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 mi^2, of which 11.4 mi^2 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 fair. Seasonal flows from Muddy Creek are diverted into Lake Creek, most years. U.S. Geological Survey satellite telemeter is located at the at 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 Several unpublished observations of water temperature and specific conductance were made during the year.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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				2.3	0.17	0.24	0.79	0.00	38	15		
2				1.9	0.17	0.17	0.79	0.00	27	15		
3				1.8	0.15	0.09	0.75	13	25	15		
4				1.8	0.17	0.02	0.76	29	26	15		
5				1.4	0.17	0.00	0.74	30	24	14		
6				15	0.15	6.6	0.75	31	25	15		
7				26	0.11	21	0.74	31	26	13		
8				3.8	0.05	28	0.63	31	25	15		
9				1.4	0.05	32	0.54	34	24	15		
10				0.68	0.04	97	0.47	34	23	15		
11				0.44	0.00	112	0.40	34	17	15		
12				0.32	0.00	86	0.34	34	10	15		
13				0.30	0.00	29	0.29	36	16	15		
14				0.28	0.00	15	0.17	36	15	15		
15				0.25	0.00	13	0.02	36	15	15		
16				0.27	0.00	9.5	0.00	36	15	15		
17				0.28	0.00	6.5	0.00	37	15	7.5		
18				0.25	0.00	4.3	0.00	37	15	1.6		
19				0.24	0.00	3.5	0.00	37	15	0.97		
20				0.23	0.00	3.2	0.00	37	15	0.67		
21				0.22	0.00	2.6	0.00	37	15	0.53		
22				0.15	0.00	2.1	0.00	37	15	0.47		
23				0.17	0.00	1.8	0.00	38	15	0.39		
24				0.17	0.00	1.5	0.00	39	15	0.29		
25				0.17	0.00	1.1	0.00	40	15	0.29		
26				0.19	0.00	1.0	0.00	41	15	0.29		
27				0.26	0.00	0.90	0.00	41	15	0.26		
28				0.23	3.2	0.91	0.00	42	15	0.23		
29				0.23	3.9	0.86	0.00	43	14	0.19		
30				0.18	1.3	0.81	0.00	44	14	0.31		
31				---	0.48	---	0.00	46	---	0.21		
Total				60.91	10.11	480.70	8.18	1,041.00	559	251.20		
Mean				2.03	0.33	16.0	0.26	33.6	18.6	8.10		
Max				26	3.9	112	0.79	46	38	15		
Min				0.15	0.00	0.00	0.00	0.00	10	0.19		
Ac-ft				121	20	953	16	2,060	1,110	498		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1990 - 2006

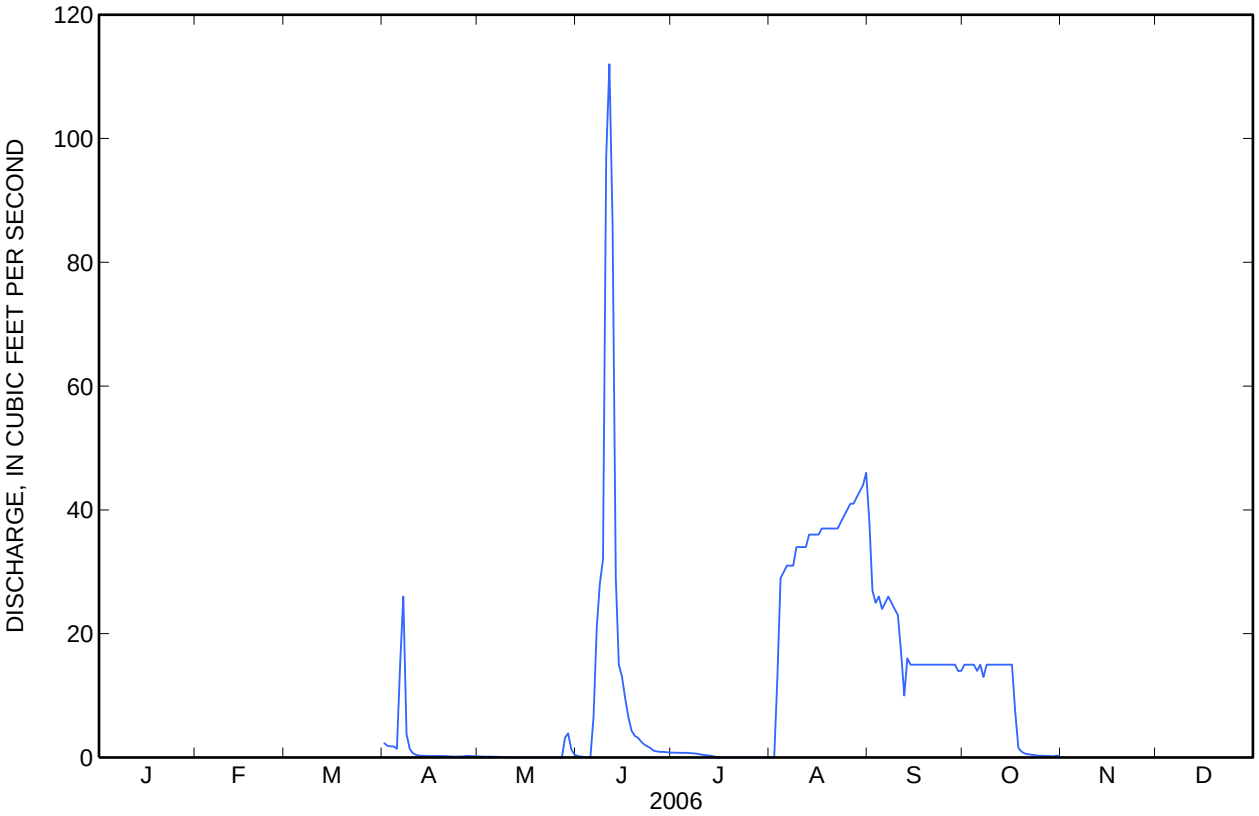
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			3.64	2.80	11.1	12.2	1.15	13.7	25.0	15.8	3.85	
Max			24.8	8.56	30.9	29.8	9.51	35.5	38.1	30.1	10.2	
(WY)			(1993)	(1993)	(1992)	(1991)	(1993)	(1990)	(1990)	(2000)	(1999)	
Min			0.05	0.01	0.06	0.05	0.00	0.35	11.3	0.19	0.22	
(WY)			(2000)	(2003)	(2005)	(2004)	(1992)	(2002)	(2003)	(1994)	(2003)	

06090650 LAKE CREEK NEAR POWER, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1990 - 2006	
Highest daily mean	112	Jun 11	300	Mar 6, 1993
Lowest daily mean	.00	Many days	0.00	Jul 1, 1990[a]
Maximum peak flow	135	Jun 10	[b]300	Mar 6, 1993
Maximum peak stage	3.39	Jun 10	[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.



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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,070	5,080	5,110	5,340	5,240	6,290	6,330	9,150	8,600	5,730	5,020	4,670
2	4,970	5,100	e4,800	5,340	5,210	6,800	6,210	9,470	7,730	5,640	5,030	4,540
3	5,050	5,110	e4,130	5,340	5,060	5,770	6,330	9,440	7,900	5,650	5,250	4,620
4	5,100	5,010	e3,850	5,300	5,100	5,400	6,270	9,520	8,810	5,250	5,390	4,650
5	5,100	5,110	e4,290	5,310	5,180	5,380	6,580	9,450	9,400	5,660	5,140	4,830
6	5,240	4,930	e4,590	5,220	5,040	5,580	6,710	9,260	9,160	5,490	5,070	4,580
7	5,180	5,080	e4,380	5,230	4,980	5,540	9,060	9,080	8,600	5,350	5,530	4,680
8	5,160	5,170	e4,390	5,350	5,050	5,370	11,700	9,050	8,470	5,570	5,500	4,720
9	4,950	5,160	e4,090	5,110	5,410	5,530	10,600	8,880	8,100	5,580	5,290	4,370
10	5,160	5,030	4,880	5,060	5,800	5,610	9,490	9,000	10,200	5,710	5,250	4,600
11	4,780	5,040	5,410	5,270	5,450	5,350	9,150	9,020	16,300	5,480	4,690	4,650
12	4,950	5,040	5,860	5,370	5,040	5,280	8,640	8,860	18,800	5,510	4,890	4,580
13	4,980	5,030	5,850	5,260	5,890	5,190	8,450	8,810	16,500	5,360	5,050	4,520
14	4,950	4,900	5,600	5,090	5,420	5,330	8,300	8,840	13,800	5,300	4,950	4,370
15	4,990	4,890	e5,190	5,310	5,620	5,480	8,590	8,900	13,100	4,950	4,970	4,400
16	5,050	4,850	e5,000	5,390	e4,860	5,680	9,100	9,030	12,600	5,250	4,810	4,680
17	5,060	4,900	e4,740	5,210	e3,490	6,040	9,530	9,260	11,800	5,040	4,860	4,880
18	4,980	5,010	4,470	4,910	e2,990	5,890	9,580	9,640	10,600	5,080	4,970	4,940
19	4,940	5,020	4,320	5,260	e3,300	5,850	9,410	10,800	10,000	4,850	4,900	5,050
20	5,100	4,760	4,810	5,090	e4,270	5,870	9,150	11,800	9,370	4,810	4,950	4,900
21	5,040	5,140	4,600	4,980	5,010	5,760	8,940	11,900	8,300	4,830	5,030	4,860
22	5,140	4,880	5,990	4,870	5,870	6,030	9,000	11,200	8,500	4,850	4,680	4,720
23	5,160	5,110	6,260	5,120	6,850	6,000	9,210	11,300	6,920	4,860	4,880	4,900
24	5,170	5,380	6,430	5,440	6,830	5,920	8,950	9,640	6,550	5,180	4,730	5,000
25	5,200	5,240	6,490	5,440	6,850	6,180	9,030	9,570	6,520	5,030	4,780	5,130
26	5,260	5,330	5,720	5,320	6,110	6,160	9,180	10,500	6,470	5,180	4,810	4,930
27	5,380	5,350	6,110	5,020	6,040	6,330	9,180	9,770	6,100	5,210	4,910	4,860
28	5,400	5,300	5,620	4,810	5,670	6,170	9,000	11,000	6,050	5,340	4,910	4,800
29	5,350	5,170	5,220	5,020	---	6,310	8,860	10,900	6,020	5,070	4,790	4,690
30	5,060	4,950	5,310	5,110	---	6,410	9,130	9,800	5,990	5,060	4,830	4,790
31	5,130	---	5,330	5,230	---	6,380	---	9,190	---	5,270	4,830	---
Total	158,050	152,070	158,840	161,120	147,630	180,880	259,660	302,030	287,260	163,140	154,690	141,910
Mean	5,098	5,069	5,124	5,197	5,272	5,835	8,655	9,743	9,575	5,263	4,990	4,730
Max	5,400	5,380	6,490	5,440	6,850	6,800	11,700	11,900	18,800	5,730	5,530	5,130
Min	4,780	4,760	3,850	4,810	2,990	5,190	6,210	8,810	5,990	4,810	4,680	4,370
Ac-ft	313,500	301,600	315,100	319,600	292,800	358,800	515,000	599,100	569,800	323,600	306,800	281,500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1891 - 2006, BY WATER YEAR (WY)

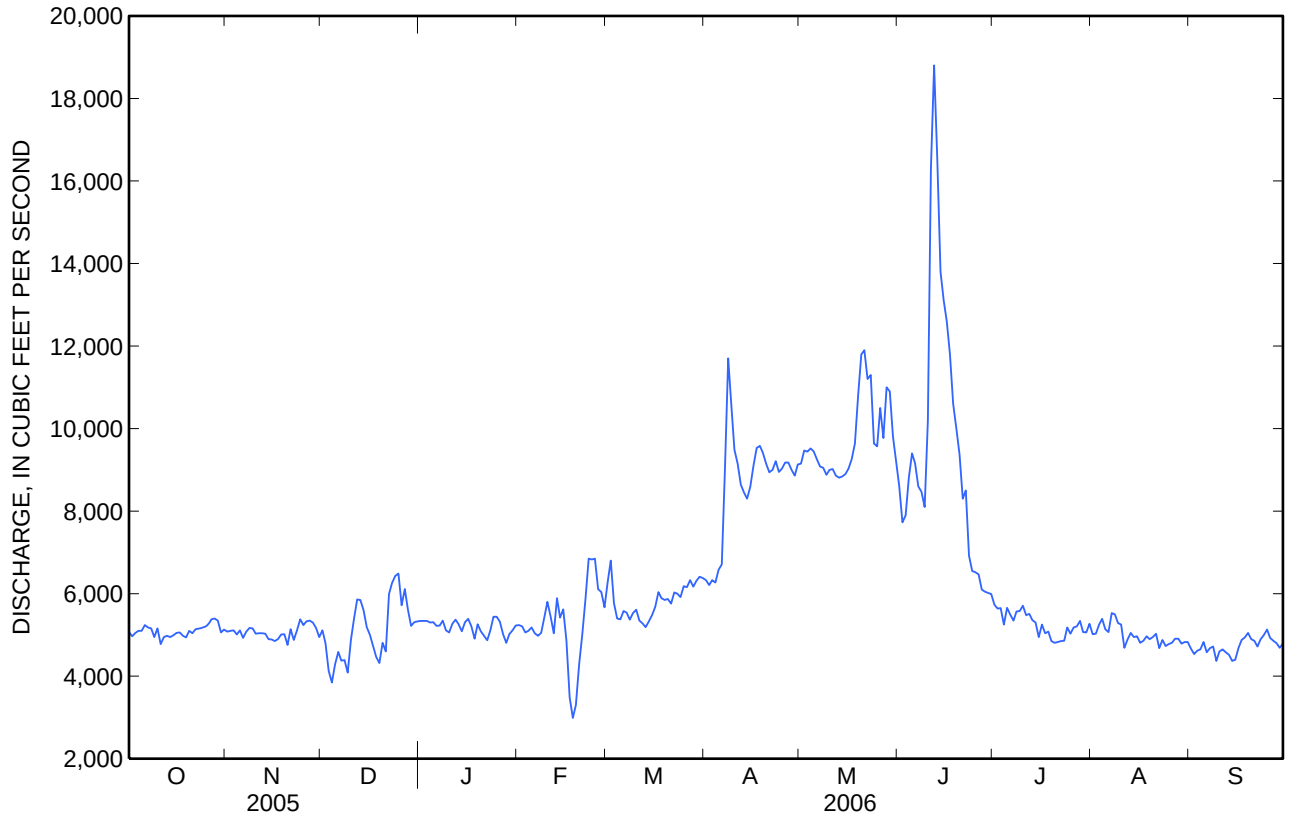
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,281	5,460	5,174	5,054	5,338	6,221	8,050	13,430	18,140	9,041	5,061	4,844
Max	12,610	10,850	11,640	8,380	9,327	11,800	15,540	28,600	53,620	26,580	10,550	10,240
(WY)	(1966)	(1966)	(1960)	(1997)	(1997)	(1910)	(1910)	(1894)	(1908)	(1907)	(1993)	(1984)
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 2005		Water Year 2006		Water Years 1891 - 2006	
Annual total	2,071,350		2,267,280			
Annual mean	5,675		6,212		7,592	
Highest annual mean					11,850	1894
Lowest annual mean					3,619	1937
Highest daily mean	16,200	Jun 5	18,800	Jun 12	107,000	Jun 7, 1908
Lowest daily mean	2,950	Jan 2	2,990	Feb 18	627	Jul 5, 1936
Annual seven-day minimum	3,640	Jan 1	4,220	Feb 15	1,190	Jan 10, 1932
Maximum peak flow			19,900	Jun 11	[a]140,000	Jun 6, 1908
Maximum peak stage			5.85	Jun 11	[b]18.50	Jun 6, 1908
Instantaneous low flow					[c]320	Jul 5, 1936
Annual runoff (ac-ft)	4,109,000		4,497,000		5,500,000	
10 percent exceeds	9,060		9,260		14,100	
50 percent exceeds	5,100		5,290		5,610	
90 percent exceeds	3,980		4,770		3,530	

