.6		29		20	
50 percent exceeds	0.11		0.11		0.80	
90 percent exceeds	0.00		0.00		0.00	

[a] Gage height, 5.37 ft.
[b] Backwater from ice.
[c] Median of yearly mean discharge, 4.66 ft³/s, 3,380 ac-ft/yr.
[d] From floodmark, from rating curve extended above 490 ft³/s on basis of slope-area measurement of peak flow.



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06154410 LITTLE PEOPLES CREEK NEAR HAYS, MT

Milk Basin
Peoples Subbasin

LOCATION.--Lat 47°57′58″, long 108°39′36″ referenced to North American Datum of 1927, in SE ¼ SE ¼ NW ¼ sec.32, T.26 N., R.24 E., Blaine County, MT, Hydrologic Unit 10050009, on right bank 0.5 mi upstream from west entrance to Mission Canyon, 2 mi southeast of Hays, and at river mile 23.1.

DRAINAGE AREA.--13 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1972 to current year.

REVISED RECORDS.-- Water Data Report MT-81-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 3,769.72 ft, referenced to the National Geodetic Vertical Datum of 1929. August 1972 to June 24, 1976, gage at former site at elevation 10.00 ft higher. Prior to Apr. 22, 1987, gage located 330 ft downstream.

REMARKS.--Records are good. No known regulation or diversion occurs upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06154410 LITTLE PEOPLES CREEK NEAR HAYS, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.3	1.9	1.9	1.4	1.2	1.3	1.8	11	60	9.1	3.7	2.2
2	2.2	1.9	1.9	1.4	1.3	1.3	1.9	11	42	8.8	3.6	2.1
3	2.1	1.9	1.6	1.4	1.1	1.3	1.9	10	31	9.4	3.5	2.2
4	2.1	1.9	e1.6	1.4	1.2	1.3	1.9	9.6	25	7.9	3.4	2.1
5	2.1	1.9	e1.6	1.4	1.2	1.3	1.9	8.8	23	7.4	3.4	2.1
6	2.0	1.9	1.5	1.4	1.1	1.3	2.0	8.4	20	7.1	3.3	2.1
7	2.5	1.9	1.7	1.3	1.1	1.3	2.0	8.1	70	7.1	3.3	2.1
8	2.1	1.9	1.7	1.4	1.1	1.3	2.1	7.8	58	7.0	3.2	2.1
9	2.0	1.9	1.7	1.4	1.1	1.3	2.1	7.6	42	6.7	3.1	2.1
10	2.0	1.9	1.7	1.4	1.1	1.3	2.2	7.3	31	6.4	3.1	2.0
11	2.1	1.9	1.6	1.3	1.2	1.4	2.2	7.1	26	6.0	2.9	2.0
12	2.1	1.9	1.6	1.5	1.2	1.5	2.3	7.0	22	5.7	2.8	2.1
13	2.1	1.9	1.6	1.2	1.2	1.4	2.3	7.2	19	5.5	2.8	2.1
14	2.1	1.9	1.7	1.2	1.2	1.4	2.4	7.3	19	5.4	2.8	2.1
15	2.1	1.9	1.7	1.3	1.2	1.4	2.5	6.9	17	5.3	2.7	2.1
16	2.1	2.0	1.7	1.3	1.2	1.5	2.4	6.6	17	5.1	2.7	2.0
17	2.0	2.1	1.7	1.3	1.2	1.5	e2.5	6.6	29	4.9	2.6	2.1
18	1.9	2.0	1.5	1.3	1.2	1.6	2.7	6.4	25	4.8	2.6	2.1
19	1.9	2.0	1.4	1.3	1.3	1.7	2.9	6.1	22	4.8	2.6	2.2
20	2.0	2.0	1.4	1.3	1.3	1.7	8.1	6.3	19	4.7	2.5	2.1
21	2.0	2.0	1.4	1.3	1.3	1.7	11	6.7	18	4.7	2.5	2.1
22	1.9	2.0	1.4	1.3	1.3	1.7	16	8.2	17	4.6	2.5	2.0
23	2.0	1.9	1.3	1.2	1.3	1.7	20	96	15	4.5	2.5	2.0
24	2.0	1.9	1.4	1.1	1.3	1.5	25	78	14	4.5	2.5	2.3
25	2.1	1.9	1.3	1.1	1.3	1.5	22	56	14	4.4	2.4	2.1
26	2.1	1.9	1.3	1.1	1.3	1.6	19	34	13	4.3	2.3	2.1
27	2.1	1.9	1.3	1.1	1.3	1.7	17	26	12	4.2	2.3	2.2
28	2.1	2.0	1.3	1.1	1.3	1.8	15	23	11	4.1	2.3	2.2
29	2.0	1.7	1.3	1.2	---	1.7	14	22	10	4.0	2.3	2.2
30	1.9	1.7	1.4	1.2	---	1.7	13	76	9.7	4.0	2.2	2.2
31	e2.0	---	1.4	1.1	---	1.7	---	82	---	3.8	2.2	---
Total	64.0	57.5	47.6	39.7	34.1	46.4	222.1	665.0	750.7	176.2	86.6	63.4
Mean	2.06	1.92	1.54	1.28	1.22	1.50	7.40	21.5	25.0	5.68	2.79	2.11
Max	2.5	2.1	1.9	1.5	1.3	1.8	25	96	70	9.4	3.7	2.3
Min	1.9	1.7	1.3	1.1	1.1	1.3	1.8	6.1	9.7	3.8	2.2	2.0
Ac-ft	127	114	94	79	68	92	441	1,320	1,490	349	172	126

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2007, BY WATER YEAR (WY)

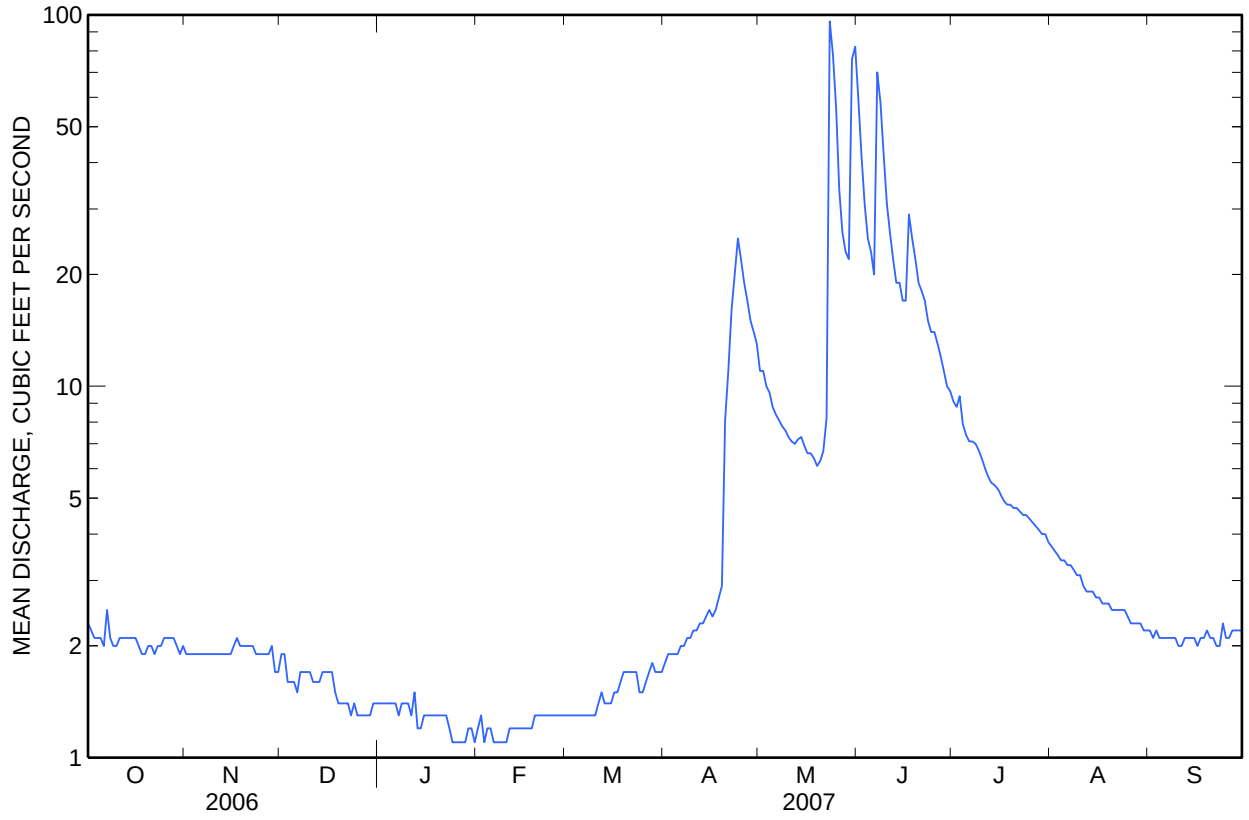
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.26	2.07	1.92	1.81	1.71	2.18	4.63	11.5	8.85	5.13	2.79	2.45
Max	6.92	4.60	3.75	3.84	3.51	5.52	21.5	75.6	26.6	32.9	8.11	8.42
(WY)	(1987)	(1987)	(1986)	(1976)	(1986)	(1996)	(1979)	(1974)	(1975)	(1993)	(1993)	(1978)
Min	1.11	1.07	0.93	0.90	0.95	1.07	1.20	1.45	1.98	1.38	1.19	1.13
(WY)	(2002)	(2002)	(2002)	(2002)	(1997)	(2003)	(2002)	(2002)	(2000)	(2003)	(2003)	(2003)

06154410 LITTLE PEOPLES CREEK NEAR HAYS, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1972 - 2007	
Annual total	1,052.4		2,253.3			
Annual mean	2.88		6.17		[a]3.95	
Highest annual mean					11.6	1974
Lowest annual mean					1.46	2001
Highest daily mean	29	Apr 7	96	May 23	500	May 25, 1974
Lowest daily mean	1.2	Jan 8	1.1	Jan 24	0.67	May 21, 1997
Annual seven-day minimum	1.2	Sep 7	1.1	Jan 23	0.76	May 18, 1997
Maximum peak flow			129	May 23	[b]576	May 25, 1974
Maximum peak stage			2.05	May 23	[c]4.57	May 25, 1974
Instantaneous low flow					0.67	May 21, 1997
Annual runoff (ac-ft)	2,090		4,470		2,860	
10 percent exceeds	5.5		16		6.6	
50 percent exceeds	1.9		2.1		2.1	
90 percent exceeds	1.3		1.3		1.3	

[a] Median of yearly mean discharge, 3.01 ft³/s.
[b] From rating curve extended above 44 ft³/s, on basis of slope-area measurement of peak flow.
[c] From floodmark, at site and datum then in use.



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06154550 PEOPLES CREEK BELOW KUHR COULEE, NEAR DODSON, MT

Milk Basin
Peoples Subbasin

LOCATION.--Lat 48°21′49″, long 108°21′20″ referenced to North American Datum of 1927, in NW ¼ NW ¼ NE ¼ sec.16, T.30 N., R.26 E., Phillips County, MT, Hydrologic Unit 10050009, on right bank 10 ft downstream from bridge on county highway, 2.4 mi downstream from Kuhr Coulee, 5.5 mi southwest of Dodson, and at river mile 7.8.

DRAINAGE AREA.--675 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1918 to November 1921 (fragmentary), June 1951 to September 1973, October 1981 to September 1988 (published as "near Dodson"), October 1988 to current year. Monthly discharge only for some periods, published in Water Supply Paper 1309.

GAGE.--Water-stage recorder. Elevation of gage is 2,309.18 ft, referenced to the National Geodetic Vertial Datum of 1929 (levels by Bureau of Indian Affairs). Prior to June 1951, nonrecording gage located at site 0.5 mi upstream at different elevation. June 1, 1951 to Sept. 30, 1988, water-stage recorder located at sites 2.5 mi upstream at different elevation.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Diversions for irrigation include about 3,300 acres upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06154550 PEOPLES CREEK BELOW KUHR COULEE, NEAR DODSON, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated; &, affected value]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.06	e0.00	0.00	e0.00	e0.00	e0.10	13	20	74	24	0.00	0.00
2	0.00	0.00	0.00	e0.00	e0.00	e7.5	13	19	96	22	0.00	0.00
3	0.00	0.00	0.00	e0.00	e0.00	e9.0	12	20	100	28	0.00	0.00
4	0.00	0.00	0.00	e0.00	e0.00	e9.0	12	18	84	39	0.00	0.00
5	0.00	0.00	0.00	e0.00	e0.00	e7.0	12	14	70	26	0.00	0.00
6	0.00	0.00	0.00	e0.00	e0.00	e7.0	15	14	62	23	0.00	0.00
7	0.00	0.00	0.00	e0.00	e0.00	e7.0	18	13	91	20	0.00	0.00
8	0.00	0.00	0.00	e0.00	e0.00	e10	16	16	82	17	0.00	0.00
9	0.00	0.00	e0.00	e0.00	e0.00	e10	14	18	87	14	0.00	0.00
10	0.00	0.00	e0.00	e0.00	e0.00	e15	14	16	92	11	0.00	0.00
11	0.00	0.00	e0.00	e0.00	e0.00	e30	13	16	99	9.8	0.00	0.00
12	0.00	0.00	e0.00	e0.00	e0.00	50	13	14	81	8.5	0.00	0.00
13	0.00	0.00	e0.00	e0.00	e0.00	39	e12	14	68	7.4	0.00	0.00
14	0.00	0.00	e0.00	e0.00	e0.00	30	e12	16	63	6.1	0.00	0.00
15	0.00	0.00	e0.00	e0.00	e0.00	25	e12	17	58	4.8	0.00	0.00
16	0.00	0.00	e0.00	e0.00	e0.05	36	e12	17	53	27	0.00	0.00
17	e0.00	0.00	e0.00	e0.00	e0.05	38	e13	16	72	13	0.00	0.00
18	e0.00	0.00	e0.00	e0.00	e0.10	31	e13	17	83	9.7	0.00	0.00
19	e0.00	0.00	e0.00	e0.00	e0.10	23	13	16	87	6.6	0.00	0.00
20	e0.00	0.00	e0.00	e0.00	e0.15	19	36	15	80	2.9	0.00	0.00
21	e0.00	0.00	e0.00	e0.00	e0.10	16	35	17	69	1.0	0.00	0.00
22	e0.00	0.00	e0.00	e0.00	e0.05	14	33	19	64	0.07	0.00	0.00
23	e0.00	0.00	e0.00	e0.00	e0.05	12	35	41	57	0.00	0.00	0.00
24	e0.00	0.00	e0.00	e0.00	e0.10	11	31	43	49	0.00	0.00	0.00
25	e0.00	0.00	e0.00	e0.00	e0.10	9.9	27	32	44	0.00	0.00	0.00
26	e0.00	0.00	e0.00	e0.00	e0.10	7.9	25	55	41	0.00	0.00	0.00
27	e0.00	0.00	e0.00	e0.00	e0.10	6.4	23	74	38	0.00	0.00	0.00
28	e0.00	0.00	e0.00	e0.00	e0.10	7.7	21	63	35	0.00	0.00	0.00
29	e0.00	0.00	e0.00	e0.00	---	7.6	21	62	32	0.00	0.00	0.00
30	e0.00	0.00	e0.00	e0.00	---	8.8	21	61	28	0.00	0.00	0.00
31	e0.00	---	e0.00	e0.00	---	10	---	65	---	0.00	0.00	---
Total	0.06	0.00	0.00	0.00	1.15	513.90	560	858	2,039	320.87	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.04	16.6	18.7	27.7	68.0	10.4	0.00	0.00
Max	0.06	0.00	0.00	0.00	0.15	50	36	74	100	39	0.00	0.00
Min	0.00	0.00	0.00	0.00	0.00	0.10	12	13	28	0.00	0.00	0.00
Ac-ft	0.1	0.00	0.00	0.00	2.3	1,020	1,110	1,700	4,040	636	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.74	5.30	4.15	4.76	27.5	75.1	51.0	50.8	41.1	21.2	3.07	11.8
Max	195	63.6	61.5	64.1	369	385	520	575	332	128	31.2	480
(WY)	(1987)	(1987)	(1987)	(1971)	(1971)	(1996)	(1965)	(1986)	(1953)	(1983)	(1993)	(1986)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.09	0.00	0.00	0.00	0.00
(WY)	(1959)	(1957)	(1953)	(1956)	(1956)	(2002)	(1962)	(1998)	(2001)	(1918)	(1919)	(1918)

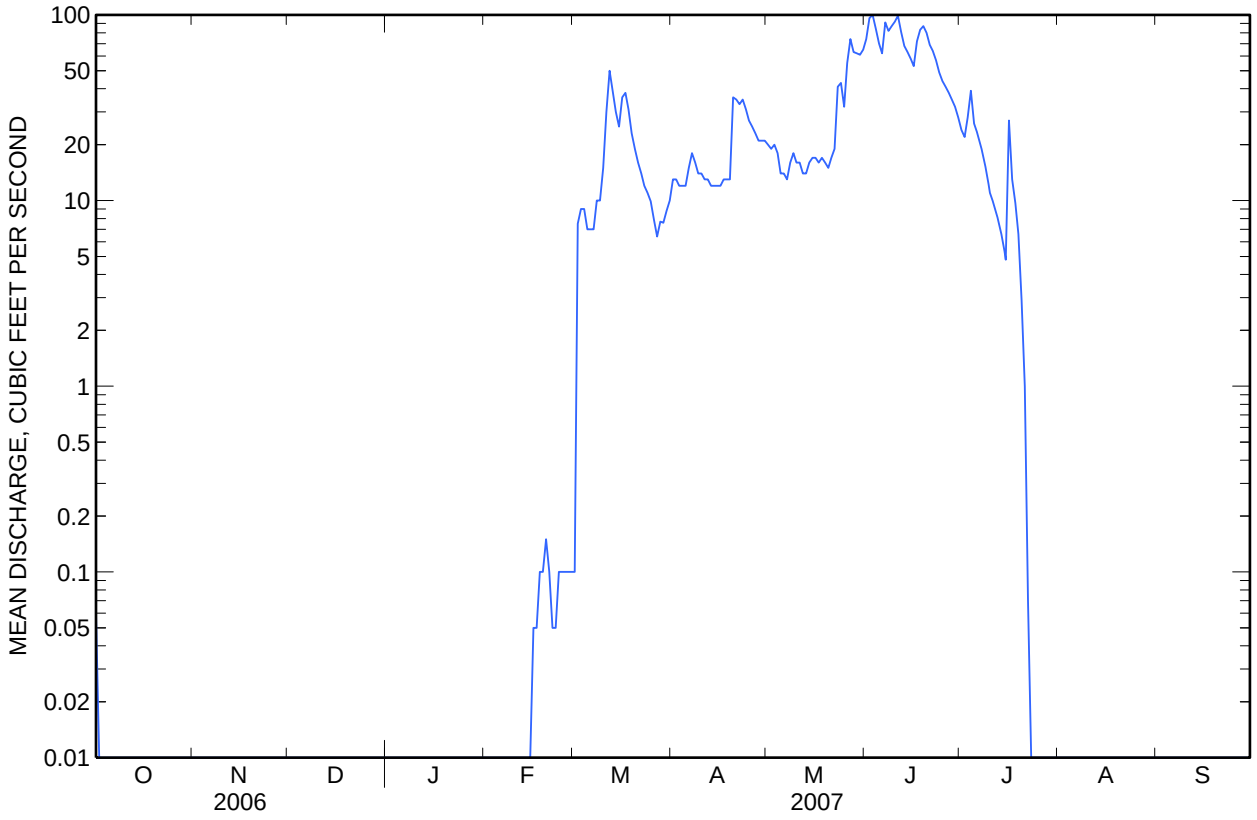
* During periods of operation (April 1918 to November 1921, June 1951 to September 1973, October 1981 to current year).

06154550 PEOPLES CREEK BELOW KUHR COULEE, NEAR DODSON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1918 - 2007*	
Annual total	1,425.72		4,292.98			
Annual mean	3.91		11.8		25.6	
Highest annual mean					131	1986
Lowest annual mean					1.01	2001
Highest daily mean	36	Apr 18	100	Jun 3	5,070	Sep 25, 1986
Lowest daily mean	0.00	Jan 1	0.00	Oct 2	0.00	Jun 11, 1918
Annual seven-day minimum	0.00	Jan 1	0.00	Oct 2	0.00	Jun 11, 1918
Maximum peak flow			141	Jun 7	[a]7,590	Sep 25, 1986
Maximum peak stage			5.72	Jun 7	[b]17.05	Mar 29, 1952
Instantaneous low flow					0.00	Many days
Annual runoff (ac-ft)	2,830		8,520		18,530	
10 percent exceeds	13		39		44	
50 percent exceeds	0.00		0.00		2.5	
90 percent exceeds	0.00		0.00		0.00	

* During periods of operation (April 1918 to November 1921, June 1951 to September 1973, October 1981 to current year).
[a] Gage height, 15.91 ft, from floodmark, at different site and datum.
[b] Backwater from ice, from floodmark in gage house, at different site and datum.



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06155030 MILK RIVER NEAR DODSON, MT

Milk Basin
Middle Milk Subbasin

LOCATION.--Lat 48°24'11", long 108°17'35" referenced to North American Datum of 1927, in NE ¼ SE ¼ NW ¼ sec.36, T.31 N., R.26 E., Phillips County, MT, Hydrologic Unit 10050004, on left bank 30 ft downstream from U.S. Highway 2 bridge, 0.95 mi downstream from Dodson Dam, 1.9 mi west of Dodson, and at river mile 273.2.

DRAINAGE AREA.--11,192 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1982 to current year (seasonal records beginning water year 1994).

GAGE.--Water-stage recorder. Elevation of gage is 2,250 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Numerous diversions for irrigation occur upstream from the station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06155030 MILK RIVER NEAR DODSON, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e9.5	1.2	225	205	78	0.15	3.5	0.05		
2			e9.5	1.1	260	351	11	0.16	2.7	0.04		
3			e9.5	1.1	287	353	0.32	0.15	2.0	0.04		
4			e10	1.2	270	327	0.12	0.15	1.5	0.04		
5			e10	1.3	271	307	0.13	0.15	1.3	0.06		
6			e10	1.4	238	292	0.15	0.18	1.3	0.04		
7			e10	1.4	193	288	0.17	0.18	1.7	0.03		
8			e10	1.4	176	321	2.9	0.25	1.5	0.03		
9			e10	1.4	144	345	37	0.28	0.94	0.02		
10			e5.0	1.3	89	403	20	0.21	1.8	0.03		
11			e5.0	1.1	52	407	2.4	0.22	3.8	0.02		
12			e5.0	1.1	13	354	0.29	0.23	2.8	0.02		
13			e5.0	1.1	5.0	306	0.20	0.21	1.8	0.02		
14			e5.0	1.1	5.9	285	0.23	0.39	1.6	0.02		
15			e7.0	1.1	1.5	297	0.20	0.25	0.95	0.02		
16			e10	1.1	0.95	369	0.18	0.24	0.80	0.02		
17			20	1.1	0.88	463	0.17	0.25	0.59	0.02		
18			3.1	1.1	0.86	431	0.18	0.24	0.73	52		
19			1.3	2.0	0.94	476	0.18	0.26	1.1	111		
20			1.1	1.8	1.1	492	0.14	0.24	0.78	108		
21			1.1	1.2	4.7	455	0.14	0.21	0.33	106		
22			1.0	1.2	44	395	0.13	0.19	0.19	105		
23			0.91	1.3	110	341	0.17	0.20	0.16	103		
24			0.83	92	88	302	0.22	0.20	0.14	100		
25			0.87	240	36	327	0.17	0.23	0.12	98		
26			0.82	284	14	261	0.19	0.21	0.10	94		
27			1.1	250	5.9	220	0.16	0.22	0.09	90		
28			2.0	233	6.1	200	0.13	0.24	0.08	84		
29			1.8	220	3.5	177	0.14	0.27	0.07	76		
30			0.75	241	3.0	140	0.15	0.29	0.05	69		
31			0.79	---	18	---	0.15	1.4	---	---		
Total			167.97	1,589.1	2,568.33	9,890	155.71	8.05	34.52	1,196.52		
Mean			5.42	53.0	82.8	330	5.02	0.26	1.15	39.9		
Max			20	284	287	492	78	1.4	3.8	111		
Min			0.75	1.1	0.86	140	0.12	0.15	0.05	0.02		
Ac-ft			333	3,150	5,090	19,620	309	16	68	2,370		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 – 1993 AND SEASONS 1994 – 2007

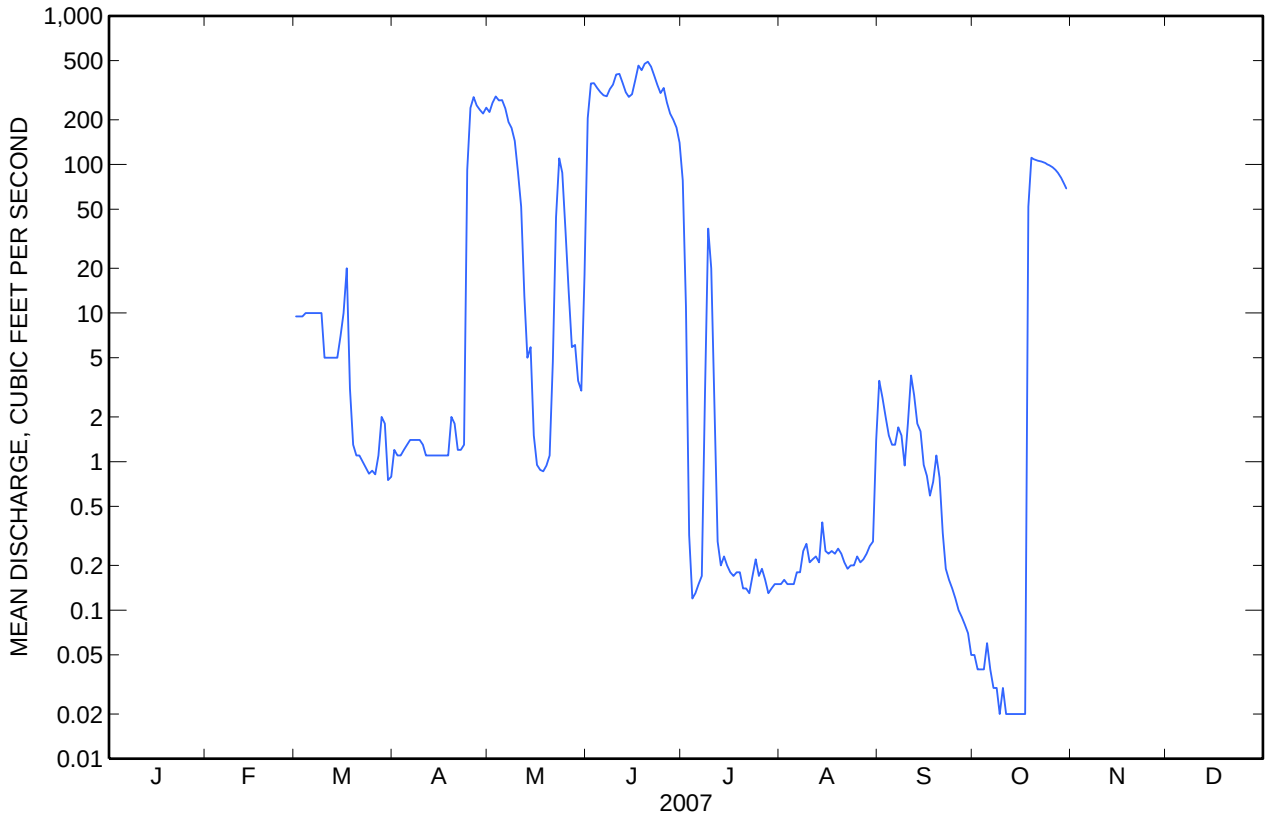
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	83.2	129	418	162	162	210	147	54.1	108	172	97.2	71.3
Max	230	526	2,252	1,691	1,685	655	599	362	1,727	2,688	421	275
(WY)	(1990)	(1986)	(1996)	(1996)	(1986)	(1995)	(1991)	(1993)	(1986)	(1987)	(1987)	(1987)
Min	18.2	20.3	0.14	0.21	3.10	0.42	1.06	0.03	0.01	5.07	0.01	0.00
(WY)	(1985)	(1985)	(2005)	(2005)	(2005)	(2004)	(2005)	(2006)	(2006)	(1991)	(2005)	(2005)

06155030 MILK RIVER NEAR DODSON, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1994 - 2007		Water Years 1982 - 1993	
Annual mean					163	
Highest annual mean					524	1986
Lowest annual mean					36.6	1985
Highest daily mean	492	Jun 20	5,000	Mar 20, 1996	11,500	Sep 26, 1986
Lowest daily mean	0.02	Many days	0.00	Aug 15, 2003[a]	0.00	Sep 16, 1983[a]
Annual seven-day minimum					0.00	Sep 16, 1983
Maximum peak flow	531	Jun 19	[b]5,200	Mar 17, 1994	13,200	Sep 26, 1986
Maximum peak stage	7.74	Jun 19	[c]24.51	Mar 14, 1996	29.79	Sep 26, 1986
Annual runoff (ac-ft)					118,200	
10 percent exceeds					273	
50 percent exceeds					59	
90 percent exceeds					7.7	

[a] No flow at times most years.
[b] Gage height, 22.71 ft.
[c] Backwater from ice.



06155900 MILK RIVER AT CREE CROSSING, NEAR SACO, MT

Milk Basin
Middle Milk Subbasin

LOCATION.--Lat 48°32′25″, long 107°31′10″ referenced to North American Datum of 1927, in NW ¼ SE ¼ SE ¼ sec.11, T.32 N., R.32 E., Phillips County, MT, Hydrologic Unit 10050004, on right bank 25 ft upstream from bridge on Phillips County road, 500 ft upstream from Nelson Canal, 9.9 mi northwest of Saco, and at river mile 176.4.