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



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 good 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	193	74	e33	e54	e81	e54	209	664	815	394	214	92
2	178	109	e35	e52	e84	e54	210	569	997	374	204	90
3	129	96	e31	e54	e85	e54	193	534	1,260	353	188	88
4	118	85	e30	e54	e82	e50	243	533	1,500	355	185	86
5	101	e70	e33	e58	e78	e58	395	524	1,710	308	183	84
6	94	e74	e32	e76	e76	e60	615	556	1,550	289	182	83
7	94	e70	e35	e66	e80	e64	761	608	1,350	281	169	82
8	113	e70	e45	e64	e77	e70	730	590	1,210	249	147	81
9	96	60	e55	e69	e60	e80	735	544	1,130	239	143	79
10	84	112	e55	e79	e54	e85	633	511	2,300	239	143	76
11	79	260	e62	e76	e56	e75	587	511	2,350	265	145	75
12	74	262	e70	e74	e70	e64	565	544	2,010	244	145	e73
13	68	252	e62	e75	e65	e60	619	579	2,060	254	144	e71
14	76	e250	e60	e79	e55	e66	651	561	1,790	241	131	e79
15	70	e220	e50	e78	e44	e70	711	618	1,790	243	109	e90
16	68	250	e45	e75	e35	e66	629	748	1,890	258	109	e92
17	74	236	e40	e90	e38	e78	565	943	1,800	255	119	e86
18	76	89	e38	e86	e43	e90	524	1,310	1,440	253	115	e83
19	74	80	e50	e80	e46	e80	532	2,020	1,150	252	106	e79
20	77	77	e60	e80	e49	e74	533	2,390	1,010	249	104	78
21	94	78	e66	e74	e49	e78	598	2,420	833	246	101	73
22	88	77	e67	e80	e53	e74	729	2,260	700	243	99	76
23	82	77	e73	e85	e46	e80	655	2,220	626	240	96	69
24	78	71	e77	e95	e43	e90	539	2,080	574	242	97	59
25	75	77	e80	e100	e40	e100	423	1,830	535	241	103	53
26	72	77	e80	e95	e46	e130	425	1,710	502	233	101	49
27	74	e66	e75	e90	e64	e120	497	1,430	479	230	97	48
28	74	e60	e70	e95	e58	124	543	1,440	451	227	94	46
29	70	e55	e60	e85	---	144	644	1,230	436	223	92	43
30	67	e46	e56	e88	---	145	790	1,080	420	216	89	41
31	64	---	e54	e82	---	189	---	841	---	214	90	---
Total	2,774	3,480	1,679	2,388	1,657	2,626	16,483	34,398	36,668	8,150	4,044	2,204
Mean	89.5	116	54.2	77.0	59.2	84.7	549	1,110	1,222	263	130	73.5
Max	193	262	80	100	85	189	790	2,420	2,350	394	214	92
Min	64	46	30	52	35	50	193	511	420	214	89	41
Ac-ft	5,500	6,900	3,330	4,740	3,290	5,210	32,690	68,230	72,730	16,170	8,020	4,370
Ac-ft*	1,130	0	0	0	0	0	0	2,660	4,190	9,390	6,940	3,980

* Flows in Two Medicine Canal.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2006, BY WATER YEAR (WY)

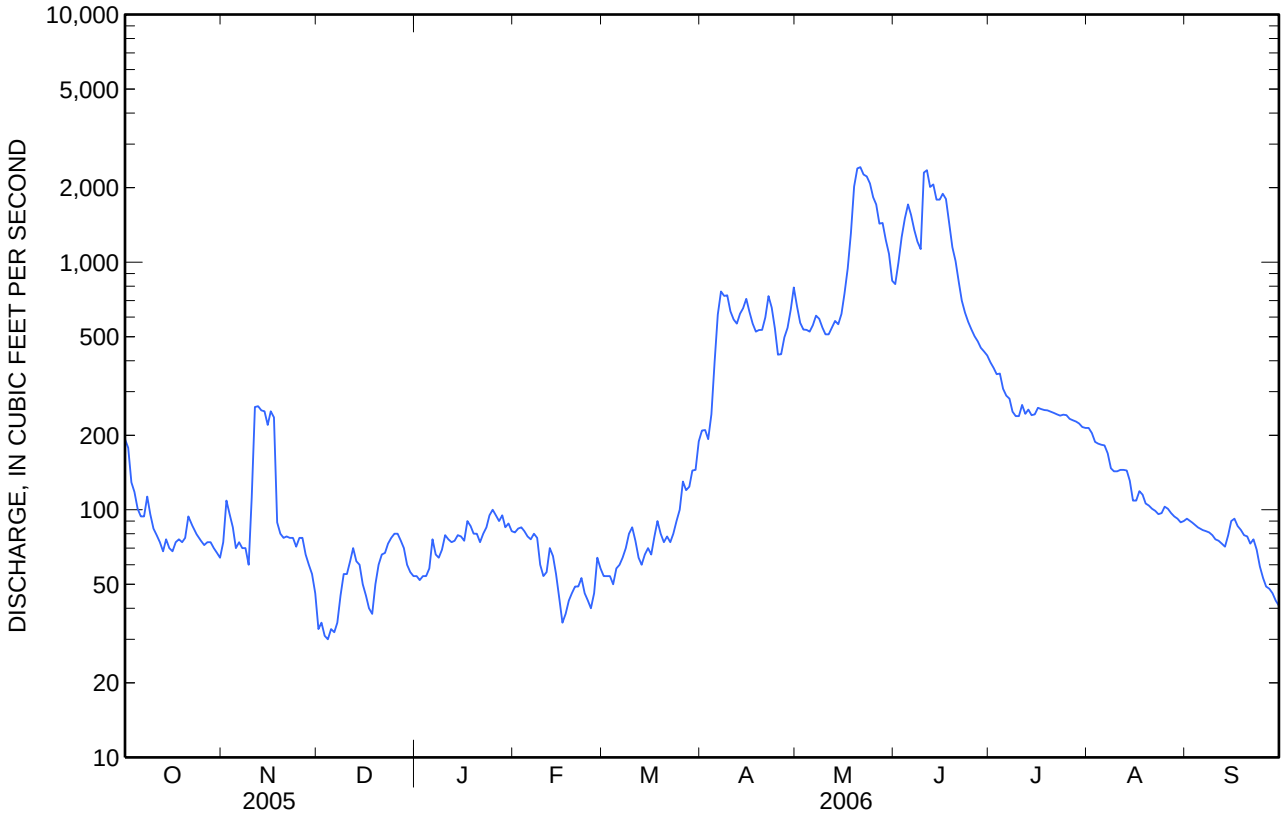
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	91.4	122	75.4	63.8	88.5	141	491	1,141	1,033	353	161	101
Max	533	558	394	180	394	474	923	2,040	2,922	656	265	240
(WY)	(1986)	(1996)	(1996)	(1981)	(1996)	(1986)	(1990)	(1991)	(2002)	(2002)	(2002)	(1985)
Min	23.2	18.8	19.7	17.9	26.4	40.5	140	439	282	173	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 2005		Water Year 2006		Water Years 1977 - 2006	
Annual total	80,463		116,551			
Annual mean	220		319		327	
Highest annual mean					542	1991
Lowest annual mean					199	2001
Highest daily mean	1,220	May 17	2,420	May 21	8,600	Jun 7, 1995
Lowest daily mean	30	Dec 4	30	Dec 4	10	Jan 29, 1980
Annual seven-day minimum	33	Dec 1	33	Dec 1	13	Feb 3, 1982
Maximum peak flow			2,950	Jun 10	[b]11,700	May 19, 1991
Maximum peak stage			[a]5.24	Jun 10	[c]8.25	Jun 7, 1995
Annual runoff (ac-ft)	159,600		231,200		236,700	
10 percent exceeds	508		800		938	
50 percent exceeds	141		92		120	
90 percent exceeds	60		54		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 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 by Four Horns Canal are listed in daily table below. Several unpublished observations of water temperature and specific conductance were made during the year. Bureau of Reclamation satellite telemeter 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	50	49	e50	81	e70	e80	79	391	381	153	52	64
2	52	61	e45	80	e66	e70	82	349	419	147	50	64
3	40	58	e45	79	e70	e70	83	305	503	139	50	63
4	49	56	e45	79	75	e65	87	272	482	138	48	63
5	51	54	e50	78	73	e70	97	251	483	131	47	62
6	50	53	e50	80	73	77	150	241	427	134	47	62
7	50	e52	e50	80	73	76	167	255	385	127	45	62
8	52	50	e60	78	74	76	160	269	408	119	44	63
9	50	e50	e80	75	73	71	163	262	390	114	44	63
10	48	48	101	80	e62	e70	155	243	582	110	43	62
11	47	49	100	82	e60	e68	150	245	561	108	44	62
12	46	51	94	75	e68	e65	148	268	511	102	43	62
13	45	e56	89	79	e65	e67	158	323	521	99	44	80
14	46	e65	e80	86	e60	e70	159	338	583	95	42	100
15	46	e70	e75	e85	e50	76	186	403	540	90	40	107
16	45	e85	e65	e80	e43	74	195	545	516	87	41	113
17	47	87	e55	e85	e40	70	185	738	476	85	44	106
18	47	85	e50	e80	e45	71	169	922	435	83	43	101
19	47	85	e60	e75	e55	64	159	1,010	406	83	39	100
20	46	83	e85	e70	e58	71	157	973	352	77	38	101
21	49	e83	e92	e65	e66	72	172	917	302	70	37	100
22	48	83	95	e65	e70	70	228	863	265	69	36	110
23	47	82	93	e80	e68	71	240	806	234	69	35	109
24	46	82	e92	83	e66	72	218	747	213	69	34	102
25	45	82	95	79	e64	74	202	657	201	67	45	99
26	45	82	94	e75	e70	79	197	620	193	64	62	98
27	47	e82	90	e72	e75	75	211	546	181	62	60	98
28	48	e78	85	e74	e80	74	236	510	172	59	60	96
29	47	e64	82	e70	---	79	298	440	164	54	60	95
30	47	e60	83	e74	---	77	415	391	163	52	60	93
31	47	---	83	e70	---	78	---	372	---	52	62	---
Total	1,470	2,025	2,313	2,394	1,812	2,242	5,306	15,472	11,449	2,908	1,439	2,560
Mean	47.4	67.5	74.6	77.2	64.7	72.3	177	499	382	93.8	46.4	85.3
Max	52	87	101	86	80	80	415	1,010	583	153	62	113
Min	40	48	45	65	40	64	79	241	163	52	34	62
Ac-ft	2,920	4,020	4,590	4,750	3,590	4,450	10,520	30,690	22,710	5,770	2,850	5,080

DIVERSION BY FOUR HORNS CANAL

Ac-ft	2,910	1,140	0	0	0	0	0	2,370	4,080	4,430	4,250	885

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2006, BY WATER YEAR (WY)

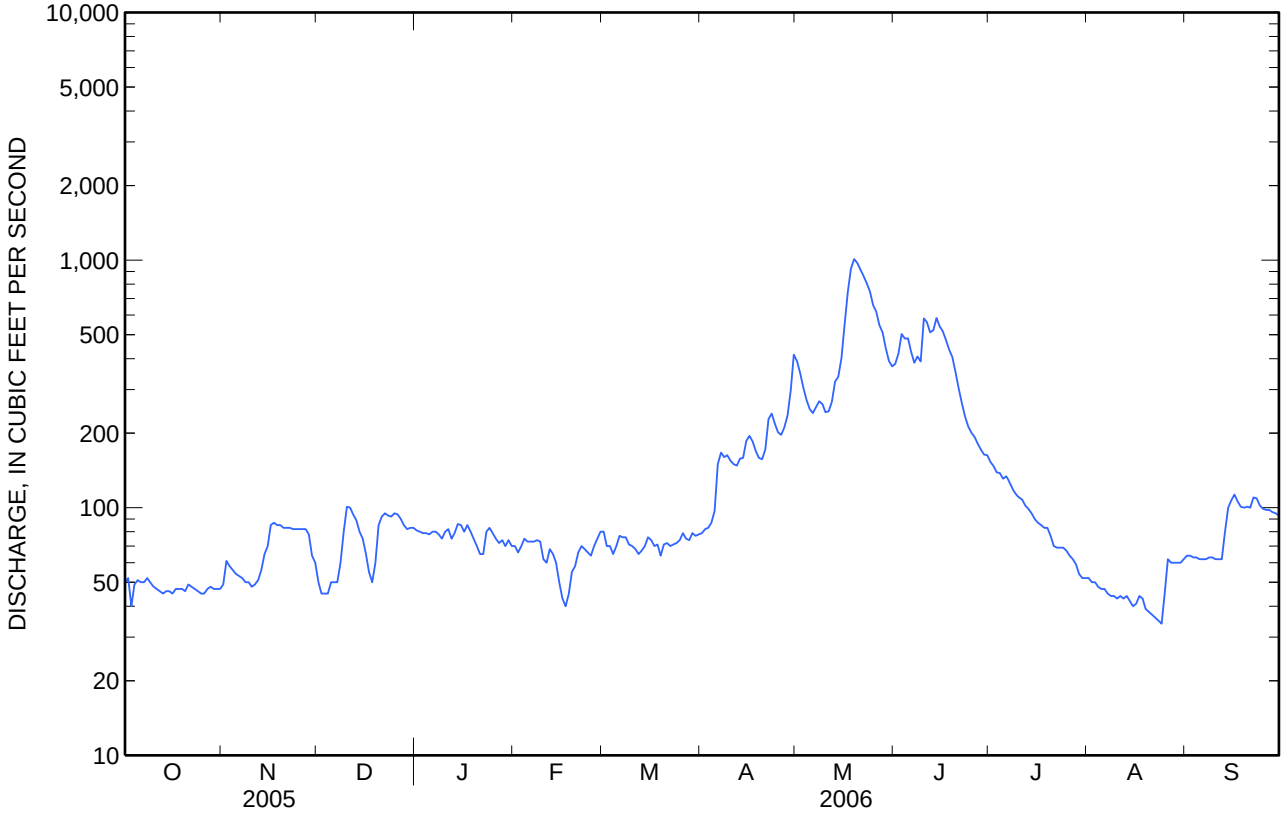
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	81.4	109	95.4	88.3	88.6	92.9	168	486	552	159	71.9	66.3
Max	316	295	184	160	198	205	321	899	2,240	568	184	199
(WY)	(1986)	(1990)	(1976)	(1976)	(1996)	(1986)	(1990)	(1976)	(1975)	(1975)	(1975)	(1993)
Min	9.13	40.9	42.9	57.0	52.5	44.6	61.1	140	58.9	17.5	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 2005		Water Year 2006		Water Years 1974 - 2006	
Annual total	37,948		51,390			
Annual mean	104		[a]141		[b]172	
Highest annual mean					350	1975
Lowest annual mean					68.1	1977
Highest daily mean	622	May 17	1,010	May 19	14,000	Jun 19, 1975
Lowest daily mean	24	Sep 8	34	Aug 24	6.5	Sep 17, 1984
Annual seven-day minimum	24	Sep 22	37	Aug 18	7.7	Oct 25, 1977
Maximum peak flow			1,080	May 19	[c]20,700	Jun 19, 1975
Maximum peak stage			6.65	May 19	13.58	Jun 19, 1975
Annual runoff (ac-ft)	75,270		101,900		124,400	
10 percent exceeds	282		383		380	
50 percent exceeds	70		78		94	
90 percent exceeds	27		47		40	

[a] 169 ft³/s, adjusted for flow in Four Horns Canal.
[b] 213 ft³/s, adjusted for flow in Four Horns Canal.
[c] From rating curve extended above 7,700 ft³/s, based on comparison with previous site, 3.4 miles upstream.



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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	175	79	e44	45	56	e44	56	364	356	215	32	8.7
2	418	106	e40	45	47	e42	60	320	392	209	31	8.1
3	301	104	e39	43	45	e40	60	269	472	202	30	7.4
4	230	95	e35	41	39	e38	72	227	542	197	28	7.0
5	178	86	e32	39	e38	e38	114	203	557	184	26	6.7
6	151	84	e33	42	e36	e36	140	192	582	174	25	6.7
7	136	76	e33	45	e36	e34	164	211	489	164	23	6.8
8	137	72	e34	46	e34	e34	173	229	454	156	21	6.9
9	130	63	e34	45	e32	e32	166	217	440	148	21	6.9
10	120	67	e36	41	e32	e30	159	197	662	142	22	6.6
11	111	66	e37	44	e34	e34	153	183	863	140	23	6.7
12	108	65	e38	53	e36	e32	149	185	674	125	24	6.4
13	108	60	e40	49	e34	e36	157	204	621	112	19	6.6
14	114	e54	e41	50	e32	e38	154	213	621	103	15	9.2
15	112	e52	e40	66	e32	40	166	240	615	95	12	13
16	106	60	e37	e70	e30	31	161	315	662	86	13	16
17	115	60	e35	e80	e28	31	145	417	610	83	19	15
18	128	61	e33	e64	e28	32	133	509	523	74	18	14
19	137	61	e33	e62	e26	37	124	617	432	71	13	15
20	139	61	e38	e60	e27	38	118	648	375	68	11	18
21	149	59	45	e58	e28	31	124	638	320	63	9.7	17
22	143	57	47	e56	e32	33	153	654	278	58	8.6	19
23	135	55	45	e52	e32	37	190	587	257	50	7.8	23
24	126	54	44	48	e30	42	179	582	251	52	7.8	21
25	119	53	48	44	e28	45	188	536	244	52	9.7	20
26	112	54	50	44	e28	57	187	519	240	48	13	24
27	108	55	49	e44	e30	49	170	475	235	46	11	28
28	103	52	46	e46	e35	44	179	437	230	42	8.7	30
29	93	e49	46	e48	---	47	209	357	231	39	7.7	32
30	84	e47	e44	51	---	46	307	329	232	35	7.1	30
31	75	---	45	52	---	52	---	335	---	33	7.5	---
Total	4,401	1,967	1,241	1,573	945	1,200	4,510	11,409	13,460	3,266	524.6	435.7
Mean	142	65.6	40.0	50.7	33.8	38.7	150	368	449	105	16.9	14.5
Max	418	106	50	80	56	57	307	654	863	215	32	32
Min	75	47	32	39	26	30	56	183	230	33	7.1	6.4
Ac-ft	8,730	3,900	2,460	3,120	1,870	2,380	8,950	22,630	26,700	6,480	1,040	864

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	58.6	59.4	42.0	35.5	39.4	51.6	136	403	486	178	61.6	40.6
Max	142	216	157	76.9	139	110	217	740	955	344	140	81.8
(WY)	(2006)	(1996)	(1996)	(2005)	(1996)	(1997)	(1996)	(1991)	(2002)	(2002)	(1923)	(1993)
Min	15.2	25.4	17.3	18.5	15.4	17.8	57.1	248	184	57.9	15.6	11.7
(WY)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(1992)	(1992)	(2001)	(2001)	(2001)

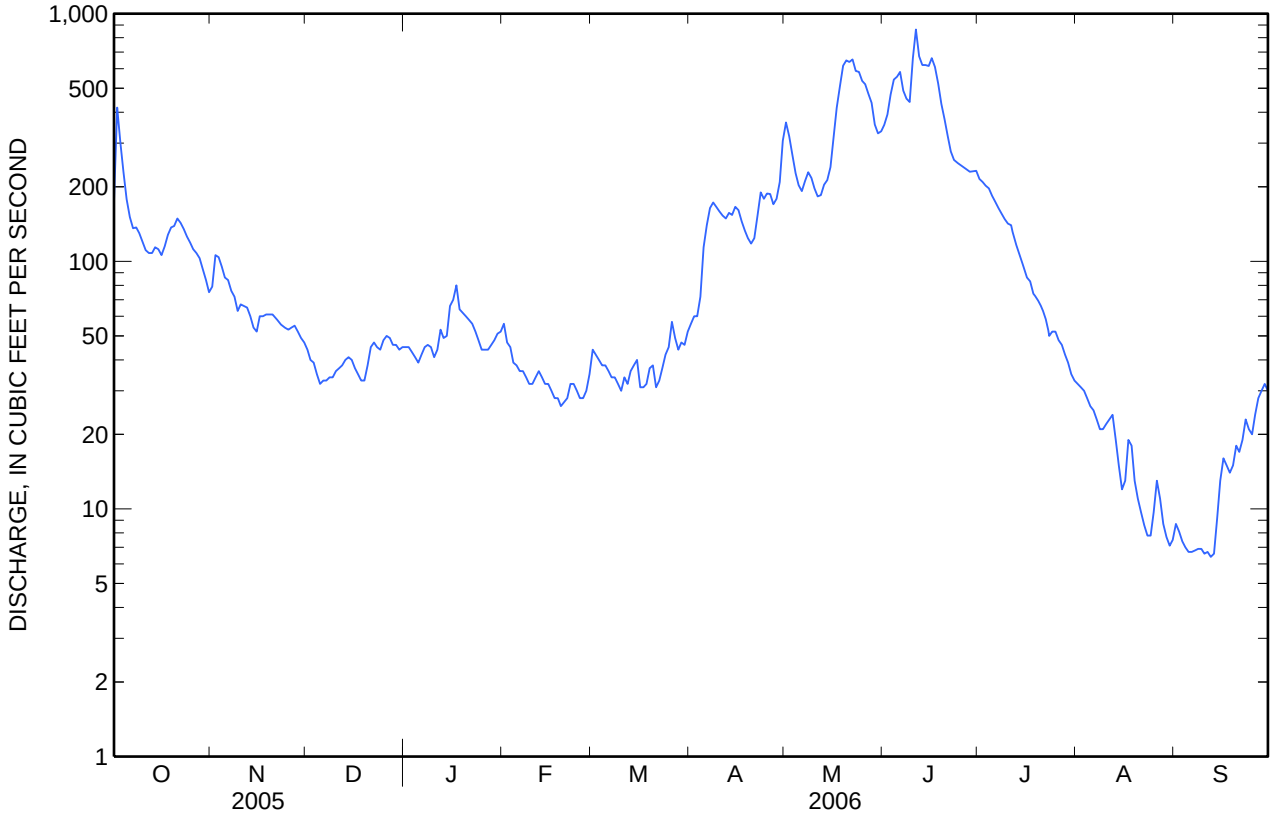
* During periods of operation [April 1918 to October 1925 (seasonal records only); April 1991 to current year].

06098500 CUT BANK CREEK NEAR BROWNING, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1918 – 2006*	
Annual total	39,606.5		44,932.3			
Annual mean	109		123		126	
Highest annual mean					201	1996
Lowest annual mean					69.0	2001
Highest daily mean	705	Jun 4	863	Jun 11	3,400	Jun 7, 1995
Lowest daily mean	8.8	Sep 8	6.4	Sep 12	6.4	Sep 12, 2006
Annual seven-day minimum	10	Sep 3	6.7	Sep 7	6.7	Sep 7, 2006
Maximum peak flow			964	Jun 10	[a]5,480	Jun 7, 1995
Maximum peak stage			4.04	Jun 10	[b]5.59	Jun 7, 1995
Instantaneous low flow					[c]4.9	Nov 22, 1994
Annual runoff (ac-ft)	78,560		89,120		91,390	
10 percent exceeds	272		331		327	
50 percent exceeds	59		52		51	
90 percent exceeds	24		18		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.



Water-Data Report 2006

06099000 CUT BANK CREEK AT CUT BANK, MT

Marias Basin
Cut Bank Subbasin

LOCATION.--Lat 48°38′00″, long 112°20′46″ referenced to North American Datum of 1927, in SW ¼ SE ¼ NE ¼ sec.11, T.33 N., R.6 W., Glacier County, MT, Hydrologic Unit 10030202, Blackfeet Indian Reservation, on right bank, 0.1 mi downstream from bridge on U.S. Highway 2, 0.7 mi west of Cut Bank, 0.8 mi downstream from Old Maids Coulee, and at river mile 17.7.

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

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1905 to October 1919, May to July 1920, May 1922 to October 1924, May 1951 to September 1973, October 1981 to September 2006, discontinued. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

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

GAGE.--Water-stage recorder. Elevation of gage is 3,561.42 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to May 12, 1922, nonrecording gage at several sites 0.5 mi upstream at various elevations. May 12, 1922 to Nov. 1, 1924, nonrecording gage at present site and different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Few minor diversions for irrigation occur upstream from station. Natural flow of stream may be affected by return flow from Two Medicine Canal which irrigates lands 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.

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

06099000 CUT BANK CREEK AT CUT BANK, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	59	107	e50	e42	e50	e52	208	302	362	215	26	30
2	111	106	e47	e39	e50	e58	191	370	375	208	24	31
3	391	116	e42	e41	e50	e56	170	338	392	197	24	34
4	354	120	e40	e42	e52	e50	162	292	459	186	22	33
5	293	114	e43	e38	e54	e45	177	253	503	171	24	30
6	237	111	e43	e38	e48	e43	263	216	514	164	28	28
7	201	109	e40	e42	e45	e47	481	197	519	152	28	27
8	178	105	e42	e42	e46	e48	443	208	461	140	25	23
9	170	e100	e50	e40	e44	e50	344	226	452	122	25	19
10	163	e100	e56	e44	e43	e47	283	213	494	115	25	19
11	153	98	e60	e40	e43	e45	251	194	748	118	30	18
12	143	94	e56	e37	e45	e42	223	182	813	115	34	16
13	134	e92	e50	e38	e46	e40	205	179	716	96	37	13
14	129	e84	e45	e40	e43	e40	200	196	1,170	80	40	15
15	129	e80	e40	e40	e34	e44	191	207	871	72	37	17
16	122	e100	e37	e37	e28	e45	196	232	790	65	35	23
17	117	e110	e34	e36	e25	e54	190	297	733	58	37	32
18	119	e108	e33	e35	e27	e60	173	409	646	53	43	35
19	128	102	e35	e34	e33	e55	164	499	553	48	40	34
20	140	94	e36	e32	e37	e58	152	575	482	48	38	37
21	143	87	e38	e30	e38	e65	143	587	420	43	29	39
22	152	85	e44	e28	e42	e70	151	603	366	42	26	41
23	150	84	e49	e35	e40	e80	180	601	319	38	25	40
24	145	85	e52	e50	e40	e100	208	538	289	44	23	39
25	136	81	e54	e54	e36	e140	203	524	286	43	24	36
26	130	80	e52	e50	e37	e280	207	504	276	42	25	30
27	128	e75	e45	e46	e43	e250	207	496	261	35	29	28
28	126	e65	e42	e43	e47	e230	e185	494	240	36	31	25
29	122	e60	e40	e46	---	216	e190	455	218	34	30	26
30	116	e56	e38	e50	---	205	e210	384	220	31	27	29
31	111	---	e40	e47	---	208	---	358	---	28	28	---
Total	4,930	2,808	1,373	1,256	1,166	2,823	6,551	11,129	14,948	2,839	919	847
Mean	159	93.6	44.3	40.5	41.6	91.1	218	359	498	91.6	29.6	28.2
Max	391	120	60	54	54	280	481	603	1,170	215	43	41
Min	59	56	33	28	25	40	143	179	218	28	22	13
Ac-ft	9,780	5,570	2,720	2,490	2,310	5,600	12,990	22,070	29,650	5,630	1,820	1,680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	84.1	76.0	47.2	35.7	57.2	146	237	475	625	236	87.3	74.2
Max	268	271	185	115	414	1,053	664	894	1,781	605	233	298
(WY)	(1952)	(1990)	(1996)	(1990)	(1986)	(1972)	(1952)	(1954)	(2002)	(1951)	(1972)	(1911)
Min	11.2	19.1	15.0	1.61	11.1	6.90	79.4	198	174	17.0	5.56	5.92
(WY)	(2002)	(2002)	(1984)	(1982)	(1985)	(1907)	(1984)	(1984)	(1992)	(1988)	(1988)	(1988)

* During periods of operation (August 1905 to October 1919, May to July 1920, May 1922 to October 1924, May 1951 to September 1973, October 1981 to September 2006).