DRAINAGE AREA.--13,118 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 2000 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 2,188 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06155900 MILK RIVER AT CREE CROSSING, NEAR SACO, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e50	29	220	229	289	132	104	30		
2			e50	25	233	217	269	132	93	29		
3			e50	24	245	282	218	115	92	29		
4			e50	24	266	501	182	105	88	30		
5			e50	24	300	563	143	109	95	35		
6			e60	23	326	561	115	119	102	38		
7			e60	22	320	554	107	120	93	38		
8			e65	22	322	574	109	115	102	43		
9			e70	22	308	649	100	99	121	40		
10			e70	26	267	564	95	84	132	37		
11			e70	27	244	547	94	88	133	37		
12			e75	26	212	561	137	90	136	35		
13			e100	26	163	569	138	102	122	34		
14			80	26	145	544	124	98	96	36		
15			63	25	132	509	126	101	70	36		
16			53	22	121	481	143	97	56	36		
17			62	22	115	573	136	99	46	36		
18			187	22	109	545	118	93	40	36		
19			172	24	107	592	115	92	37	35		
20			104	26	101	576	126	101	38	36		
21			63	31	113	560	113	97	35	39		
22			48	58	147	576	115	101	35	167		
23			42	66	187	548	119	103	38	190		
24			37	45	231	502	141	99	38	187		
25			34	36	324	459	128	102	37	185		
26			32	32	343	415	130	100	36	179		
27			30	52	324	417	128	87	34	175		
28			35	302	290	397	123	88	34	173		
29			29	290	280	342	120	90	36	168		
30			29	236	259	307	122	103	31	161		
31			31	---	240	---	127	108	---	---		
Total			1,951	1,635	6,994	14,714	4,250	3,169	2,150	2,330		
Mean			62.9	54.5	226	490	137	102	71.7	77.7		
Max			187	302	343	649	289	132	136	190		
Min			29	22	101	217	94	84	31	29		
Ac-ft			3,870	3,240	13,870	29,190	8,430	6,290	4,260	4,620		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 2000 - 2007

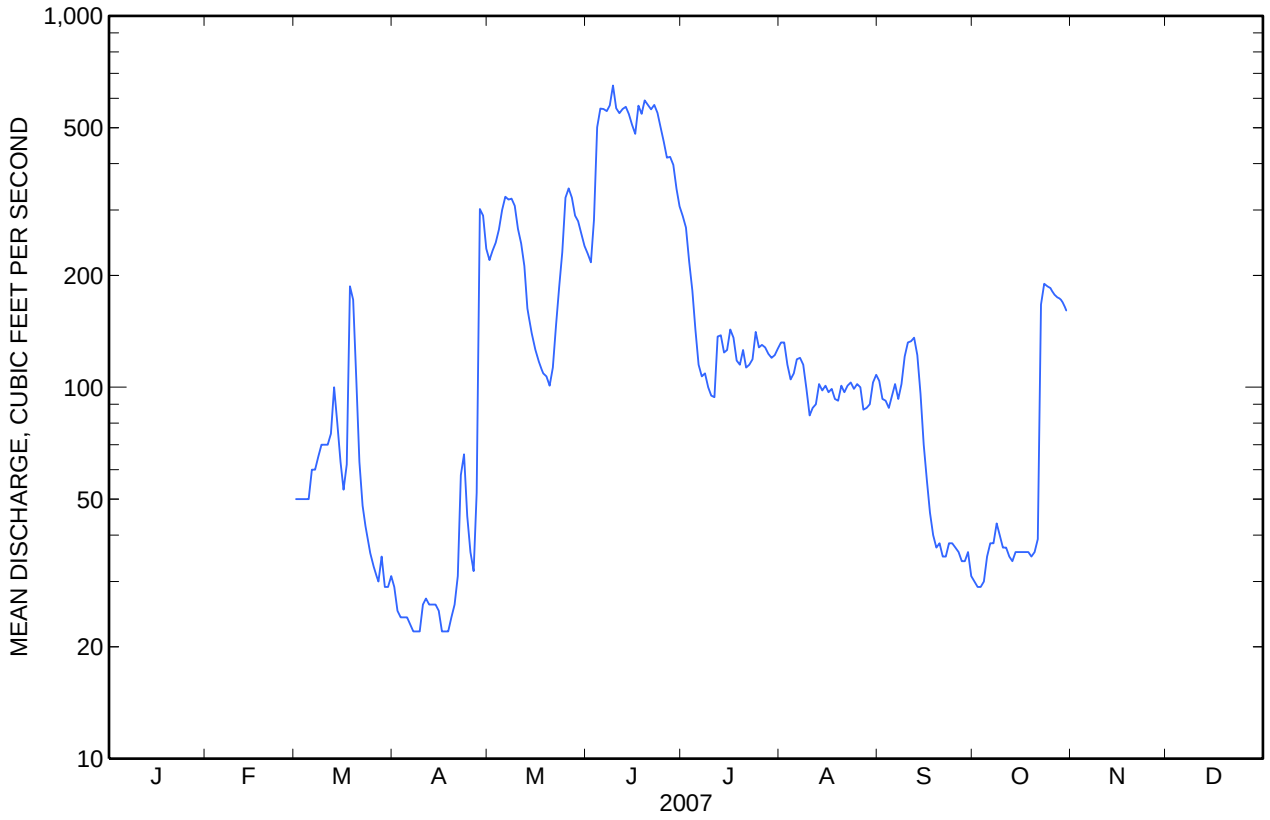
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			322	67.9	116	227	121	113	64.1	38.9		
Max			1,196	131	271	517	244	225	108	72.9		
(WY)			(2004)	(2006)	(2004)	(2002)	(2002)	(2002)	(2002)	(2007)		
Min			38.3	20.5	9.44	68.1	28.3	16.7	18.6	12.6		
(WY)			(2002)	(2002)	(2001)	(2001)	(2001)	(2001)	(2000)	(2002)		

06155900 MILK RIVER AT CREE CROSSING, NEAR SACO, MT—Continued

SUMMARY STATISTICS

	2007 Season		Water Years 2000 - 2007	
Highest daily mean	649	Jun 9	3,800	Mar 15, 2004
Lowest daily mean	22	Apr 7	2.6	May 28, 2001
Maximum peak flow	698	Jun 9	[a]3,800	Mar 15, 2004
Maximum peak stage	4.42	Jun 9	[b]15.19	Mar 14, 2004

[a] Maximum peak discharge is known to be higher, occurred Mar. 15, 2004, but was affected by backwater from ice.
[b] Backwater from ice.



06156500 BELANGER CREEK DIVERSION CANAL NEAR VIDORA, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°29′39″, long 109°21′54″ referenced to North American Datum of 1927, in NW ¼ sec.19, T.6., R.25 W., third meridian, Hydrologic Unit 10050013, on left bank 0.3 mi downstream from diversion weir and 12 mi north of Vidora.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1946 to current season (seasonal records only). Monthly discharge only for some periods, published in Water Supply Paper 1309.

GAGE.--Water-stage recorder. Elevation of gage is 3,200 ft (referenced to the National Geodetic Vertical Datum of 1929) from Cypress Lake elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Canal diverts water from right bank of Belanger Creek in SW¼ sec.30, T.6, R.25 W., third meridian, for storage in Cypress Lake. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 696 ft^3/s, June 28, 1998; no flow at times each season.

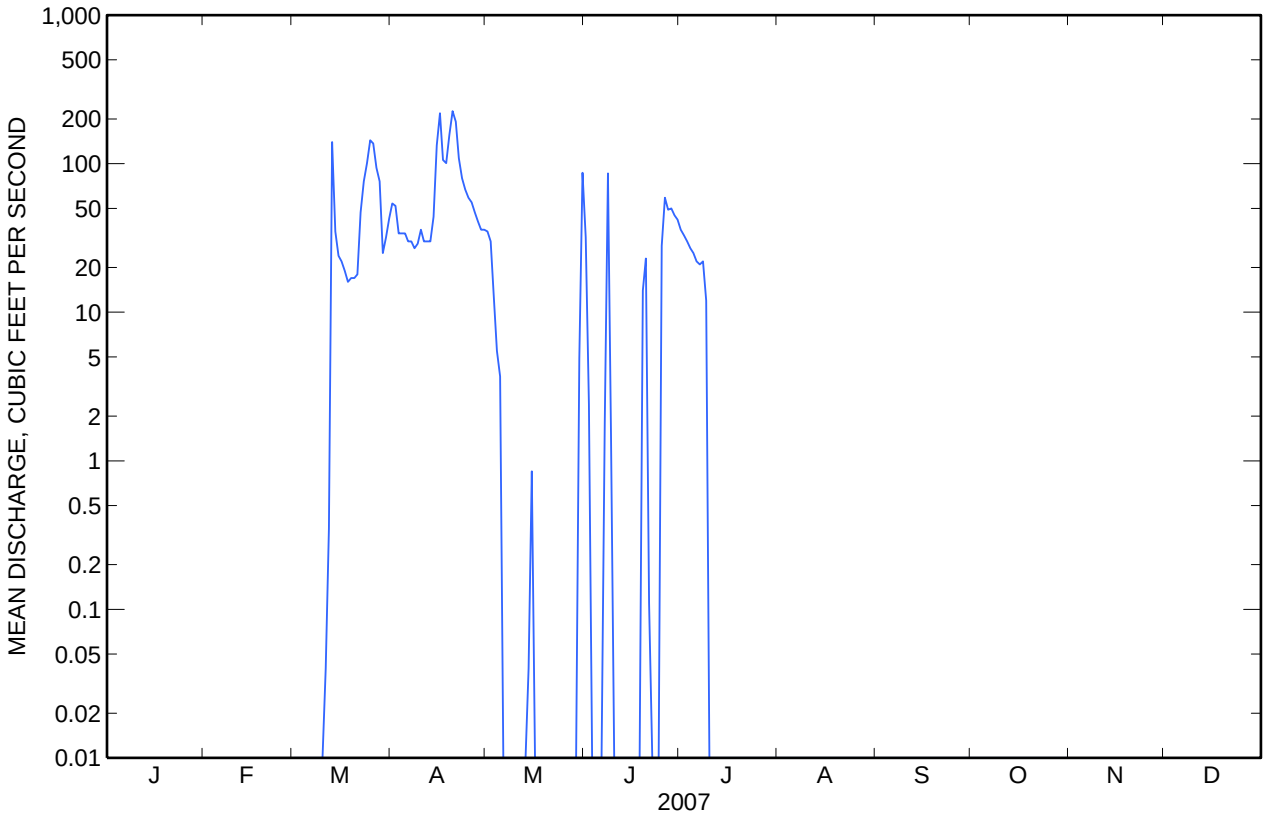
06156500 BELANGER CREEK DIVERSION CANAL NEAR VIDORA, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	54	35	32	36	0.00	0.00	0.00		
2			e0.00	52	30	2.4	33	0.00	0.00	0.00		
3			e0.00	34	13	0.00	30	0.00	0.00	0.00		
4			e0.00	34	5.5	0.00	27	0.00	0.00	0.00		
5			e0.00	34	3.7	0.00	25	0.00	0.00	0.00		
6			e0.00	30	0.00	0.00	22	0.00	0.00	0.00		
7			e0.00	30	0.00	1.8	21	0.00	0.00	0.00		
8			e0.00	27	0.00	86	22	0.00	0.00	0.00		
9			e0.00	29	0.00	1.5	12	0.00	0.00	0.00		
10			e0.00	36	0.00	0.00	0.00	0.00	0.00	0.00		
11			e0.04	30	0.00	0.00	0.00	0.00	0.00	0.00		
12			e0.35	30	0.00	0.00	0.00	0.00	0.00	0.00		
13			e140	30	0.00	0.00	0.00	0.00	0.00	0.00		
14			e35	44	0.04	0.00	0.00	0.00	0.00	0.00		
15			e24	133	0.85	0.00	0.00	0.00	0.00	0.00		
16			e22	219	0.00	0.00	0.00	0.00	0.00	0.00		
17			e19	106	0.00	0.00	0.00	0.00	0.00	0.00		
18			e16	101	0.00	0.00	0.00	0.00	0.00	0.00		
19			e17	157	0.00	14	0.00	0.00	0.00	0.00		
20			e17	226	0.00	23	0.00	0.00	0.00	0.00		
21			e18	192	0.00	0.11	0.00	0.00	0.00	0.00		
22			47	109	0.00	0.00	0.00	0.00	0.00	0.00		
23			76	80	0.00	0.00	0.00	0.00	0.00	0.00		
24			101	67	0.00	0.00	0.00	0.00	0.00	0.00		
25			144	59	0.00	28	0.00	0.00	0.00	0.00		
26			137	55	0.00	59	0.00	0.00	0.00	0.00		
27			94	47	0.00	49	0.00	0.00	0.00	0.00		
28			76	41	0.00	50	0.00	0.00	0.00	0.00		
29			25	36	0.00	45	0.00	0.00	0.00	0.00		
30			32	36	4.9	42	0.00	0.00	0.00	0.00		
31			43	---	87	---	0.00	0.00	---	0.00		
Total			1,083.39	2,158	179.99	433.81	228.00	0.00	0.00	0.00		
Mean			34.9	71.9	5.81	14.5	7.35	0.00	0.00	0.00		
Max			144	226	87	86	36	0.00	0.00	0.00		
Min			0.00	27	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			2,150	4,280	357	860	452	0.00	0.00	0.00		

06156500 BELANGER CREEK DIVERSION CANAL NEAR VIDORA, SASKATCHEWAN—Continued



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06157000 CYPRESS LAKE NEAR CONSUL, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°27′30″, long 109°30′25″ referenced to North American Datum of 1927, in SE ¼ sec.12, T.6., R.27 W., third meridian, Hydrologic Unit 10050013, on south shore, and 12 mi north of Consul.

DRAINAGE AREA.--107 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1939 to current season (seasonal records only). Records prior to October 1946, published only in Water Supply Paper (WSP) 1309. March to May 1952 daily elevations and contents, published in WSP 1260-B.

REVISED RECORDS.-- Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is at mean sea level, referenced to the Geodetic Survey of Canada datum (subtract 33.67 ft to obtain Reclamation Service datum). Prior to 1969 season, referenced to Reclamation Service datum. Prior to 1940, nonrecording gage located on natural lake at "South" station. February 1940 to Apr. 28, 1955, elevation was obtained from average of nonrecording gage readings at west and east dams. Apr. 29, 1955 to Aug. 21, 1984, gage was located at east dam.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--This is an offstream reservoir formed by two earthfill dams on a natural lake of the same name which is the head of the Frenchman River. There are concrete control works at both dams. The following capacity figures are from capacity table effective January 1971; see previous reports for superseded figures. Usable capacity is 79,500 acre-ft between elevation 3,187.0 ft, bottom of west outlet works, and 3,201.9 ft, maximum design level. Dead storage is 24,300 acre-ft. Water is diverted from Battle Creek on west, 12 mi northwest of Consul, and from Belanger Creek, in the Frenchman River basin, on the east, 12 mi north of Vidora. Water is released to the same streams for irrigation. Figures given herein represent total contents. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 117,300 acre-ft, Apr. 21, 1955, elevation, 3,203.36 ft; minimum observed since first filling, 8,190 acre-ft, Nov. 17, 1992, elevation, 3,183.17 ft.

EXTREMES FOR CURRENT SEASON.--Maximum contents, 24,810 acre-ft, May 7, elevation, 3,187.10 ft; minimum, 10,950 acre-ft, Mar. 1, elevation, 3,183.89 ft.

SEASONAL MONTHEND CONTENTS
FEBRUARY 2007 TO OCTOBER 2007

Date	Contents (acre-feet)
February 28	10,950
March 31	17,240
April 30	24,230
May 31	19,400
June 30	18,390
July 31	16,700
August 31	14,540
September 30	15,040
October 31	14,030

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06157500 CYPRESS LAKE EAST OUTFLOW CANAL NEAR VIDORA, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°29′12″, long 109°21′08″ referenced to North American Datum of 1927, in SE ¼ sec.19, T.6., R.25 W., third meridian, Hydrologic Unit 10050013, on right bank 500 ft upstream from Belanger Creek, and 12.3 mi north of Vidora.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April to October 1940, April 1943 to current season (seasonal records only). Monthly discharge only for some periods, published in Water Supply Paper 1309.

GAGE.--Water-stage recorder. Elevation of gage is 3,180 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1946, at elevation 2.24 ft higher and Sept. 26, 1946, to May 18, 1950, at elevation 1.54 ft higher.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are poor. Canal diverts water from Cypress Lake for irrigation in Frenchman River basin in Saskatchewan. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 202 ft^3/s, Apr. 19, 1952; no flow at times most seasons.

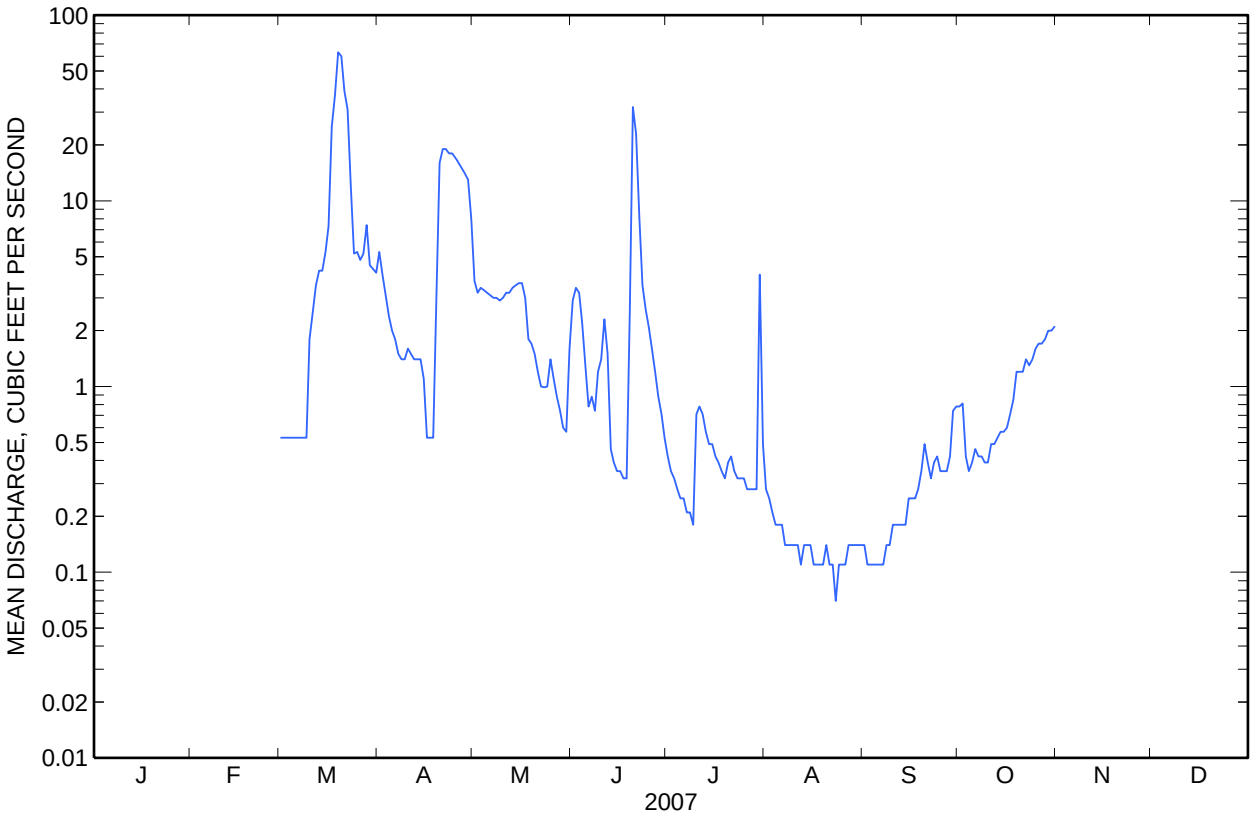
06157500 CYPRESS LAKE EAST OUTFLOW CANAL NEAR VIDORA, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.53	5.3	3.7	2.9	e0.42	0.28	0.14	0.78		
2			e0.53	4.0	3.2	3.4	e0.35	0.25	0.11	0.81		
3			e0.53	3.1	3.4	3.2	e0.32	0.21	0.11	0.42		
4			e0.53	2.4	3.3	2.2	e0.28	0.18	0.11	0.35		
5			e0.53	2.0	3.2	1.3	e0.25	0.18	0.11	0.39		
6			e0.53	1.8	3.1	0.78	e0.25	0.18	0.11	0.46		
7			e0.53	1.5	3.0	0.88	e0.21	0.14	0.11	0.42		
8			e0.53	1.4	3.0	0.74	e0.21	0.14	0.14	0.42		
9			e0.53	1.4	2.9	1.2	e0.18	0.14	0.14	0.39		
10			e1.8	1.6	3.0	1.4	0.71	0.14	0.18	0.39		
11			e2.5	1.5	3.2	2.3	0.78	0.14	0.18	0.49		
12			e3.5	1.4	3.2	1.5	0.71	0.11	0.18	0.49		
13			e4.2	1.4	3.4	0.46	0.57	0.14	0.18	0.53		
14			e4.2	1.4	3.5	0.39	0.49	0.14	0.18	0.57		
15			e5.3	1.1	3.6	e0.35	0.49	0.14	0.25	0.57		
16			e7.3	0.53	3.6	e0.35	0.42	0.11	0.25	0.60		
17			e25	0.53	3.0	e0.32	0.39	0.11	0.25	0.71		
18			e37	0.53	1.8	e0.32	0.35	0.11	0.28	0.85		
19			e63	3.0	1.7	2.6	0.32	0.11	0.35	1.2		
20			e60	16	1.5	32	0.39	0.14	0.49	1.2		
21			e39	19	1.2	23	0.42	0.11	0.39	1.2		
22			e31	19	1.0	e8.3	0.35	0.11	0.32	1.4		
23			e12	18	0.99	e3.5	0.32	0.07	0.39	1.3		
24			5.2	18	1.0	e2.6	0.32	0.11	0.42	1.4		
25			5.3	17	1.4	e2.1	0.32	0.11	0.35	1.6		
26			4.8	16	1.1	e1.6	0.28	0.11	0.35	1.7		
27			5.2	15	0.88	e1.2	0.28	0.14	0.35	1.7		
28			7.4	14	0.74	e0.88	0.28	0.14	0.42	1.8		
29			4.5	13	0.60	e0.71	0.28	0.14	0.74	2.0		
30			4.3	8.0	0.57	e0.53	4.0	0.14	0.78	e2.0		
31			4.1	---	1.6	---	0.49	0.14	---	e2.1		
Total			341.37	208.89	71.38	103.01	15.43	4.41	8.36	30.24		
Mean			11.0	6.96	2.30	3.43	0.50	0.14	0.28	0.98		
Max			63	19	3.7	32	4.0	0.28	0.78	2.1		
Min			0.53	0.53	0.57	0.32	0.18	0.07	0.11	0.35		
Ac-ft			677	414	142	204	31	8.7	17	60		

06157500 CYPRESS LAKE EAST OUTFLOW CANAL NEAR VIDORA, SASKATCHEWAN—Continued



06158500 EASTEND CANAL AT EASTEND, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°30′21″, long 108°50′54″ referenced to North American Datum of 1927, in NW ¼ sec.25, T.6., R.22 W., third meridian, Hydrologic Unit 10050013, on left bank 600 ft downstream from Eastend Reservoir headgate, and 1.5 mi west of Eastend.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1937 to current season (seasonal records only). Monthly discharge only for some periods, published in Water Supply Paper 1309.

GAGE.--Water-stage recorder. Elevation of gage is 2,998.58 ft, referenced to the Canadian Geodetic Vertical Datum. Prior to June 1973, at sites within 1 mi, at different elevations.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Canal diverts water from Eastend Reservoir in NW¼ sec.25, T.6, R.22 W., third meridian, on right bank for irrigation of about 3,100 acres in the Frenchman River basin in Saskatchewan. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 91 ft^3/s, May 18, 1993; no flow at times each season.

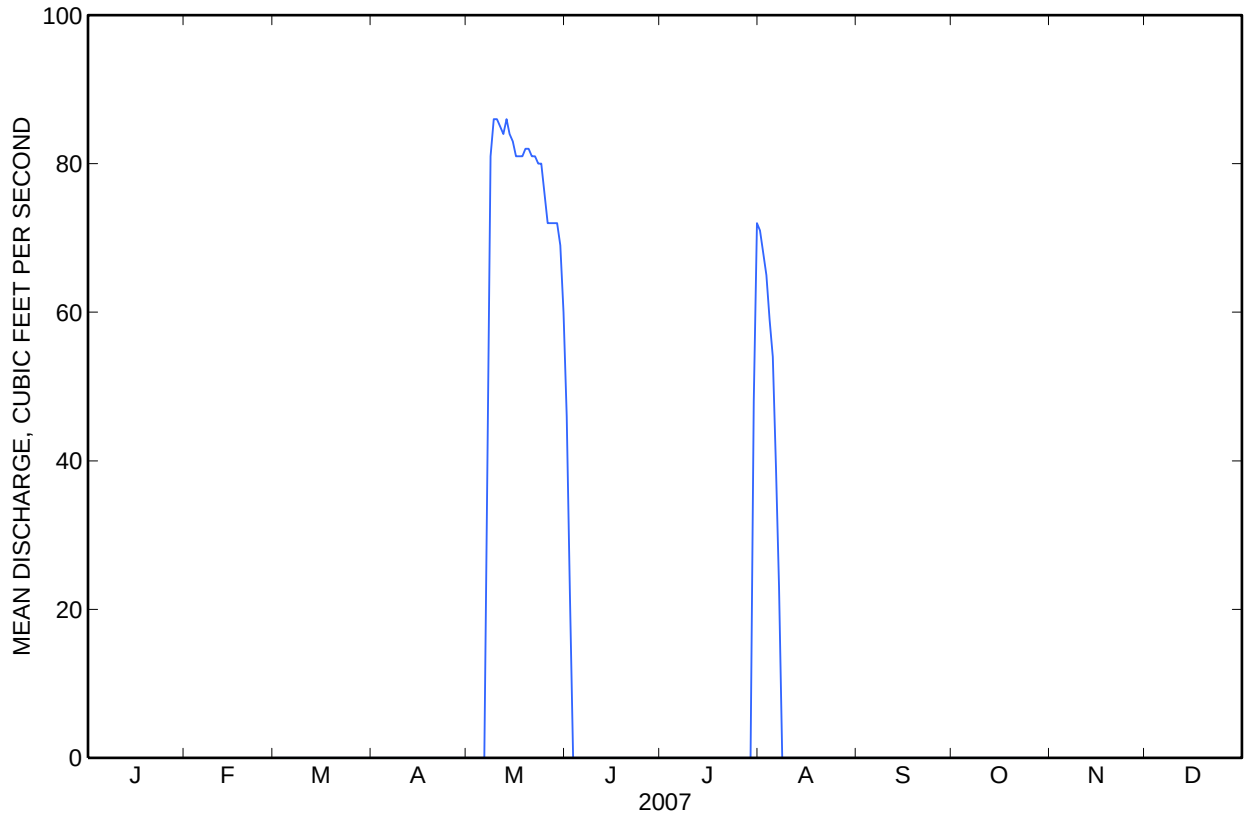
06158500 EASTEND CANAL AT EASTEND, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	46	0.00	71	0.00	0.00		
2			0.00	0.00	0.00	22	0.00	68	0.00	0.00		
3			0.00	0.00	0.00	0.00	0.00	65	0.00	0.00		
4			0.00	0.00	0.00	0.00	0.00	59	0.00	0.00		
5			0.00	0.00	0.00	0.00	0.00	54	0.00	0.00		
6			0.00	0.00	0.00	0.00	0.00	e39	0.00	0.00		
7			0.00	0.00	41	0.00	0.00	e23	0.00	0.00		
8			0.00	0.00	81	0.00	0.00	0.00	0.00	0.00		
9			0.00	0.00	86	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.00	86	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.00	85	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	84	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	86	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	84	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	83	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	81	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	81	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	81	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	82	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	82	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	81	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	81	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	80	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	80	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	76	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	72	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	72	0.00	0.00	0.00	0.00	0.00		
28			0.00	0.00	72	0.00	0.00	0.00	0.00	0.00		
29			0.00	0.00	72	0.00	0.00	0.00	0.00	0.00		
30			0.00	0.00	69	0.00	48	0.00	0.00	0.00		
31			0.00	---	60	---	72	0.00	---	0.00		
Total			0.00	0.00	1,938.00	68.00	120.00	379.00	0.00	0.00		
Mean			0.00	0.00	62.5	2.27	3.87	12.2	0.00	0.00		
Max			0.00	0.00	86	46	72	71	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	3,840	135	238	752	0.00	0.00		

06158500 EASTEND CANAL AT EASTEND, SASKATCHEWAN—Continued



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06159000 EASTEND RESERVOIR NEAR EASTEND, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°30′26″, long 108°51′08″ referenced to North American Datum of 1927, in NW ¼ sec.25, T.6., R.22 W., third meridian, Hydrologic Unit 10050013, at dam on Frenchman River, 1.6 mi west of Eastend, and at mile 300.5.

DRAINAGE AREA.--619 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1937 to current season (seasonal records only). Prior to 1958, published as East End Reservoir at East End. Nonrecording gages were read about once a day during irrigation season and twice a day during high stages February 1937 to July 1979.

REVISED RECORDS.-- Water Supply Paper (WSP) 1309: 1948, maximum elevation. WSP 1729: Drainage area. WSP 2116: 1937-65. Water Data Report 1983: Drainage area.

GAGE.-- Water-stage recorder. Elevation of gage is at mean sea level, referenced to the Geodetic Survey of Canada datum.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Reservoir is formed by earthfill dam completed in 1939, breached during flood in 1952 and rebuilt the same year with a concrete spillway and control works. The following capacity figures are from capacity table effective September 1982. Usable capacity is 1,690 acre-ft between elevation 2,993.5 ft, bottom of outlet works, and 3,012.0 ft, maximum design level. There is no dead storage. Water is used for irrigation. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, about 3,700 acre-ft, Apr. 15, 1952, elevation, about 3,015 ft, dam overtopped; no contents at times.

EXTREMES FOR CURRENT SEASON.--Maximum contents, 2,380 acre-ft, May 7, elevation, 3,013.69 ft; minimum, 501 acre-ft, Mar. 1, elevation, 3,007.71 ft.

SEASONAL MONTHEND CONTENTS
FEBRUARY 2007 TO OCTOBER 2007

Date	Contents (acre-feet)
February 28	501
March 31	1,720
April 30	2,280
May 31	1,220
June 30	1,850
July 31	1,670
August 31	894
September 30	957
October 31	512

06161300 HUFF LAKE PUMPING CANAL NEAR VAL MARIE, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°22′20″, long 107°53′05″ referenced to North American Datum of 1927, in NW ¼ sec.7, T.5., R.14 W., third meridian, Hydrologic Unit 10050013, on right bank 50 ft downstream from pump discharge outlet, and 11 mi northwest of Val Marie.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current season (seasonal records only). Published as Val Marie West Pumping Canal near Val Marie, Saskatchewan, March 1963 to October 1980. July 1950 to current season in reports of Department of the Environment, Canada.

GAGE.--Water-stage recorder. Prior to 1956 and subsequent to 1960, records obtained from occasional discharge measurements and records of pump operation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair. Canal diverts water from Huff Lake in NW¼ sec.7, T.5, R.14 W., third meridian, on left bank for irrigation of about 2,100 acres in the Frenchman River basin in Saskatchewan.

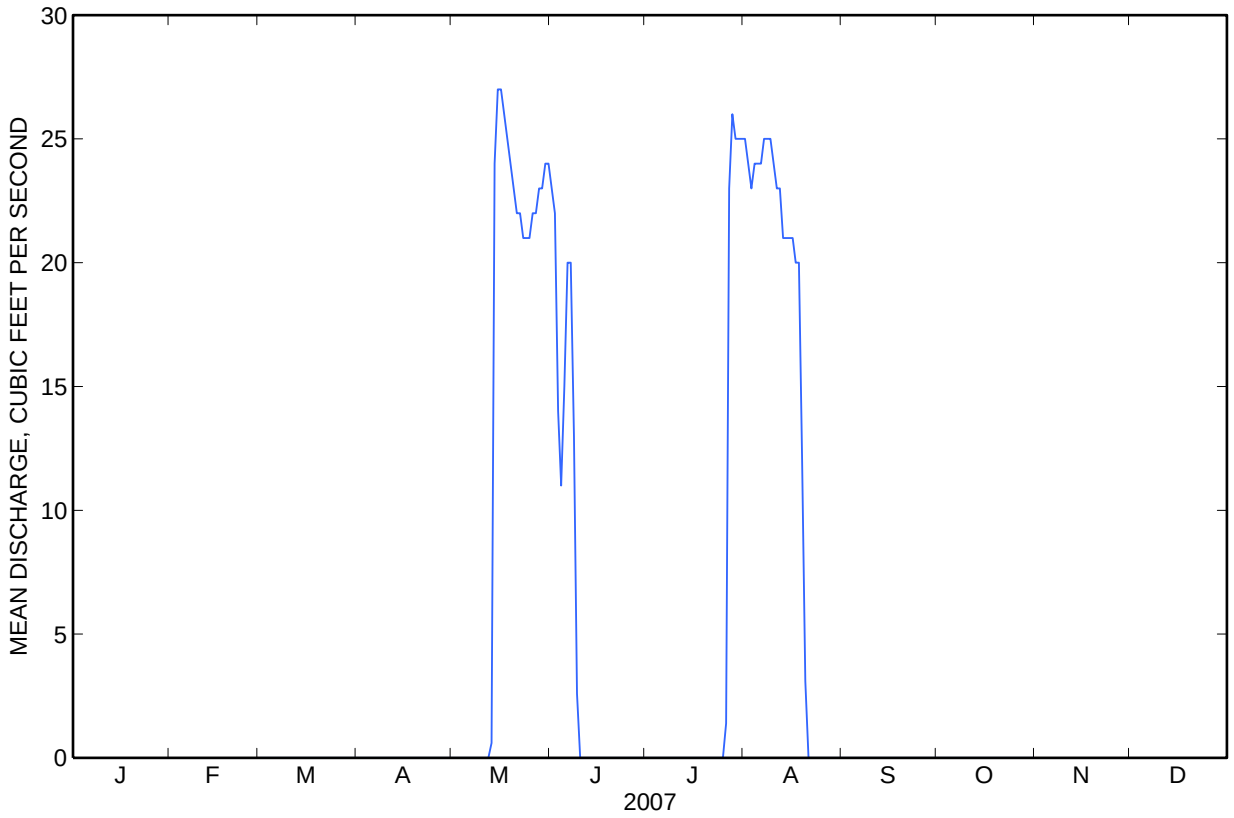
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 31 ft^3/s, May 30 to June 2, 7-10, 1975, May 5, 6, 7, 9, 1977; no flow at times each season.