06099000 CUT BANK CREEK AT CUT BANK, MT—Continued

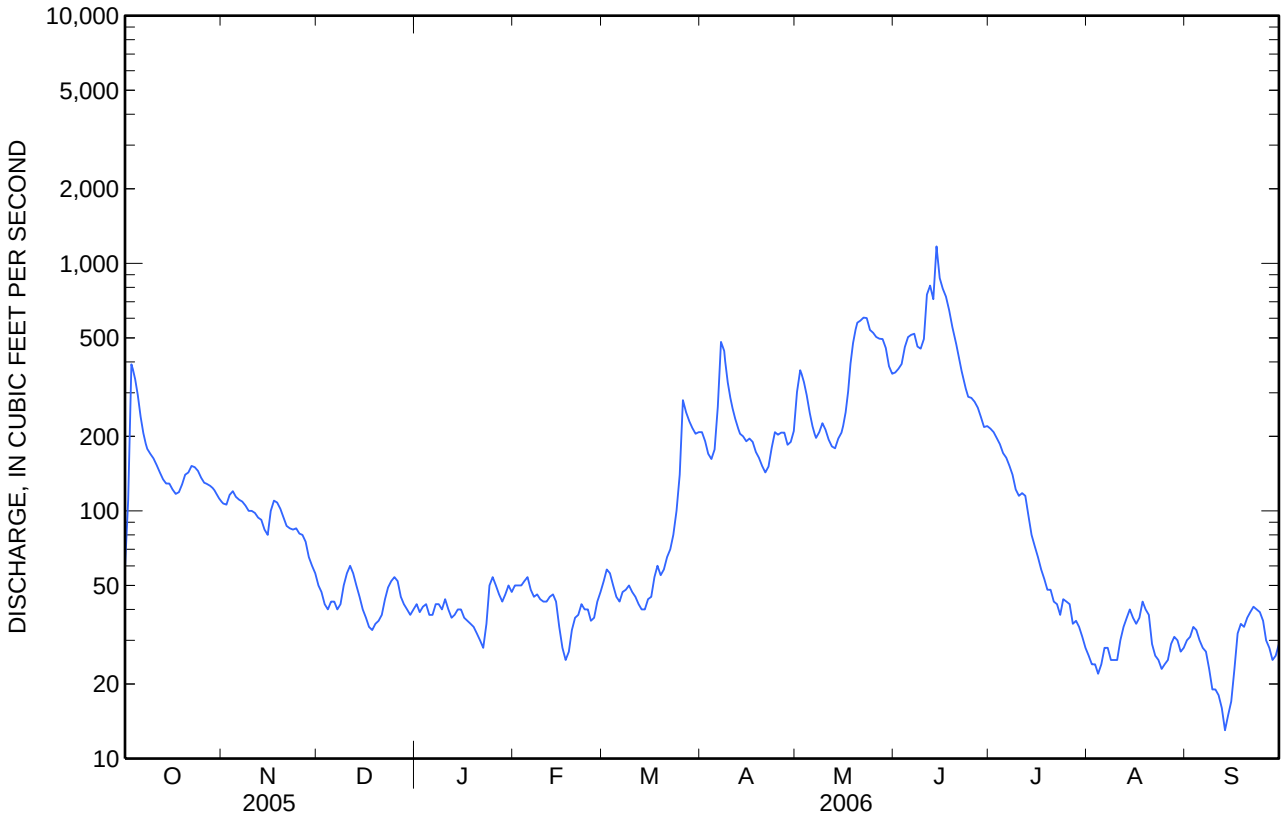
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1905 – 2006*	
Annual total	55,387		51,589			
Annual mean	152		141		180	
Highest annual mean					317	1972
Lowest annual mean					73.9	1988
Highest daily mean	2,340	Jun 8	1,170	Jun 14	11,200	Jun 9, 1964
Lowest daily mean	16	Aug 8	13	Sep 13	1.0	Jan 22, 1982
Annual seven-day minimum	23	Aug 5	17	Sep 9	1.1	Jan 20, 1982
Maximum peak flow			1,790	Jun 14	[a]16,600	Jun 9, 1964
Maximum peak stage			5.23	Jun 14	13.93	Jun 9, 1964
Instantaneous low flow					[b]0.92	Sep 10, 1988
Annual runoff (ac-ft)	109,900		102,300		130,700	
10 percent exceeds	308		372		475	
50 percent exceeds	84		58		80	
90 percent exceeds	40		29		24	

* During periods of operation (August 1905 to October 1919, May to July 1920, May 1922 to October 1924, May 1951 to September 1973, October 1981 to September 2006).

[a] From rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow.

[b] Gage height, 0.59 ft.



Water-Data Report 2006

06099500 MARIAS RIVER NEAR SHELBY, MT

Upper Missouri Basin
Marias Subbasin

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 mi^2, of which 518 mi^2 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	158	270	e160	e310	e370	e300	525	1,650	1,620	721	203	119
2	160	261	e130	e300	e350	e260	545	1,620	1,590	679	197	124
3	369	271	e150	e280	e340	e250	523	1,490	1,780	637	187	123
4	640	314	e160	e300	e355	e260	502	1,340	2,020	590	176	126
5	574	304	e170	e290	e370	e240	517	1,250	2,220	565	155	128
6	490	290	e160	e320	e310	e270	765	1,150	2,260	522	146	122
7	413	281	e140	e310	e290	e340	1,470	1,130	2,160	502	146	113
8	361	280	e160	e270	e350	e350	1,850	1,220	2,000	464	149	112
9	331	e250	e180	e260	e340	e320	1,580	1,250	1,940	422	133	109
10	340	e240	e220	e330	e250	e280	1,450	1,180	2,320	378	122	106
11	320	267	e280	e300	e220	e260	1,250	1,090	3,360	356	124	103
12	304	e300	e260	e290	e240	e250	1,130	1,030	3,400	380	134	106
13	288	e370	e260	e320	e230	e240	1,060	1,050	3,140	365	141	105
14	276	e350	e210	e310	e200	e250	1,150	1,150	3,460	340	144	111
15	287	e320	e200	e330	e160	e260	1,200	1,190	3,340	312	142	148
16	299	e360	e180	e300	e140	e270	1,300	1,360	3,140	284	138	185
17	288	e510	e170	e330	e135	e340	1,200	1,730	3,100	275	148	205
18	274	551	e160	e320	e130	e360	1,070	2,170	2,900	271	155	212
19	280	423	e150	e320	e160	e430	980	2,740	2,550	268	163	212
20	296	e340	e180	e300	e170	e400	969	3,160	2,230	256	151	204
21	305	315	e230	e285	e200	e390	953	3,170	1,940	251	135	196
22	313	298	e280	e240	e220	e430	1,030	3,150	1,660	241	119	198
23	333	290	e340	e320	e205	e420	1,330	3,030	1,400	236	107	213
24	328	282	e330	e380	e195	e410	1,300	2,890	1,210	235	95	216
25	317	279	e360	e400	e185	e440	1,130	2,680	1,100	289	92	213
26	304	269	e350	e360	e190	527	931	2,560	1,030	285	95	202
27	305	e270	e330	e340	e220	641	906	2,470	946	267	96	200
28	307	e245	e310	e310	e280	609	985	2,490	887	255	113	192
29	304	e230	e300	e380	---	575	1,060	2,420	812	245	126	181
30	288	e180	e280	e400	---	539	1,300	2,140	773	226	123	173
31	276	---	e300	e360	---	516	---	1,860	---	209	115	---
Total	10,128	9,210	7,090	9,865	6,805	11,427	31,961	58,810	62,288	11,326	4,270	4,757
Mean	327	307	229	318	243	369	1,065	1,897	2,076	365	138	159
Max	640	551	360	400	370	641	1,850	3,170	3,460	721	203	216
Min	158	180	130	240	130	240	502	1,030	773	209	92	103
Ac-ft	20,090	18,270	14,060	19,570	13,500	22,670	63,390	116,600	123,500	22,470	8,470	9,440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	399	389	301	254	317	573	1,125	2,671	3,033	1,031	380	350
Max	1,448	1,485	1,135	700	1,173	2,300	3,149	5,300	10,190	3,982	1,100	1,853
(WY)	(1952)	(1990)	(1996)	(1918)	(1986)	(1947)	(1934)	(1927)	(1948)	(1902)	(1927)	(1911)
Min	73.8	116	103	41.9	58.7	139	280	711	409	147	67.1	66.4
(WY)	(2002)	(2002)	(1937)	(1937)	(1936)	(2002)	(1931)	(1977)	(1977)	(1940)	(1988)	(1988)

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

06099500 MARIAS RIVER NEAR SHELBY, MT—Continued

SUMMARY STATISTICS

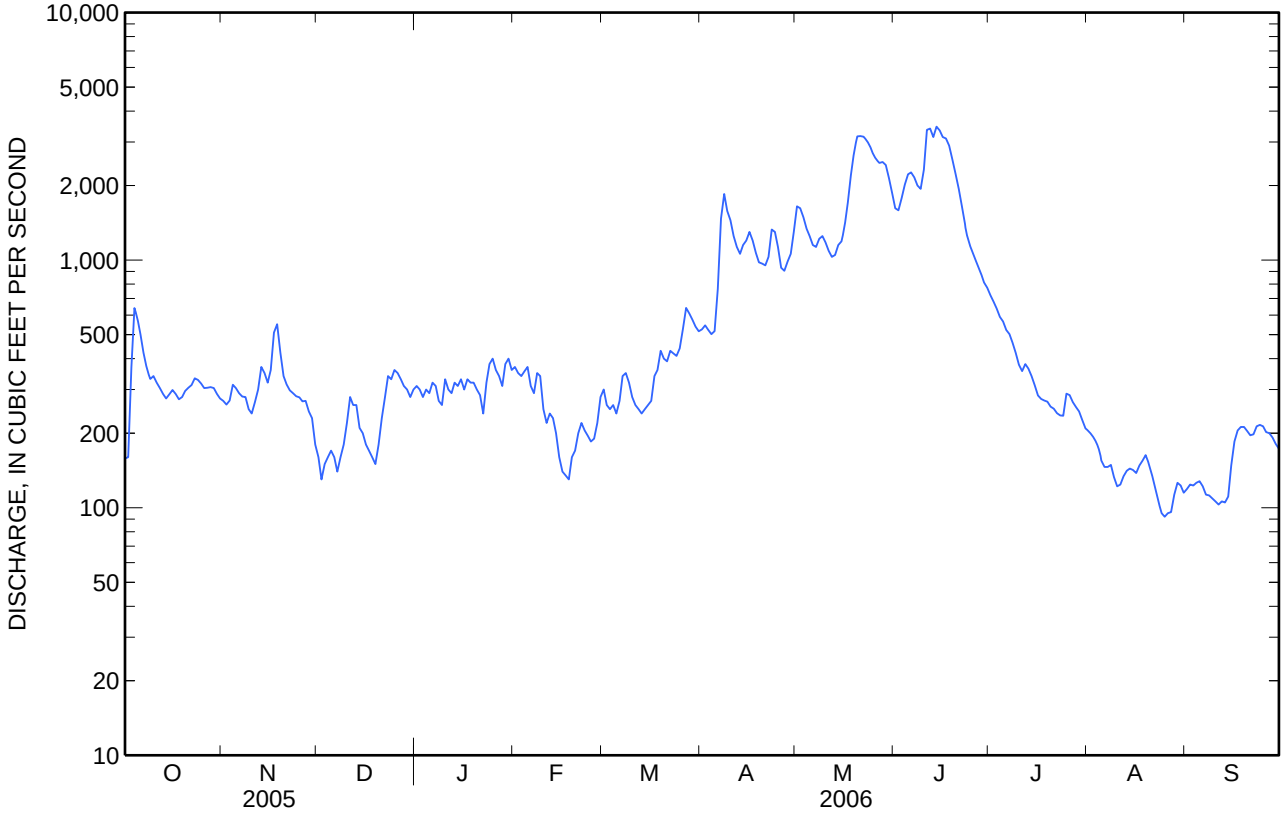
	Calendar Year 2005		Water Year 2006		Water Years 1902 – 2006*	
Annual total	184,677		227,937			
Annual mean	506		624		891	
Highest annual mean					1,929	1927
Lowest annual mean					302	1977
Highest daily mean	4,190	Jun 8	3,460	Jun 14	109,000	Jun 9, 1964
Lowest daily mean	83	Aug 8	92	Aug 25	10	Aug 20, 1919
Annual seven-day minimum	92	Aug 4	102	Aug 22	21	Jan 25, 1937
Maximum peak flow			4,050	Jun 14	[a]241,000	Jun 9, 1964
Maximum peak stage			6.52	Jun 14	[b]23.64	Jun 9, 1964
Instantaneous low flow					[c]10	Aug 20, 1919
Annual runoff (ac-ft)	366,300		452,100		645,500	
10 percent exceeds	1,210		1,650		2,300	
50 percent exceeds	315		305		394	
90 percent exceeds	130		142		155	

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

[a] Largely due to the failure of Swift Dam, from slope-area measurement of peak flow. Maximum unaffected by dam failure, 75,000 ft³/s, gage height, 18.21 ft.

[b] From floodmark.