06161300 HUFF LAKE PUMPING CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	23	0.00	25	0.00	0.00		
2			0.00	0.00	0.00	22	0.00	24	0.00	0.00		
3			0.00	0.00	0.00	14	0.00	23	0.00	0.00		
4			0.00	0.00	0.00	11	0.00	24	0.00	0.00		
5			0.00	0.00	0.00	15	0.00	24	0.00	0.00		
6			0.00	0.00	0.00	20	0.00	24	0.00	0.00		
7			0.00	0.00	0.00	20	0.00	25	0.00	0.00		
8			0.00	0.00	0.00	13	0.00	25	0.00	0.00		
9			0.00	0.00	0.00	2.6	0.00	25	0.00	0.00		
10			0.00	0.00	0.00	0.00	0.00	24	0.00	0.00		
11			0.00	0.00	0.00	0.00	0.00	23	0.00	0.00		
12			0.00	0.00	0.00	0.00	0.00	23	0.00	0.00		
13			0.00	0.00	0.60	0.00	0.00	21	0.00	0.00		
14			0.00	0.00	24	0.00	0.00	21	0.00	0.00		
15			0.00	0.00	27	0.00	0.00	21	0.00	0.00		
16			0.00	0.00	27	0.00	0.00	21	0.00	0.00		
17			0.00	0.00	26	0.00	0.00	20	0.00	0.00		
18			0.00	0.00	25	0.00	0.00	20	0.00	0.00		
19			0.00	0.00	24	0.00	0.00	12	0.00	0.00		
20			0.00	0.00	23	0.00	0.00	3.1	0.00	0.00		
21			0.00	0.00	22	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	22	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	21	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	21	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	21	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	22	0.00	1.4	0.00	0.00	0.00		
27			0.00	0.00	22	0.00	23	0.00	0.00	0.00		
28			0.00	0.00	23	0.00	26	0.00	0.00	0.00		
29			0.00	0.00	23	0.00	25	0.00	0.00	0.00		
30			0.00	0.00	24	0.00	25	0.00	0.00	0.00		
31			0.00	---	24	---	25	0.00	---	0.00		
Total			0.00	0.00	421.60	140.60	125.40	428.10	0.00	0.00		
Mean			0.00	0.00	13.6	4.69	4.05	13.8	0.00	0.00		
Max			0.00	0.00	27	23	26	25	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	836	279	249	849	0.00	0.00		

06161300 HUFF LAKE PUMPING CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued



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06161500 HUFF LAKE GRAVITY CANAL NEAR VAL MARIE, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°22′10″, long 107°53′06″ referenced to North American Datum of 1927, in SW ¼ sec.7, T.5., R.14 W.,third meridian, Hydrologic Unit 10050013, on right bank 100 ft downstream from Huff Lake headgate and 11 mi northwest of Val Marie.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1946 to current season (seasonal records only). Published as Val Marie West Gravity Canal near Val Marie, Saskatchewan, March 1946 to October 1980. Monthly figures only prior to March 1947, published in Water Supply Paper 1309.

GAGE.--Water-stage recorder. Elevation of gage is 2,662.88 ft, referenced to the Canadian Geodetic Vertical Datum 1928. Prior to Sept. 27, 1949, at site 0.5 mi downstream at different datum.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are fair. Canal diverts water from Huff Lake in SW¼, sec. 7, T.5, R.14 W., third meridian, on left bank for irrigation of about 1,900 acres in the Frenchman River basin in Saskatchewan. Since 1962, records have been based on gate openings in Huff Lake Dam.

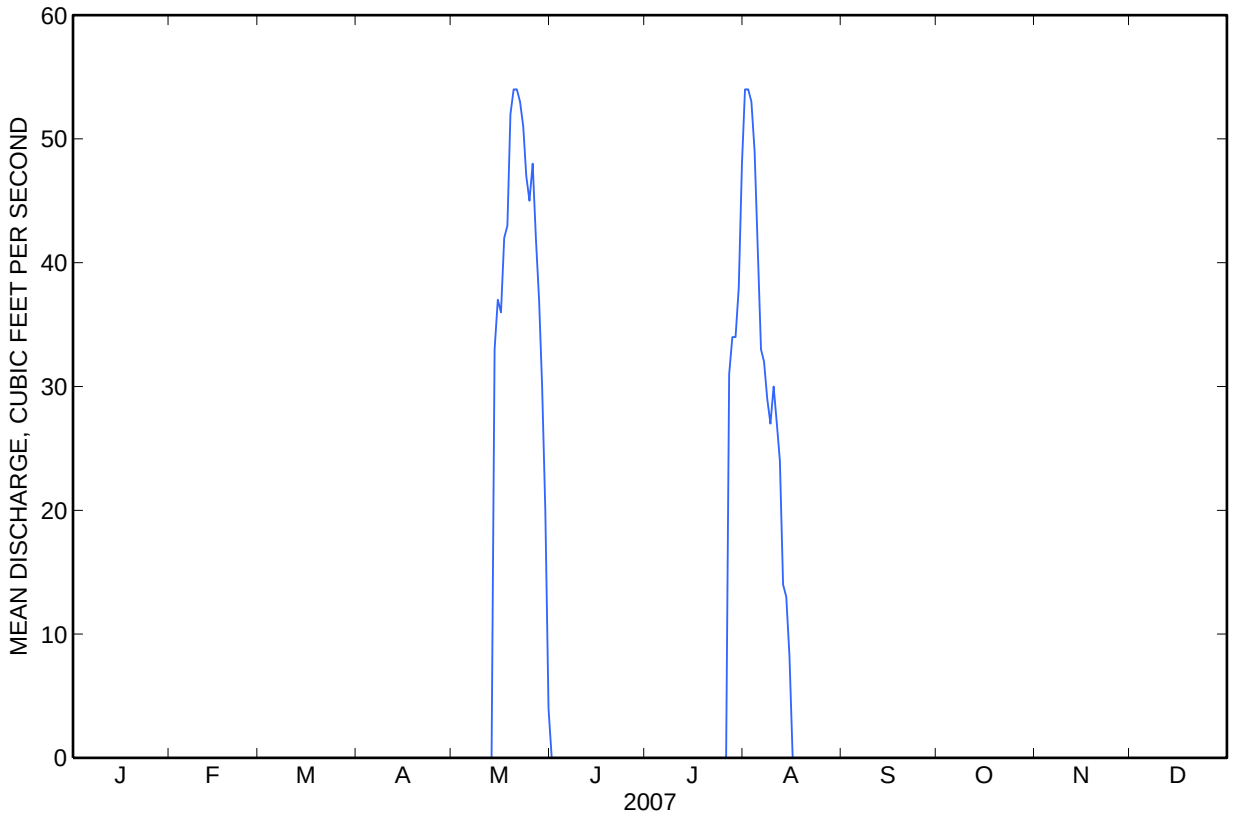
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 68 ft^3/s, July 24, 1996; no flow at times each season.

06161500 HUFF LAKE GRAVITY CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	0.00	0.00	54	0.00	0.00		
2			0.00	0.00	0.00	0.00	0.00	54	0.00	0.00		
3			0.00	0.00	0.00	0.00	0.00	53	0.00	0.00		
4			0.00	0.00	0.00	0.00	0.00	49	0.00	0.00		
5			0.00	0.00	0.00	0.00	0.00	41	0.00	0.00		
6			0.00	0.00	0.00	0.00	0.00	33	0.00	0.00		
7			0.00	0.00	0.00	0.00	0.00	32	0.00	0.00		
8			0.00	0.00	0.00	0.00	0.00	29	0.00	0.00		
9			0.00	0.00	0.00	0.00	0.00	27	0.00	0.00		
10			0.00	0.00	0.00	0.00	0.00	30	0.00	0.00		
11			0.00	0.00	0.00	0.00	0.00	27	0.00	0.00		
12			0.00	0.00	0.00	0.00	0.00	24	0.00	0.00		
13			0.00	0.00	0.00	0.00	0.00	14	0.00	0.00		
14			0.00	0.00	33	0.00	0.00	13	0.00	0.00		
15			0.00	0.00	37	0.00	0.00	8.2	0.00	0.00		
16			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	42	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	43	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	52	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	54	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	54	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	53	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	51	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	47	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	45	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	48	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	42	0.00	31	0.00	0.00	0.00		
28			0.00	0.00	37	0.00	34	0.00	0.00	0.00		
29			0.00	0.00	30	0.00	34	0.00	0.00	0.00		
30			0.00	0.00	20	0.00	38	0.00	0.00	0.00		
31			0.00	---	4.0	---	48	0.00	---	0.00		
Total			0.00	0.00	728.00	0.00	185.00	488.20	0.00	0.00		
Mean			0.00	0.00	23.5	0.00	5.97	15.7	0.00	0.00		
Max			0.00	0.00	54	0.00	48	54	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	1,440	0.00	367	968	0.00	0.00		

06161500 HUFF LAKE GRAVITY CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued



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06162000 HUFF LAKE NEAR VAL MARIE, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°22′16″, long 107°53′07″ referenced to North American Datum of 1927, in SW ¼ sec.7, T.5., R.14 W., third meridian, Hydrologic Unit 10050013, near dam on Frenchman River, 11 mi northwest of Val Marie, and at mile 169.7.

DRAINAGE AREA.--1,274 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1940 to current season (seasonal records only). February 1940 to October 1979, published as Val Marie West Reservoir. Records prior to October 1946, published only in Water Supply Paper (WSP) 1309. April to May 1952, daily elevations and contents published in WSP 1260-B.

REVISED RECORDS.-- WSP 1309: 1947-50.

GAGE.-- Water-stage recorder. Elevation of gage is at mean sea level, referenced to Geodetic Survey of Canada datum. May 1952 to May 1954, reference point on control structure. May 1954 to May 10, 1966, nonrecording gages. May 11, 1966, to Oct. 31, 1979, recording gage on riparian gatewell.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS (REVISED).-- Reservoir is formed by earthfill dam with concrete control works completed in 1939. The following capacity figures are from capacity table effective Jan. 1, 2004. Usable capacity is 3,000 acre-ft between elevation 2,663.2 ft, bottom of outlet works, and 2,676.5 ft, maximum design level. Dead storage is 20 acre-ft. Water is used for irrigation. Figures given herein represent total contents. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.-- Maximum contents, 5,160 acre-ft, Mar. 26, 1997, elevation, 2,678.91 ft; no contents Feb. 28, Mar. 31, 1950, Oct. 22-31, 1984, Mar. 1-7, Aug. 6 to Sept. 14, 1985 and Feb. 28 to Apr. 11, 2002.

EXTREMES FOR CURRENT SEASON.-- Maximum contents, 3,430 acre-ft, Mar. 27, elevation, 2,677.24 ft; minimum, 101 acre-ft, Oct. 16, elevation, 2,664.68 ft.

SEASONAL MONTHEND CONTENTS
FEBRUARY 2007 TO OCTOBER 2007

Date	Contents (acre-feet)
February 28	965
March 31	2,990
April 30	3,070
May 31	1,440
June 30	2,710
July 31	2,380
August 31	119
September 30	84
October 31	599

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06162500 NEWTON LAKE MAIN CANAL NEAR VAL MARIE, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°18′18″, long 107°48′05″ referenced to North American Datum of 1927, in NE ¼ sec.15, T.4., R.14 W., third meridian, Hydrologic Unit 10050013, on right bank about 500 ft downstream from Newton Lake headgate, and 5.4 mi northwest of Val Marie.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1937 to current season (seasonal records only). Published as Val Marie Main Canal near Val Marie, Saskatchewan, March 1962 to October 1980. Prior to April 1947 monthly discharge only, published in Water Supply Paper 1309. Prior to March 1962, published as Val Marie Canal near Val Marie.

GAGE.--Water-stage recorder. Elevation of gage is 2,622.03 ft, referenced to the Canadian Geodetic Vertical Datum. Prior to May 21, 1963, at several sites within 2 mi of present site at different elevations.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good. Canal diverts water from Newton Lake in SE¼ sec.22, T.4, R.14 W., third meridian, on left bank for irrigation of about 4,700 acres in the Frenchman River basin in Saskatchewan.

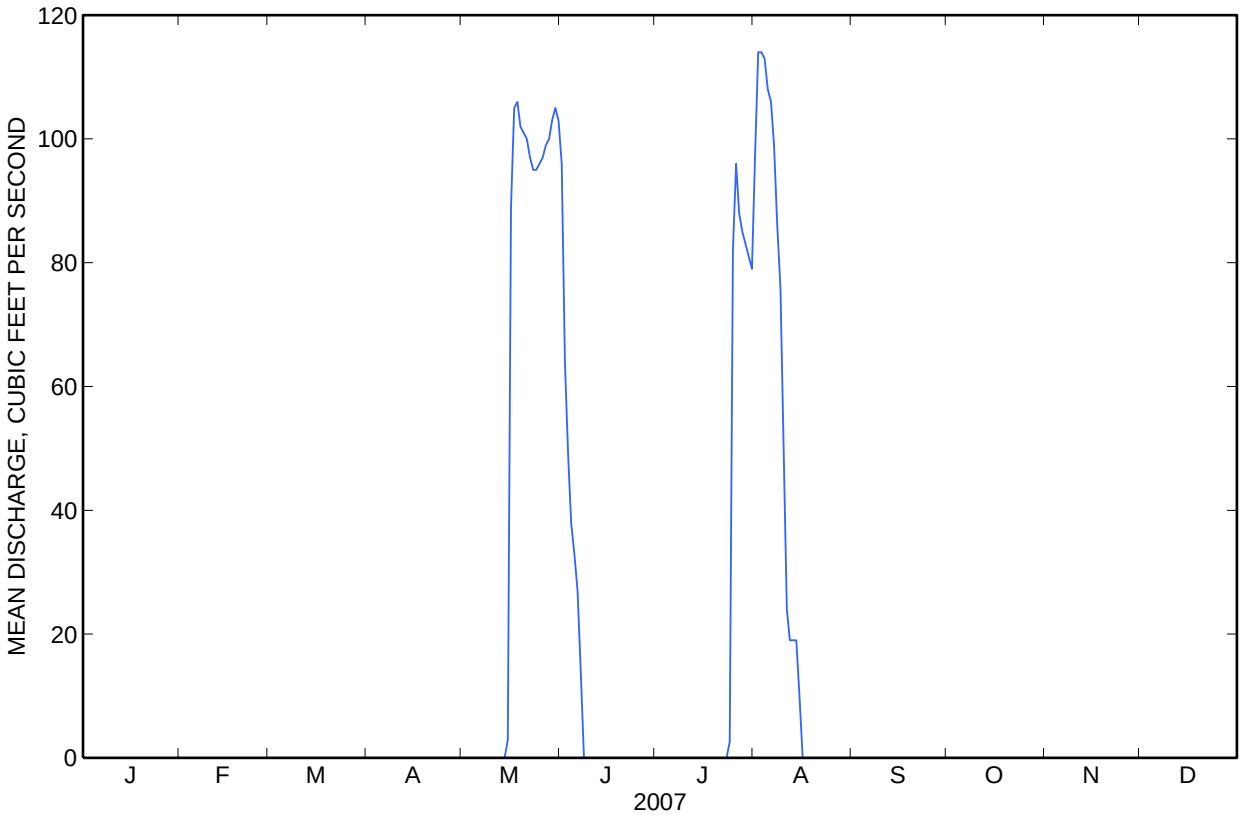
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 131 ft^3/s, May 23, 1997; no flow at times each season.

06162500 NEWTON LAKE MAIN CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	96	0.00	97	0.00	0.00		
2			0.00	0.00	0.00	64	0.00	114	0.00	0.00		
3			0.00	0.00	0.00	49	0.00	114	0.00	0.00		
4			0.00	0.00	0.00	38	0.00	113	0.00	0.00		
5			0.00	0.00	0.00	33	0.00	108	0.00	0.00		
6			0.00	0.00	0.00	27	0.00	106	0.00	0.00		
7			0.00	0.00	0.00	14	0.00	99	0.00	0.00		
8			0.00	0.00	0.00	0.00	0.00	86	0.00	0.00		
9			0.00	0.00	0.00	0.00	0.00	76	0.00	0.00		
10			0.00	0.00	0.00	0.00	0.00	50	0.00	0.00		
11			0.00	0.00	0.00	0.00	0.00	24	0.00	0.00		
12			0.00	0.00	0.00	0.00	0.00	19	0.00	0.00		
13			0.00	0.00	0.00	0.00	0.00	19	0.00	0.00		
14			0.00	0.00	0.00	0.00	0.00	19	0.00	0.00		
15			0.00	0.00	2.9	0.00	0.00	10	0.00	0.00		
16			0.00	0.00	89	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	105	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	106	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	102	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	101	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	100	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	97	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	95	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	95	0.00	2.6	0.00	0.00	0.00		
25			0.00	0.00	96	0.00	82	0.00	0.00	0.00		
26			0.00	0.00	97	0.00	96	0.00	0.00	0.00		
27			0.00	0.00	99	0.00	88	0.00	0.00	0.00		
28			0.00	0.00	100	0.00	85	0.00	0.00	0.00		
29			0.00	0.00	103	0.00	83	0.00	0.00	0.00		
30			0.00	0.00	105	0.00	81	0.00	0.00	0.00		
31			0.00	---	103	---	79	0.00	---	0.00		
Total			0.00	0.00	1,595.90	321.00	596.60	1,054.00	0.00	0.00		
Mean			0.00	0.00	51.5	10.7	19.2	34.0	0.00	0.00		
Max			0.00	0.00	106	96	96	114	0.00	0.00		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			0.00	0.00	3,170	637	1,180	2,090	0.00	0.00		

06162500 NEWTON LAKE MAIN CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued



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06163000 NEWTON LAKE NEAR VAL MARIE, SASKATCHEWAN

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°18′12″, long 107°48′20″ referenced to North American Datum of 1927, in NE ¼ sec.15, T.1., R.14 W., third meridian, Hydrologic Unit 10050013, at dam on Frenchman River, 5.4 mi northwest of Val Marie, and at mile 156.2.

DRAINAGE AREA.--1,349 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1937 to current season (seasonal records only). February 1937 to October 1979, published as Val Marie Reservoir.

REVISED RECORDS.-- Water Supply Paper (WSP) 2116: 1937-65. WSP 1729: 1949.

GAGE.--Water-stage recorder. Elevation of gage is at mean sea level, referenced to the Geodetic Survey of Canada datum. Prior to May 11, 1966, nonrecording gages.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Reservoir is formed by earthfill dam with concrete control works; construction began in 1936; storage began in 1937; construction was completed in 1938. The following capacity figures are from capacity table effective February 1983. Usable capacity is 9,950 acre-ft between elevation 2,616.1 ft, bottom of outlet works, and 2,635.4 ft maximum design level. There is no dead storage. Water is used for irrigation. Water Survey of Canada satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 18,920 acre-ft, Apr. 19, 1952, elevation, 2,638.80 ft; no contents at times.

EXTREMES FOR CURRENT SEASON.--Maximum contents, 12,010 acre-ft, Mar. 28, elevation, 2,636.75 ft; minimum, 1,540 acre-ft, Mar. 7, elevation, 2,626.68 ft.

SEASONAL MONTHEND CONTENTS
FEBRUARY 2007 TO OCTOBER 2007

Date	Contents (acre-feet)
February 28	1,600
March 31	11,150
April 30	10,170
May 31	8,080
June 30	7,840
July 31	6,140
August 31	3,910
September 30	3,680
October 31	3,090

06164000 FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY

Upper Missouri Basin
Frenchman Subbasin

LOCATION.--Lat 49°00′00″, long 107°18′06″ referenced to North American Datum of 1927, in SE¼ sec.5, T.1, R.10 W., third meridian, in Saskatchewan, Hydrologic Unit 10050013, on left bank 50 ft north of international boundary, 22 mi northeast of Whitewater, MT, and at river mile 76.4.

DRAINAGE AREA.--2,120 mi², of which 343 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1917 to current season (seasonal records only for most years).

REVISED RECORDS.-- Water Supply Paper 1389: 1938, maximum discharge (M); 1939-41; 1942(M); 1943, 1950(M). Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder and concrete control since August 1949. Elevation of gage is 2,420 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to June 23, 1937, water-stage recorder at site 0.5 mi upstream at different elevation. June 23, 1937, to October 1952, water-stage recorder at site 100 ft downstream at present elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by the United States and Canada.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Natural flow of stream is affected by several storage reservoirs, diversions for irrigation of about 14,500 acres, and return flow from irrigated areas. Water may be diverted into or from Battle Creek basin through Cypress Lake. Water Survey of Canada satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06164000 FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e3.5	353	78	52	0.04	0.00	0.57	0.00		
2			e3.2	52	63	55	0.04	0.00	0.32	0.00		
3			e3.5	185	67	42	0.07	0.00	0.21	0.00		
4			e4.2	263	69	44	0.04	0.00	0.11	0.00		
5			e3.5	271	43	30	0.04	0.00	0.07	0.00		
6			e3.9	189	40	133	0.04	0.00	0.04	0.00		
7			e4.2	122	50	122	0.04	20	0.04	0.00		
8			e11	80	49	141	0.04	28	0.04	0.00		
9			e32	66	48	210	0.00	29	0.04	0.00		
10			e88	67	48	88	0.00	28	0.04	0.00		
11			e247	69	43	56	0.00	27	0.04	0.00		
12			e388	94	31	38	0.00	25	0.04	0.00		
13			e777	104	31	25	0.00	27	0.00	0.00		
14			e848	77	33	17	0.00	19	0.00	0.00		
15			653	66	23	11	0.00	11	0.00	0.00		
16			498	64	13	6.8	0.00	6.5	0.00	0.00		
17			133	63	6.5	5.0	0.00	3.4	0.00	0.00		
18			75	63	3.8	8.3	0.00	1.7	0.00	0.00		
19			46	104	2.4	7.8	0.00	0.99	0.00	0.00		
20			33	112	1.5	5.2	0.00	0.64	0.00	0.00		
21			35	173	26	3.1	0.00	23	0.00	0.00		
22			31	284	38	1.8	0.00	36	0.00	0.00		
23			31	305	47	1.2	0.00	35	0.00	0.00		
24			27	308	49	0.74	0.00	35	0.00	0.00		
25			22	308	42	0.42	0.00	34	0.00	0.00		
26			19	309	40	0.25	0.00	23	0.00	0.00		
27			17	310	40	0.18	0.00	7.8	0.00	0.00		
28			15	309	38	0.11	0.00	5.3	0.00	0.00		
29			157	302	41	0.07	0.00	2.5	0.00	0.00		
30			323	177	42	0.04	0.00	1.4	0.00	52		
31			579	---	47	---	0.00	0.88	---	53		
Total			5,111.0	5,249	1,193.2	1,105.01	0.35	431.11	1.56	105.00		
Mean			165	175	38.5	36.8	0.01	13.9	0.05	3.39		
Max			848	353	78	210	0.07	36	0.57	53		
Min			3.2	52	1.5	0.04	0.00	0.00	0.00	0.00		
Ac-ft			10,140	10,410	2,370	2,190	0.7	855	3.1	208		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 - 2007, BY WATER YEAR *

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			177	392	136	82.7	51.5	17.0	7.07	10.3		
Max			1,490	5,313	1,051	886	602	199	65.9	77.7		
(WY)			(1997)	(1952)	(1927)	(1923)	(1955)	(2002)	(1951)	(1966)		
Min			0.00	0.35	2.54	0.39	0.01	0.00	0.00	0.00		
(WY)			(2002)	(2000)	(1937)	(1937)	(2007)	(1934)	(1919)	(1932)		

* Seasonal records most years.

06164000 FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

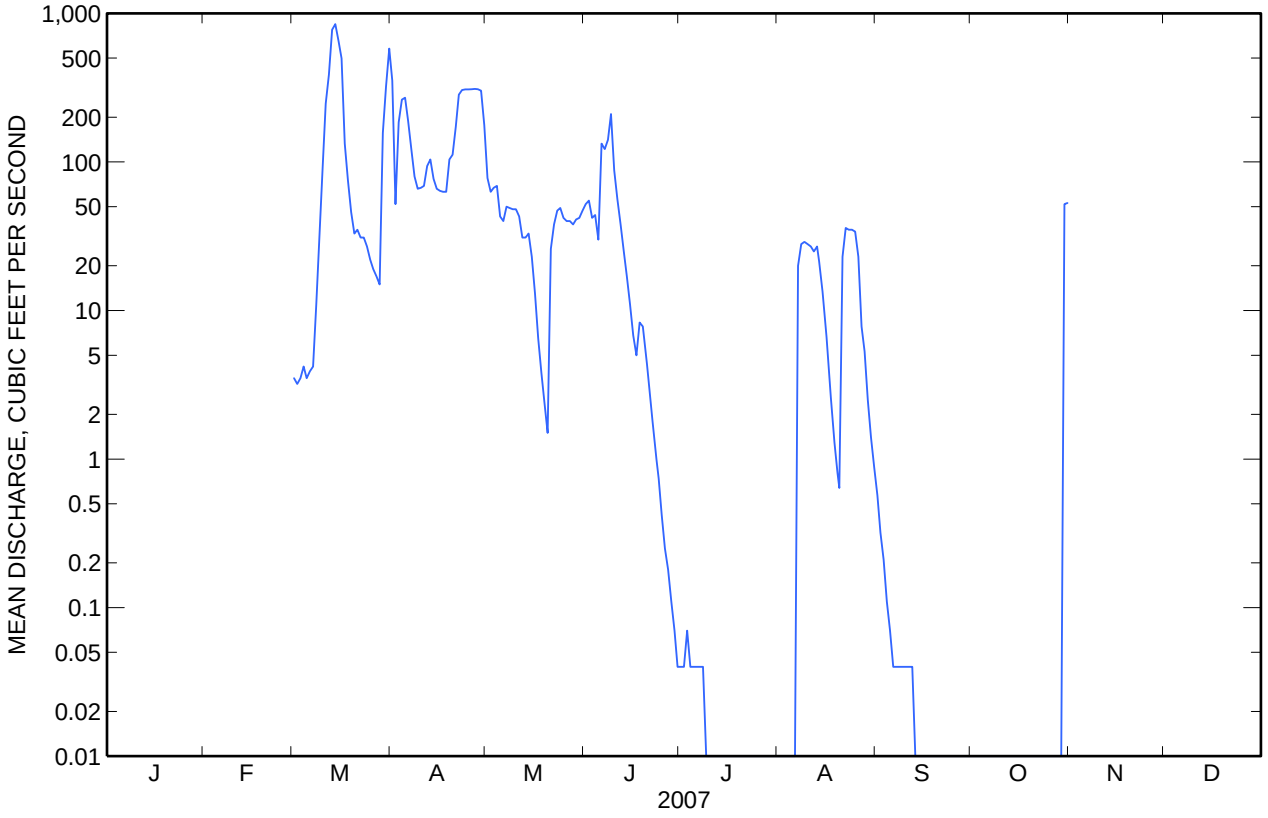
	2007 Season		Seasons 1917 - 2007*	
Highest daily mean	848	Mar 14	19,200	Apr 15, 1952
Lowest daily mean	0.0	Many days	0.00	Jul 28, 1919[a]
Maximum peak flow	1,120	Mar 14	[b]22,700	Apr 15, 1952
Maximum peak stage	8.71	Mar 14	[c]19.90	Apr 15, 1952

* Seasonal records most years.

[a] No flow most years.

[b] From rating curve extended above 2,300 ft³/s on basis of slope-area measurement of peak flow.

[c] From floodmarks.



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Water-Data Report 2007

06164510 MILK RIVER AT JUNEBERG BRIDGE, NEAR SACO, MT

Milk Basin
Beaver Subbasin

LOCATION.--Lat 48°30′32″, long 107°13′02″ referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.30, T.32 N., R.35 E., Phillips County, MT, Hydrologic Unit 10050014, on left bank 25 ft upstream from Juneberg bridge on Phillips County road, 1.5 mi downstream from Frenchman River, 6.9 mi northeast of Saco, and at river mile 152.3.

DRAINAGE AREA.--17,670 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,130 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Flow increased during irrigation season by water from St. Mary Canal which diverts water from the St. Mary River near Babb (station number 05017500) into the Milk River. Flow is regulated by Fresno Reservoir (station number 06136500), two reservoirs in Lodge Creek basin in Saskatchewan (station numbers 06144260 and 06144360 and four reservoirs in Frenchman River basin in Saskatchewan. There are many small dams for the diversion of irrigation canals upstream. U.S. Army Corps of Engineers satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06164510 MILK RIVER AT JUNEBERG BRIDGE, NEAR SACO, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	47	127	77	e50	e90	e90	281	502	403	264	196	162
2	46	118	86	e60	e80	e90	515	425	395	231	e200	150
3	42	127	90	e70	e70	e100	401	363	407	210	e210	146
4	42	124	98	e70	e70	e110	199	293	577	208	e220	136
5	42	116	105	e70	e80	e110	199	290	744	187	e200	135
6	43	119	107	e70	e90	e110	272	352	811	148	e210	135
7	53	120	102	e70	e80	e90	283	348	777	136	e220	130
8	54	124	96	e70	e80	e100	235	323	817	137	e220	133
9	58	123	94	e70	e80	e100	181	309	900	131	e220	156
10	61	124	93	e70	e80	e100	161	288	816	188	230	181
11	59	135	e85	e60	e80	e130	144	269	804	190	197	136
12	52	144	e85	e50	e80	e130	129	250	719	254	191	136
13	49	140	e85	e50	e80	e120	124	233	704	277	202	137
14	49	135	e90	e50	e70	270	96	207	682	250	172	113
15	49	122	e90	e50	e70	657	98	174	661	261	151	90
16	49	128	e90	e60	e80	960	100	154	634	272	140	77
17	47	123	e80	e70	e80	841	120	152	673	279	134	64
18	46	110	e90	e80	e90	718	116	140	757	194	132	54
19	46	113	e90	e80	e100	437	125	137	740	184	125	47
20	104	131	e90	e80	e110	235	165	135	769	197	134	48
21	178	120	e90	e90	e100	145	173	134	728	205	127	46
22	174	107	e90	e110	e100	97	175	155	738	199	128	44
23	174	113	e90	e110	e100	83	243	185	733	205	134	45
24	170	107	e90	e120	e100	91	328	189	692	216	138	45
25	168	95	e90	e110	e90	89	353	247	636	227	139	45
26	162	73	e90	e110	e90	86	362	298	503	213	149	46
27	156	108	e90	e100	e90	80	359	300	418	156	140	47
28	154	116	e80	e110	e90	91	451	269	387	145	143	46
29	163	85	e70	e100	---	83	589	245	344	137	141	46
30	145	71	e60	e100	---	84	548	398	297	140	152	44
31	134	---	e50	e100	---	115	---	412	---	197	159	---
Total	2,816	3,498	2,713	2,460	2,400	6,542	7,525	8,176	19,266	6,238	5,254	2,820
Mean	90.8	117	87.5	79.4	85.7	211	251	264	642	201	169	94.0
Max	178	144	107	120	110	960	589	502	900	279	230	181
Min	42	71	50	50	70	80	96	134	297	131	125	44
Ac-ft	5,590	6,940	5,380	4,880	4,760	12,980	14,930	16,220	38,210	12,370	10,420	5,590

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2007, BY WATER YEAR (WY)

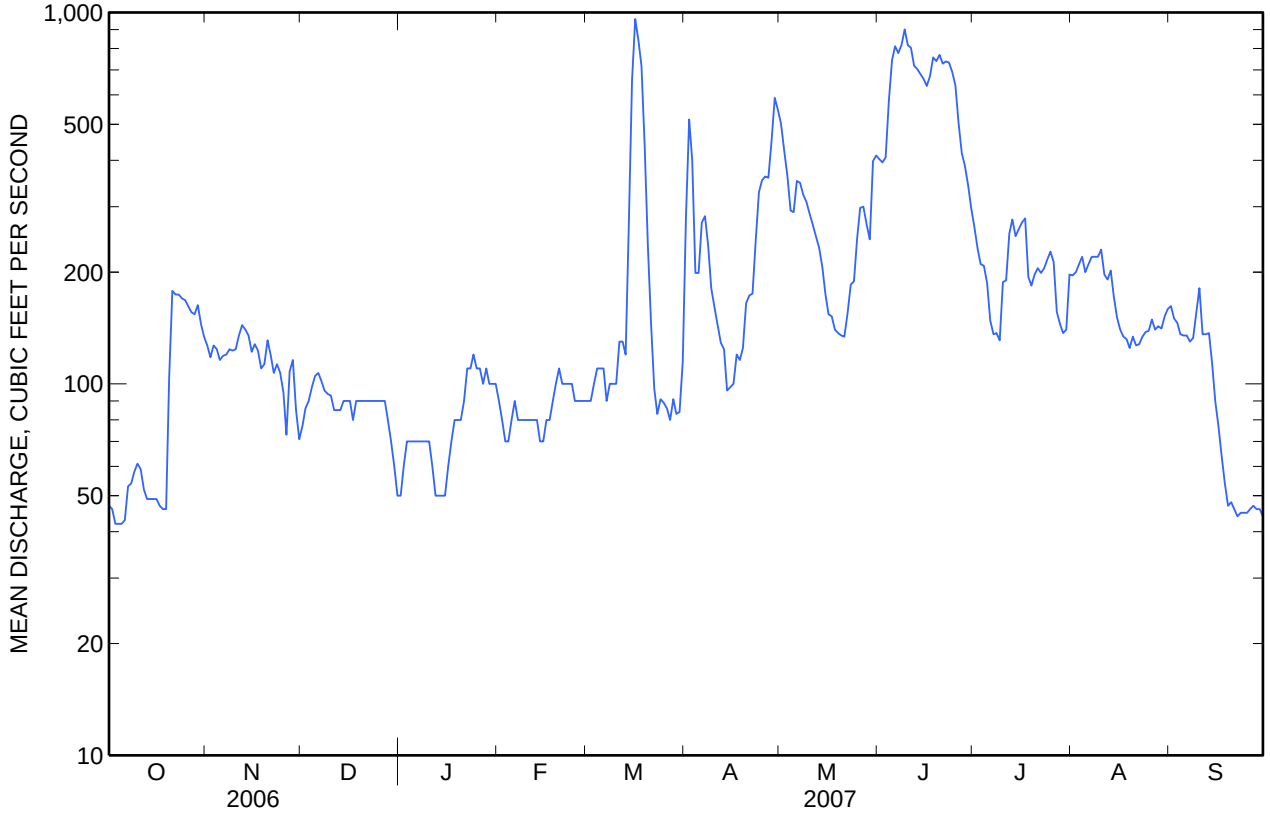
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	131	132	118	116	204	921	702	445	462	397	231	220
Max	881	286	406	271	1,758	4,075	6,221	2,545	2,258	1,844	693	1,517
(WY)	(1994)	(1979)	(1987)	(1987)	(1996)	(1979)	(1978)	(1986)	(1982)	(1991)	(1993)	(1986)
Min	24.9	60.1	44.8	33.1	49.1	47.4	38.4	56.4	103	29.6	9.35	22.7
(WY)	(2002)	(1978)	(1986)	(1985)	(2002)	(2002)	(2002)	(1989)	(2001)	(1984)	(1984)	(1984)

06164510 MILK RIVER AT JUNEBERG BRIDGE, NEAR SACO, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1978 - 2007	
Annual total	58,700		69,708			
Annual mean	161		191		[a]339	
Highest annual mean					1,042	1978
Lowest annual mean					70.1	2001
Highest daily mean	1,390	Apr 2	960	Mar 16	12,300	Apr 3, 1978
Lowest daily mean	41	Sep 14	42	Oct 3	2.1	Aug 20, 1984
Annual seven-day minimum	44	Sep 30	45	Oct 1	4.0	Jul 27, 1984
Maximum peak flow			1,120	Mar 16	[b]12,400	Apr 3, 1978
Maximum peak stage			5.20	Mar 16	[c]26.70	Mar 4, 1986
Annual runoff (ac-ft)	116,400		138,300		245,400	
10 percent exceeds	257		409		583	
50 percent exceeds	136		128		141	
90 percent exceeds	62		59		50	

[a] Median of yearly mean discharge, 204 ft³/s.
[b] Gage height, 24.20 ft.
[c] Backwater from ice.



06166000 BEAVER CREEK BELOW GUSTON COULEE, NEAR SACO, MT

Milk Basin
Beaver Subbasin

LOCATION.--Lat 48°21′24″, long 107°34′57″ referenced to North American Datum of 1927, in SE ¼ SW ¼ NW ¼ sec.16, T.30 N., R.32 E., Phillips County, MT, Hydrologic Unit 10050014, on right bank, 25 ft upstream from bridge on county road, 13 mi southwest of Saco, 22.5 river miles downstream from Guston Coulee, and at mile 61.1.

DRAINAGE AREA.--1,208 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1920 to September 1921, April 1981 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 2,215 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Some regulation occurs by numerous small reservoirs on tributary streams. Diversions for irrigation occur upstream from the gage. U.S. Geological Survey satellite telemetry is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06166000 BEAVER CREEK BELOW GUSTON COULEE, NEAR SACO, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e20	0.65	0.46	333	16	4.5	0.56	0.00		
2			e25	0.47	3.0	394	11	2.8	0.53	0.00		
3			e30	0.35	14	540	9.6	2.1	0.51	0.00		
4			e30	0.23	12	584	8.4	1.9	0.32	0.00		
5			e25	0.11	12	392	4.9	1.4	0.00	0.00		
6			e25	0.01	11	265	1.4	1.1	0.00	0.00		
7			e30	0.00	6.8	217	1.3	0.90	0.00	0.00		
8			e40	0.00	2.3	186	1.1	0.79	0.00	0.00		
9			e40	0.00	1.2	198	0.92	0.69	0.00	0.00		
10			e30	0.00	1.6	254	1.2	0.46	0.10	0.00		
11			e30	0.00	1.6	271	2.6	0.12	0.51	0.00		
12			e50	0.00	2.1	189	3.5	0.00	0.76	0.00		
13			40	0.00	12	122	3.4	0.00	0.68	0.00		
14			27	0.00	34	87	2.8	0.00	0.48	0.00		
15			19	0.01	45	56	6.9	0.04	0.43	0.00		
16			19	0.00	40	45	7.1	0.16	0.40	0.00		
17			25	0.00	27	184	3.6	0.27	0.34	0.00		
18			30	0.00	16	281	0.06	0.35	0.28	0.00		
19			21	0.00	15	174	0.02	0.33	0.21	0.00		
20			15	0.00	18	284	0.02	0.25	0.15	0.00		
21			11	0.00	21	378	0.02	0.15	0.06	0.00		
22			5.1	0.00	35	371	0.02	0.13	0.00	0.00		
23			3.6	0.00	72	257	0.02	0.27	0.00	0.00		
24			1.6	0.00	156	183	0.02	0.74	0.00	0.00		
25			0.90	0.00	223	140	0.02	0.95	0.00	0.00		
26			0.99	0.01	533	99	0.06	0.81	0.00	0.00		
27			2.8	0.14	581	66	0.17	0.79	0.00	0.00		
28			3.6	6.8	430	48	0.27	0.64	0.00	0.00		
29			1.8	12	347	36	2.8	0.57	0.00	0.00		
30			1.0	7.5	330	24	6.5	0.58	0.00	0.00		
31			0.82	---	296	---	4.6	0.57	---	0.00		
Total			604.21	28.28	3,299.06	6,658	100.32	24.36	6.32	0.00		
Mean			19.5	0.94	106	222	3.24	0.79	0.21	0.00		
Max			50	12	581	584	16	4.5	0.76	0.00		
Min			0.82	0.00	0.46	24	0.02	0.00	0.00	0.00		
Ac-ft			1,200	56	6,540	13,210	199	48	13	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1981 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			59.5	18.2	56.3	39.8	38.1	6.26	49.6	18.6		
Max			304	140	718	315	223	40.7	1,187	342		
(WY)			(2004)	(1987)	(1986)	(1982)	(1998)	(1993)	(1986)	(1987)		
Min			0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00		
(WY)			(1995)	(1995)	(1984)	(2001)	(1985)	(2001)	(1984)	(1985)		

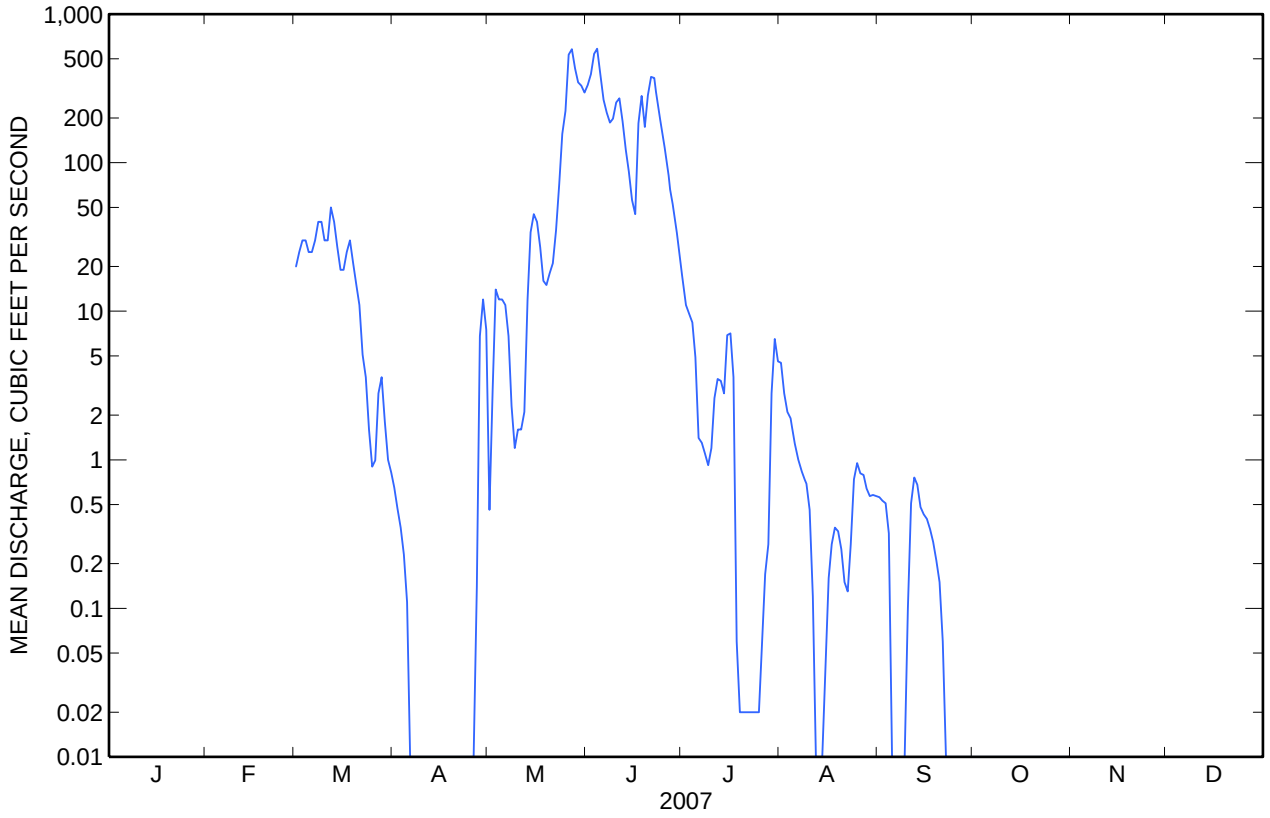
* During periods of operation (1981 to current year).

06166000 BEAVER CREEK BELOW GUSTON COULEE, NEAR SACO, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1981 - 2007*	
Highest daily mean	584	Jun 4	11,900	Sep 27, 1986
Lowest daily mean	0.00	Many days	0.00	Apr 5, 1981 [b]
Maximum peak flow	[a]622	Jun 4	[c]23,500	Sep 26, 1986
Maximum peak stage	6.91	May 27	14.68	Sep 26, 1986

* During periods of operation (1981 to current year).
[a] Gage height, 6.86 ft.
[b] No flow at times each year.
[c]From slope-area measurement of peak flow.



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06169500 ROCK CREEK BELOW HORSE CREEK, NEAR INTERNATIONAL BOUNDARY

Milk Basin
Rock Subbasin

LOCATION.--Lat 48°58′10″, long 106°50′20″ referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.15, T.37 N., R.37 E., Valley County, MT, Hydrologic Unit 10050015, on right bank 2 mi south of international boundary, 3 mi downstream from Horse Creek, 21 mi northwest of Opheim, MT, and at river mile 82.0.

DRAINAGE AREA.--328 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1916 to October 1926, September 1956 to current year (seasonal records only prior to October 1978). Monthly discharge only for some periods, published in Water Supply Paper 1309. Published as Rock Creek near Barnard, Mt. 1916-17. Prior to September 1956, records were collected at both Horse Creek (1914-56) and Rock Creek above Horse Creek (1914-56). Summations are equivalent to records at this site.

REVISED RECORDS.-- WSP 1509: 1925, maximum discharge. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,530 ft, referenced to the National Geodetic Vertical Datum of 1929. March 1916 to October 1926, nonrecording gages at several sites within 500 ft upstream at different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Several small diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1952, reached a stage of 12.6 ft, from floodmarks, discharge, 5,110 ft^3/s, by slope-area measurement of peak flow.

06169500 ROCK CREEK BELOW HORSE CREEK, NEAR INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.48	0.96	1.1	e0.50	e0.00	e0.00	12	6.1	9.3	0.47	0.00	0.00
2	0.44	0.84	1.1	e0.50	e0.00	e0.00	10	5.9	8.3	0.44	0.00	0.00
3	0.40	0.78	0.94	e0.50	e0.00	e0.00	8.8	6.1	7.3	0.55	0.00	0.00
4	0.40	0.79	0.83	e0.50	e0.00	e0.00	7.8	9.6	6.2	0.44	0.00	0.00
5	0.41	0.90	1.0	e0.50	e0.00	e0.00	7.0	7.8	5.4	0.34	0.00	0.00
6	0.45	1.0	1.1	e0.50	e0.00	e1.0	5.8	10	6.2	0.24	0.00	0.00
7	0.70	1.3	1.0	e0.40	e0.00	e2.0	5.4	8.9	5.2	0.19	0.00	0.00
8	0.77	1.8	1.0	e0.40	e0.00	e3.0	5.1	8.9	6.2	0.22	0.00	0.00
9	0.78	2.6	1.0	e0.35	e0.00	e5.0	4.6	8.5	6.2	0.19	0.00	0.00
10	1.8	2.5	1.1	e0.35	e0.00	e10	6.0	7.4	4.6	0.17	0.00	0.00
11	1.5	2.2	1.1	e0.05	e0.00	e40	5.5	7.0	4.6	0.17	0.00	0.00
12	1.1	1.9	0.96	e0.05	e0.00	e400	4.9	6.3	4.5	0.16	0.00	0.00
13	0.90	2.1	1.0	e0.10	e0.00	1,340	5.1	5.6	4.0	0.12	0.00	0.00
14	0.79	2.2	1.1	e0.10	e0.00	519	5.4	5.2	3.5	0.09	0.00	0.00
15	0.80	1.5	1.2	e0.10	e0.00	338	6.1	5.0	3.0	0.05	0.00	0.00
16	0.89	1.6	1.6	e0.10	e0.00	111	7.9	5.0	2.8	0.03	0.00	0.00
17	0.91	1.7	1.5	e0.10	e0.00	83	8.0	4.9	3.1	0.02	0.00	0.00
18	0.97	2.0	1.4	e0.10	e0.00	58	8.2	4.7	2.9	0.02	0.00	0.00
19	0.99	1.7	1.1	e0.10	e0.00	48	8.3	4.3	2.6	0.01	0.00	0.00
20	0.91	1.5	1.3	e0.15	e0.00	39	7.4	4.3	2.7	0.01	0.00	0.00
21	0.93	1.3	1.3	e0.15	e0.00	30	7.0	4.8	2.2	0.01	0.00	0.00
22	0.96	1.5	e1.0	e0.15	e0.00	29	6.6	4.6	2.1	0.00	0.00	0.00
23	1.0	2.1	e1.0	e0.15	e0.00	32	6.4	5.9	2.1	0.00	0.00	0.00
24	1.0	1.9	e1.0	e0.15	e0.00	29	6.5	6.3	1.8	0.00	0.00	0.00
25	0.99	1.4	e0.50	e0.15	e0.00	25	6.5	11	1.4	0.00	0.00	0.00
26	1.0	1.1	e0.50	e0.15	e0.00	25	6.7	24	1.1	0.00	0.00	0.00
27	1.1	0.86	e0.50	e0.10	e0.00	23	6.8	17	0.86	0.00	0.00	0.00
28	1.2	0.93	e0.50	e0.15	e0.00	21	6.8	16	0.76	0.00	0.00	0.00
29	1.2	0.85	e0.50	e0.05	---	18	6.5	16	0.65	0.00	0.00	0.00
30	1.4	0.90	e0.50	e0.00	---	16	6.3	13	0.56	0.00	0.00	0.00
31	1.2	---	e0.50	e0.00	---	14	---	11	---	0.00	0.00	---
Total	28.37	44.71	30.23	6.65	0.00	3,259.00	205.4	261.1	112.13	3.94	0.00	0.00
Mean	0.92	1.49	0.98	0.21	0.00	105	6.85	8.42	3.74	0.13	0.00	0.00
Max	1.8	2.6	1.6	0.50	0.00	1,340	12	24	9.3	0.55	0.00	0.00
Min	0.40	0.78	0.50	0.00	0.00	0.00	4.6	4.3	0.56	0.00	0.00	0.00
Ac-ft	56	89	60	13	0.00	6,460	407	518	222	7.8	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.80	1.49	0.76	0.30	5.16	77.8	78.4	15.8	12.9	8.98	1.18	1.02
Max	9.33	2.79	2.19	1.78	96.1	369	437	89.0	102	63.6	13.4	12.5
(WY)	(1987)	(1981)	(1980)	(1981)	(1981)	(1976)	(1969)	(1982)	(1991)	(1969)	(1975)	(1986)
Min	0.00	0.10	0.03	0.00	0.00	0.00	3.97	1.46	0.17	0.00	0.00	0.00
(WY)	(1989)	(1989)	(1996)	(1984)	(1980)	(1965)	(1992)	(1992)	(1988)	(1988)	(1959)	(1958)

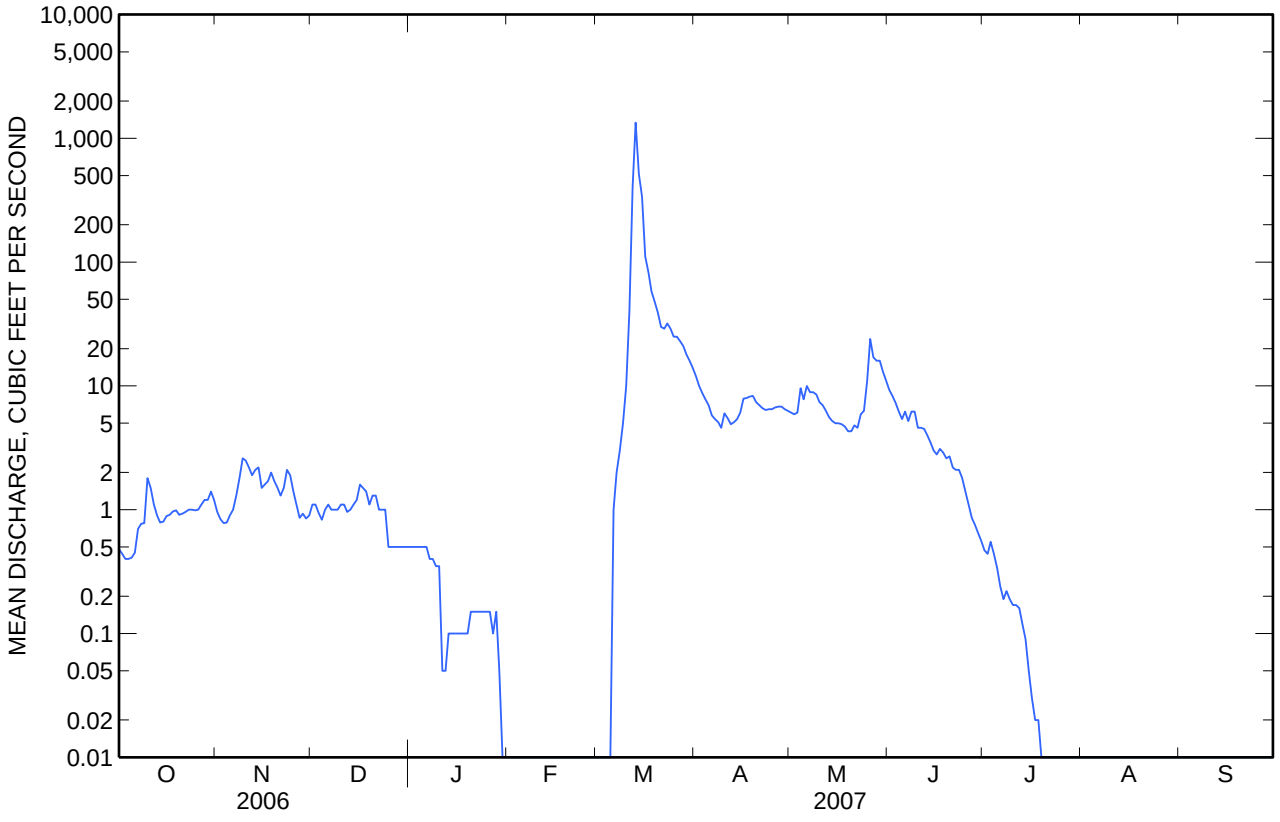
* Seasonal records only prior to October 1978.

06169500 ROCK CREEK BELOW HORSE CREEK, NEAR INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1956 - 2007*	
Annual total	2,599.05		3,951.53			
Annual mean	7.12		10.8		[a]13.5	
Highest annual mean					37.4	1999
Lowest annual mean					1.88	1998
Highest daily mean	310	Mar 30	1,340	Mar 13	3,460	Apr 7, 1969
Lowest daily mean	0.00	Jul 16	0.00	Jan 30	0.00	Mar 1, 1957
Annual seven-day minimum	0.00	Jul 25	0.00	Jan 30	0.00	Mar 1, 1957
Maximum peak flow			1,960	Mar 13	[b]4,420	Apr 7, 1969
Maximum peak stage			8.78	Mar 13	[c]13.40	Mar 29, 1978
Instantaneous low flow			0.00	Many days	[d]0.00	Mar 1, 1957
Annual runoff (ac-ft)	5,160		7,840		9,780	
10 percent exceeds	9.9		8.8		13	
50 percent exceeds	1.0		0.86		1.0	
90 percent exceeds	0.00		0.00		0.00	

* Seasonal records only prior to October 1978.
[a] Median of yearly discharge, 9.46 ft³/s, 6,850 acre-ft/yr (October 1978 to current year).
[b] Gage height, 12.03 ft.
[c] Backwater from ice.
[d] At times most years.



06172310 MILK RIVER AT TAMPICO, MT

Milk Basin
Lower Milk Subbasin

LOCATION.--Lat 48°18′29″, long 106°49′19″ referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.32, T.30 N., R.38 E., Valley County, MT, Hydrologic Unit 10050012, on right bank, at county bridge 0.8 miles downstream from Buggy Creek and 0.3 miles northeast of Tampico, and at river mile 98.7.

DRAINAGE AREA.--21,078 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1973 to September 1977, May 1987 to current year (seasonal record beginning 1995 water year).

GAGE.--Water-stage recorder. Elevation of gage is 2,110 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Flow increased during irrigation season by water from St. Mary Canal which diverts from the St. Mary River near Babb. Flow is regulated by Fresno and Nelson Reservoirs, five reservoirs in Lodge Creek basin in Saskatchewan, and four reservoirs in Frenchman River basin in Saskatchewan. Many small dams for the diversion of irrigation canals occur upstream, the closest being Vandalia Dam 19 mi upstream. Diversions occur upstream from station for irrigation of about 126,000 acres of which about 17,000 acres lies downstream from station. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1952 reached an observed stage of 38.67 ft at gage 200 ft downstream from Vandalia Dam, furnished by the U.S. Army Corps of Engineers; discharge about 45,000 ft³/s.

06172310 MILK RIVER AT TAMPICO, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e50	9.5	422	1,260	348	15	23	56		
2			e50	9.2	405	1,750	256	16	23	58		
3			e50	13	376	2,180	154	17	25	58		
4			e50	139	348	1,850	100	17	26	58		
5			e50	180	314	1,420	99	17	26	61		
6			e50	176	410	1,440	65	18	29	72		
7			e50	221	324	1,580	40	17	32	75		
8			e50	237	325	1,760	29	20	33	73		
9			e50	197	300	1,840	23	26	31	73		
10			e60	174	246	1,460	16	30	32	68		
11			e80	154	218	1,220	14	37	47	68		
12			e300	125	203	1,090	14	35	79	71		
13			e600	106	195	990	14	34	83	68		
14			e900	90	208	1,020	18	37	62	68		
15			e1,300	75	167	887	23	48	47	66		
16			e1,700	57	144	731	26	48	38	64		
17			1,480	37	122	1,130	36	39	31	66		
18			1,260	34	114	2,170	60	35	27	69		
19			1,010	34	75	2,550	45	31	25	68		
20			673	42	65	1,840	32	34	25	67		
21			404	93	93	1,310	30	39	128	67		
22			e250	527	119	1,060	29	37	243	64		
23			e150	410	626	1,110	29	31	207	24		
24			e90	220	2,140	1,190	29	28	195	11		
25			e60	218	2,340	1,090	29	26	185	109		
26			e40	236	1,940	895	29	27	173	146		
27			e20	243	1,100	669	26	28	151	143		
28			9.8	231	759	522	22	27	128	143		
29			7.5	315	776	444	18	25	77	142		
30			7.5	457	949	433	16	24	65	145		
31			9.3	---	1,130	---	16	23	---	143		
Total			10,861.1	5,059.7	16,953	38,891	1,685	886	2,296	2,464		
Mean			350	169	547	1,296	54.4	28.6	76.5	79.5		
Max			1,700	527	2,340	2,550	348	48	243	146		
Min			7.5	9.2	65	433	14	15	23	11		
Ac-ft			21,540	10,040	33,630	77,140	3,340	1,760	4,550	4,890		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 – 1994 AND SEASONS 1995 – 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	211	178	979	706	531	577	441	181	154	171	217	152
Max	791	433	3,809	3,911	4,555	1,852	2,515	769	903	906	710	363
(WY)	(1974)	(1974)	(1994)	(1996)	(1975)	(1974)	(1991)	(1993)	(1993)	(1994)	(1976)	(1976)
Min	55.2	49.3	46.6	3.35	6.59	11.7	8.35	4.63	6.52	29.1	90.0	66.9
(WY)	(1989)	(1989)	(2002)	(1992)	(2001)	(1977)	(1977)	(1988)	(1988)	(2002)	(1989)	(1989)

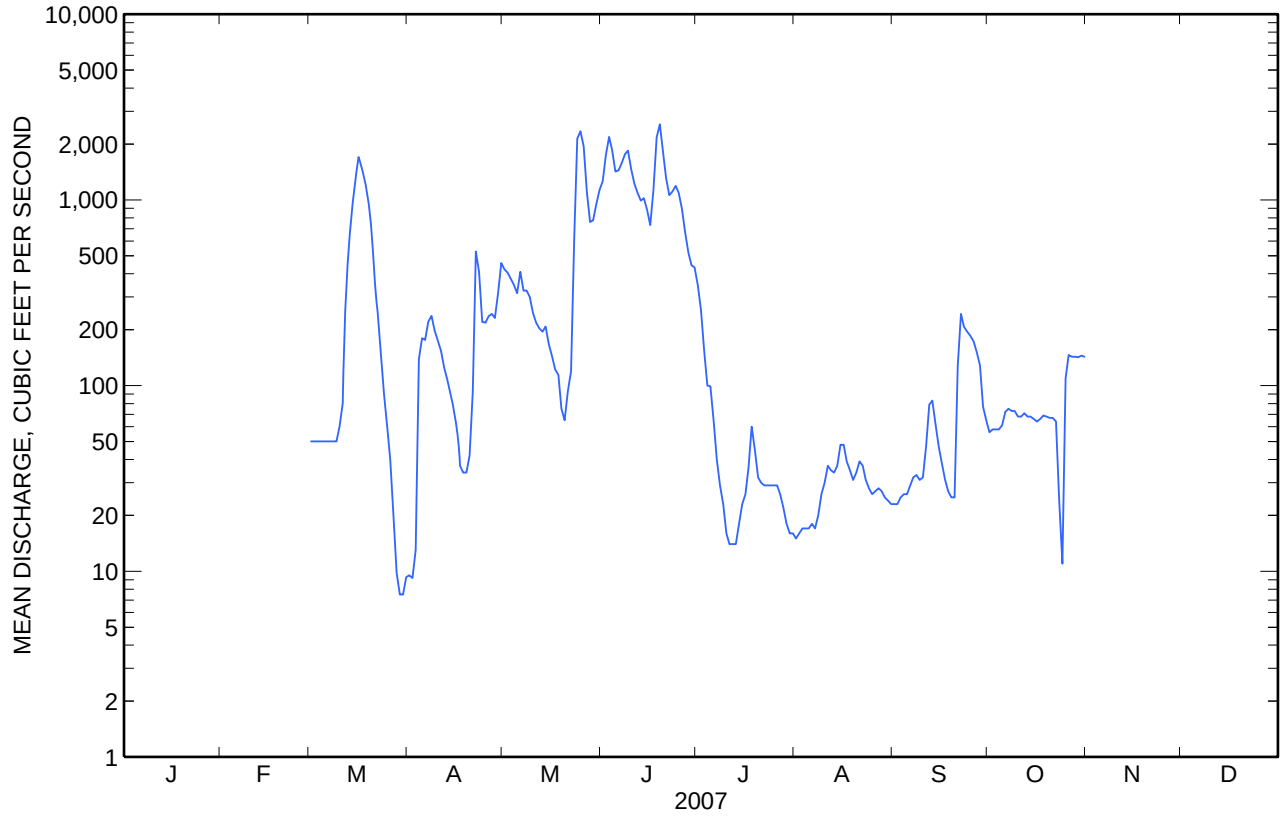
* During periods of operation (1974-77, 1987 to current year. Seasonal records beginning with 1995 water year).

06172310 MILK RIVER AT TAMPICO, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1995 - 2007		Water Years 1974 – 1994*	
Annual mean					400	
Highest annual mean					998	1975
Lowest annual mean					84.6	1988
Highest daily mean	2,550	Jun 19	[a]11,000	Mar 27, 1997	8,180	May 26, 1974
Lowest daily mean	7.5	Mar 29	1.8	Jun 7, 2002	0.00	Aug 28, 1988
Annual seven-day minimum					0.00	Sep 7, 1988
Maximum peak flow	2,680	Jun 19	[a]11,000	Mar 27, 1997	[c]8,210	May 26, 1974
Maximum peak stage	11.44	Jun 19	[b]27.64	Mar 27, 1997	25.40	Jul 4, 1991
Instantaneous low flow					0.00	Aug 28, 1988
Annual runoff (ac-ft)					289,400	
10 percent exceeds					833	
50 percent exceeds					123	
90 percent exceeds					11	

* During periods of operation (1974-77, 1987 to current year. Seasonal records beginning with 1995 water year).
[a] Estimated daily discharge, ungaged bypass flow.
[b] Backwater from ice.
[c] Gage height, 23.65 ft.



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06174500 MILK RIVER AT NASHUA, MT

Milk Basin
Lower Milk Subbasin

LOCATION.--Lat 48°07′47″, long 106°21′50″ referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.1, T.27 N., R.41 E., Valley County, MT, Hydrologic Unit 10050012, on right bank at downstream side of former highway bridge site, 0.6 mi southwest of Nashua, 2.0 mi upstream from Porcupine Creek, and at river mile 22.7.