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



06101500 MARIAS RIVER NEAR CHESTER, MT

Upper Missouri Basin
Marias Subbasin

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 mi^2, of which 518 mi^2 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	404	404	322	314	314	309	314	649	668	669	676	536
2	403	401	322	314	314	310	314	649	668	672	677	538
3	404	353	319	314	314	309	403	650	668	674	587	537
4	402	322	319	314	314	309	497	654	668	674	534	536
5	403	322	317	314	312	310	497	655	668	674	534	536
6	399	322	318	314	313	310	499	653	668	674	537	536
7	398	323	318	315	313	309	501	653	670	674	536	530
8	399	322	318	314	311	309	499	653	668	674	536	521
9	399	323	316	314	310	308	499	654	732	675	535	515
10	400	323	317	314	310	309	500	654	868	674	537	514
11	398	322	318	314	311	308	500	655	1,660	674	534	514
12	398	322	317	314	310	309	502	655	2,940	675	536	514
13	398	323	314	314	310	309	501	655	4,120	674	536	513
14	400	319	315	314	e310	312	502	655	4,730	669	529	514
15	399	321	315	314	313	314	501	656	4,740	674	532	514
16	398	319	316	314	e310	314	502	655	4,340	674	534	513
17	399	318	315	314	e310	314	503	655	3,570	675	537	513
18	399	317	314	314	e310	312	503	655	2,840	674	537	514
19	401	318	314	314	314	313	503	656	2,190	672	535	513
20	401	318	314	314	314	308	503	657	1,610	674	532	513
21	398	318	314	314	314	319	503	661	1,400	674	525	513
22	400	318	314	314	312	314	503	658	1,070	675	531	510
23	399	318	314	312	313	314	503	650	671	674	532	514
24	398	320	314	314	314	315	596	646	673	674	534	514
25	399	323	314	314	313	316	649	648	671	676	536	514
26	398	322	314	314	312	314	646	662	666	674	536	513
27	401	322	314	314	311	314	646	663	658	674	536	513
28	403	323	315	314	309	314	649	667	668	675	529	514
29	403	323	314	314	---	314	649	668	671	676	542	514
30	403	323	315	314	---	321	647	668	667	674	536	513
31	403	---	314	314	---	314	---	667	---	675	536	---
Total	12,407	9,822	9,794	9,733	8,735	9,674	15,534	20,336	47,501	20,890	16,904	15,566
Mean	400	327	316	314	312	312	518	656	1,583	674	545	519
Max	404	404	322	315	314	321	649	668	4,740	676	677	538
Min	398	317	314	312	309	308	314	646	658	669	525	510
Ac-ft	24,610	19,480	19,430	19,310	17,330	19,190	30,810	40,340	94,220	41,440	33,530	30,880

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	719	581	444	406	440	593	793	1,184	1,653	1,194	900	829
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)

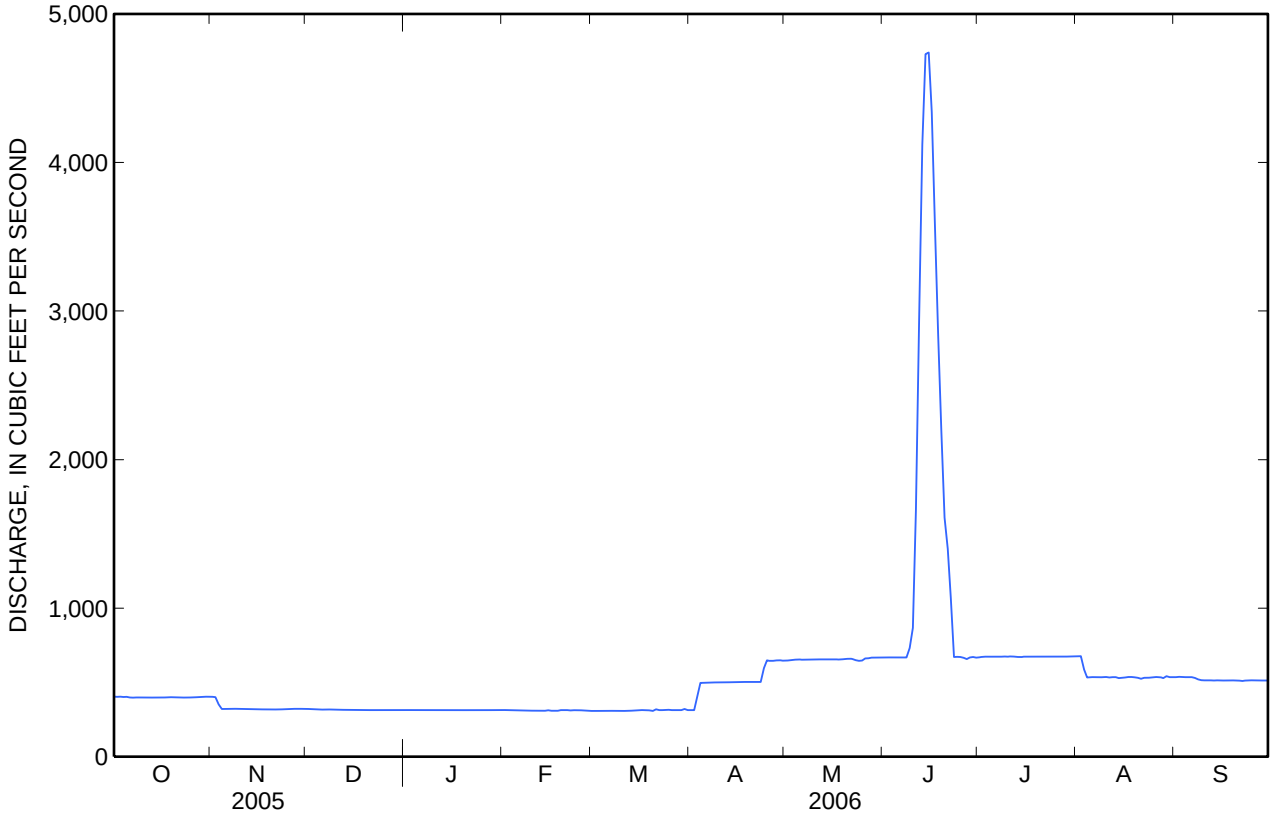
* During periods of operation (April to September 1921, October 1945 to September 1947, October 1955 to current year).

06101500 MARIAS RIVER NEAR CHESTER, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1921 - 2006*	
Annual total	158,235		196,896			
Annual mean	434		539		810	
Highest annual mean					1,488	1959
Lowest annual mean					97.5	1956
Highest daily mean	514	Jun 2	4,740	Jun 15	10,100	Jun 12, 1964
Lowest daily mean	314	Dec 13	308	Mar 9	0.20	Oct 29, 1955
Annual seven-day minimum	314	Dec 18	309	Mar 7	0.20	Oct 29, 1955
Maximum peak flow			4,800	Jun 14	[a]10,400	Jun 16, 1964
Maximum peak stage			7.44	Jun 14	10.63	Jun 16, 1964
Instantaneous low flow					[b]0.20	Nov 10, 1955
Annual runoff (ac-ft)	313,900		390,500		587,100	
10 percent exceeds	503		674		1,580	
50 percent exceeds	417		404		529	
90 percent exceeds	319		313		229	

* 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

Upper Missouri Basin
Marias Subbasin

LOCATION.--Lat 47°55′59″, long 111°31′02″ 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 mi^2, of which 518 mi^2 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 fair except those for estimated daily discharges, which are poor. Flow is completely regulated by Lake Elwell. Numerous diversions for irrigation occur upstream from the 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				e310	619	e676	e636	624	488	488		
2				e310	e662	e676	e636	631	490	490		
3				e330	e662	e676	e639	630	483	492		
4				e430	e663	e674	e642	586	480	484		
5				e500	e667	e677	e645	482	486	481		
6				e500	e667	e670	642	486	480	502		
7				e500	e667	e679	629	489	482	506		
8				e500	e666	e670	626	485	481	497		
9				e500	e666	e683	621	481	484	491		
10				e500	e667	e711	625	469	480	495		
11				e505	e668	e922	622	471	495	511		
12				e507	e668	e1,800	620	472	483	506		
13				509	e668	e3,080	619	473	461	495		
14				505	e668	e3,850	612	478	473	494		
15				500	e669	e4,420	603	479	494	493		
16				514	e669	e4,700	610	479	495	499		
17				522	e668	e4,650	615	481	505	506		
18				507	e668	e3,870	616	492	495	503		
19				495	e668	e3,100	618	480	488	501		
20				497	e669	e2,370	618	461	489	516		
21				495	e671	e1,840	614	470	498	505		
22				488	e674	e1,610	616	471	490	495		
23				485	e670	e1,310	622	470	496	497		
24				488	e653	e932	644	458	500	500		
25				505	e653	e899	652	462	494	498		
26				605	e655	e677	634	469	498	496		
27				622	e668	e636	630	487	496	e495		
28				626	e672	e636	635	486	498	e495		
29				617	e676	e642	638	491	502	e495		
30				605	e676	e636	641	491	495	e490		
31				---	e676	---	626	490	---	e490		
Total				14,977	20,633	49,372	19,446	15,374	14,679	15,406		
Mean				499	666	1,646	627	496	489	497		
Max				626	676	4,700	652	631	505	516		
Min				310	619	636	603	458	461	481		
Ac-ft				29,710	40,930	97,930	38,570	30,490	29,120	30,560		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 – 1972 AND SEASONS 2001 - 2006

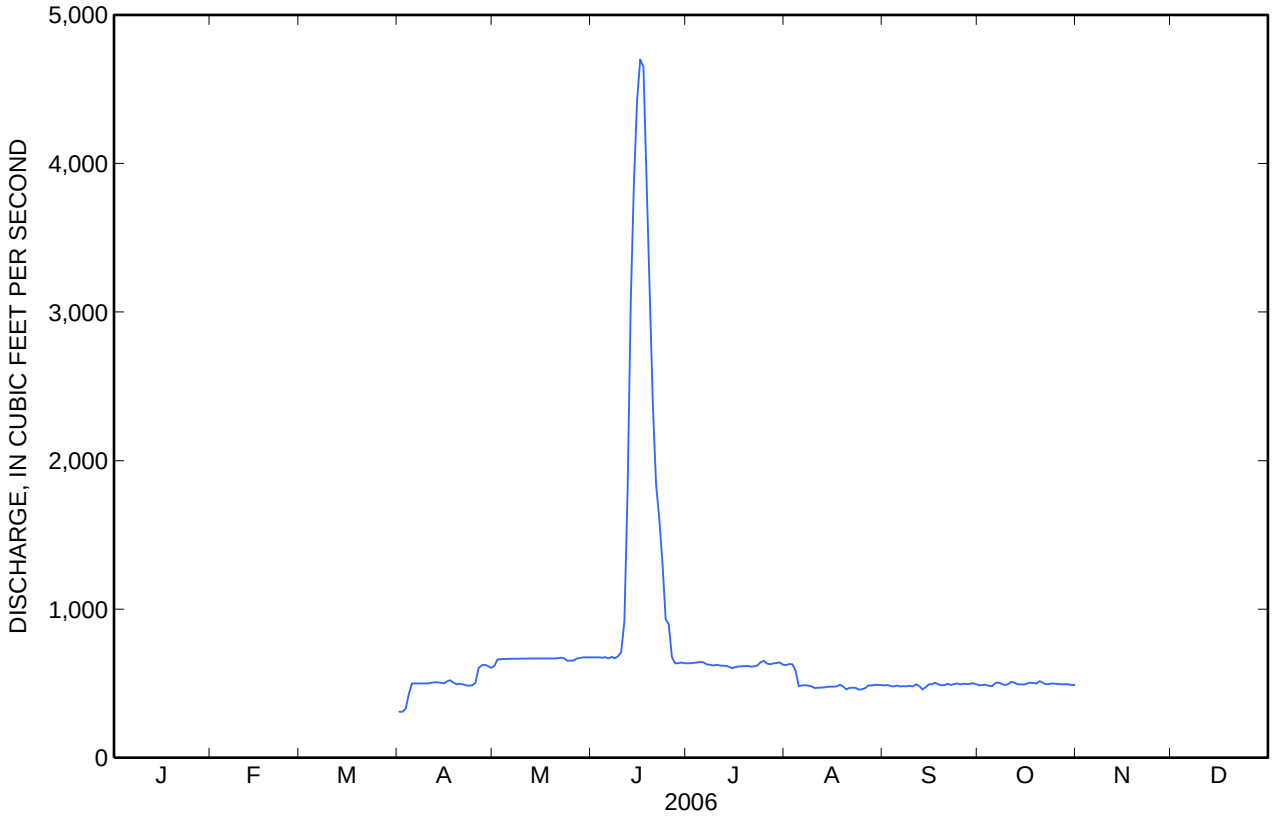
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	298	434	568	792	1,152	1,934	1,208	1,041	975	830	723	402
Max	517	910	1,290	2,184	2,175	6,018	2,990	3,040	3,258	2,750	1,580	908
(WY)	(1968)	(1968)	(1967)	(1972)	(1972)	(1964)	(2002)	(1965)	(1965)	(1966)	(1966)	(1968)
Min	105	110	117	180	441	415	250	137	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 2006 Season		Water Years 1960 - 2006		Seasons 2001 - 2006	
Annual mean			977			
Highest annual mean			1,330	1967		
Lowest annual mean			522	1963		
Highest daily mean	4,700	Jun 16	10,300	Jun 16, 1964	5,250	Jun 23, 2002
Lowest daily mean	310	Apr 1	45	Dec 11, 1962	220	Apr 1, 2002
Annual seven-day minimum			49	Dec 5, 1962		
Maximum peak flow	4,740	Jun 16	10,800	Jun 16, 1964	5,250	Jun 23, 2002
Maximum peak stage	[a] 5.02	Jun 16	[b] 8.72	Jun 16, 1964	[a] 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. 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				48	137	248	135	85	70	64		
2				51	133	262	131	83	69	64		
3				49	129	296	130	82	68	64		
4				50	121	301	129	81	67	63		
5				54	118	283	131	81	65	63		
6				72	125	270	131	80	66	62		
7				74	135	255	125	78	67	63		
8				70	137	255	119	79	66	64		
9				69	131	249	116	79	65	64		
10				66	127	337	115	82	66	62		
11				64	130	331	112	86	65	61		
12				63	134	308	112	84	65	60		
13				64	144	289	108	81	64	60		
14				65	153	288	105	80	68	59		
15				70	183	270	105	79	68	60		
16				72	256	248	101	82	68	61		
17				73	344	235	101	86	67	62		
18				72	437	221	99	80	66	61		
19				71	490	213	101	78	66	61		
20				71	489	203	99	76	66	65		
21				74	483	198	97	75	65	64		
22				82	457	187	95	73	68	63		
23				84	428	179	93	73	67	63		
24				83	399	172	92	73	66	63		
25				81	364	165	91	77	66	63		
26				81	369	161	88	74	65	63		
27				84	353	158	87	72	65	64		
28				85	318	155	85	71	64	63		
29				97	283	148	85	71	63	e60		
30				129	260	139	84	70	62	e60		
31				---	250	---	87	70	---	e60		
Total				2,168	8,017	7,024	3,289	2,421	1,983	1,929		
Mean				72.3	259	234	106	78.1	66.1	62.2		
Max				129	490	337	135	86	70	65		
Min				48	118	139	84	70	62	59		
Ac-ft				4,300	15,900	13,930	6,520	4,800	3,930	3,830		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 – 1954 AND SEASONS 1998 – 2006*

	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	92.9	61.8	57.3	54.6	44.0	40.7
(WY)	(1950)	(1949)	(1950)	(2001)	(2001)	(2004)	(2003)	(1949)	(1949)	(1950)	(1950)	(1950)