DRAINAGE AREA.--22,332 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,027.75 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Flow increased during irrigation season by water from St. Mary Canal which diverts from the St. Mary River near Babb. Flow is regulated by Fresno Reservoir (station number 06136500), two reservoirs in Lodge Creek basin in Saskatchewan, and four reservoirs in Frenchman River basin in Saskatchewan. Diversions for irrigation include about 140,000 acres upstream from station. U.S. Army Corps ofEngineers satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06174500 MILK RIVER AT NASHUA, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	100	161	e70	e60	e70	e80	27	435	2,440	732	41	76
2	87	140	e70	e70	e60	e80	22	490	4,050	648	31	83
3	82	124	e70	e80	e60	e90	22	490	4,370	583	31	80
4	81	140	e90	e90	e60	e90	22	501	3,940	491	34	77
5	79	147	e90	e90	e70	e90	23	493	3,450	434	40	78
6	79	144	e70	e80	e70	e90	98	532	2,800	341	55	70
7	73	141	e70	e50	e60	e100	260	537	2,360	270	65	64
8	53	139	e90	e50	e60	e100	271	510	2,460	217	90	63
9	47	152	e100	e50	e60	e100	323	447	2,990	173	111	79
10	87	144	e100	e40	e70	e100	351	421	2,930	141	113	95
11	66	135	e90	e50	e70	e300	317	387	2,650	110	97	95
12	82	129	e80	e30	e60	e400	277	343	2,420	73	92	94
13	115	132	e70	e30	e60	e500	244	319	2,050	50	102	93
14	114	141	e70	e30	e50	e800	207	304	1,660	33	123	107
15	105	141	e70	e30	e50	e1,400	181	320	1,480	32	136	114
16	99	152	e70	e40	e60	e2,000	156	337	1,450	42	109	115
17	94	139	e70	e70	e60	e2,100	137	333	2,160	75	66	110
18	91	141	e70	e70	e80	e2,200	119	292	3,590	94	58	107
19	89	122	e70	e70	e80	e2,100	134	235	4,810	e83	56	96
20	85	132	e70	e90	e90	e1,700	156	206	4,800	e85	61	91
21	85	133	e60	e90	e90	e1,000	148	204	3,990	e87	58	66
22	83	125	e60	e90	e100	722	128	215	2,990	e90	49	51
23	83	127	e50	e90	e100	440	309	474	2,280	e95	45	83
24	121	118	e50	e90	e90	288	647	1,660	1,910	89	39	212
25	175	e50	e50	e90	e90	211	539	3,680	1,800	82	37	199
26	185	e50	e50	e90	e80	170	415	4,450	1,720	91	53	187
27	182	e60	e50	e80	e80	144	394	4,130	1,760	98	61	178
28	178	e70	e50	e80	e80	134	396	3,410	1,470	92	76	170
29	170	e70	e50	e70	---	104	394	2,680	1,070	76	77	157
30	170	e70	e50	e70	---	61	387	2,300	845	53	71	138
31	162	---	e50	e70	---	38	---	1,990	---	42	67	---
Total	3,302	3,669	2,120	2,080	2,010	17,732	7,104	33,125	78,695	5,602	2,144	3,228
Mean	107	122	68.4	67.1	71.8	572	237	1,069	2,623	181	69.2	108
Max	185	161	100	90	100	2,200	647	4,450	4,810	732	136	212
Min	47	50	50	30	50	38	22	204	845	32	31	51
Ac-ft	6,550	7,280	4,210	4,130	3,990	35,170	14,090	65,700	156,100	11,110	4,250	6,400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2007, BY WATER YEAR (WY)

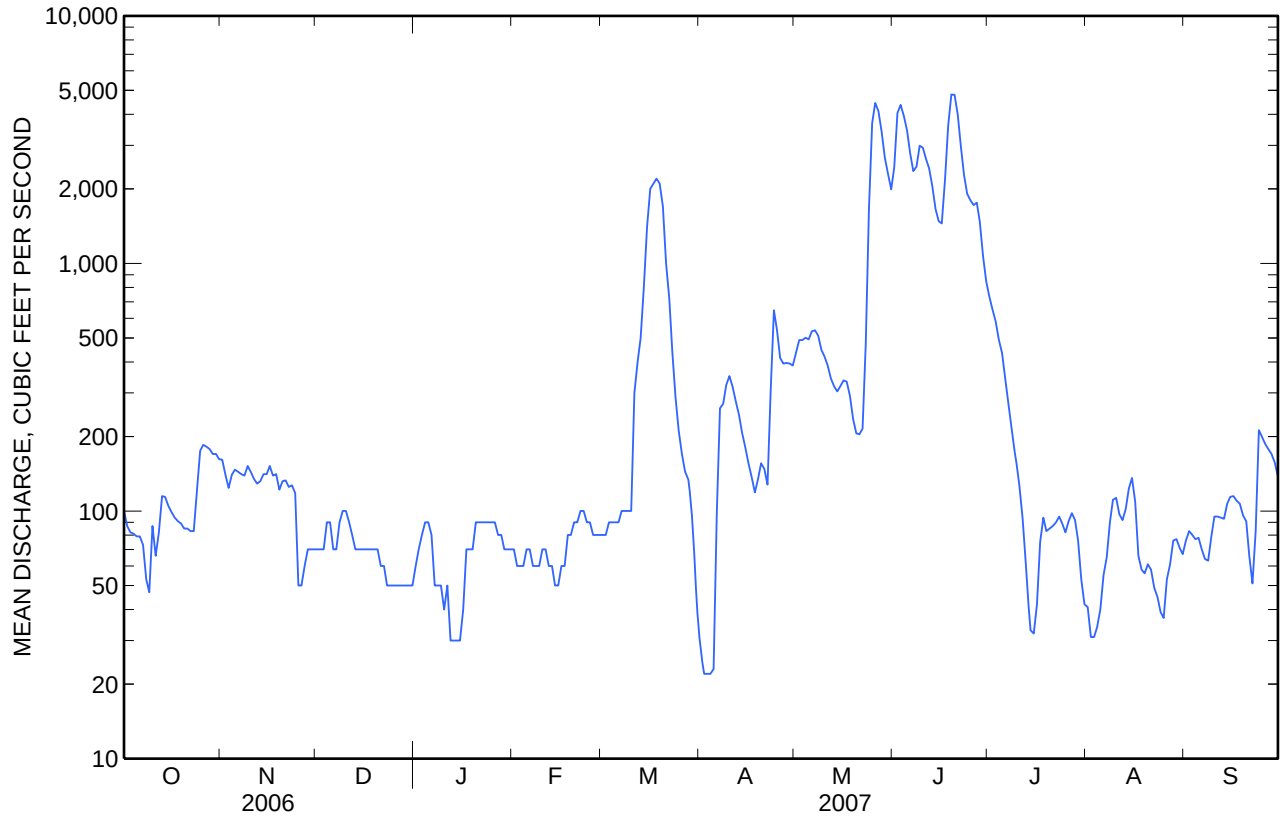
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	294	207	154	143	233	1,255	2,089	969	965	633	295	264
Max	6,837	768	487	843	2,337	6,678	20,930	5,207	6,611	3,578	1,754	2,138
(WY)	(1987)	(1987)	(1987)	(1974)	(1996)	(1986)	(1952)	(1975)	(1953)	(1962)	(1993)	(1978)
Min	34.4	61.2	39.7	36.0	38.9	56.5	15.1	10.5	28.0	3.56	3.42	12.6
(WY)	(2002)	(2002)	(1984)	(1950)	(1949)	(2002)	(1981)	(1992)	(1984)	(1984)	(1984)	(1988)

06174500 MILK RIVER AT NASHUA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1940 - 2007	
Annual total	64,403		160,811			
Annual mean	176		441		625*	
Highest annual mean					2,359	1952
Lowest annual mean					57.7	1984
Highest daily mean	1,990	Apr 4	4,810	Jun 19	44,200	Apr 18, 1952
Lowest daily mean	18	Jun 30	22	Apr 2	0.00	Jul 14, 1984
Annual seven-day minimum	28	Jun 27	31	Mar 30	0.00	Jul 17, 1984
Maximum peak flow			4,960	Jun 19	45,300	Apr 18, 1952
Maximum peak stage			12.44	Jun 19	31.38	Apr 18, 1952
Annual runoff (ac-ft)	127,700		319,000		453,000	
10 percent exceeds	300		1,680		1,230	
50 percent exceeds	123		95		173	
90 percent exceeds	52		50		58	

* Median of yearly discharge, 524 ft³/s, 379,600 ac-ft/yr.



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Water-Data Report 2007

06177000 MISSOURI RIVER NEAR WOLF POINT, MT

Missouri-Poplar Basin
Prarie Elk-Wolf Subbasin

LOCATION.--Lat 48°04′00″, long 105°31′55″ referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.28, T.27 N., R.48 E., Mccone County, MT, Hydrologic Unit 10060001, on right bank 500 ft downstream from bridge on State Highway 13, 5 mi southeast of Wolf Point, 7.8 mi downstream from Wolf Creek, and at river mile 1,701.4.

DRAINAGE AREA.--82,290 mi².

SURFACE-WATER RECORDS

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

REVISED RECORDS.-- Water Supply Paper (WSP) 1146: 1931. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,958.57 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Apr. 13, 1930, nonrecording gages at Wolf Point ferry landing 5.5 mi upstream at different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Flow is partly regulated by Fort Peck Lake and many other reservoirs upstream from station. Diversion for irrigation of about 1,010,400 acres occurs upstream from station. U.S. Army Corps of Engineers satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 14, 1908, reached a stage of about 20 ft (site and elevation then in use).

06177000 MISSOURI RIVER NEAR WOLF POINT, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,560	5,440	e8,000	e10,300	e10,900	e9,000	5,860	4,390	9,740	6,760	6,590	6,790
2	5,460	5,790	e8,800	e9,900	e10,800	e8,800	5,920	5,090	8,910	6,220	6,570	6,840
3	5,520	5,720	e9,400	e10,400	e10,900	e8,600	5,800	5,800	10,100	6,180	6,490	6,850
4	5,500	6,160	e8,800	e9,900	e10,800	e8,900	5,300	6,650	11,800	6,330	6,640	6,900
5	5,390	6,160	e8,700	e9,900	e10,800	e8,200	4,440	7,220	11,300	6,180	6,480	7,120
6	5,570	6,070	e9,000	e9,600	e11,300	e7,600	4,270	6,980	10,700	5,850	6,490	7,060
7	5,510	6,110	e9,000	e10,500	e11,200	e6,000	4,250	7,100	9,860	6,020	6,640	6,950
8	5,580	6,330	e9,500	e10,400	e10,600	e5,700	4,270	7,110	9,120	6,390	6,820	7,000
9	5,330	6,500	e9,200	e10,700	e11,000	e5,900	4,380	6,990	8,550	6,380	6,650	6,960
10	5,410	6,960	e9,500	e10,300	e11,500	e6,000	4,480	7,020	8,420	6,540	6,710	6,720
11	5,370	7,400	e9,100	e9,500	e11,100	e6,200	4,600	6,780	8,750	6,250	6,680	6,910
12	5,330	7,430	e9,400	e8,500	e10,500	e6,300	4,620	6,240	8,440	6,370	6,680	6,450
13	5,240	7,210	e9,400	e9,000	e10,700	e6,200	4,430	7,350	8,150	6,420	6,660	5,730
14	5,200	7,210	e9,800	e10,000	e10,600	e6,500	4,270	8,030	7,080	6,340	6,570	4,870
15	5,590	7,220	e10,500	e9,900	e11,900	e7,900	4,350	7,600	6,990	6,200	6,640	4,460
16	5,550	7,210	e9,900	e10,300	e11,900	e7,000	4,200	7,000	6,850	6,290	6,770	4,420
17	5,720	7,240	e10,400	e9,900	e11,700	e7,500	4,270	7,070	7,960	6,390	6,870	4,420
18	5,490	7,270	e10,400	e9,600	e11,800	e7,900	4,480	6,890	8,100	6,650	6,860	4,210
19	5,360	7,120	e10,600	e9,500	e11,400	e8,300	4,520	6,390	8,550	6,700	6,840	4,340
20	5,310	7,530	e10,000	e9,600	e11,400	7,880	4,520	6,220	9,950	6,680	6,890	4,250
21	5,610	7,930	e8,900	e9,800	e10,900	7,590	4,320	6,420	10,400	6,650	6,760	4,210
22	5,630	8,230	e8,700	e10,200	e11,600	7,390	4,110	6,600	9,870	6,530	6,810	4,110
23	5,610	7,550	e9,100	e10,000	e11,600	6,730	4,100	6,940	8,890	6,590	6,680	4,290
24	5,440	7,510	e10,100	e10,900	e11,900	6,320	4,090	7,390	7,870	6,540	6,900	4,150
25	5,560	7,330	e10,300	e11,000	e11,500	6,130	4,350	7,760	7,350	6,570	6,690	4,210
26	5,550	7,450	e10,200	e10,900	e9,100	6,000	4,610	10,100	7,190	6,460	6,680	4,330
27	5,650	e7,800	e9,700	e11,200	e9,200	5,870	4,350	11,100	6,960	6,440	6,720	4,250
28	5,950	e8,000	e10,100	e11,000	e9,200	5,990	4,280	11,400	7,080	6,440	7,140	4,230
29	5,820	e7,900	e10,300	e10,700	---	6,050	4,250	10,800	7,120	6,700	7,170	4,270
30	5,680	e8,500	e10,300	e10,900	---	5,930	4,170	9,900	7,060	6,660	6,830	4,360
31	5,600	---	e10,000	e11,000	---	5,950	---	9,290	---	6,550	6,820	---
Total	171,090	212,280	297,100	315,300	307,800	216,330	135,860	231,620	259,110	199,270	208,740	161,660
Mean	5,519	7,076	9,584	10,170	10,990	6,978	4,529	7,472	8,637	6,428	6,734	5,389
Max	5,950	8,500	10,600	11,200	11,900	9,000	5,920	11,400	11,800	6,760	7,170	7,120
Min	5,200	5,440	8,000	8,500	9,100	5,700	4,090	4,390	6,850	5,850	6,480	4,110
Ac-ft	339,400	421,100	589,300	625,400	610,500	429,100	269,500	459,400	513,900	395,300	414,000	320,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11,000	8,917	8,938	9,635	9,823	8,765	9,325	9,164	9,312	10,070	11,700	11,390
Max	29,130	22,210	13,420	14,270	15,820	16,750	27,180	21,800	26,040	36,270	27,110	27,150
(WY)	(1956)	(1998)	(1944)	(1971)	(1976)	(1976)	(1952)	(1979)	(1975)	(1975)	(1955)	(1955)
Min	3,151	2,328	1,338	995	1,195	2,301	1,470	1,182	1,268	1,171	3,515	3,274
(WY)	(1993)	(1947)	(1943)	(1943)	(1943)	(1945)	(1945)	(1945)	(1945)	(1945)	(1963)	(1992)

* After Fort Peck Lake reached operational level (1943 to current year).

06177000 MISSOURI RIVER NEAR WOLF POINT, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1943 – 2007*	
Annual total	2,644,320		2,716,160			
Annual mean	7,245		7,442		9,838	
Highest annual mean					15,850	1955
Lowest annual mean					5,548	2005
Highest daily mean	10,600	Dec 19	11,900	Feb 15	45,100	Apr 19, 1952
Lowest daily mean	5,200	Oct 14	4,090	Apr 24	680	Dec 5, 1942
Annual seven-day minimum	5,350	Oct 8	4,220	Sep 20	906	Jan 12, 1943
Maximum peak flow			[a]11,900	Jun 4	[c]46,800	Apr 19, 1952
Maximum peak stage			[b]7.41	Dec 6	15.64	Mar 27, 1960
Instantaneous low flow					[d]320	Dec 10, 1941
Annual runoff (ac-ft)	5,245,000		5,388,000		7,127,000	
10 percent exceeds	8,600		10,700		15,400	
50 percent exceeds	7,510		6,900		8,720	
90 percent exceeds	5,610		4,470		4,500	

	Water Years 1929 – 1939**	
Annual mean	7,183	
Highest annual mean	10,300	1939
Lowest annual mean	4,891	1937
Highest daily mean	56,700	May 25, 1939
Lowest daily mean	840	Nov 29, 1937
Annual seven-day minimum	910	Feb 10, 1938
Instantaneous peak flow	[e]66,800	Mar 25, 1939
Instantaneous peak stage	[b]14.40	Mar 25, 1939
Annual runoff (ac-ft)	5,204,000	
10 percent exceeds	14,800	
50 percent exceeds	5,060	
90 percent exceeds	2,600	

* After Fort Peck Lake reached operational level (1943 to current year).

** Prior to Fort Peck Lake reaching operational level (1929-1939).

[a] Gage height, 3.72 ft.

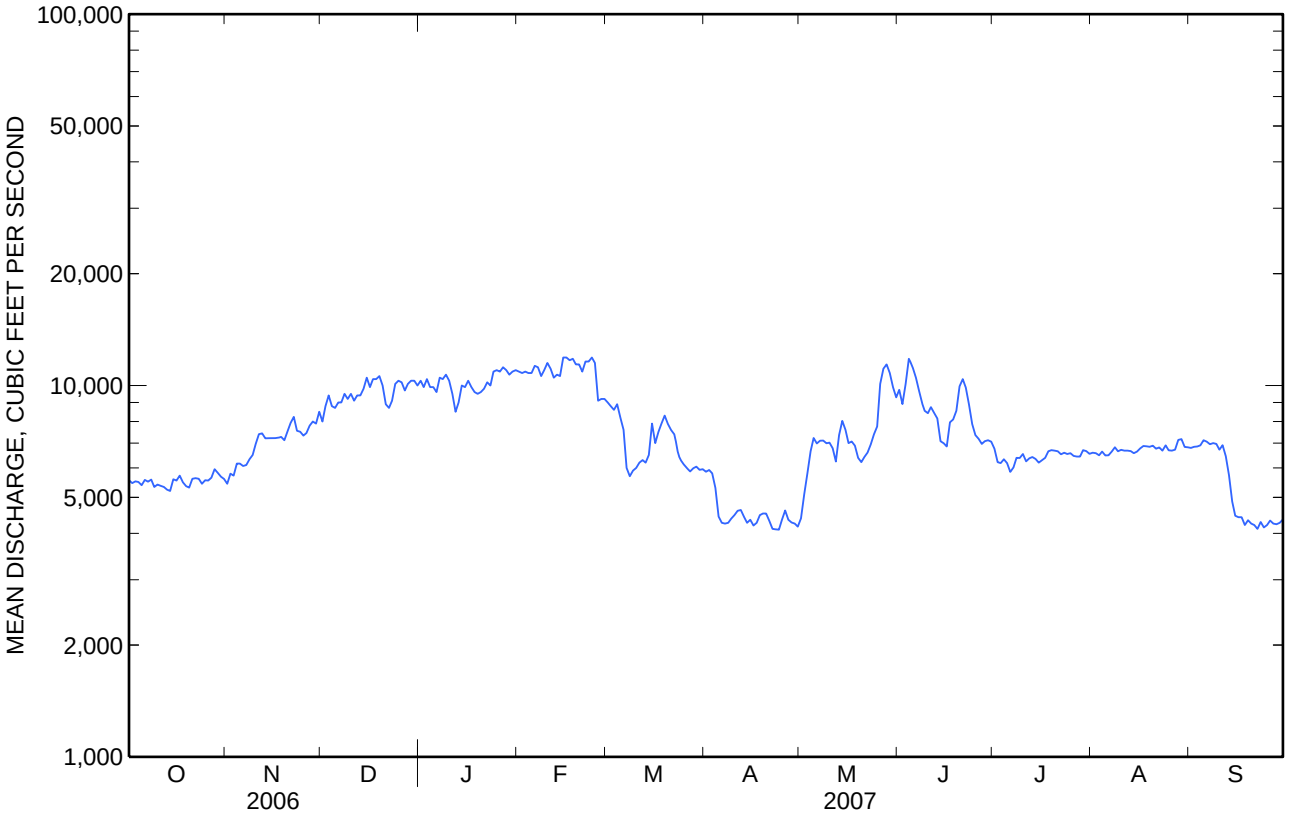
[b] Backwater from ice.

[c] Gage height, 9.98 ft.

[d] Occurred outside period of record, during filling of Fort Peck Lake.

[e] From rating curve extended above 39,000 ft³/s.

06177000 MISSOURI RIVER NEAR WOLF POINT, MT—Continued



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06178000 POPLAR RIVER AT INTERNATIONAL BOUNDARY

Missouri-Poplar Basin
Poplar Subbasin

LOCATION.--Lat 48°59′25″, long 105°41′46″ referenced to North American Datum of 1927, in NE ¼ NE ¼ SE ¼ sec.6, T.37 N., R.46 E., Daniels County, MT, Hydrologic Unit 10060003, on left bank 0.7 mi south of international boundary, 1.5 mi upstream from Coal Creek, 18.5 mi northwest of Scobey, and at river mile 135.7.

DRAINAGE AREA.--358 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1931 to current season (seasonal records only for most years). Published as Middle Fork Poplar River at international boundary, March 1931 to November 1975.

REVISED RECORDS.-- Water Supply Paper (WSP) 1389: 1931; 1935-37, maximum discharge (M); 1939-40; 1942 (M); 1943; 1948 (M); 1950 (M). WSP 1729: Drainage area. Water Data Report 1984: Drainage area.

GAGE.--Water-stage recorder and concrete control since September 1977. Elevation of gage is 2,460 ft, referenced to the National Geodetic Vertical Datum of 1929.

COOPERATION.--This is one of a number of stations which are maintained jointly by the United States and Canada.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. A few small diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft³/s, Apr. 6, 1954, gage height, 10.25 ft, from floodmark, from rating curve extended above 2,500 ft³/s, on basis of slope-area measurement of peak flow; no flow at times.

06178000 POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	15	9.4	41	2.1	0.24	0.07	0.28		
2			e0.00	13	8.9	37	1.9	0.22	0.05	0.30		
3			e0.00	13	8.6	30	3.9	0.21	0.06	0.58		
4			e0.05	12	12	21	5.5	0.21	0.08	0.90		
5			e0.10	11	17	16	2.7	0.21	0.06	1.6		
6			e0.30	10	19	14	1.8	0.29	0.07	2.9		
7			e1.5	10	17	13	1.4	0.28	0.11	3.3		
8			e4.0	10	14	12	3.3	0.19	0.16	2.9		
9			e10	9.9	12	11	2.6	0.13	0.16	2.6		
10			e20	10	10	10	2.1	0.16	0.14	2.3		
11			e100	11	9.5	8.3	1.5	0.25	0.08	2.2		
12			e220	11	9.1	7.5	1.2	0.23	0.09	2.1		
13			327	11	8.5	6.9	1.1	0.27	0.10	2.0		
14			474	12	11	7.8	1.0	0.26	0.10	2.1		
15			519	15	15	8.9	0.88	0.17	0.11	2.1		
16			297	15	14	9.5	0.92	0.12	0.12	2.1		
17			126	14	14	12	0.84	0.08	0.14	2.2		
18			82	13	12	13	0.84	0.07	0.17	2.4		
19			50	12	9.7	11	0.76	0.08	0.19	2.5		
20			30	12	9.2	10	0.61	0.09	0.25	2.4		
21			28	12	13	9.7	0.48	0.07	0.25	2.4		
22			27	11	16	7.8	0.47	0.05	0.22	2.3		
23			33	11	24	6.5	0.41	0.03	0.37	2.3		
24			34	11	53	5.0	0.36	0.04	0.31	2.3		
25			32	11	58	4.2	0.57	0.07	0.33	2.3		
26			30	11	43	3.7	0.53	0.04	0.33	2.4		
27			24	11	32	3.1	0.37	0.04	0.29	2.4		
28			20	11	23	2.9	0.34	0.06	0.27	2.4		
29			18	9.9	17	2.8	0.32	0.07	0.30	2.4		
30			16	9.7	14	2.5	0.32	0.07	0.26	2.5		
31			15	---	30	---	0.34	0.07	---	2.5		
Total			2,537.95	348.5	562.9	348.1	41.46	4.37	5.24	65.96		
Mean			81.9	11.6	18.2	11.6	1.34	0.14	0.17	2.13		
Max			519	15	58	41	5.5	0.29	0.37	3.3		
Min			0.00	9.7	8.5	2.5	0.32	0.03	0.05	0.28		
Med			27	11	14	9.6	0.88	0.12	0.15	2.3		
Ac-ft			5,030	691	1,120	690	82	8.7	10	131		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1931 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	0.00	20.2	68.2	78.6	17.7	14.7	8.36	1.50	1.42	2.73	4.90	0.00
Max	0.00	61.3	418	699	86.2	191	120	19.4	15.3	11.8	9.35	0.00
(WY)	(1936)	(1981)	(1999)	(1952)	(1982)	(1963)	(1993)	(1940)	(1954)	(1955)	(1955)	(1936)
Min	0.00	0.00	0.00	5.52	3.05	0.16	0.04	0.00	0.01	0.04	0.12	0.00
(WY)	(1936)	(1936)	(1950)	(1988)	(1992)	(1988)	(1988)	(1967)	(1988)	(1989)	(1937)	(1936)

* Seasonal records most years.

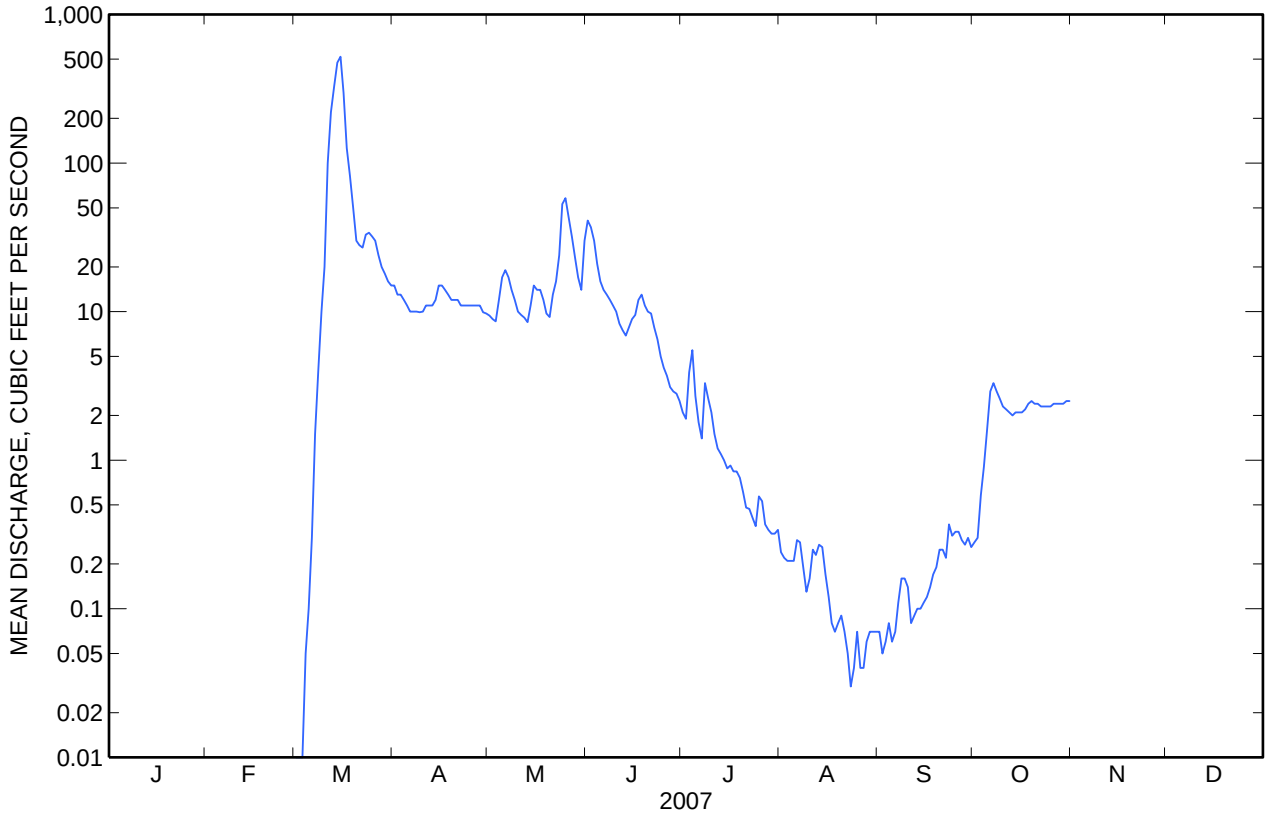
06178000 POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1931 - 2007*	
Highest daily mean	519	Mar 15	5,000	Apr 6, 1954
Lowest daily mean	0.00	Mar 1	0.00	Jun 30, 1932
Maximum peak flow	627	Mar 14	[a]12,700	Apr 6, 1954
Maximum peak stage	5.18	Mar 14	10.25	Apr 6, 1954

* Seasonal records most years.

[a] From rating curve extended above 2,500 ft³/s on basis of slope-area measurement of peak flow.



06178000 POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-65, 1976 to current year.

REMARKS.--Suspended sediment results for Aug. 29 sample were deleted due to poor sampling conditions. Several unpublished observations of specific conductance and water temperature were made during the year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
Apr													
16...	1215	15	711	10.2	100	8.4	1,080	16.5	11.0	350	63.2	47.9	7.89
May													
22...	1215	16	702	9.5	98	8.4	1,350	7.5	13.0	360	50.0	56.1	8.09
Jul													
03...	1400	1.9	710	13.2	173	9.0	1,160	29.0	25.0	270	22.9	52.0	8.75
Aug													
29...	1000	.08	713	7.5	81	8.8	1,750	24.0	15.5	360	36.4	65.7	10.4

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 3
[Remark codes: <, less than; E, estimated.]

Date	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)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solids, tons/ acre-ft (70303)	Dissolved solids, tons/d (70302)	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)
Apr													
16...	2.8	120	418	5.61	.35	9.1	194	699	.95	28.5	<.020	<.016	<.002
May													
22...	4.0	174	530	5.67	.47	12.6	241	866	1.18	37.2	<.020	<.016	<.002
Jul													
03...	5.4	205	512	6.10	.55	1.9	216	822	1.12	4.33	E.012	<.016	<.002
Aug													
29...	6.7	291	556	10.9	.50	.8	397	1,150	1.56	.25	.038	<.016	E.001

06178000 POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 3
[Remark codes: <, less than; E, estimated.]

Date	Total nitrogen, water, unfltrd, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd mg/L (00665)	Arsenic water, unfltrd µg/L (01002)	Boron, water, fltrd, µg/L (01020)	Cadmium water, unfltrd µg/L (01027)	Lead, water, unfltrd recoverable, µg/L (01051)	Zinc, water, unfltrd recoverable, µg/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Apr											
16...	.56	.009	.039	1.8	653	E.01	.13	<2.0	58	64	2.6
May											
22...	.97	.010	.041	3.5	1,110	E.01	.11	<2.0	51	76	3.3
Jul											
03...	1.03	.015	.046	5.4	1,290	E.01	.08	<2.0	87	16	.08
Aug											
29...	.94	.008	.053	3.9	1,920	E.01	.12	<2.0	--	--	--

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY

Missouri-Poplar Basin
Poplar Subbasin

LOCATION.--Lat 49°00′00″, long 105°24′32″ referenced to North American Datum of 1927, in SW ¼ SW ¼ sec.3, T.1 N., R.26 W., second meridian, in Saskatchewan, Hydrologic Unit 10060003, on left bank 10 ft north of international boundary, 400 ft southwest of Canadian East Poplar Port of Entry, 14 mi north of Scobey, and at river mile 21.9.

DRAINAGE AREA.--541 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1931 to current year (seasonal records only in most seasons prior to October 1974). Prior to March 1962, published as East Fork Poplar River at international boundary.

REVISED RECORDS.-- Water Supply Paper 1389: 1932, 1939, 1942-43, 1947. Water Data Report 1983: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,410.92 ft (International Boundary Commission Survey Datum). Prior to Oct. 5, 1953, water-stage recorder at site 80 ft upstream at same elevation.

COOPERATION.--This is one of a number of stations which are maintained jointly by Canada and the United States.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Since September 1975 flow is regulated by Morrison Dam at Cookson Reservoir 3.1 mi upstream. U.S. Geological Survey satellite telemeter is located at the station.

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e2.5	e2.0	2.1	1.8	1.5	2.0	2.6	8.7	4.5	2.2	2.2	e2.2
2	e2.0	e2.0	2.0	1.8	1.2	2.0	2.5	10	3.3	2.1	2.1	e1.5
3	e2.0	e1.5	2.0	2.0	1.0	1.9	2.4	11	2.8	2.2	e2.2	e1.4
4	e2.0	e1.5	2.0	2.0	1.2	2.0	2.3	12	2.7	2.2	e2.2	e1.3
5	e2.0	e2.6	2.1	2.0	1.5	2.0	2.3	9.7	2.5	1.9	e2.2	e1.1
6	e4.0	3.5	2.2	2.0	1.5	2.0	2.2	9.4	2.4	1.9	e3.0	e1.0
7	e2.5	3.1	2.1	1.9	1.5	2.0	2.3	9.5	2.5	1.8	e2.7	e1.2
8	e2.0	3.3	2.1	2.0	1.4	2.3	2.2	9.7	2.3	1.8	e2.3	e1.4
9	e2.0	3.0	2.4	1.9	1.5	3.2	2.1	9.3	2.2	e1.8	e2.3	e1.8
10	e2.0	2.7	2.3	1.9	1.5	4.7	2.2	8.3	2.2	e1.8	e2.4	e1.6
11	e2.0	2.6	2.2	1.5	1.4	5.1	2.4	9.4	2.3	e1.8	e2.3	e1.0
12	e2.0	2.5	2.1	1.5	1.3	6.8	2.4	9.1	2.3	e1.8	e2.4	e0.82
13	e1.8	2.4	2.2	1.5	1.4	5.0	2.3	10	2.4	e1.8	e2.3	e0.86
14	e1.8	2.6	2.3	1.6	1.6	3.1	2.4	10	2.4	e1.8	e2.2	e0.90
15	e1.8	2.7	2.2	1.5	1.6	2.6	2.5	9.6	2.4	e1.8	e2.2	e0.92
16	e1.8	2.5	2.2	1.5	1.7	2.4	2.4	9.0	2.4	e1.7	e2.2	e0.96
17	e1.8	2.4	2.0	1.6	1.8	2.4	2.3	9.0	2.6	e1.7	e2.2	e1.0
18	e2.8	2.3	2.0	1.6	1.9	2.6	2.2	7.8	2.9	e1.7	e2.2	e1.1
19	e2.0	2.3	2.0	1.7	2.0	2.5	2.3	5.5	2.5	e1.7	e2.3	e1.2
20	e2.0	2.3	2.0	1.8	2.0	2.5	2.5	6.4	2.4	e1.7	e3.0	e1.6
21	e1.5	2.2	1.9	1.8	2.1	2.7	2.4	7.1	2.2	e1.7	e2.9	e1.5
22	e1.5	2.1	1.9	1.8	2.0	2.6	2.2	6.9	2.2	e1.7	e2.8	e1.1
23	e1.5	2.1	1.9	1.9	2.0	2.6	2.1	10	2.2	e1.8	e2.7	e1.3
24	e2.0	2.1	1.9	2.0	2.0	2.7	2.0	7.8	2.1	e1.8	e2.7	e1.2
25	e2.0	2.0	1.9	2.0	1.9	2.7	2.0	6.5	2.1	e2.5	e2.6	e1.0
26	e2.0	2.1	1.9	2.1	2.0	2.7	2.3	6.3	2.2	e2.3	e2.6	e1.1
27	e2.0	2.1	1.9	1.9	2.0	2.4	2.5	6.1	2.1	e2.2	e2.6	e1.3
28	e2.0	2.1	2.0	1.8	2.0	2.9	2.5	6.3	2.0	e2.2	e2.6	e1.0
29	e2.0	1.9	1.9	1.8	---	2.9	2.7	4.9	2.0	e2.2	e2.6	0.80
30	e2.0	2.0	1.9	1.6	---	2.6	4.5	3.3	2.2	5.0	e2.5	0.72
31	e2.0	---	1.9	1.7	---	2.5	---	6.4	---	2.8	e2.4	---
Total	63.3	70.5	63.5	55.5	46.5	88.4	72.0	255.0	73.3	63.4	75.9	35.88
Mean	2.04	2.35	2.05	1.79	1.66	2.85	2.40	8.23	2.44	2.05	2.45	1.20
Max	4.0	3.5	2.4	2.1	2.1	6.8	4.5	12	4.5	5.0	3.0	2.2
Min	1.5	1.5	1.9	1.5	1.0	1.9	2.0	3.3	2.0	1.7	2.1	0.72
Ac-ft	126	140	126	110	92	175	143	506	145	126	151	71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.56	2.45	2.25	2.17	2.50	19.1	20.2	11.0	4.98	2.76	2.37	2.46
Max	4.65	4.42	4.37	4.40	7.95	280	306	40.7	23.2	6.84	3.31	4.10
(WY)	(1980)	(1980)	(1980)	(1980)	(1997)	(1999)	(1982)	(1979)	(1979)	(1999)	(1997)	(1979)
Min	1.59	1.64	1.27	1.26	0.14	1.91	1.80	2.98	1.72	1.79	1.58	1.20
(WY)	(1993)	(1993)	(1993)	(1982)	(2004)	(1992)	(1992)	(1978)	(1992)	(1977)	(1992)	(2007)

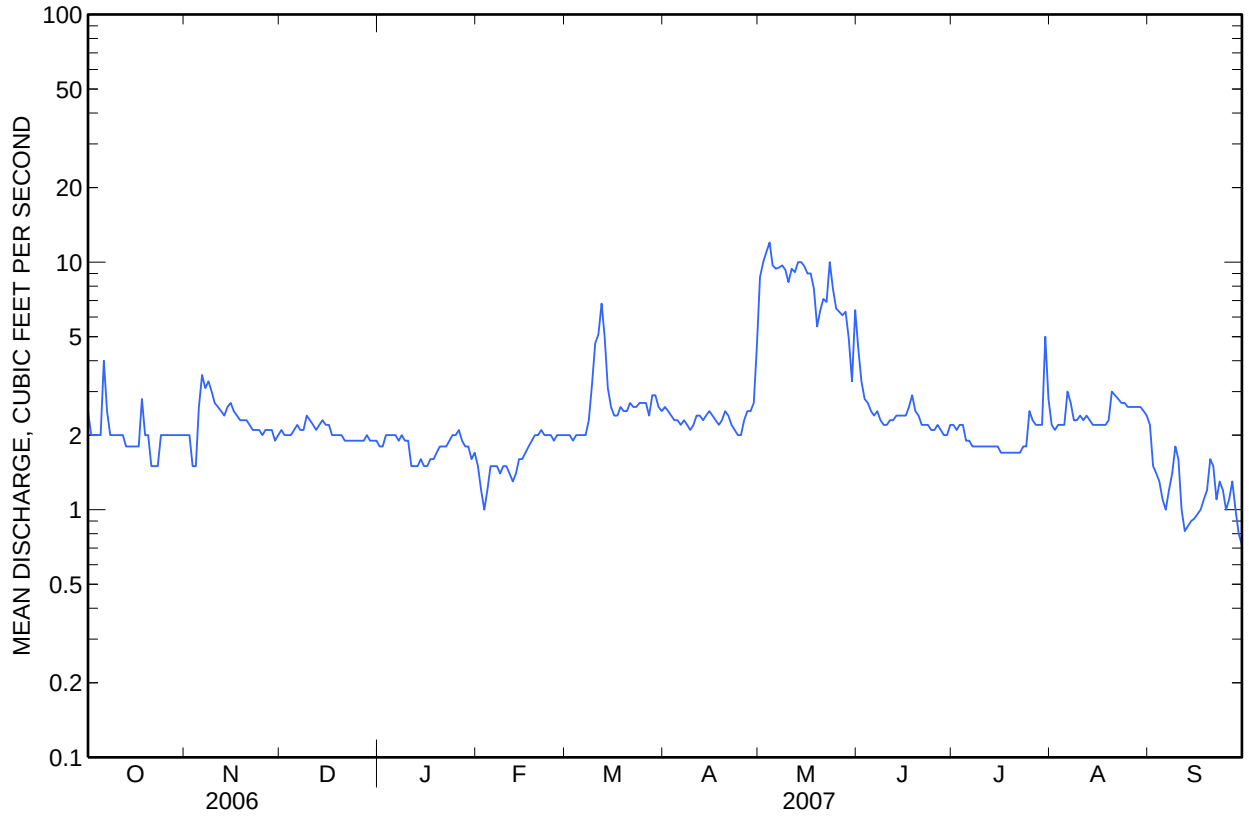
* Since initial filling of Cookson Reservoir.

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1977 - 2007*	
Annual total	937.8		963.18			
Annual mean	2.57		2.64		6.25	
Highest annual mean					32.3	1982
Lowest annual mean					2.13	1992
Highest daily mean	8.9	May 2	12	May 4	2,930	Apr 15, 1982
Lowest daily mean	1.0	Jun 25	0.72	Sep 30	0.00	Feb 5, 2004
Annual seven-day minimum	1.6	Jun 21	0.92	Sep 11	0.00	Feb 5, 2004
Maximum peak flow			[a]14	May 3	[c]4,020	Apr 23, 1975
Maximum peak stage			[b]6.28	Sep 25	[d]12.80	Mar 25, 1943
Instantaneous low flow			0.55	Sep 26	[b]0.70	Feb 28, 1998
Annual runoff (ac-ft)	1,860		1,910		4,530	
10 percent exceeds	3.7		4.5		6.4	
50 percent exceeds	2.1		2.1		2.5	
90 percent exceeds	1.9		1.5		1.7	

* Since initial filling of Cookson Reservoir.
[a] Gage height, 6.02 ft.
[b] Backwater from beaver dam.
[c] Gage height, 12.01 ft.
[d] Backwater from ice.



06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-65, 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1982 to current year.
WATER TEMPERATURE: June 1975 to September 1983.

INSTRUMENTATION.--Specific conductance monitor installed April 1995.

REMARKS.--Daily specific conductance records are rated fair to poor due to lack of maintenance of the probe. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 2,100 microsiemens per centimeter (µS/cm) at 25.0°C, Nov. 7, 2006; minimum mean daily, 363 µS/cm at 25.0°C, July 2, 1991.
WATER TEMPERATURE: Maximum, 29.5°C, July 6, 1975, July 25, 26, 1978; minimum, 0.0°C on many days during winters most years.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 2,100 microsiemens per centimeter (µS/cm) at 25.0°C, Nov. 7; minimum recorded, 742 µS/cm at 25.0°C, Mar. 13.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
Apr													
16...	1030	2.4	713	7.6	74	8.3	1,430	12.5	11.0	350	63.2	47.0	7.77
May													
22...	1000	6.9	702	8.0	85	8.5	1,670	8.5	14.0	410	48.2	70.5	18.7
Jul													
03...	0945	2.3	711	5.8	73	8.4	1,490	28.0	23.0	330	48.0	50.6	9.66
Aug													
29...	1215	2.8	713	8.3	93	8.4	1,480	25.0	17.5	350	55.2	50.4	8.29

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 3
[Remark codes: <, less than; E, estimated.]

Date	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)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solids, tons/ acre-ft (70303)	Dissolved solids, tons/d (70302)	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)
Apr 16...	4.9	211	513	6.41	.34	9.4	277	932	1.27	6.14	.153	.049	.005
May 22...	5.0	233	581	8.85	.46	5.5	366	1,100	1.50	20.6	.120	.095	.013
Jul 03...	5.2	216	524	6.64	.38	11.4	298	957	1.30	6.00	.037	<.016	<.002
Aug 29...	5.3	227	504	6.86	.36	12.7	290	956	1.30	7.23	<.020	<.016	E.002

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 3
[Remark codes: <, less than; E, estimated.]

Date	Total nitrogen, water, unfltrd, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd mg/L (00665)	Arsenic water, unfltrd µg/L (01002)	Boron, water, fltrd, µg/L (01020)	Cadmium water, unfltrd µg/L (01027)	Lead, water, unfltrd recoverable, µg/L (01051)	Zinc, water, unfltrd recoverable, µg/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Apr 16...	.79	E.006	.043	4.6	1,700	.02	.31	E1.1	76	121	.80
May 22...	1.26	E.004	.068	5.4	1,830	.03	.55	2.0	93	123	2.3
Jul 03...	1.09	.006	.091	7.9	2,060	E.01	.74	2.0	83	113	.71
Aug 29...	.66	E.004	.043	4.5	2,010	E.01	.30	<2.0	66	105	.79

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	1,460	1,450	1,450	1,940	1,860	1,900	2,010	2,000	2,010	1,690	1,670	1,680
2	1,470	1,450	1,460	1,970	1,920	1,950	2,010	2,000	2,010	1,700	1,690	1,700
3	1,480	1,450	1,470	2,070	1,960	2,030	2,010	2,000	2,000	1,700	1,670	1,690
4	1,480	1,450	1,460	2,090	2,050	2,070	2,010	1,950	1,990	1,670	1,600	1,640
5	1,500	1,450	1,470	2,090	1,510	1,890	1,960	1,930	1,950	1,600	1,570	1,580
6	1,490	1,450	1,470	1,510	1,480	1,490	1,940	1,930	1,940	1,570	1,570	1,570
7	1,460	1,440	1,440	2,100	1,480	1,800	1,940	1,930	1,940	1,590	1,570	1,580
8	1,460	1,450	1,460	1,980	1,460	1,560	1,940	1,800	1,880	1,610	1,590	1,600
9	1,460	1,440	1,450	1,470	1,460	1,460	1,800	1,770	1,800	1,630	1,610	1,620
10	1,460	1,450	1,460	1,490	1,460	1,470	1,770	1,710	1,730	1,640	1,630	1,640
11	1,470	1,450	1,460	1,500	1,440	1,480	1,710	1,700	1,710	1,680	1,640	1,660
12	1,520	1,470	1,500	1,460	1,430	1,450	1,710	1,700	1,700	1,760	1,680	1,730
13	1,610	1,510	1,560	1,510	1,460	1,480	1,720	1,710	1,710	1,800	1,760	1,780
14	1,640	1,610	1,620	1,540	1,490	1,510	1,720	1,720	1,720	1,840	1,800	1,820
15	1,650	1,640	1,640	1,540	1,520	1,530	1,730	1,720	1,720	1,830	1,810	1,820
16	1,670	1,540	1,580	1,720	1,540	1,630	1,730	1,720	1,730	1,810	1,780	1,800
17	1,540	1,510	1,520	1,630	1,620	1,620	1,730	1,720	1,720	1,790	1,720	1,760
18	1,700	1,480	1,520	1,630	1,610	1,620	1,740	1,720	1,730	1,720	1,670	1,690
19	1,490	1,460	1,470	1,770	1,610	1,660	1,750	1,740	1,740	1,670	1,660	1,660
20	1,500	1,460	1,480	1,870	1,750	1,800	1,760	1,750	1,750	1,670	1,660	1,660
21	1,470	1,460	1,460	1,850	1,790	1,830	1,760	1,760	1,760	1,660	1,630	1,650
22	1,480	1,460	1,470	2,090	1,830	2,030	1,760	1,740	1,750	1,640	1,620	1,630
23	1,660	1,480	1,580	2,070	2,040	2,050	1,740	1,720	1,730	1,630	1,580	1,610
24	1,650	1,640	1,640	2,060	2,000	2,040	1,720	1,700	1,710	1,580	1,540	1,560
25	1,650	1,520	1,590	2,000	1,940	1,960	1,710	1,700	1,700	1,550	1,540	1,550
26	1,590	1,520	1,530	1,980	1,950	1,970	1,710	1,690	1,700	1,560	1,540	1,560
27	1,540	1,520	1,530	1,990	1,980	1,980	1,710	1,700	1,700	1,610	1,560	1,580
28	1,630	1,540	1,570	1,990	1,980	1,990	1,700	1,680	1,690	1,660	1,610	1,640
29	1,660	1,550	1,580	2,000	1,980	1,990	1,680	1,640	1,660	1,680	1,660	1,670
30	1,560	1,540	1,550	2,010	1,990	2,000	1,640	1,640	1,640	1,720	1,660	1,690
31	1,860	1,550	1,730	---	---	---	1,670	1,640	1,650	1,730	1,710	1,720
Month	1,860	1,440	1,520	2,100	1,430	1,770	2,010	1,640	1,780	1,840	1,540	1,660

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	1,720	1,700	1,710	1,600	1,590	1,590	1,480	1,440	1,450	1,630	1,570	1,610
2	1,770	1,700	1,730	1,600	1,590	1,600	1,570	1,480	1,500	1,620	1,570	1,590
3	1,840	1,770	1,810	1,600	1,590	1,590	1,570	1,490	1,540	1,720	1,620	1,670
4	1,840	1,830	1,840	1,610	1,600	1,610	1,610	1,520	1,580	1,720	1,710	1,710
5	1,840	1,760	1,800	1,610	1,600	1,610	1,580	1,500	1,540	1,730	1,700	1,720
6	1,760	1,650	1,700	1,600	1,520	1,590	1,600	1,510	1,550	1,760	1,730	1,750
7	1,650	1,620	1,630	1,590	1,580	1,580	1,590	1,560	1,570	1,760	1,750	1,750
8	1,650	1,630	1,640	1,580	1,430	1,530	1,580	1,530	1,560	1,750	1,740	1,750
9	1,660	1,650	1,650	1,470	1,190	1,370	1,530	1,490	1,510	1,750	1,730	1,740
10	1,650	1,650	1,650	1,190	1,000	1,120	1,490	1,460	1,480	1,800	1,720	1,750
11	1,650	1,610	1,630	1,000	888	959	1,460	1,440	1,450	1,810	1,770	1,790
12	1,620	1,610	1,610	924	764	870	1,470	1,440	1,450	1,770	1,690	1,730
13	1,640	1,620	1,630	764	742	748	1,440	1,420	1,430	1,730	1,700	1,710
14	1,650	1,630	1,640	866	759	807	1,440	1,420	1,420	1,720	1,710	1,710
15	1,660	1,640	1,650	942	866	904	1,480	1,420	1,440	1,710	1,710	1,710
16	1,650	1,610	1,640	1,040	907	967	1,560	1,430	1,460	1,720	1,710	1,710
17	1,610	1,560	1,590	1,350	1,020	1,150	1,460	1,450	1,460	1,740	1,720	1,730
18	1,570	1,550	1,560	1,440	1,320	1,380	1,480	1,450	1,460	1,740	1,690	1,730
19	1,560	1,550	1,560	1,360	1,270	1,310	1,490	1,470	1,480	1,720	1,690	1,710
20	1,570	1,560	1,560	1,300	1,230	1,260	1,500	1,490	1,500	1,740	1,720	1,730
21	1,560	1,540	1,560	1,260	1,220	1,240	1,520	1,500	1,510	1,740	1,720	1,730
22	1,570	1,550	1,560	1,220	1,170	1,200	1,550	1,510	1,530	1,720	1,670	1,690
23	1,580	1,560	1,580	1,170	1,130	1,160	1,600	1,540	1,570	1,680	1,640	1,650
24	1,580	1,580	1,580	1,150	1,090	1,120	1,580	1,550	1,560	1,650	1,640	1,640
25	1,580	1,570	1,580	1,120	1,010	1,100	1,570	1,540	1,550	1,650	1,630	1,640
26	1,590	1,560	1,580	1,080	1,000	1,040	1,560	1,540	1,550	1,690	1,630	1,650
27	1,590	1,580	1,580	1,050	998	1,030	1,590	1,550	1,580	1,710	1,690	1,700
28	1,600	1,580	1,590	1,100	1,030	1,050	1,580	1,560	1,570	1,710	1,690	1,700
29	---	---	---	1,330	1,100	1,190	1,610	1,550	1,580	1,690	1,580	1,660
30	---	---	---	1,390	1,310	1,350	1,600	1,570	1,580	1,680	1,580	1,640
31	---	---	---	1,460	1,390	1,430	---	---	---	1,680	1,620	1,640
Month	1,840	1,540	1,640	1,610	742	1,240	1,610	1,420	1,510	1,810	1,570	1,700

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	1,630	1,620	1,620	1,550	1,530	1,540	1,510	1,480	1,500	1,550	1,520	1,540
2	1,620	1,570	1,610	1,540	1,510	1,530	1,530	1,500	1,510	1,550	1,520	1,530
3	1,580	1,560	1,570	1,520	1,500	1,510	1,520	1,500	1,520	1,550	1,530	1,540
4	1,560	1,540	1,550	1,540	1,490	1,510	1,530	1,520	1,520	1,530	1,520	1,530
5	1,590	1,540	1,560	1,550	1,500	1,520	1,550	1,530	1,530	1,520	1,510	1,510
6	1,580	1,560	1,570	1,550	1,520	1,530	1,540	1,530	1,540	1,530	1,500	1,520
7	1,570	1,560	1,570	1,520	1,490	1,510	1,550	1,520	1,540	1,530	1,520	1,520
8	1,580	1,560	1,570	1,520	1,490	1,500	1,550	1,500	1,520	1,520	1,520	1,520
9	1,580	1,550	1,560	1,520	1,490	1,500	1,550	1,510	1,520	1,530	1,520	1,520
10	1,580	1,560	1,570	1,500	1,480	1,490	1,580	1,520	1,550	1,530	1,520	1,520
11	1,600	1,570	1,580	1,520	1,490	1,510	1,570	1,540	1,550	1,540	1,520	1,530
12	1,570	1,560	1,570	1,570	1,520	1,540	1,580	1,560	1,570	1,540	1,520	1,530
13	1,580	1,560	1,570	1,590	1,550	1,570	1,570	1,540	1,550	1,520	1,510	1,510
14	1,580	1,550	1,560	1,560	1,540	1,550	1,580	1,530	1,550	1,580	1,510	1,540
15	1,550	1,540	1,540	1,570	1,560	1,560	1,580	1,500	1,530	1,560	1,550	1,550
16	1,600	1,530	1,560	1,590	1,560	1,570	1,540	1,510	1,520	1,550	1,540	1,540
17	1,590	1,520	1,550	1,590	1,550	1,570	1,540	1,490	1,510	1,550	1,520	1,540
18	1,520	1,470	1,490	1,580	1,540	1,560	1,510	1,500	1,500	1,530	1,520	1,520
19	1,540	1,480	1,510	1,560	1,500	1,530	1,510	1,500	1,500	1,520	1,520	1,520
20	1,550	1,500	1,520	1,510	1,480	1,500	1,510	1,490	1,500	1,530	1,520	1,520
21	1,550	1,500	1,520	1,540	1,490	1,510	1,510	1,490	1,500	1,520	1,520	1,520
22	1,540	1,490	1,510	1,540	1,520	1,520	1,510	1,490	1,500	1,530	1,510	1,520
23	1,540	1,500	1,520	1,520	1,500	1,510	1,510	1,500	1,500	1,530	1,520	1,530
24	1,530	1,490	1,500	1,500	1,490	1,500	1,530	1,500	1,510	1,520	1,510	1,510
25	1,530	1,510	1,520	1,500	1,480	1,490	1,530	1,510	1,520	1,530	1,500	1,510
26	1,520	1,510	1,510	1,500	1,470	1,490	1,530	1,510	1,520	1,500	1,480	1,480
27	1,570	1,510	1,540	1,500	1,460	1,480	1,540	1,500	1,520	1,520	1,490	1,510
28	1,560	1,510	1,540	1,510	1,480	1,490	1,550	1,500	1,520	1,530	1,520	1,520
29	1,530	1,500	1,510	1,500	1,480	1,490	1,530	1,490	1,510	1,530	1,520	1,530
30	1,540	1,510	1,520	---	---	1,490	1,530	1,520	1,520	1,540	1,520	1,530
31	---	---	---	---	---	1,490	1,550	1,520	1,530	---	---	---
Month	1,630	1,470	1,550	---	---	1,520	1,580	1,480	1,520	1,580	1,480	1,520

USGS
science for a changing world

Water-Data Report 2007

06181000 POPLAR RIVER NEAR POPLAR, MT

Missouri-Poplar Basin
Poplar Subbasin

LOCATION.--Lat 48°10′15″, long 105°10′42″ referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.19, T.28 N., R.51 E., Roosevelt County, MT, Hydrologic Unit 10060003, on right bank 4 mi north of Poplar, and at river mile 11.

DRAINAGE AREA.--3,174 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1908 to October 1924, August 1947 to September 1969, June 1975 to September 1979, October 1981 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1176. 1948. WSP 1389: 1911. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,953.16 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to May 1, 1911, nonrecording gage at site 4.2 mi upstream at different elevation. May 1, 1911, to Oct. 4, 1913, nonrecording gage at site 14 mi upstream at different elevation. Oct. 5, 1913, to Oct. 31, 1924, nonrecording gage at site 2.2 mi upstream at different elevation. Aug. 10, 1947, to Sept. 30, 1969, water-stage recorder at present site and elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Diversions for irrigation include about 5,500 acres upstream from station. Flow is partially regulated by Coronach Dam, on the East Fork Poplar River, 2 mi north of international boundary. U.S. Geological Survey satellite telemeter is located at the station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1946, reached a stage of 18.1 ft, from floodmark, discharge, 40,000 ft³/s, from slope-area measurement of peak flow made at site 20 mi upstream.

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	13	e10	e7.5	e3.0	e2.5	e3.0	146	50	662	37	6.9	6.0
2	13	e10	e6.0	e3.5	e2.5	e3.0	135	47	482	36	6.8	5.7
3	13	e15	e8.0	e4.0	e2.5	e3.0	125	45	378	41	6.7	5.7
4	13	21	e10	e3.5	e2.5	e3.5	116	55	327	36	6.5	5.7
5	14	23	e10	e3.0	e2.5	e3.5	109	60	269	32	6.3	6.2
6	13	24	e10	e3.5	e3.0	e5.0	101	66	273	30	7.2	14
7	14	27	e10	e3.0	e3.0	e6.5	95	65	230	29	7.5	10
8	15	29	e10	e3.0	e2.5	e8.0	91	60	185	29	7.0	10
9	21	28	e10	e3.0	e2.5	e10	87	60	162	26	6.8	8.9
10	18	25	e10	e3.5	e2.5	e20	88	59	141	25	7.1	8.0
11	19	24	e10	e1.0	e2.5	e30	92	56	124	25	7.9	7.6
12	17	24	e10	e1.0	e2.5	e40	88	54	108	24	7.9	7.3
13	15	25	e10	e0.50	e2.0	e50	86	51	94	22	8.8	6.5
14	15	25	e10	e1.0	e2.0	e100	85	57	88	21	7.9	6.8
15	15	e15	e10	e0.80	e2.0	e200	82	162	86	19	7.1	6.9
16	16	e20	e9.0	e2.5	e2.0	e300	79	109	95	18	6.6	6.8
17	16	e20	e7.0	e3.0	e2.5	e400	74	79	93	17	6.7	6.6
18	17	e15	e8.0	e3.0	e2.5	e500	71	68	90	16	6.5	6.6
19	18	e25	e9.0	e3.0	e2.5	574	68	63	88	15	6.4	6.8
20	19	e25	e8.5	e3.5	e3.0	455	67	62	77	12	5.7	6.4
21	19	e25	e9.0	e3.5	e3.5	352	67	65	69	11	5.2	6.2
22	18	e25	e9.0	e4.0	e3.5	319	64	63	61	11	5.2	6.4
23	18	e20	e8.5	e4.0	e3.5	285	62	93	57	10	5.2	7.0
24	17	e10	e8.0	e4.0	e3.5	234	60	236	53	9.6	5.5	7.2
25	17	e9.0	e8.0	e4.0	e3.0	212	60	259	52	8.9	5.5	7.6
26	17	e7.0	e8.0	e4.0	e3.0	200	59	227	46	8.9	5.5	7.5
27	17	e7.0	e8.5	e3.5	e3.0	183	57	188	44	8.5	5.5	7.3
28	18	e7.0	e7.0	e3.5	e3.0	173	54	187	41	8.0	8.0	7.5
29	18	e7.0	e5.0	e3.0	---	176	53	173	40	7.8	9.0	7.3
30	19	e8.0	e3.0	e3.0	---	166	51	168	37	7.4	8.5	7.4
31	e15	---	e3.0	e3.0	---	157	---	258	---	7.3	7.0	---
Total	507	555.0	260.0	91.80	75.5	5,171.5	2,472	3,245	4,552	608.4	210.4	219.9
Mean	16.4	18.5	8.39	2.96	2.70	167	82.4	105	152	19.6	6.79	7.33
Max	21	29	10	4.0	3.5	574	146	259	662	41	9.0	14
Min	13	7.0	3.0	0.50	2.0	3.0	51	45	37	7.3	5.2	5.7
Ac-ft	1,010	1,100	516	182	150	10,260	4,900	6,440	9,030	1,210	417	436

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	27.5	26.4	16.6	8.58	26.2	321	635	122	89.7	75.0	26.5	23.2
Max	81.5	93.5	50.0	30.0	743	2,445	4,918	421	336	800	220	206
(WY)	(1925)	(1919)	(1915)	(1915)	(1996)	(1960)	(1952)	(1955)	(1953)	(1993)	(1993)	(1911)
Min	2.19	4.25	1.28	0.01	0.10	0.18	37.3	17.4	2.77	0.68	0.04	0.15
(WY)	(1959)	(1959)	(1986)	(1950)	(1959)	(1965)	(1992)	(1992)	(1988)	(1984)	(1988)	(1988)

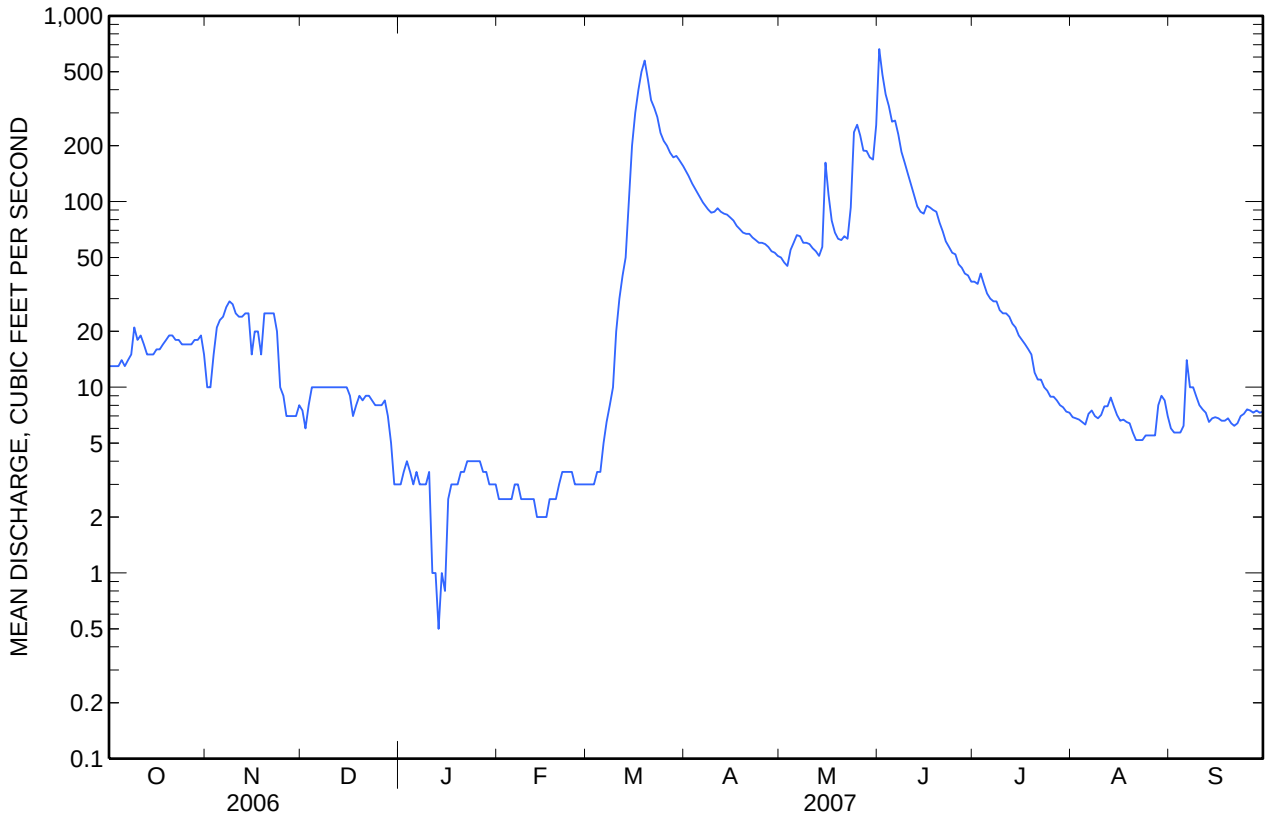
* During periods of operation (1908-24, 1947-69, 1975-79, 1982 to current year).

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1908 - 2007*	
Annual total	18,528.6		17,968.50			
Annual mean	50.8		49.2		**116	
Highest annual mean					435	1952
Lowest annual mean					13.7	1988
Highest daily mean	856	Apr 2	662	Jun 1	34,200	Apr 7, 1954
Lowest daily mean	2.8	Aug 31	0.50	Jan 13	0.00	Dec 16, 1917[c]
Annual seven-day minimum	2.9	Aug 31	1.4	Jan 11	0.00	Jan 4, 1950
Maximum peak flow			[a]1,140	Mar 18	[d]37,400	Apr 6, 1954
Maximum peak stage			[b]6.46	Mar 18	[e]17.86	Apr 6, 1954
Annual runoff (ac-ft)	36,750		35,640		84,050	
10 percent exceeds	132		143		172	
50 percent exceeds	21		13		23	
90 percent exceeds	4.4		3.0		3.0	

* During periods of operation (1908-24, 1947-69, 1975-79, 1982 to current year).
**Median of yearly mean discharge, 80.6 ft³/s.
[a] Gage height, 6.34 ft.
[b] Backwater from ice.
[c] No flow at times most years.
[d] From slope-area measurement of peak flow.
[e] From floodmark.



06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-81, 1987-94, May 1999 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: April 2000 to September 2003 (seasonal records).

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 33.0°C, Aug. 12, 18, 19, 2003; minimum, 0.0°C on many days during winters periods.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
Apr													
17...	1000	74	719	9.8	96	8.6	1,240	16.0	11.5	210	35.2	30.2	7.15
Jun													
25...	1115	52	717	8.2	98	8.7	1,480	23.5	21.0	210	25.4	35.0	6.77
Aug													
02...	1015	7.0	724	7.7	94	8.7	2,310	26.0	22.0	260	26.7	48.0	9.45
29...	1530	9.8	723	8.0	99	8.8	2,350	26.5	23.0	260	26.7	47.4	8.33

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 3
[Remark codes: <, less than.]

Date	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)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solids, tons/ acre-ft (70303)	Dissolved solids, tons/d (70302)	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)
Apr													
17...	6.3	211	425	30.3	.39	4.9	206	781	1.06	156	<.020	<.016	<.002
Jun													
25...	8.1	266	484	47.8	.52	6.4	251	930	1.26	131	<.020	<.016	<.002
Aug													
02...	11	427	528	235	.55	6.0	331	1,400	1.91	26.5	<.020	<.016	<.002
29...	12	428	515	261	.50	3.3	332	1,420	1.93	37.5	<.020	<.016	.002

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 3
[Remark codes: E, estimated.]

Date	Total nitro-gen, water, Fltrd, ysis, mg/L (62855)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Total phos-phorus, water, unfltrd mg/L (00665)	Arsenic water, unfltrd µg/L (01002)	Boron, water, fltrd, µg/L (01020)	Cadmium water, unfltrd µg/L (01027)	Lead, water, unfltrd recover -able, µg/L (01051)	Zinc, water, unfltrd recover -able, µg/L (01092)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
Apr											
17...	.68	E.004	.132	2.2	588	.03	1.19	5.7	98	107	21
Jun											
25...	1.01	E.004	.101	4.5	920	.05	2.30	9.6	99	167	23
Aug											
02...	.99	E.005	.069	4.0	1,170	.04	1.38	3.3	81	134	2.5
29...	.68	.007	.041	2.7	1,130	.02	.46	E1.5	51	77	2.0

USGS
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Water-Data Report 2007

06183450 BIG MUDDY CREEK NEAR ANTELOPE, MT

Missouri-Poplar Basin
Big Muddy Subbasin

LOCATION.--Lat 48°40′22″, long 104°30′42″ referenced to North American Datum of 1927, in SW ¼ SW ¼ NW ¼ sec.27, T.34 N., R.55 E., Sheridan County, MT, Hydrologic Unit 10060006, on right bank, 3 mi southwest of Antelope, and 7 mi south of Plentywood, MT.

DRAINAGE AREA.--967 mi². Prior to 1981, drainage area was published as 1,171 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1978 to current year.