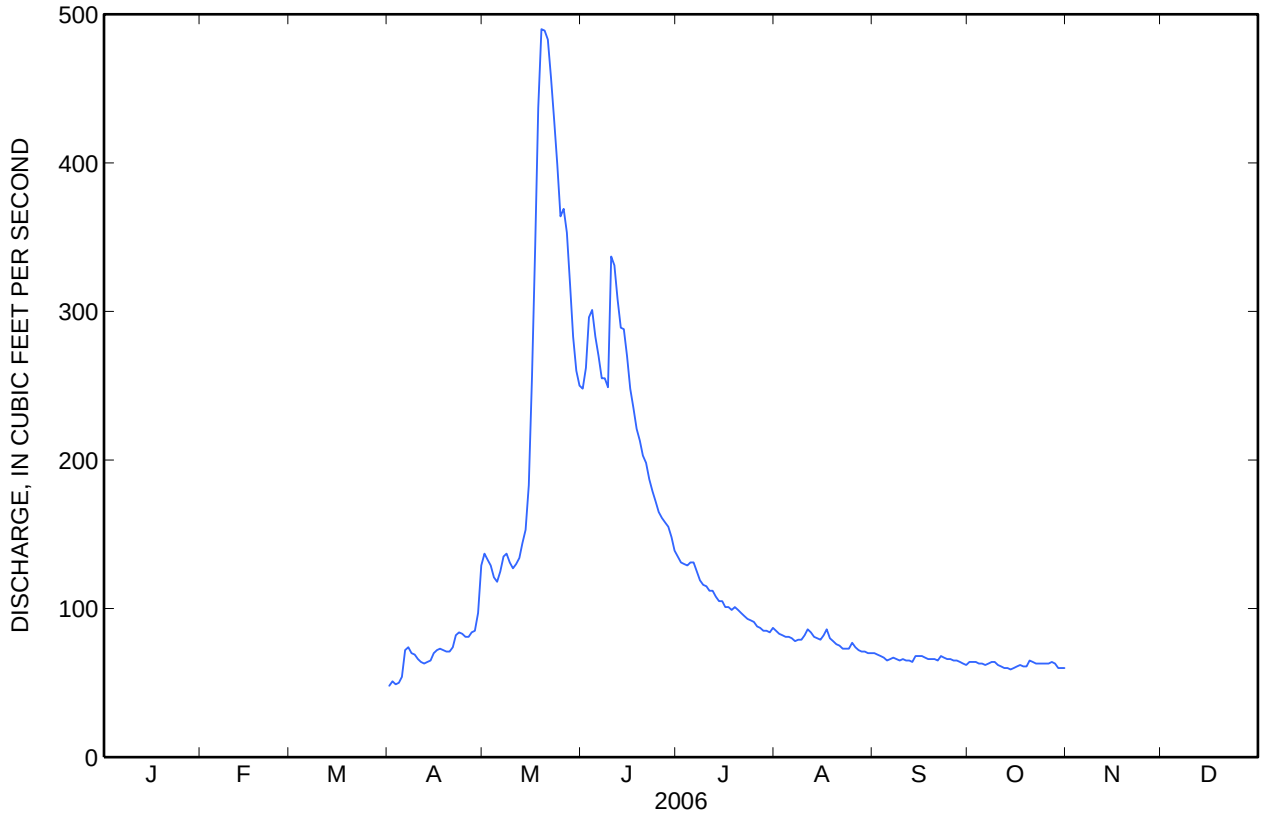
* During periods of operation (water years June 1947 to October 1954; June 1998 to current year, seasonal records only).

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

SUMMARY STATISTICS

	For 2006 Season		Water Years 1947 – 1954*		Seasons 1998 – 2006*	
Annual mean			166			
Highest annual mean			225	1953		
Lowest annual mean			92.9	1949		
Highest daily mean	490	May 19	2,380	Jun 5, 1948	1,160	Jun 17, 2002
Lowest daily mean	48	Apr 1	20	Jan 24, 1949	36	Apr 13, 2001
Annual seven-day minimum			22	Jan 24, 1949		
Maximum peak flow	533	May 20	[b]2,780	Jun 3, 1948	1,280	Jun 17, 2002
Maximum peak stage	5.11	May 20	[c]7.34	Jan 6, 1950	5.78	Jun 17, 2002
Instantaneous low flow	[a]46	Apr 1	[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, 3.57 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.



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 2005 TO SEPTEMBER 2006

Part 1 of 4

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, unfltrd mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)
Oct												
13...	1110	63	8.4	386	12.0	6.0	<.010	.025	<.002	E.06	<.006	E.002
Jan												
09...	1245	58	8.4	397	5.0	0.0	<.010	.046	<.002	E.06	<.006	<.004
Mar												
07...	0830	40	8.2	393	-0.5	0.5	<.010	.061	<.002	.09	<.006	<.020
Apr												
12...	1220	61	8.5	375	15.0	7.0	<.010	.044	<.002	.08	<.006	E.003
May												
03...	1100	128	8.6	339	7.0	5.5	<.010	.050	<.002	E.06	<.006	E.003
24...	1030	402	8.4	275	22.0	7.0	<.010	.029	<.002	.06	E.003	E.003
Jun												
27...	1100	168	8.4	343	25.0	11.0	E.007	.023	<.002	<.06	<.006	<.004
Jul												
18...	1300	106	8.4	372	28.0	15.0	<.010	.022	<.002	<.06	<.006	<.004
Sep												
06...	1030	69	8.3	425	28.0	10.0	E.007	.045	<.002	.07	E.004	<.004

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 2 of 4
[Remark codes: <, less than.]

Date	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Oct			
13...	88	14	2.4
Jan			
09...	80	15	2.3
Mar			
07...	59	3	.32
Apr			
12...	69	12	2.0
May			
03...	69	14	4.8
24...	75	8	8.7
Jun			
27...	90	5	2.3
Jul			
18...	97	18	5.2
Sep			
06...	95	9	1.7

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 3 of 4
[Remark codes: E, estimated.]

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										
12...	1220	200	54.2	14.9	.44	.0	1.07	158	.27	.37
Jun										
27...	1100	180	48.7	13.2	.43	.0	1.06	156	.21	.28
Jul										
18...	1300	200	54.2	14.8	.46	.0	1.22	161	E.20	.32

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 4 of 4
[Remark codes: E, estimated.]

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis-solved, tons/d (70302)	Selen-ium, water, unfltrd ug/L (01147)
Apr						
12...	4.63	42.5	213	.29	35.1	.51
Jun						
27...	4.48	30.7	193	.26	87.4	--
Jul						
18...	4.86	39.7	E213	E.29	E60.1	.54

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	15	25	e15	30	e30	e50	48	46	65	20	0.00	2.0
2	14	24	e17	32	e28	e45	47	46	59	18	0.00	1.5
3	14	24	e15	32	e27	e42	46	46	51	17	0.00	1.4
4	17	23	e13	32	e30	e40	46	47	46	18	0.00	2.4
5	19	23	e16	e30	e28	e40	47	48	43	18	0.00	3.1
6	20	22	e14	e27	e25	e45	65	46	39	21	0.00	3.4
7	20	23	e15	e25	e30	e50	94	44	31	20	0.00	3.1
8	21	25	e17	e28	e35	e55	218	40	33	19	0.00	2.7
9	20	23	e20	e33	e28	e50	189	42	40	15	0.00	2.8
10	20	25	e23	e30	e20	e45	149	40	177	16	0.00	3.2
11	20	23	e25	e27	e22	e42	124	35	457	13	0.00	2.9
12	19	23	e25	e25	e25	e40	104	33	462	11	0.00	2.8
13	19	22	e24	e28	e27	e40	93	30	307	11	0.00	2.1
14	19	e20	e22	e35	e23	e45	83	29	214	11	0.39	3.0
15	20	e17	e20	e33	e18	e50	77	29	164	9.4	0.34	5.8
16	20	e18	e18	e30	e13	e55	71	31	136	8.7	0.07	10
17	19	e20	e16	e25	e10	e65	66	29	120	8.1	2.1	14
18	20	e22	e15	e26	e12	50	62	24	103	6.5	4.2	15
19	21	e23	e17	e24	e15	33	61	24	90	4.1	7.0	13
20	21	24	e20	e22	e20	40	62	21	81	3.0	7.3	14
21	21	25	e25	e20	e23	58	61	22	75	1.2	6.0	13
22	22	24	e30	e25	e25	59	59	19	69	0.43	5.4	14
23	23	24	e35	e30	e22	59	58	25	62	0.74	4.9	15
24	25	26	39	e30	e20	49	57	25	57	0.35	4.4	14
25	29	26	38	e28	e22	50	56	22	50	0.84	4.5	14
26	30	e25	38	e26	e30	56	55	23	47	0.04	5.4	13
27	35	e23	33	e25	e45	59	54	35	42	0.00	5.9	13
28	34	e20	e30	e25	e55	60	50	46	35	0.00	6.1	12
29	35	e18	e27	e27	---	55	50	60	27	0.00	4.6	12
30	36	e16	e25	e30	---	53	48	79	25	0.00	3.7	12
31	29	---	e27	e33	---	49	---	75	---	0.00	2.7	---
Total	697	676	714	873	708	1,529	2,300	1,161	3,207	271.40	75.00	240.2
Mean	22.5	22.5	23.0	28.2	25.3	49.3	76.7	37.5	107	8.75	2.42	8.01
Max	36	26	39	35	55	65	218	79	462	21	7.3	15
Min	14	16	13	20	10	33	46	19	25	0.00	0.00	1.4
Ac-ft	1,380	1,340	1,420	1,730	1,400	3,030	4,560	2,300	6,360	538	149	476

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2006, BY WATER YEAR (WY)

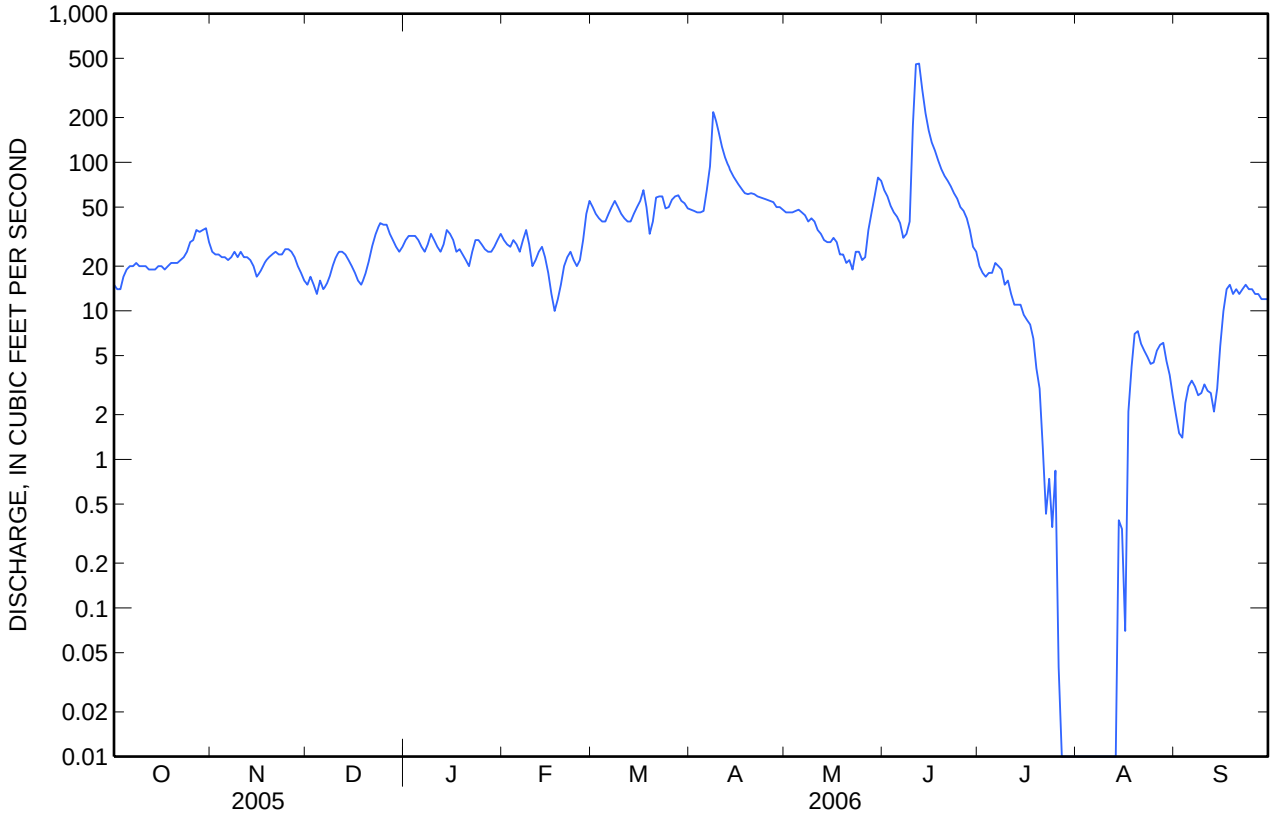
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	67.0	67.8	61.6	53.3	82.4	175	152	233	368	149	69.0	62.0
Max	223	176	209	167	388	819	495	957	2,727	551	263	211
(WY)	(1966)	(1976)	(1960)	(1976)	(1986)	(1969)	(1965)	(1976)	(1964)	(1958)	(1972)	(1993)
Min	15.4	18.5	14.8	13.2	15.2	28.8	32.8	20.1	16.9	1.30	0.00	7.39
(WY)	(2002)	(2002)	(2001)	(1985)	(1985)	(2002)	(2004)	(2000)	(1988)	(1985)	(1988)	(2001)

06108000 TETON RIVER NEAR DUTTON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1954 - 2006	
Annual total	12,543.8		12,451.60			
Annual mean	34.4		34.1		128	
Highest annual mean					350	1964
Lowest annual mean					26.9	2001
Highest daily mean	233	Jun 7	462	Jun 12	20,000	Jun 9, 1964
Lowest daily mean	1.4	Aug 4	0.00	Jul 27	0.00	Jul 21, 1984
Annual seven-day minimum	1.9	Aug 3	0.00	Jul 27	0.00	Jul 21, 1984
Maximum peak flow			508	Jun 11	[b]71,300	Jun 9, 1964
Maximum peak stage			3.66	Jun 11	[c]20.48	Jun 9, 1964
Instantaneous low flow			[a]0.00	Jul 22	0.00	Jul 21, 1984[d]
Annual runoff (ac-ft)	24,880		24,700		92,920	
10 percent exceeds	61		59		256	
50 percent exceeds	25		25		66	
90 percent exceeds	9.4		2.8		20	

[a] Gage height, 0.53 ft.
[b] From slope-area measurement of peak flow.
[c] From floodmark.
[d] No flow at times on many years.



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 2005 TO SEPTEMBER 2006
Part 1 of 4
[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat, unfltrd mg/L (62855)
Oct										
12...	1115	19	8.5	865	12.0	8.0	<.010	E.008	<.002	.26
Jan										
09...	1620	E33	8.3	853	5.0	0.0	E.009	.463	.003	.63
Mar										
07...	1200	E50	7.9	1,390	8.0	0.0	E.009	.390	.003	.75
Apr										
12...	1740	103	8.6	1,530	17.0	13.0	<.010	E.014	.003	.93
May										
03...	1500	50	8.6	1,190	8.5	10.0	<.010	E.009	<.002	.29
24...	1510	25	8.5	903	27.0	20.0	E.005	.020	<.002	.38
Jun										
27...	1445	41	8.6	1,190	29.0	26.5	E.007	<.016	<.002	.39
Jul										
19...	1100	3.3	8.6	1,220	26.0	22.0	<.010	<.016	<.002	.33
Sep										
06...	1500	3.6	8.5	947	31.0	20.5	E.010	E.009	<.002	.33

06108000 TETON RIVER NEAR DUTTON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 2 of 4
[Remark codes: <, less than; E, estimated.]

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Oct					
12...	<.006	.021	96	79	4.1
Jan					
09...	<.006	.011	81	64	E5.7
Mar					
07...	<.006	.025	92	22	E3.0
Apr					
12...	<.006	.096	99	102	28
May					
03...	<.006	.024	91	56	7.6
24...	E.003	.032	99	55	3.7
Jun					
27...	<.006	.039	99	41	4.5
Jul					
19...	<.006	.024	95	26	.23
Sep					
06...	<.006	.023	99	24	.23

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
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)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
Apr												
12...	1740	600	72.7	102	4.95	2	134	348	21.4	.59	7.28	507
Jun												
27...	1445	450	61.6	72.9	2.89	2	96.3	268	14.4	.45	.84	371
Jul												
19...	1100	440	51.6	75.0	3.60	2	104	217	16.1	.45	.76	423

06108000 TETON RIVER NEAR DUTTON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 4 of 4

Date	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis-solved, tons/d (70302)	Selen-ium, water, unfltrd ug/L (01147)
Apr				
12...	1,060	1.44	294	.86
Jun				
27...	781	1.06	86.4	--
Jul				
19...	805	1.09	7.17	.61

Water-Data Report 2006

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, Hydrologic Unit 10030205, on left bank 25 ft downstream from county bridge, 0.5 mi southwest of Loma, and at river mile 0.3.

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

SURFACE-WATER RECORDS

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

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

REMARKS.--Water-discharge records are good except those for estimated daily discharges, which are poor. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	13	e4.0	e26	e22	e13	64	37	45	13	0.00	0.00
2	0.00	15	e3.0	e30	e20	e10	58	34	56	9.8	0.00	0.00
3	0.00	16	e2.0	e30	e20	e12	55	31	50	7.1	0.00	0.00
4	0.00	14	e2.5	e28	e17	e12	55	33	43	4.1	0.00	0.00
5	0.00	13	e1.5	e26	e22	e14	54	27	40	1.6	0.00	0.00
6	0.00	13	e1.5	e24	e24	e25	67	21	34	1.0	0.00	0.00
7	0.00	13	e1.0	e22	e16	e45	72	19	30	0.41	0.00	0.00
8	0.00	16	e1.5	e20	e20	e50	72	19	33	0.20	0.00	0.00
9	0.00	15	e1.5	e22	e24	e45	91	15	35	0.10	0.00	0.00
10	0.00	15	e1.5	e28	e10	e40	196	18	47	0.04	0.00	0.00
11	0.00	15	e1.5	e25	e13	e33	164	17	55	0.00	0.00	0.00
12	0.00	16	e1.5	e22	e20	e30	135	15	196	0.00	0.00	0.00
13	0.00	16	e2.0	e20	e15	e32	114	13	338	0.00	0.00	0.00
14	0.00	18	e1.5	e24	e10	e34	98	9.7	334	0.00	0.00	0.00
15	0.00	10	e1.5	e30	e8.0	e42	88	9.9	274	0.00	0.00	0.00
16	0.00	11	e1.0	e26	e4.0	e50	83	7.5	214	0.00	0.00	0.00
17	0.00	17	e1.0	e18	e2.5	53	83	4.4	175	0.00	0.00	0.00
18	0.00	17	e1.0	e20	e2.0	56	69	4.0	146	0.00	0.00	0.00
19	0.00	17	e0.90	e17	e2.5	61	59	3.0	130	0.00	0.00	0.00
20	0.00	21	e1.0	e14	e3.0	40	54	3.4	115	0.00	0.00	0.00
21	0.00	21	e1.5	e11	e4.0	41	51	7.5	97	0.00	0.00	0.00
22	0.00	20	e2.5	e10	e6.0	49	48	6.8	85	0.00	0.00	0.00
23	0.00	20	e6.0	e14	e5.0	54	49	4.0	75	0.00	0.00	0.00
24	0.00	20	e8.0	e20	e4.5	58	49	2.9	67	0.00	0.00	0.00
25	1.6	19	e15	e17	e4.0	67	47	1.8	59	0.00	0.00	0.00
26	3.9	20	e30	e20	e5.0	64	45	3.1	48	0.00	0.00	0.00
27	5.3	e22	e28	e18	e8.0	59	44	4.2	43	0.00	0.00	0.00
28	7.0	e20	e24	e14	e18	61	43	9.9	37	0.00	0.00	0.00
29	9.4	e10	e19	e17	---	68	41	19	33	0.00	0.00	0.00
30	11	e5.0	e15	e20	---	77	39	27	24	0.00	0.00	0.00
31	13	---	e18	e25	---	70	---	28	---	0.00	0.00	---
Total	51.20	478.0	199.90	658	329.5	1,365	2,187	455.1	2,958	37.35	0.00	0.00
Mean	1.65	15.9	6.45	21.2	11.8	44.0	72.9	14.7	98.6	1.20	0.00	0.00
Max	13	22	30	30	24	77	196	37	338	13	0.00	0.00
Min	0.00	5.0	0.90	10	2.0	10	39	1.8	24	0.00	0.00	0.00
Ac-ft	102	948	397	1,310	654	2,710	4,340	903	5,870	74	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2006, BY WATER YEAR (WY)

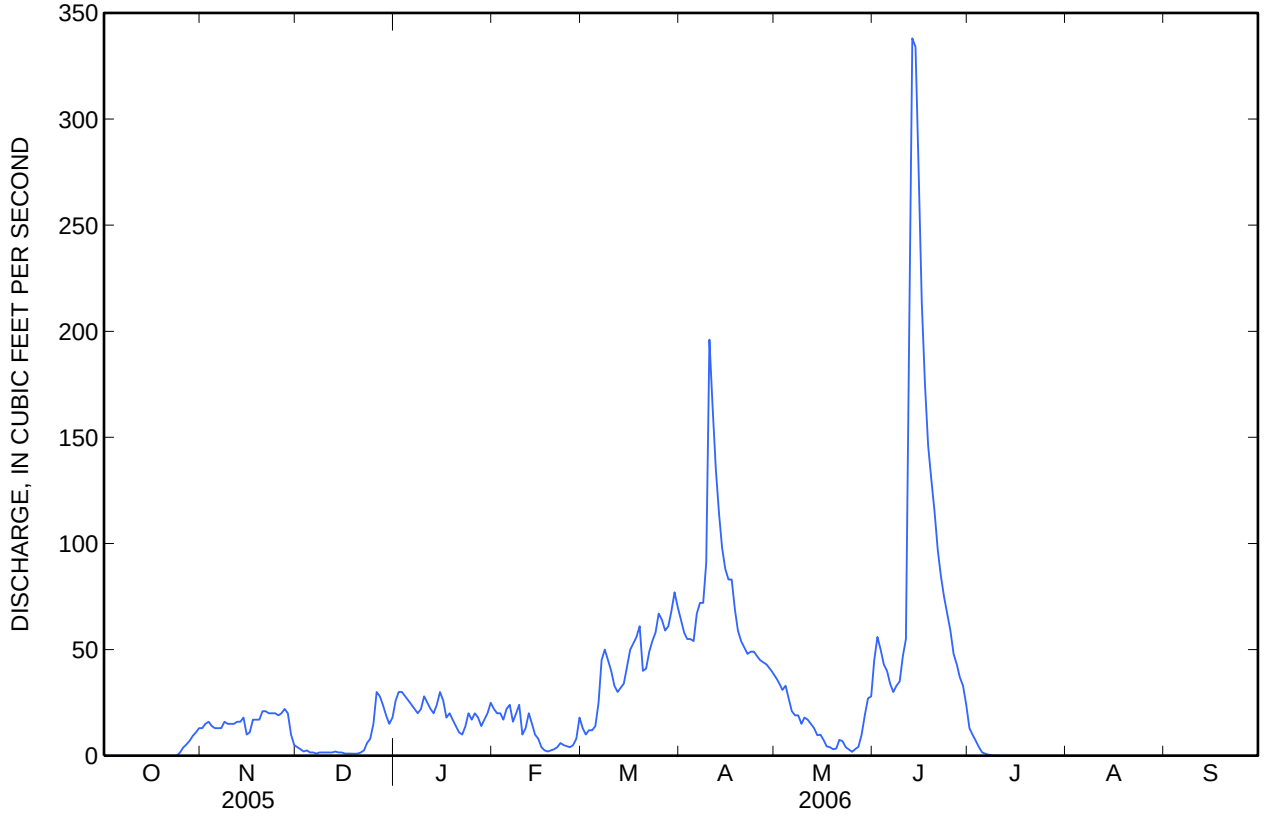
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	13.2	18.6	15.8	15.4	19.8	59.3	62.4	34.9	111	27.1	9.11	6.63
Max	30.6	44.0	39.5	35.0	31.6	109	109	74.8	304	151	62.6	24.8
(WY)	(2003)	(2003)	(2000)	(2000)	(2000)	(2003)	(2003)	(1999)	(2002)	(1998)	(1998)	(1999)
Min	0.00	0.00	0.82	3.24	11.8	20.2	23.5	10.2	4.98	1.20	0.00	0.00
(WY)	(2002)	(2002)	(2002)	(2004)	(2006)	(2002)	(2004)	(2000)	(2001)	(2006)	(2000)	(2000)

06108800 TETON RIVER AT LOMA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1998 - 2006	
Annual total	8,641.67		8,719.05			
Annual mean	23.7		23.9		27.5	
Highest annual mean					42.6	2003
Lowest annual mean					14.3	2004
Highest daily mean	221	Jun 9	338	Jun 13	1,740	Jun 13, 2002
Lowest daily mean	0.00	Jul 20	0.00	Oct 1	0.00	Jul 30, 1999
Annual seven-day minimum	0.00	Jul 20	0.00	Oct 1	0.00	Jul 30, 1999
Maximum peak flow			399	Jun 14	[a]2,000	Jun 13, 2002
Maximum peak stage			3.31	Jun 14	[b]6.98	Mar 16, 2003
Annual runoff (ac-ft)	17,140		17,290		19,950	
10 percent exceeds	51		59		62	
50 percent exceeds	16		12		15	
90 percent exceeds	0.00		0.00		0.00	

[a] Gage height, 5.87 ft.
[b] Backwater from ice, from floodmarks.



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.

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

REMARKS.--Daily water temperature record is rated good during period of flow (Oct. 25 to July 10). Several unpublished observations of specific conductance and water temperature were made during the year.

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

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 33.0°C, July 5; minimum, 0.0°C on many days November through March.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat, unftrd mg/L (62855)
Jan										
10...	1000	28	8.4	994	7.5	0.0	E.006	.265	.002	.46
Mar										
07...	1530	41	8.5	922	8.5	0.0	<.010	.339	.002	.52
Apr										
13...	1050	112	8.7	1,400	13.0	10.0	<.010	.061	.003	1.24
May										
04...	1400	33	8.6	1,290	11.0	14.0	<.010	.019	<.002	.31
24...	1700	2.8	8.5	1,540	27.0	27.0	.010	<.016	E.002	.32
Jun										
27...	1740	44	8.6	1,360	31.5	31.0	E.006	<.016	<.002	.49

06108800 TETON RIVER AT LOMA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 4

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

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Jan					
10...	<.006	.013	89	55	4.2
Mar					
07...	<.006	.039	96	60	6.6
Apr					
13...	<.006	.190	99	290	88
May					
04...	<.006	.015	85	42	3.7
24...	E.004	.033	99	71	.53
Jun					
27...	<.006	.047	99	62	7.4

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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										
13...	1050	570	74.3	92.6	5.92	2	121	345	17.8	.59
Jun										
27...	1740	510	63.0	84.4	4.43	2	117	275	17.0	.49

06108800 TETON RIVER AT LOMA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 4 of 4

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis-solved, tons/d (70302)	Selen-ium, water, unfltrd ug/L (01147)
Apr						
13...	8.80	432	961	1.31	290	1.1
Jun						
27...	4.72	456	912	1.24	108	--

06108800 TETON RIVER AT LOMA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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