REVISED RECORDS.-- Water Data Report MT-81-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,000 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Several known diversions for irrigation occur upstream from the station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06183450 BIG MUDDY CREEK NEAR ANTELOPE, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5.4	e3.0	e3.5	e1.2	e0.50	e0.01	34	14	67	7.3	0.73	0.21
2	4.8	e2.0	e3.0	1.4	e0.20	e0.01	31	12	80	7.4	0.60	0.14
3	4.0	e3.0	e3.0	1.3	e0.01	e0.03	28	11	225	13	0.54	0.12
4	3.4	e4.0	4.9	1.3	e0.10	e0.10	26	12	299	38	0.44	0.11
5	2.6	e4.5	4.8	e1.2	e0.20	e0.20	23	14	220	28	0.34	0.33
6	2.0	4.8	e3.0	e1.2	e0.30	e0.60	21	15	131	18	0.38	0.32
7	2.0	5.2	e2.5	e1.5	e0.10	e2.0	17	16	76	8.8	0.59	0.37
8	2.4	5.2	e3.0	e1.2	e0.01	e4.0	16	15	58	7.0	0.59	0.37
9	2.3	e5.0	3.3	e1.0	e0.01	e20	17	16	49	6.7	0.55	0.37
10	2.2	e4.5	3.3	e0.80	e0.03	e40	16	18	41	6.9	0.53	0.38
11	3.5	e5.0	3.1	e0.60	e0.03	e100	18	20	35	7.2	0.79	0.31
12	4.9	e5.0	2.9	e0.40	e0.01	e300	18	24	30	8.1	0.86	0.27
13	4.8	e5.0	2.7	e0.50	e0.01	e1,100	18	23	26	7.6	0.68	0.19
14	7.2	e4.5	2.6	e0.50	e0.01	e1,200	19	26	23	6.3	0.55	0.18
15	6.7	e3.5	2.5	e0.50	e0.02	e1,100	19	23	22	5.3	0.50	0.18
16	6.2	e5.0	2.4	0.95	e0.02	e1,000	21	20	19	4.5	0.51	0.21
17	5.7	e4.0	2.5	0.84	e0.02	618	19	18	23	3.8	0.39	0.27
18	4.6	e3.5	2.4	0.85	e0.02	251	20	16	19	3.3	0.41	0.29
19	4.0	e3.5	2.2	0.82	e0.01	147	19	19	19	2.9	0.41	0.29
20	4.6	e5.0	2.0	0.77	e0.01	82	18	20	24	2.7	0.34	0.28
21	4.5	5.7	1.8	0.97	e0.01	68	18	20	25	3.4	0.28	0.25
22	4.7	5.9	1.8	e1.2	e0.01	57	19	18	32	3.4	0.25	0.22
23	4.6	5.6	1.9	e1.5	e0.03	52	19	22	27	3.1	0.24	0.21
24	4.5	e4.5	1.7	e1.2	e0.02	49	17	34	21	2.6	0.25	0.21
25	4.6	e3.0	1.7	e1.2	e0.01	53	17	42	18	2.0	0.27	0.21
26	4.5	e3.0	1.4	e1.0	e0.01	57	17	42	15	2.0	0.26	0.23
27	4.4	e3.5	1.2	e0.90	e0.01	48	15	55	12	1.7	0.23	0.23
28	4.2	e3.0	1.3	e0.90	e0.01	48	15	56	11	1.4	0.35	0.24
29	e4.0	e2.5	1.4	e0.85	---	48	14	56	8.9	1.1	0.35	0.26
30	e3.5	e2.5	e1.2	e0.80	---	76	15	50	8.1	0.89	0.32	0.24
31	e2.5	---	e1.0	e0.80	---	52	---	58	---	0.87	0.27	---
Total	129.3	124.4	76.0	30.15	1.73	6,572.95	584	805	1,664.0	215.26	13.80	7.49
Mean	4.17	4.15	2.45	0.97	0.06	212	19.5	26.0	55.5	6.94	0.45	0.25
Max	7.2	5.9	4.9	1.5	0.50	1,200	34	58	299	38	0.86	0.38
Min	2.0	2.0	1.0	0.40	0.01	0.01	14	11	8.1	0.87	0.23	0.11
Ac-ft	256	247	151	60	3.4	13,040	1,160	1,600	3,300	427	27	15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2007, BY WATER YEAR (WY)

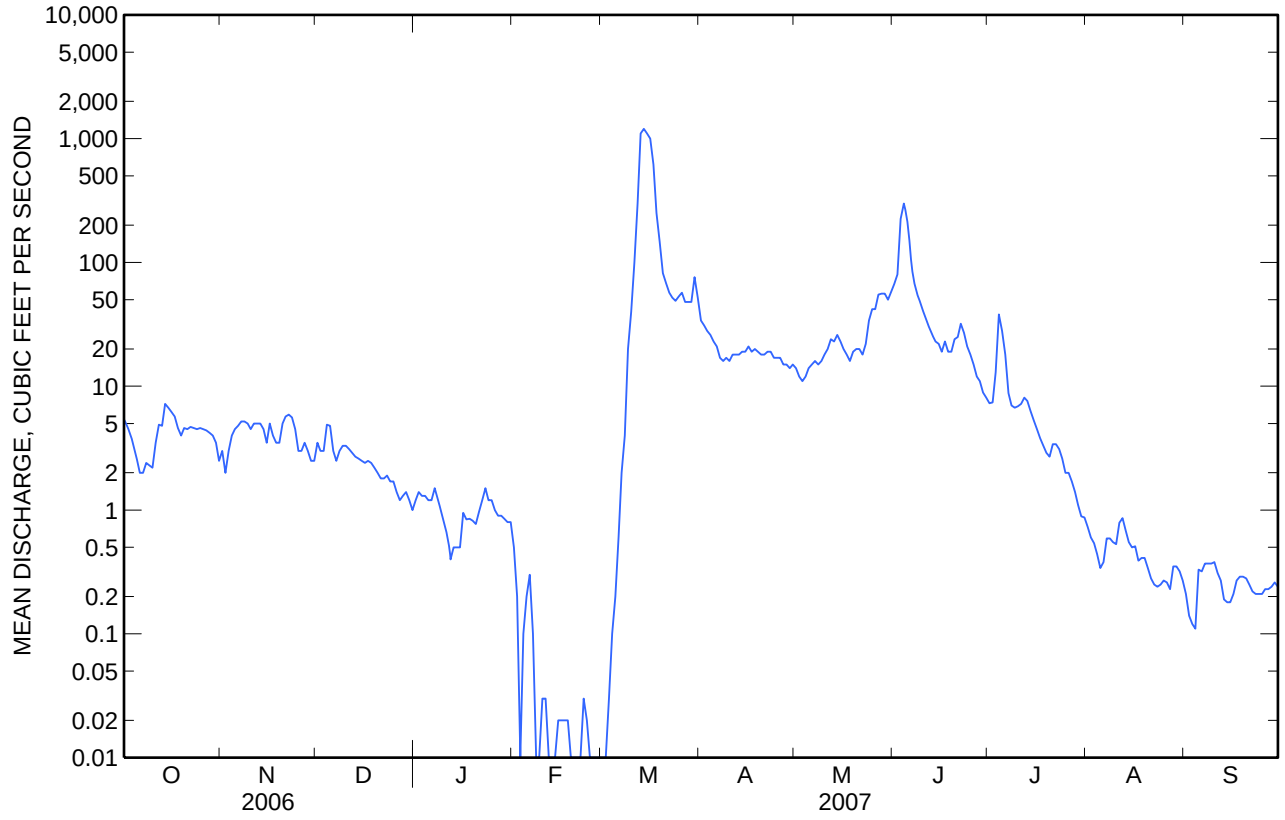
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5.18	5.82	3.67	2.02	21.0	132	104	25.8	19.6	23.0	7.90	3.89
Max	25.0	11.8	6.86	6.74	290	851	826	120	76.2	226	92.5	35.7
(WY)	(1987)	(1999)	(1982)	(2006)	(1996)	(1999)	(1982)	(1979)	(2004)	(1993)	(1987)	(1997)
Min	0.14	0.88	0.45	0.00	0.00	2.65	5.04	5.29	0.23	0.03	0.00	0.00
(WY)	(1989)	(1989)	(1986)	(1989)	(1989)	(2002)	(1988)	(1992)	(1988)	(1985)	(1984)	(1984)

06183450 BIG MUDDY CREEK NEAR ANTELOPE, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1979 - 2007	
Annual total	4,423.09		10,224.08			
Annual mean	12.1		28.0		[b]29.5	
Highest annual mean					93.2	1979
Lowest annual mean					4.73	1992
Highest daily mean	200	Apr 1	1,200	Mar 14	3,160	Mar 23, 1999
Lowest daily mean	0.01	Aug 15	0.01	Feb 3	0.00	Aug 2, 1981 [c]
Annual seven-day minimum	0.02	Aug 11	0.01	Feb 24	0.00	Jul 23, 1984
Maximum peak flow			Unknown		[d]3,190	Mar 22, 1999
Maximum peak stage			[a]12.30	Mar 14	17.37	Apr 14, 1982
Annual runoff (ac-ft)	8,770		20,280		21,370	
10 percent exceeds	32		42		38	
50 percent exceeds	4.0		3.4		4.6	
90 percent exceeds	0.07		0.20		0.23	

[a] Backwater from ice.
[b] Median of yearly mean discharge, 20.2 ft³/s, 14,630 ac-ft/yr.
[c] No flow many days most years.
[d] Gage height, 16.58 ft.



06183700 BIG MUDDY CREEK DIVERSION CANAL NEAR MEDICINE LAKE, MT

Missouri-Poplar Basin
Big Muddy Subbasin

LOCATION.--Lat 48°30′34″, long 104°32′55″ referenced to North American Datum of 1927, in SE ¼ NW ¼ SE ¼ sec.22, T.32 N., R.55 E., Sheridan County, MT, Hydrologic Unit 10060006, on right bank, on dike road about 2 ft upstream from canal headgate and 2.2 miles northwest of Medicine Lake.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1985 to September 1991, October 1991 to current year (seasonal records).

GAGE.--Water-stage recorder. Elevation of gage is 1,940 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Canal diverts water into Medicine Lake at the Medicine Lake National Wildlife Refuge. Several unpublished observations of water temperature and specific conductance were made during the year.

06183700 BIG MUDDY CREEK DIVERSION CANAL NEAR MEDICINE LAKE, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	29	2.0	98	4.4	0.00	0.00	0.00		
2			e0.00	16	1.2	46	4.1	0.00	0.00	0.00		
3			e0.00	13	0.38	47	4.1	0.00	0.00	0.00		
4			e0.00	11	0.22	142	4.3	0.00	0.00	0.00		
5			e0.00	9.6	1.3	214	6.4	0.00	0.00	0.00		
6			e0.00	8.4	2.2	172	9.5	0.00	0.00	0.00		
7			e0.05	6.9	2.3	103	7.6	0.00	0.00	0.00		
8			e0.20	5.7	2.3	55	5.4	0.00	0.00	0.00		
9			e0.50	5.2	2.3	35	4.2	0.00	0.00	0.00		
10			e2.5	5.3	2.3	26	3.5	0.00	0.00	0.00		
11			e10	5.2	2.0	20	3.3	0.00	0.00	0.00		
12			e40	5.0	2.1	16	3.2	0.00	0.00	0.04		
13			e160	4.9	2.9	13	3.0	0.00	0.00	2.9		
14			e540	4.9	4.2	11	3.2	0.00	0.00	3.3		
15			e600	4.8	4.4	9.6	3.4	0.00	0.00	2.6		
16			e660	4.7	4.1	8.3	3.2	0.00	0.00	1.9		
17			723	4.4	3.5	8.2	2.7	0.00	0.00	1.4		
18			561	4.2	3.3	7.0	2.2	0.00	0.00	0.87		
19			203	4.0	3.2	7.2	0.89	0.00	0.00	0.48		
20			104	4.0	2.9	6.0	0.14	0.00	0.00	0.38		
21			73	4.1	3.3	5.7	0.00	0.00	0.00	0.27		
22			33	4.1	3.9	6.4	0.00	0.00	0.00	0.06		
23			30	3.9	4.4	7.7	0.00	0.00	0.00	0.03		
24			26	3.8	5.1	9.4	0.00	0.00	0.00	0.02		
25			26	3.6	6.5	8.3	0.00	0.00	0.00	0.28		
26			28	3.5	9.2	5.7	0.00	0.00	0.00	0.39		
27			31	3.2	12	5.3	0.00	0.00	0.00	0.46		
28			26	2.7	15	5.0	0.00	0.00	0.00	0.50		
29			30	2.5	21	4.7	0.00	0.00	0.00	0.53		
30			26	2.3	23	4.6	0.00	0.00	0.00	0.63		
31			44	---	60	---	0.00	0.00	---	0.75		
Total			3,977.25	189.9	212.50	1,107.1	78.73	0.00	0.00	17.79		
Mean			128	6.33	6.85	36.9	2.54	0.00	0.00	0.57		
Max			723	29	60	214	9.5	0.00	0.00	3.3		
Min			0.00	2.3	0.22	4.6	0.00	0.00	0.00	0.00		
Ac-ft			7,890	377	421	2,200	156	0.00	0.00	35		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1991, AND SEASONS 1992 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	0.28	5.11	90.8	47.9	14.6	13.4	20.5	5.02	3.20	3.04	1.70	0.58
Max	1.10	23.4	434	260	46.5	77.6	144	31.3	37.3	10.5	4.97	2.80
(WY)	(1990)	(1986)	(1999)	(1997)	(1999)	(2004)	(1993)	(1987)	(1997)	(2004)	(1990)	(1990)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1988)	(1988)	(2002)	(1988)	(1987)	(1987)	(1987)	(1988)	(1987)	(1988)	(1988)	(1988)

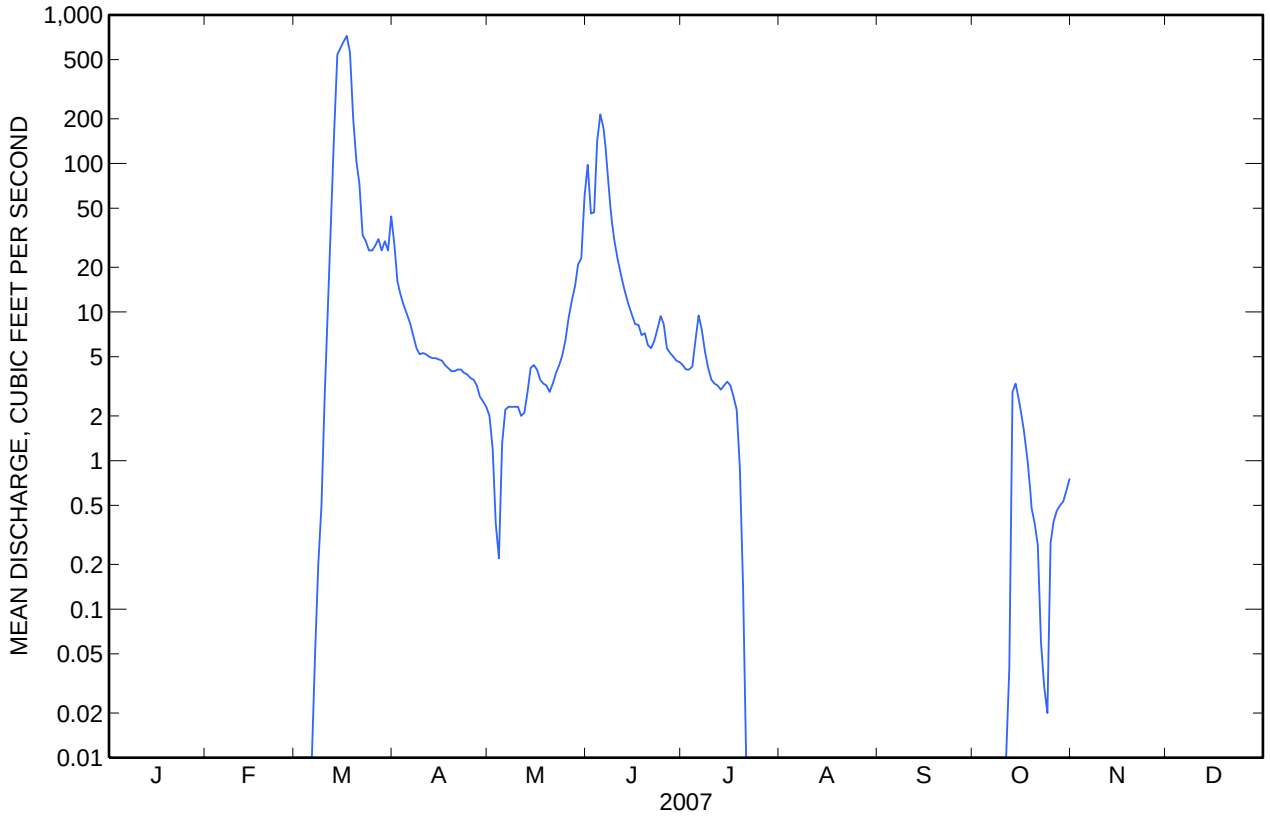
* During periods of operation 1985-1991, 1992 to current year. Seasonal records beginning water year 1992.

06183700 BIG MUDDY CREEK DIVERSION CANAL NEAR MEDICINE LAKE, MT—Continued

SUMMARY STATISTICS

	2007 Season		Water Years 1985 - 1991*		Seasons 1992 - 2007*	
Annual mean			14.5			
Highest annual mean			31.6	1989		
Lowest annual mean			0.17	1988		
Highest daily mean	723	Mar 17	1,300	Mar 2, 1986	1,340	Mar 23, 1999
Lowest daily mean	0.0	Many days	0.00	Feb 11, 1986[a]	0.00	Sep 22, 1992[a]
Maximum peak flow	798	Mar 17	[b]1,300	Mar 2, 1986	[d]1,360	Mar 23, 1999
Maximum peak stage	9.89	Mar 17	[c]9.97	Mar 31, 1989	[e]12.18	Jul 24, 1993
Annual runoff (ac-ft)			10,540			
10 percent exceeds			18			
50 percent exceeds			0.50			
90 percent exceeds			0.00			

* During periods of operation 1985-1991, 1992 to current year. Seasonal records beginning water year 1992.
[a] No flow at times most years.
[b] Daily discharge, instantaneous peak flow unknown, backwater from ice.
[c] Backwater from ice.
[d] Gage height, 19.99 ft.
[e] Site and datum then in use.



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06183750 LAKE CREEK NEAR DAGMAR, MT

Missouri-Poplar Basin
Big Muddy Subbasin

LOCATION.--Lat 48°33′51″, long 104°10′38″ referenced to North American Datum of 1927, in SE ¼ SE ¼ SW ¼ sec.31, T.33 N., R.58 E., Sheridan County, MT, Hydrologic Unit 10060006, on left bank, at downstream end of dike, just north of Medicine Lake National Wildlife Refuge and 1.7 mi southeast of Dagmar.

DRAINAGE AREA.--101 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1985 to October 1989, March 1995 to current year (seasonal records only since 1986).

GAGE.--Water-stage recorder. Elevation of gage is 1,979 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for June 20 to July 10 and estimated daily discharges, which are poor. Numerous diversions for irrigation occur upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

06183750 LAKE CREEK NEAR DAGMAR, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	1.4	0.02	17	0.10	0.00	0.00	0.00		
2			0.00	1.1	0.01	10	0.00	0.00	0.00	0.00		
3			0.00	0.82	0.00	2.7	0.00	0.00	0.00	0.00		
4			0.00	0.98	0.10	1.3	0.01	0.00	0.00	0.00		
5			0.00	1.1	0.07	1.0	0.00	0.00	0.00	0.00		
6			0.00	1.2	0.02	1.4	0.00	0.00	0.00	0.00		
7			0.00	2.0	0.02	5.8	0.00	0.00	0.00	0.00		
8			0.00	2.0	0.15	1.2	0.00	0.00	0.00	0.00		
9			0.00	1.6	0.13	0.29	0.00	0.00	0.00	0.00		
10			0.00	1.2	0.00	0.09	0.00	0.00	0.00	0.00		
11			0.00	1.1	0.00	0.11	0.00	0.00	0.00	0.00		
12			e0.10	0.77	0.00	0.02	0.00	0.00	0.00	0.00		
13			e1.0	0.81	0.00	0.00	0.00	0.00	0.00	0.00		
14			e17	0.82	0.17	0.13	0.00	0.00	0.00	0.00		
15			e12	0.80	0.25	0.05	0.00	0.00	0.00	0.00		
16			e9.0	0.54	0.24	0.00	0.00	0.00	0.00	0.00		
17			7.5	0.52	0.22	0.13	0.00	0.00	0.00	0.00		
18			6.0	0.51	0.06	0.36	0.00	0.00	0.00	0.00		
19			5.0	0.53	0.00	0.42	0.00	0.00	0.00	0.00		
20			4.1	0.51	0.00	0.35	0.00	0.00	0.00	0.00		
21			1.9	0.50	0.00	0.27	0.00	0.00	0.00	0.00		
22			2.6	0.49	0.06	0.29	0.00	0.00	0.00	0.00		
23			2.4	0.48	6.2	0.28	0.00	0.00	0.00	0.00		
24			1.9	0.48	3.0	0.31	0.00	0.00	0.00	0.00		
25			2.4	0.42	0.90	0.50	0.00	0.00	0.00	0.00		
26			0.81	0.40	0.43	0.47	0.00	0.00	0.00	0.00		
27			1.1	0.36	0.39	0.34	0.00	0.00	0.00	0.00		
28			1.1	0.32	0.06	0.30	0.00	0.00	0.00	0.00		
29			0.48	0.19	0.00	0.28	0.00	0.00	0.00	0.00		
30			0.41	0.06	0.03	0.27	0.00	0.00	0.00	0.00		
31			0.78	---	23	---	0.00	0.00	---	0.00		
Total			77.58	24.01	35.53	45.66	0.11	0.00	0.00	0.00		
Mean			2.50	0.80	1.15	1.52	0.00	0.00	0.00	0.00		
Max			17	2.0	23	17	0.10	0.00	0.00	0.00		
Min			0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			154	48	70	91	0.2	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1986 – 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Mean			9.73	8.31	0.85	0.49	0.31	0.03	0.00	0.00
Max			83.4	45.1	3.35	2.81	1.40	0.26	0.03	0.00
(WY)			(2003)	(1997)	(1986)	(2000)	(1999)	(1999)	(2005)	(1986)
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)			(1988)	(1988)	(1998)	(1997)	(1986)	(1986)	(1986)	(1986)

* During periods of operation (September 1985 to October 1989, March 1995 to current year).

06183750 LAKE CREEK NEAR DAGMAR, MT—Continued

SUMMARY STATISTICS

	For 2007 Season		Seasons 1986 – 2007*	
Highest daily mean	23	May 31	950	Mar 20, 2003
Lowest daily mean	0.00	Mar 1[a]	0.00	Oct 1, 1985[d]
Maximum peak flow	[b]30	May 31	950	Mar 20, 2003
Maximum peak stage	[c]7.60	Mar 13	10.05	Mar 20, 2003

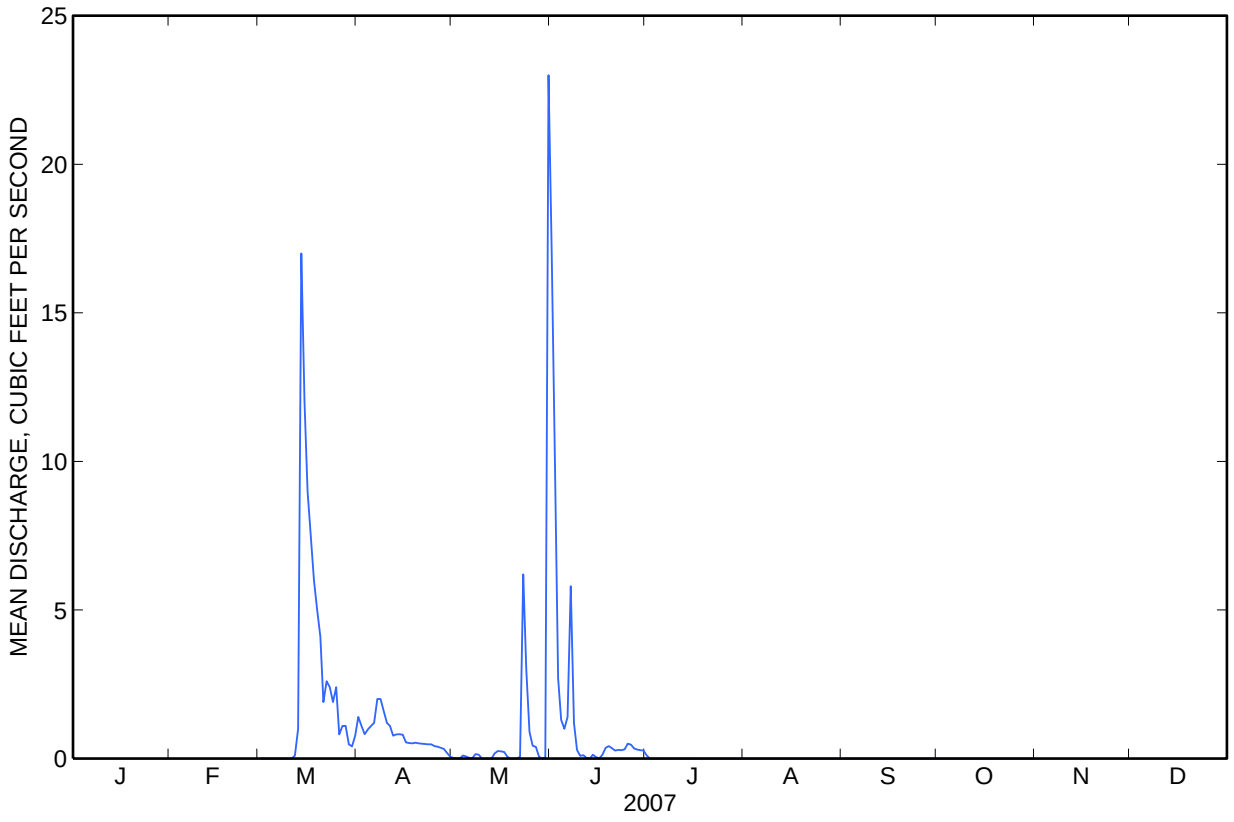
* During periods of operation (September 1985 to October 1989, March 1995 to current year).

[a] No flow many days.

[b] Gage height, 6.47 ft.

[c] Backwater from ice.

[d] No flow many days most years.



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06183800 COTTONWOOD CREEK NEAR DAGMAR, MT

Missouri-Poplar Basin
Big Muddy Subbasin

LOCATION.--Lat 48°30′35″, long 104°10′23″ referenced to North American Datum of 1927, in SE ¼ NE ¼ SE ¼ sec.21, T.32 N., R.58 E., Sheridan County, MT, Hydrologic Unit 10060006, on right bank, at bridge on county road 1.2 mi southeast of Medicine Lake National Wildlife Refuge, and 5.3 mi south of Dagmar.

DRAINAGE AREA.--126 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1985 to September 1989, March 1995 to current year, seasonal records only.

GAGE.--Water-stage recorder. Elevation of gage is 1,975 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Several unpublished observations of water temperature and specific conductance were made during the year.

06183800 COTTONWOOD CREEK NEAR DAGMAR, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	2.1	0.43	35	3.8	e0.01	e0.00	0.00		
2			0.00	2.0	0.38	24	3.8	e0.00	e0.00	0.00		
3			0.00	1.9	0.32	15	4.9	e0.00	e0.00	0.00		
4			e0.00	1.9	e0.25	11	5.8	e0.00	e0.00	0.00		
5			e0.00	1.7	e0.20	8.7	6.3	e0.00	e0.00	0.00		
6			e0.00	1.7	0.80	e8.0	12	e0.00	e0.00	0.00		
7			e0.00	1.6	2.3	e7.5	e10	e0.00	e0.00	0.00		
8			e0.00	1.4	2.3	e7.0	e7.0	e0.00	e0.00	0.00		
9			e0.00	1.4	2.0	e6.5	e4.0	e0.00	e0.00	0.00		
10			e5.0	1.4	2.0	e6.0	e2.0	0.00	e0.00	0.00		
11			e10	1.5	1.4	e6.0	e0.50	0.00	e0.00	0.00		
12			e30	1.4	1.1	e6.0	e0.45	0.00	e0.01	0.00		
13			e50	1.2	0.86	e6.0	e0.40	0.00	e0.05	0.00		
14			e180	1.3	e1.5	e6.0	e0.35	0.00	e0.10	0.00		
15			89	1.4	2.0	e5.5	e0.30	0.00	e0.15	0.00		
16			40	1.7	e2.0	e5.5	e0.25	e0.00	e0.15	0.00		
17			23	1.3	e2.0	e5.5	e0.20	e0.00	0.17	0.00		
18			12	0.86	e2.0	e5.5	e0.15	e0.00	0.01	0.00		
19			6.0	0.51	e1.5	e5.5	e0.10	e0.00	0.00	0.00		
20			3.8	0.80	e1.0	e5.0	e0.05	e0.00	0.00	0.00		
21			3.5	0.88	0.83	e5.0	0.01	e0.00	0.00	0.00		
22			2.8	0.68	0.98	e5.0	0.02	e0.00	0.00	0.00		
23			2.2	0.67	1.5	e5.0	0.02	e0.00	0.00	0.00		
24			2.4	0.81	e2.0	e5.0	0.02	e0.00	0.00	0.00		
25			2.0	0.91	e3.0	e4.5	0.03	e0.00	0.00	0.00		
26			1.8	0.75	e4.0	e4.5	0.05	e0.00	0.00	0.00		
27			1.8	0.74	e4.0	e4.5	0.04	e0.00	0.00	0.00		
28			1.7	0.77	e3.0	4.5	0.01	e0.00	0.00	0.00		
29			2.3	0.73	e2.0	4.4	e0.01	e0.00	0.00	0.00		
30			2.1	0.62	1.2	4.1	e0.01	e0.00	0.00	0.00		
31			2.1	---	26	---	e0.01	e0.00	---	0.00		
Total			473.50	36.63	74.85	231.7	62.58	0.01	0.64	0.00		
Mean			15.3	1.22	2.41	7.72	2.02	0.00	0.02	0.00		
Max			180	2.1	26	35	12	0.01	0.17	0.00		
Min			0.00	0.51	0.20	4.1	0.01	0.00	0.00	0.00		
Ac-ft			939	73	148	460	124	0.02	1.3	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 – 1989 AND SEASONS 1995 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean		15.9	28.5	7.73	1.58	1.86	4.60	0.14	0.05	0.01	0.00	
Max		90.0	140	32.6	6.95	13.7	27.4	0.71	0.33	0.10	0.00	
(WY)		(1986)	(2003)	(1987)	(1999)	(2000)	(1997)	(1999)	(1997)	(2001)	(1987)	
Min		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
(WY)		(1988)	(1988)	(1988)	(1988)	(1987)	(1986)	(1986)	(1986)	(1986)	(1987)	

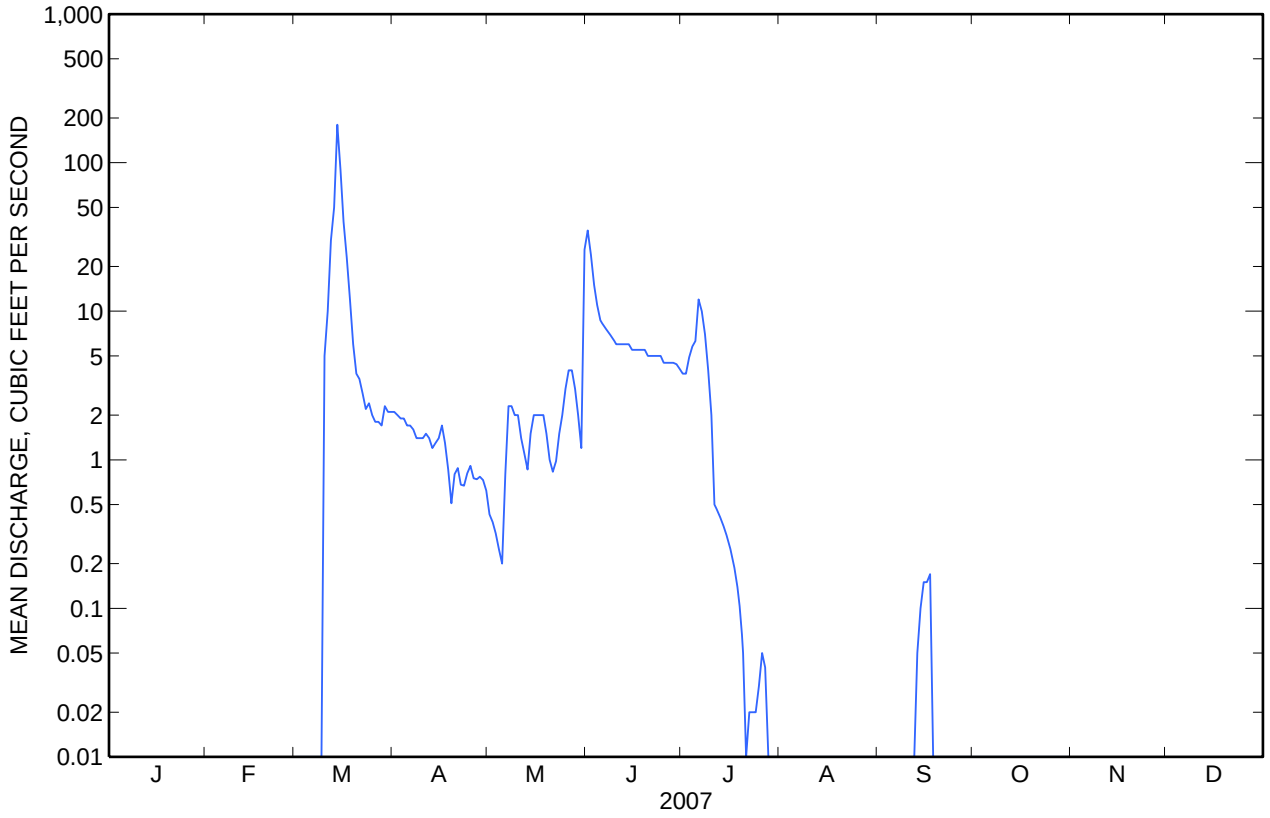
* During periods of operation (1985-1989; 1995 to current year, seasonal records only).

06183800 COTTONWOOD CREEK NEAR DAGMAR, MT—Continued

SUMMARY STATISTICS

	2007 Season		Water Years 1986 – 2007*	
Highest daily mean	180	Mar 14	1,810	Mar 18, 2003
Lowest daily mean	0.00	Mar 1	0.00	Oct 1, 1985 [b]
Maximum peak flow	Not determined		[c]3,380	Mar 18, 2003
Maximum peak stage	[a] 5.75	Mar 11	8.76	Mar 22, 1997

* During periods of operation (1985-1989; 1995 to current year, seasonal records only).
[a] Confirmed by nonrecording gage.
[b] No flow most years.
[c] Gage height, 8.43 ft, from floodmark.



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06183850 SAND CREEK NEAR DAGMAR, MT

Missouri-Poplar Basin
Big Muddy Subbasin

LOCATION.--Lat 48°29'38", long 104°16'23" referenced to North American Datum of 1927, in SE ¼ NW ¼ NW ¼ sec.26, T.32 N., R.57 E., Sheridan County, MT, Hydrologic Unit 10060006, at Medicine Lake National Wildlife Refuge boundary, on right bank at downstream end of culvert on county road, 1.0 mi upstream from mouth, and 7 mi southwest of Dagmar.

DRAINAGE AREA.--122 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1985 to September 1989, March 1995 to current year (seasonal records).

GAGE.--Water-stage recorder. Elevation of gage is 1,945 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. No known diversions for irrigation occur upstream from the station. Several unpublished observations of water temperature and specific conductance were made during the year.

06183850 SAND CREEK NEAR DAGMAR, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	2.8	0.14	32	0.00	0.00	0.00	0.00		
2			0.00	2.4	0.05	26	0.00	0.00	0.00	0.00		
3			0.00	1.9	0.04	12	0.00	0.00	0.00	0.00		
4			0.00	e1.9	0.00	6.3	0.00	0.00	0.00	0.00		
5			0.00	e1.7	0.00	3.4	0.00	0.00	0.00	0.00		
6			0.00	e1.4	0.32	2.6	0.00	0.00	0.00	0.00		
7			0.00	e1.2	0.41	1.8	0.00	0.00	0.00	0.00		
8			0.00	e1.1	0.26	0.87	0.00	0.00	0.00	0.00		
9			0.00	0.91	0.69	0.62	0.00	0.00	0.00	0.00		
10			e2.5	0.93	0.37	0.53	0.00	0.00	0.00	0.00		
11			e3.5	0.92	0.43	0.35	0.00	0.00	0.00	0.00		
12			e4.0	0.88	0.21	0.10	0.00	0.00	0.00	0.00		
13			e4.5	1.2	0.02	0.00	0.00	0.00	0.00	0.00		
14			e5.0	0.92	0.21	0.00	0.00	0.00	0.00	0.00		
15			e6.0	0.85	0.17	0.00	0.00	0.00	0.00	0.00		
16			e6.5	0.85	0.02	0.00	0.00	0.00	0.00	0.00		
17			e7.0	0.74	0.19	0.08	0.00	0.00	0.00	0.00		
18			7.5	0.72	0.19	0.14	0.00	0.00	0.00	0.00		
19			4.5	0.67	0.01	0.00	0.00	0.00	0.00	0.00		
20			3.0	0.59	0.00	0.00	0.00	0.00	0.00	0.00		
21			3.8	0.59	0.00	0.00	0.00	0.00	0.00	0.00		
22			2.8	0.58	0.00	0.00	0.00	0.00	0.00	0.00		
23			2.3	0.57	0.19	0.00	0.00	0.00	0.00	0.00		
24			2.3	0.56	0.35	0.00	0.00	0.00	0.00	0.00		
25			1.9	0.48	0.95	0.00	0.00	0.00	0.00	0.00		
26			1.8	0.47	2.3	0.00	0.00	0.00	0.00	0.00		
27			1.5	0.51	2.2	0.00	0.00	0.00	0.00	0.00		
28			1.2	0.42	1.5	0.00	0.00	0.00	0.00	0.00		
29			2.3	0.34	0.90	0.00	0.00	0.00	0.00	0.00		
30			2.5	0.27	0.63	0.00	0.00	0.00	0.00	0.00		
31			2.7	---	4.0	---	0.00	0.00	---	0.00		
Total			79.10	29.37	16.75	86.79	0.00	0.00	0.00	0.00		
Mean			2.55	0.98	0.54	2.89	0.00	0.00	0.00	0.00		
Max			7.5	2.8	4.0	32	0.00	0.00	0.00	0.00		
Min			0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			157	58	33	172	0.00	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1986 - 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			8.87	5.76	1.71	2.02	2.90	0.28	0.05	0.01		
Max			33.1	16.7	6.80	9.06	21.6	3.34	0.80	0.14		
(WY)			(1999)	(1987)	(1999)	(2000)	(1997)	(1997)	(1997)	(2005)		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
(WY)			(1988)	(1988)	(1988)	(1988)	(1986)	(1986)	(1986)	(1986)		

* During periods of operation [1985 - 1989, 1995 to current year (seasonal records only)].

06183850 SAND CREEK NEAR DAGMAR, MT—Continued

SUMMARY STATISTICS

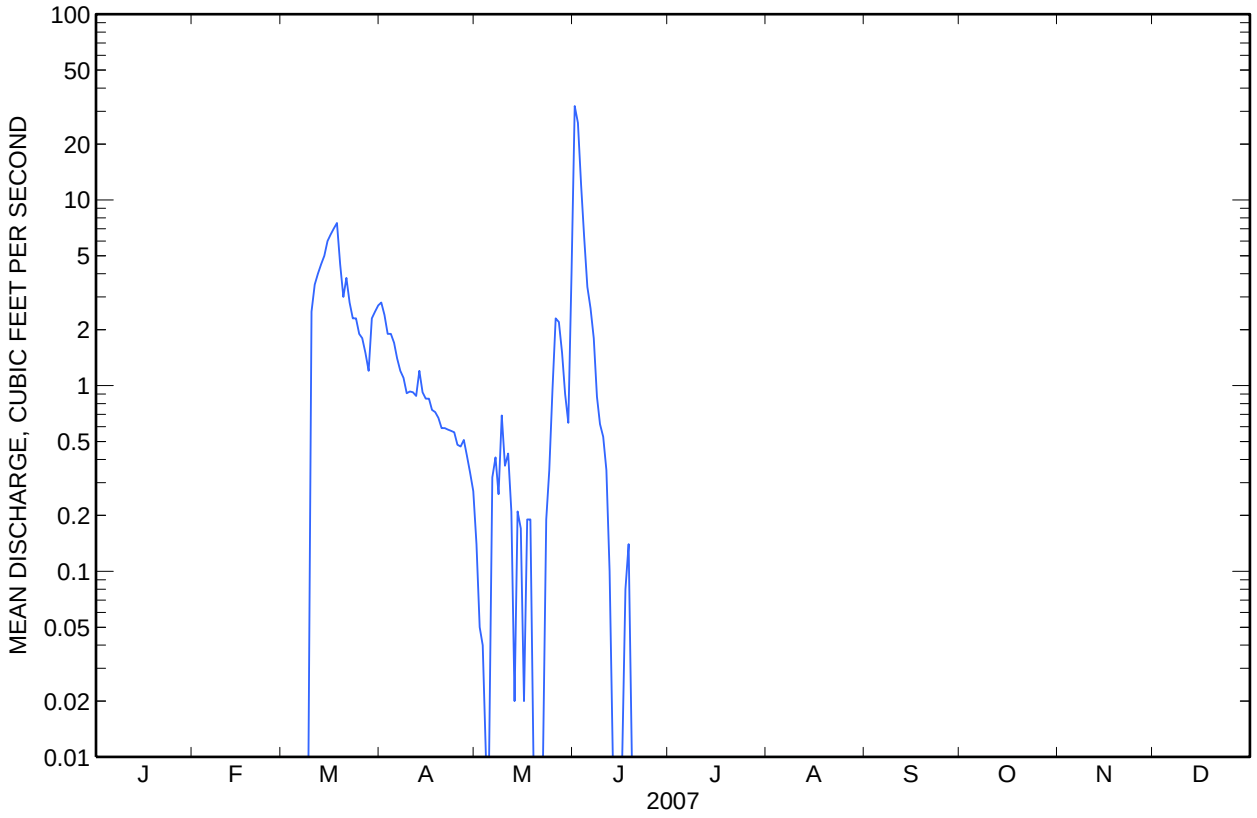
	2007 Season		Seasons 1986 – 2007*	
Highest daily mean	32	Jun 1	200	Mar 18, 2003
Lowest daily mean	0.00	Many days	0.00	Oct 1, 1985
Maximum peak flow	43	Jun 1	[b]284	Mar 18, 2003
Maximum peak stage	[a]3.42	Jun 1	[c]5.80	Mar 26, 1997

* During periods of operation [1985 - 1989, 1995 to current year (seasonal records only)].

[a] May have been higher during period of no gage-height record, Mar. 10-17, Apr. 4-8.

[b] Result of culvert computation of peak flow.

[c] From floodmark, probable date, backwater from ice.



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06185500 MISSOURI RIVER NEAR CULBERTSON, MT

Missouri-Poplar Basin
Charlie-Little Muddy Subbasin

LOCATION.--Lat 48°07′30″, long 104°28′20″ referenced to North American Datum of 1927, in SE ¼ NW ¼ sec.3, T.27 N., R.56 E., Richland County, MT, Hydrologic Unit 10060005, on right bank at upstream side of bridge on State Highway 16, 2.5 mi southeast of Culbertson, 10 mi downstream from Big Muddy Creek, and at river mile 1,620.76.

DRAINAGE AREA.--91,557 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1941 to December 1951, April 1958 to current year.

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,883.4 ft, referenced to the National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). July 1 to Nov. 6, 1941, water-stage recorder at site 400 ft. upstream at elevation 0.11 ft. higher. Nov. 7, 1941, to Aug. 17, 1950, water-stage recorder at site 580 ft. downstream at present elevation. Aug. 18, 1950, to Dec. 31, 1951, nonrecording gage on bridge at present elevation. Apr. 1, 1958, to Nov. 1, 1967, water-stage recorder at site 580 ft. downstream at present elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Flow is partly regulated by Fort Peck Lake (station number 06131500) and many other reservoirs upstream from station. Diversions for irrigation of about 1,030,400 acres occur upstream from station. U.S. Army Corps of Engineers satellite telemeter is located at the station.

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,690	5,990	e8,600	e10,200	e11,100	e9,300	6,230	4,290	10,200	7,520	6,930	7,000
2	5,610	5,940	e8,100	e10,400	e11,000	e9,100	6,090	4,310	10,100	7,390	6,850	6,980
3	5,680	6,210	e8,900	e10,100	e10,900	e8,900	6,050	4,660	9,930	7,100	6,910	6,940
4	5,680	6,190	e9,500	e10,500	e11,000	e8,700	6,020	5,420	9,690	6,660	6,910	6,990
5	5,720	6,280	e8,900	e10,000	e10,900	e9,000	5,850	6,180	11,100	6,650	6,760	7,040
6	5,660	6,590	e8,800	e10,000	e10,900	e8,300	5,020	7,060	11,800	6,630	6,910	7,180
7	5,630	6,560	e9,100	e9,700	e11,400	e7,700	4,540	7,650	11,200	6,260	6,760	7,340
8	5,750	6,460	e9,100	e10,600	e11,300	e6,100	4,420	7,390	10,600	5,970	6,740	7,370
9	5,750	6,530	e9,600	e10,500	e10,700	e5,800	4,410	7,360	9,840	6,660	6,980	7,330
10	5,760	6,710	e9,300	e10,800	e11,100	e6,000	4,490	7,240	9,240	6,790	6,960	7,320
11	5,630	7,070	e9,600	e10,400	e11,600	e6,100	4,630	7,170	8,580	6,760	6,930	7,170
12	5,680	7,570	e9,200	e9,700	e11,200	e6,300	4,700	7,100	8,730	6,820	6,930	7,090
13	5,650	7,950	e9,500	e9,800	e10,600	e6,500	4,770	6,700	8,700	6,550	6,880	7,100
14	5,640	7,890	e9,500	e10,600	e10,800	e6,400	4,680	6,720	8,480	6,630	6,850	6,360
15	5,580	7,740	e9,900	e9,400	e10,700	e6,700	4,520	7,720	8,020	6,630	6,810	5,360
16	5,600	7,720	e10,600	e10,000	e12,000	e8,200	4,410	7,990	7,210	6,440	6,730	4,500
17	5,910	7,700	e10,000	e10,400	e12,000	e7,500	4,430	7,570	7,620	6,500	6,830	4,310
18	6,000	7,730	e10,500	e10,000	e11,800	e8,000	4,330	7,220	8,080	6,480	6,990	4,230
19	6,030	7,730	e10,500	e9,700	e11,900	e8,500	4,440	7,020	8,730	6,730	7,070	4,130
20	5,840	7,640	e10,700	e9,600	e11,500	e9,000	4,610	6,810	8,840	7,020	7,060	4,060
21	5,700	7,750	e10,100	e9,700	e11,500	e7,700	4,640	6,470	9,400	6,970	7,010	4,130
22	5,720	8,050	e9,000	e9,900	e11,000	e7,300	4,580	6,410	10,500	7,020	7,000	4,070
23	6,030	8,510	e8,800	e10,300	e11,700	e7,100	4,330	6,690	10,600	6,950	6,900	4,000
24	6,020	8,380	e9,200	e10,100	e11,700	e6,800	4,210	7,000	9,750	6,870	6,940	4,010
25	5,880	8,000	e10,200	e11,000	e12,000	e6,700	4,210	7,400	8,890	6,870	6,920	4,090
26	5,830	7,700	e10,400	e11,100	e11,600	e6,600	4,260	7,740	8,060	6,850	7,030	4,040
27	5,840	e7,600	e10,300	e11,000	e9,200	e6,600	4,570	8,600	7,680	6,850	6,780	4,130
28	5,890	e6,100	e9,900	e11,300	e9,300	6,420	4,670	10,300	7,480	6,720	6,900	4,160
29	6,050	e8,100	e10,200	e11,200	---	6,360	4,400	11,200	7,490	6,730	7,090	4,090
30	6,330	e8,000	e10,400	e10,900	---	6,360	4,340	10,900	7,500	6,770	7,380	4,090
31	6,180	---	e10,400	e11,100	---	6,230	---	10,600	---	7,010	7,320	---
Total	179,960	218,390	298,800	320,000	312,400	226,270	142,850	226,890	274,040	209,800	215,060	166,610
Mean	5,805	7,280	9,639	10,320	11,160	7,299	4,762	7,319	9,135	6,768	6,937	5,554
Max	6,330	8,510	10,700	11,300	12,000	9,300	6,230	11,200	11,800	7,520	7,380	7,370
Min	5,580	5,940	8,100	9,400	9,200	5,800	4,210	4,290	7,210	5,970	6,730	4,000
Ac-ft	357,000	433,200	592,700	634,700	619,600	448,800	283,300	450,000	543,600	416,100	426,600	330,500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,210	8,943	9,061	9,827	10,380	10,090	10,230	9,445	9,610	9,993	11,010	10,700
Max	28,570	22,440	13,280	14,400	17,450	20,690	32,840	26,220	26,650	37,050	25,300	26,590
(WY)	(1949)	(1952)	(1944)	(1986)	(1976)	(1976)	(1979)	(1979)	(1975)	(1975)	(1948)	(1948)
Min	1,237	1,126	1,061	1,010	1,167	2,674	1,965	1,353	1,366	1,273	3,823	3,771
(WY)	(1942)	(1942)	(1942)	(1943)	(1942)	(1950)	(1945)	(1945)	(1945)	(1945)	(1963)	(1992)

* During periods of operation (1941-52, 1958 to current year).

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1941 - 2007*	
Annual total	2,735,570		2,791,070			
Annual mean	7,495		7,647		9,952	
Highest annual mean					16,580	1975
Lowest annual mean					4,083	1942
Highest daily mean	10,700	Dec 20	12,000	Feb 16	69,200	Mar 27, 1943
Lowest daily mean	5,390	May 16	4,000	Sep 23	575	Nov 22, 1941
Annual seven-day minimum	5,650	May 11	4,060	Sep 20	709	Nov 19, 1941
Maximum peak flow			[a]12,000	Jun 6	[c]78,200	Mar 26, 1943
Maximum peak stage			[b]8.96	Feb 24	[b]19.66	Apr 14, 1979
Instantaneous low flow			3,920	Sep 24	575	Nov 22, 1941
Annual runoff (ac-ft)	5,426,000		5,536,000		7,210,000	
10 percent exceeds	8,900		10,700		15,500	
50 percent exceeds	7,600		7,090		9,080	
90 percent exceeds	5,910		4,640		4,500	

SUMMARY STATISTICS

	Water Years 1941 – 1951**		Water Years 1958 – 2007***	
Annual mean	9,245		10,100	
Highest annual mean	14,520	1948	16,580	1975
Lowest annual mean	4,083	1942	5,741	2005
Highest daily mean	69,200	Mar 27, 1943	52,200	Apr 18, 1979
Lowest daily mean	575	Nov 22, 1941	2,000	Nov 20, 1964
Annual seven-day minimum	709	Nov 19, 1941	2,130	Nov 19, 1964
Maximum peak flow	[c]78,200	Mar 26, 1943	[d] 55,000	Mar 23, 1960
Maximum peak stage	[b]15.12	Mar 26, 1943	[b]19.66	Apr 14, 1979
Annual runoff (ac-ft)	6,698,000		7,351,000	
10 percent exceeds	21,000		15,000	
50 percent exceeds	6,910		9,350	
90 percent exceeds	1,400		5,600	

* During periods of operation (1941-52, 1958 to current year).

** Before operational level at Fort Peck Lake was reached.

*** After operational level at Fort Peck Lake was reached.

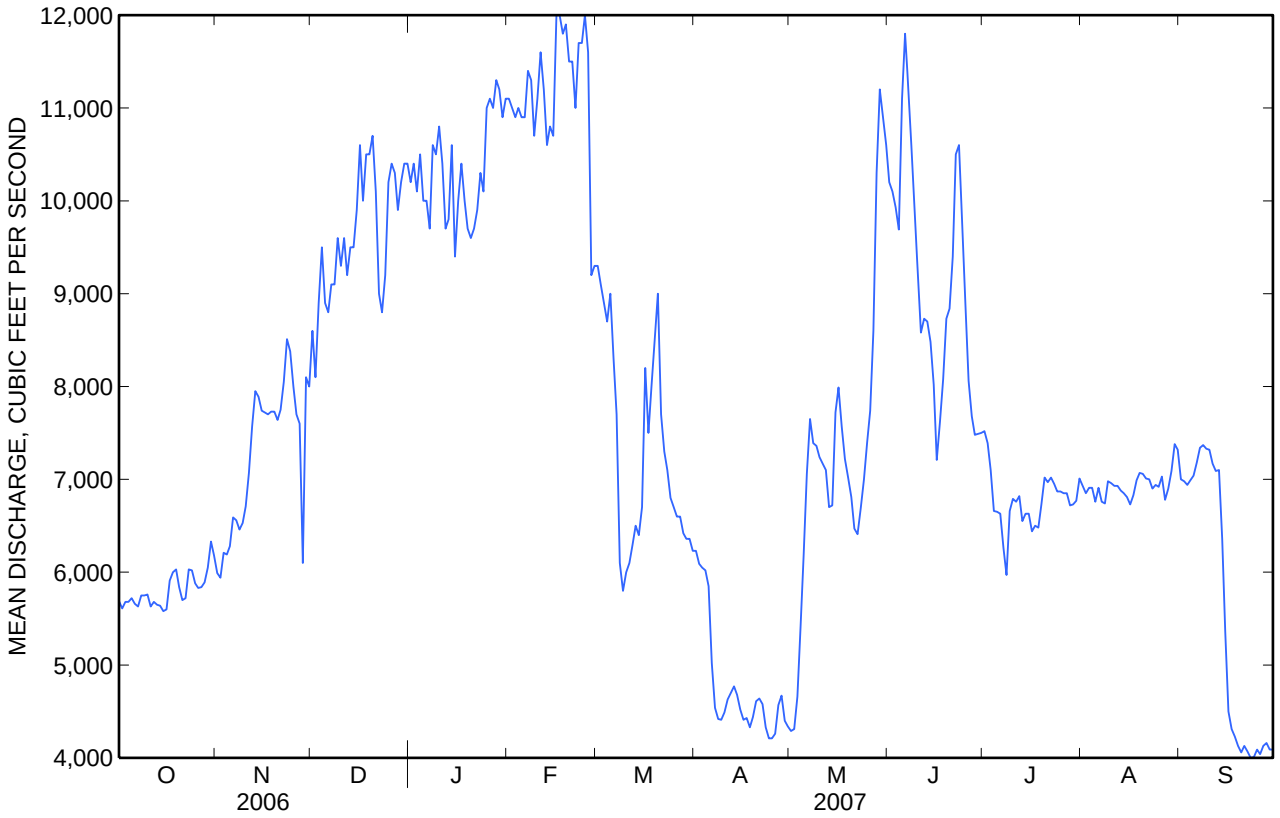
[a] Gage height, 6.44 ft.

[b] Backwater from ice.

[c] Gage height, 14.80 ft, from rating curve extended above 30,000 ft³/s.

[d] Gage height, 19.14 ft.

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued



06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946, 1965 to 1986, 1991 to 1994, October 1996 to August 2007, discontinued.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1965 to September 1981.
WATER TEMPERATURE: July 1965 to September 1979, seasonal records starting July 18, 2002 to September 2004.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1976.

REMARKS.--Missing pesticide data for June due to sample bottle breaking during shipment. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 941 microsiemens per centimeter (µS/cm) at 25°C, Jan. 19, 1980; minimum daily, 338 µS/cm at 25°C, Mar. 30, 1967.
WATER TEMPERATURE: Maximum, 26.0°C, Aug. 14, 2003; minimum, 0.0°C, on many days during winter period.
SEDIMENT CONCENTRATION: Maximum daily mean, 2,940 mg/L, Aug. 15, 1974; minimum daily mean, 30 mg/L, Jan. 13, 1975.
SEDIMENT LOAD: Maximum daily, 147,000 tons, June 5, 1975; minimum daily, 421 tons, Jan. 13, 1975.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 9

Date	Time	Instantaneous discharge, cfs (00061)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Oct													
19...	1230	6,050	22	.160	.117	717	11.3	97	8.6	584	8.0	6.0	220
Apr													
09...	1115	4,470	28	.057	.038	715	11.7	97	8.3	625	2.0	4.5	220
May													
14...	1130	6,670	65	.057	.039	727	8.0	85	8.3	602	15.0	16.0	210
Jun													
11...	1100	8,530	360	.096	.069	716	7.8	95	8.4	609	25.0	22.0	200
Jul													
09...	1045	6,670	59	.058	.041	717	7.1	88	8.4	590	29.0	23.0	200
Aug													
06...	1130	6,950	42	.051	.036	717	7.2	89	8.5	564	23.5	22.5	210

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 9

Date	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)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
Oct													
19...	53.8	20.4	3.64	1.2	41.2	166	173	192	10	9.93	.94	5.59	123
Apr													
09...	54.1	21.5	4.09	1.5	51.5	179	186	198	14	10.2	.88	5.40	138
May													
14...	50.7	20.5	4.12	1.5	49.6	168	164	177	12	9.93	.90	4.82	130
Jun													
11...	45.9	19.5	4.89	1.8	58.0	156	162	193	2	8.63	.75	6.76	145
Jul													
09...	50.1	19.3	4.01	1.3	42.8	163	171	166	21	9.42	.87	5.79	124
Aug													
06...	50.3	19.4	3.87	1.2	39.8	161	160	184	5	9.48	.88	5.52	118

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 9
[Remark codes: <, less than; E, estimated.]

Date	Dissolvid solids, sum of constituents mg/L (70301)	Dissolvid solids, tons/ acre-ft (70303)	Dissolvid solids, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Total phosphorus, water, unfltrd mg/L (00665)
Oct													
19...	364	.49	5,930	363	.15	.21	<.020	<.016	<.002	.09	.007	.008	.081
Apr													
09...	398	.55	4,850	402	.40	.27	<.020	E.012	<.002	.12	E.005	E.005	.097
May													
14...	370	.53	7,060	392	.26	.36	<.020	<.016	<.002	.26	.006	.006	.176
Jun													
11...	387	.55	9,240	401	.32	.76	<.020	.056	E.001	.67	.017	.020	.29
Jul													
09...	360	.51	6,800	377	.19	.33	<.020	<.016	<.002	.19	.011	.012	.111
Aug													
06...	344	.47	6,500	347	.20	.25	E.019	<.016	.002	.26	.009	.015	.108

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 4 of 9
[Remark codes: <, less than; E, estimated.]

Date	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Chlorophyll a phytoplankton, fluoro, µg/L (70953)	Pheophytin a, phytoplankton, µg/L (62360)	Arsenic water, fltrd, µg/L (01000)	Boron, water, fltrd, µg/L (01020)	Iron, water, fltrd, µg/L (01046)	Lithium water, fltrd, µg/L (01130)	Selenium, water, fltrd, µg/L (01145)	Strontium, water, fltrd, µg/L (01080)	Vanadium, water, fltrd, µg/L (01085)
Oct													
19...	1.3	.3	1.0	2.2	2.1	1.1	2.5	104	E3	61.7	.60	498	.65
Apr													
09...	1.5	<.1	1.5	3.2	1.0	.8	2.2	113	<6	67.5	.58	478	.62
May													
14...	3.2	.4	2.8	2.8	5.9	.7	2.2	114	<6	61.7	.65	494	.82
Jun													
11...	6.8	<.1	6.7	3.9	2.5	1.4	2.8	104	<6	62.7	.74	414	.99
Jul													
09...	3.3	.2	3.0	3.1	3.2	2.7	2.7	114	<6	64.3	.62	477	.97
Aug													
06...	3.0	.1	2.9	2.5	1.9	1.5	2.6	83	<6	55.5	.64	484	.94

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 5 of 9
[Remark codes: <, less than; E, estimated.]

Date	2,6-Diethylaniline water, fltrd 0.7u GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Acetochlor, water, fltrd, µg/L (49260)	Alachlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	alpha-HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atrazine, water, fltrd, µg/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF µg/L (82686)	Benfluralin, water, fltrd 0.7u GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7u GF µg/L (82680)	Carbofuran, water, fltrd 0.7u GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)
Oct													
19...	<.002	<.014	<.006	<.005	<.002	88.5	<.007	<.080	<.006	<.002	<.060	<.020	<.005
Apr													
09...	<.002	<.014	<.006	<.005	<.002	90.7	<.007	<.080	<.006	<.002	<.060	<.020	<.005
May													
14...	<.002	<.014	<.006	<.005	<.002	92.4	E.002	<.080	<.006	<.002	<.060	<.020	<.005
Jun													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
09...	<.002	<.014	<.006	<.005	<.002	100	<.007	<.080	<.006	<.002	<.060	<.020	<.005
Aug													
06...	<.002	<.014	<.006	<.005	<.002	87.9	<.007	<.080	<.006	<.002	<.060	<.020	<.005

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 6 of 9
[Remark codes: <, less than; E, estimated.]

Date	cis-Permethrin water fltrd 0.7u GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water, fltrd 0.7u GF µg/L (82682)	Desulfinylfipronil, water, fltrd, µg/L (62170)	Diazinon, water, fltrd, µg/L (39572)	Diazinon-d10 surrog. wat flt 0.7u GF percent recovry (91063)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7u GF µg/L (82677)	EPTC, water, fltrd 0.7u GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7u GF µg/L (82663)	Ethoprop, water, fltrd 0.7u GF µg/L (82672)	Desulfinylfipronil amide, wat flt µg/L (62169)	Fipronil sulfide water, fltrd, µg/L (62167)
Oct													
19...	<.010	<.018	<.003	<.012	<.005	97.4	<.009	<.02	<.002	<.009	<.012	<.029	<.013
Apr													
09...	<.010	<.018	<.003	<.012	<.005	107	<.009	<.02	<.002	<.009	<.012	<.029	<.013
May													
14...	<.010	<.018	<.003	<.012	<.005	114	<.009	<.02	<.019	<.009	<.012	<.029	<.013
Jun													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
09...	<.010	<.018	<.003	<.012	<.005	113	<.009	<.02	<.002	<.009	<.012	<.029	<.013
Aug													
06...	<.010	<.018	<.003	<.012	<.005	107	<.009	<.02	<.002	<.009	<.012	<.029	<.013

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 7 of 9
[Remark codes: <, less than; E, estimated.]

Date	Fipronil sulfone water, fltrd, µg/L (62168)	Fipronil, water, fltrd, µg/L (62166)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water, fltrd 0.7u GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7u GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7u GF µg/L (82671)	Napropamide, water, fltrd 0.7u GF µg/L (82684)	p,p'-DDE, water, fltrd, µg/L (34653)	Parathion, water, fltrd, µg/L (39542)
Oct													
19...	<.024	<.016	<.006	<.004	<.060	<.016	<.008	<.010	<.012	<.002	<.018	<.003	<.010
Apr													
09...	<.024	<.016	<.006	<.004	<.060	<.016	<.008	<.010	<.012	<.002	<.018	<.003	<.010
May													
14...	<.024	<.016	<.006	<.004	<.060	<.016	<.008	<.010	<.012	<.002	<.018	<.003	<.010
Jun													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
09...	<.024	<.016	<.006	<.004	<.060	<.016	<.008	<.010	<.012	<.002	<.018	<.003	<.010
Aug													
06...	<.024	<.016	<.006	<.004	<.060	<.016	<.008	<.010	<.012	<.002	<.018	<.003	<.010

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 8 of 9
[Remark codes: <, less than; E, estimated.]

Date	Pebulate, water, fltrd 0.7u GF µg/L (82669)	Pendimethalin, water, fltrd 0.7u GF µg/L (82683)	Phorate water, fltrd 0.7u GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Propyzamide, water, fltrd 0.7u GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7u GF µg/L (82679)	Propargite, water, fltrd 0.7u GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water, fltrd 0.7u GF µg/L (82670)	Terbacil, water, fltrd 0.7u GF µg/L (82665)	Terbufos, water, fltrd 0.7u GF µg/L (82675)	Thiobencarb water, fltrd 0.7u GF µg/L (82681)
Oct													
19...	<.004	<.020	<.020	<.01	<.004	<.010	<.011	<.02	<.006	<.02	<.040	<.01	<.010
Apr													
09...	<.004	<.020	<.020	<.01	<.004	<.010	<.011	<.02	<.006	<.02	<.040	<.01	<.010
May													
14...	<.004	<.020	<.020	<.01	<.004	<.010	<.011	<.02	<.006	<.02	<.040	<.01	<.010
Jun													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
09...	<.004	<.020	<.020	<.01	<.004	<.010	<.011	<.02	<.006	<.02	<.040	<.01	<.010
Aug													
06...	<.004	<.020	<.020	<.01	<.004	<.010	<.011	<.02	<.006	<.02	<.040	<.01	<.010

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 9 of 9
[Remark codes: <, less than; E, estimated.]

Date	Triallate, water, fltrd 0.7u GF µg/L (82678)	Trifluralin, water, fltrd 0.7u GF µg/L (82661)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Oct					
19...	<.006	<.006	32	137	2,240
Apr					
09...	<.006	<.006	48	117	1,410
May					
14...	<.006	<.006	55	246	4,430
Jun					
11...	--	--	81	536	12,300
Jul					
09...	<.006	<.006	67	200	3,600
Aug					
06...	<.006	<.006	52	167	3,130