06108800 TETON RIVER AT LOMA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	2.5	0.0	1.0	0.0	0.0	0.0	16.0	7.5	11.5	19.5	10.5	14.5
2	1.0	0.0	0.0	0.0	0.0	0.0	11.0	8.5	10.0	14.0	8.5	11.0
3	2.0	0.0	0.5	0.0	0.0	0.0	14.5	5.5	9.5	11.0	6.5	8.5
4	1.5	0.0	0.5	0.0	0.0	0.0	11.5	9.0	10.5	18.5	7.0	12.0
5	2.5	0.0	1.0	0.0	0.0	0.0	11.0	8.5	9.5	21.5	8.0	14.5
6	1.5	0.0	0.5	0.0	0.0	0.0	10.0	8.0	9.0	20.0	10.5	15.5
7	1.5	0.0	0.5	0.0	0.0	0.0	13.0	7.0	9.5	17.5	11.0	14.0
8	3.5	0.0	1.5	0.0	0.0	0.0	16.0	9.0	12.5	15.5	8.5	11.5
9	3.0	0.0	1.0	0.0	0.0	0.0	16.0	10.0	13.0	15.0	7.0	10.5
10	0.5	0.0	0.0	0.0	0.0	0.0	13.5	9.0	11.5	18.0	9.0	13.0
11	0.5	0.0	0.0	0.0	0.0	0.0	14.0	8.0	11.0	22.0	10.0	15.5
12	1.0	0.0	0.0	0.0	0.0	0.0	15.0	7.5	11.5	22.0	13.0	17.0
13	0.5	0.0	0.0	0.0	0.0	0.0	13.0	10.0	11.0	22.5	9.5	16.0
14	2.5	0.0	0.5	0.5	0.0	0.0	15.5	8.0	11.5	25.0	11.5	18.0
15	0.5	0.0	0.0	0.5	0.0	0.0	16.0	9.5	12.5	26.5	12.5	19.5
16	0.0	0.0	0.0	1.0	0.0	0.0	15.0	11.0	12.5	28.5	14.0	21.0
17	0.0	0.0	0.0	4.0	0.0	1.5	11.0	8.0	9.0	30.0	15.0	22.5
18	0.0	0.0	0.0	5.0	0.5	2.5	14.0	5.5	9.5	28.5	16.0	22.5
19	0.5	0.0	0.0	2.0	0.5	1.0	17.0	6.0	11.0	26.5	17.5	21.5
20	0.5	0.0	0.0	6.0	0.0	2.5	19.0	8.0	13.0	25.5	16.0	20.5
21	0.5	0.0	0.0	7.5	0.0	3.5	20.5	10.5	15.0	28.5	15.0	21.0
22	0.0	0.0	0.0	8.5	0.5	4.0	19.0	12.0	15.0	25.5	16.0	21.0
23	0.0	0.0	0.0	10.0	1.5	5.5	13.5	8.5	11.0	25.5	16.0	20.0
24	0.0	0.0	0.0	9.0	3.5	6.5	15.5	6.0	10.5	26.5	13.0	19.5
25	0.0	0.0	0.0	9.5	4.0	6.5	18.5	7.0	12.5	27.0	16.0	21.0
26	0.0	0.0	0.0	9.0	5.5	7.0	18.0	10.0	13.5	23.5	14.5	18.5
27	0.5	0.0	0.0	11.0	2.5	6.5	17.0	10.0	13.0	17.5	11.5	13.5
28	0.0	0.0	0.0	10.0	4.0	7.0	21.0	9.0	15.0	17.5	11.0	13.5
29	---	---	---	10.5	7.0	8.5	23.5	11.5	17.0	17.5	11.5	14.0
30	---	---	---	11.0	6.0	8.0	18.0	13.0	15.0	23.0	10.5	16.5
31	---	---	---	12.5	5.5	9.0	---	---	---	26.0	13.5	19.5
Month	3.5	0.0	0.0	12.5	0.0	2.5	23.5	5.5	12.0	30.0	6.5	16.5

06108800 TETON RIVER AT LOMA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	27.0	16.0	21.0	31.0	20.0	25.0						
2	27.5	18.5	22.5	32.0	19.5	25.0						
3	26.0	19.0	22.0	27.5	20.0	24.0						
4	26.5	16.5	20.5	32.0	19.0	25.0						
5	25.5	15.0	20.0	33.0	20.0	25.5						
6	28.0	16.5	22.0	32.0	21.0	26.0						
7	24.5	17.5	21.0	28.5	20.5	24.5						
8	21.5	18.0	20.0	30.0	18.5	24.5						
9	24.5	17.0	20.0	31.0	20.5	25.5						
10	19.0	16.0	17.0									
11	23.0	13.5	18.5									
12	22.0	18.0	20.0									
13	24.0	18.0	20.5									
14	22.0	19.5	21.0									
15	20.0	17.0	18.5									
16	20.0	15.0	17.0									
17	21.0	15.0	18.0									
18	24.5	15.0	19.5									
19	21.5	17.5	18.5									
20	22.0	15.5	18.5									
21	25.0	15.5	20.0									
22	26.5	18.0	22.0									
23	27.0	18.0	22.0									
24	28.0	17.5	22.5									
25	29.0	18.5	23.0									
26	29.5	19.0	24.0									
27	31.0	19.5	25.5									
28	31.5	21.0	26.0									
29	29.5	22.0	25.5									
30	29.5	22.0	25.0									
31	---	---	---									
Month	31.5	13.5	21.0									

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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,470	5,600	5,330	e5,890	5,580	e6,520	6,640	9,570	9,390	6,210	5,790	5,200
2	5,470	5,510	5,590	e5,920	5,360	e7,260	6,400	9,820	8,420	5,900	5,330	5,060
3	5,520	5,770	5,190	5,780	5,340	e7,060	6,550	9,970	8,090	5,850	5,720	4,920
4	5,630	5,610	4,650	5,600	5,280	e6,210	6,330	9,930	8,770	5,760	5,640	5,040
5	5,680	5,590	5,080	5,560	5,440	e6,150	6,840	9,920	9,760	5,520	5,760	5,110
6	5,770	5,450	e5,000	5,500	5,420	e6,110	6,960	9,820	9,630	5,870	5,270	5,130
7	5,770	5,500	e5,070	5,510	5,140	e6,180	8,140	9,540	9,250	5,700	5,520	5,040
8	5,760	5,560	e4,880	5,530	5,250	5,660	11,600	9,380	8,950	5,640	5,880	5,030
9	5,570	5,710	e4,820	5,430	5,550	5,530	11,600	9,340	8,720	5,720	5,610	5,020
10	5,680	5,610	e4,790	5,300	5,750	5,740	10,200	9,250	9,280	5,940	5,390	4,780
11	5,470	5,560	e5,670	5,400	5,950	5,460	9,570	9,390	14,200	5,800	5,340	4,950
12	5,480	5,570	e6,120	5,590	5,320	5,390	9,180	9,240	20,900	5,750	4,890	5,000
13	5,480	5,580	e6,440	5,520	5,760	5,260	8,840	9,080	20,800	5,770	5,100	4,920
14	5,570	5,400	e6,300	5,390	6,180	5,280	8,550	9,040	18,900	5,670	5,240	4,830
15	5,510	5,350	e6,080	5,500	5,530	5,590	8,730	9,160	18,300	5,460	5,130	4,790
16	5,620	5,370	e5,830	5,580	5,540	5,630	9,220	9,270	17,700	5,470	5,130	4,910
17	5,670	5,360	e5,630	5,500	e5,040	6,020	9,780	9,490	16,600	5,490	5,160	5,220
18	5,570	5,550	e5,280	5,220	e3,780	6,190	9,980	9,780	14,700	5,530	5,220	5,310
19	5,470	5,530	e5,020	5,330	e3,530	6,020	9,750	10,800	13,200	5,410	5,280	5,470
20	5,620	5,350	e5,050	5,380	e4,590	5,960	9,600	12,000	12,200	5,250	5,160	5,450
21	5,570	5,530	e5,290	5,220	e5,060	5,880	9,130	12,200	10,300	5,360	5,330	5,380
22	5,610	5,480	e5,630	5,160	e5,910	5,820	9,280	12,100	9,670	5,290	5,190	5,300
23	5,730	5,490	e6,720	5,120	e6,880	6,250	9,400	11,700	9,030	5,320	5,110	5,220
24	5,650	5,850	e6,900	5,430	e7,520	5,990	9,310	10,900	7,300	5,690	5,130	5,420
25	5,690	5,860	e7,030	5,790	e7,660	6,190	9,260	9,190	7,130	5,600	5,080	5,530
26	5,790	5,820	e6,530	5,600	e7,170	6,340	9,570	10,900	7,030	5,720	5,120	5,610
27	5,790	6,030	e6,320	5,430	e6,670	6,430	9,640	10,400	6,760	5,770	5,240	5,380
28	5,970	5,880	e6,110	5,000	e6,730	6,340	9,510	11,100	6,630	5,750	5,330	5,350
29	5,910	5,750	e5,930	5,100	---	6,450	9,240	11,700	6,360	5,900	5,240	5,310
30	5,690	5,510	e5,890	5,210	---	6,650	9,430	10,700	6,380	5,490	5,160	5,200
31	5,630	---	e5,850	5,450	---	6,600	---	9,900	---	5,710	5,250	---
Total	174,810	167,730	176,020	168,940	158,930	188,160	268,230	314,580	334,350	175,310	164,740	154,880
Mean	5,639	5,591	5,678	5,450	5,676	6,070	8,941	10,150	11,140	5,655	5,314	5,163
Max	5,970	6,030	7,030	5,920	7,660	7,260	11,600	12,200	20,900	6,210	5,880	5,610
Min	5,470	5,350	4,650	5,000	3,530	5,260	6,330	9,040	6,360	5,250	4,890	4,780
Ac-ft	346,700	332,700	349,100	335,100	315,200	373,200	532,000	624,000	663,200	347,700	326,800	307,200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2006, BY WATER YEAR (WY)

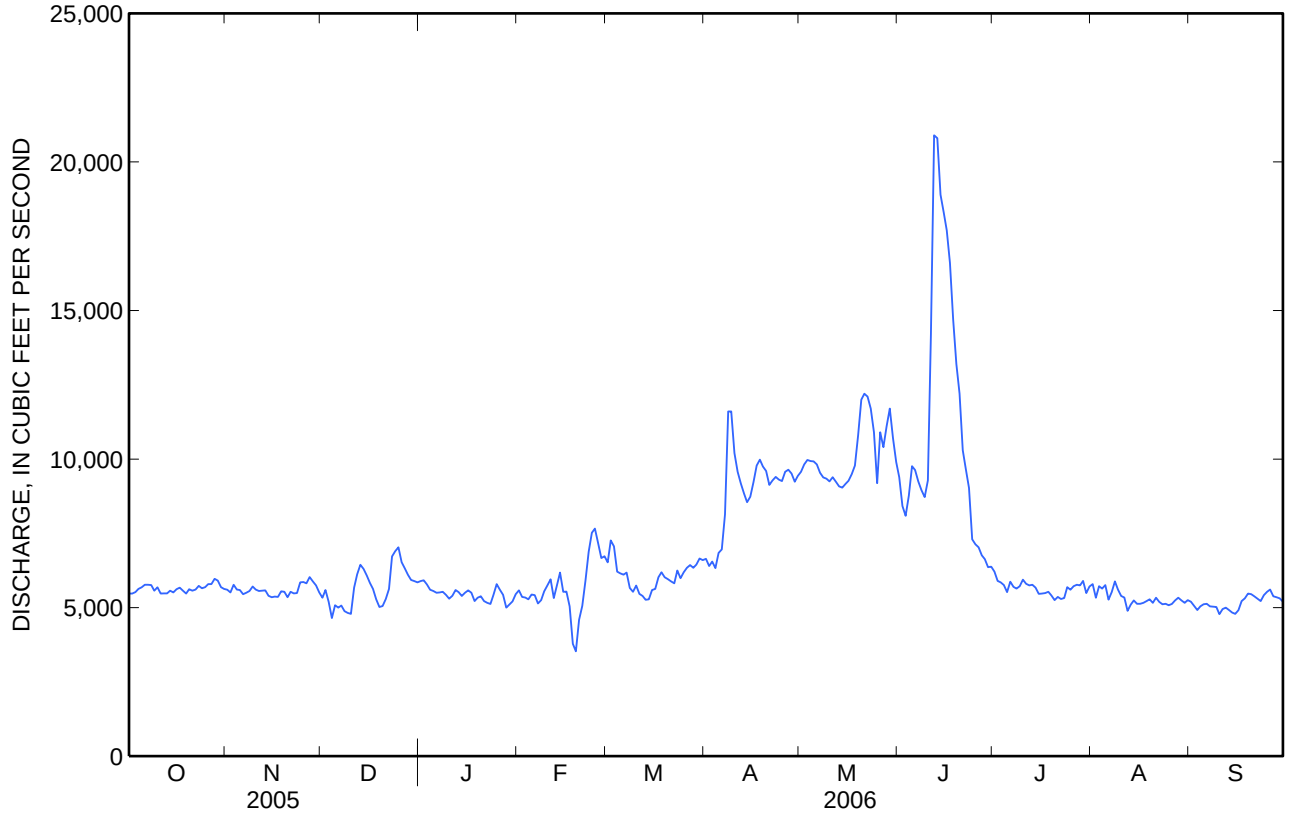
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,105	6,278	6,206	6,208	6,523	7,261	8,577	13,120	17,520	9,592	6,099	5,793
Max	15,340	12,470	12,220	8,997	10,240	14,490	17,720	28,260	51,960	29,670	11,950	11,590
(WY)	(1966)	(1966)	(1960)	(1976)	(1971)	(1978)	(1943)	(1976)	(1948)	(1975)	(1993)	(1965)
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 2005		Water Year 2006		Water Years 1935 - 2006	
Annual total	2,247,190		2,446,680			
Annual mean	6,157		6,703		8,299	
Highest annual mean					13,660	1975
Lowest annual mean					4,152	1937
Highest daily mean	17,000	Jun 5	20,900	Jun 12	119,000	Jun 5, 1953
Lowest daily mean	3,850	Jan 3	3,530	Feb 19	638	Jul 5, 1936
Annual seven-day minimum	4,270	Jan 1	4,720	Feb 15	2,020	Feb 2, 1937
Maximum peak flow			[a]21,700	Jun 12	[c]122,000	Jun 5, 1953
Maximum peak stage			[b]9.31	Mar 5	[d]23.40	Jun 5, 1953
Annual runoff (ac-ft)	4,457,000		4,853,000		6,012,000	
10 percent exceeds	9,600		9,700		14,300	
50 percent exceeds	5,520		5,680		6,620	
90 percent exceeds	4,610		5,130		4,250	

[a] Gage height, 7.98 ft.
[b] Backwater from ice.
[c] From rating curve for former site at Loma, extended above 66,000 ft³/s.
[d] From floodmark.



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, 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 mi^2.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,490 ft, referenced to 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	254	286	e280	e300	e330	e250	486	619	626	242	171	189
2	259	286	e200	e300	e330	e230	508	630	561	235	185	198
3	284	306	e240	e300	e330	e290	615	654	509	221	183	195
4	297	304	e240	e300	e330	e300	575	647	485	216	176	190
5	317	291	e220	e300	e330	e250	561	624	491	216	171	187
6	302	287	e220	e300	e330	e250	697	601	460	201	173	186
7	287	284	e220	e300	e300	e500	1,330	579	430	196	177	187
8	277	297	e270	e320	e330	448	1,470	564	417	180	151	186
9	302	299	e280	e320	e330	421	1,040	556	441	161	147	185
10	301	289	e280	e320	e310	383	887	574	517	170	142	183
11	286	293	e280	e330	e330	336	820	577	628	153	146	184
12	279	291	e280	e330	e340	313	744	567	786	150	143	185
13	276	285	e280	e330	e340	293	687	528	718	164	150	185
14	269	293	e280	e330	e340	285	653	487	686	141	158	185
15	269	290	e260	e330	e320	283	631	462	765	128	153	191
16	267	287	e260	e310	e300	289	622	465	722	131	134	219
17	265	293	e260	e310	e250	289	774	471	633	140	174	276
18	264	299	e260	e330	e300	299	909	507	580	125	179	280
19	268	294	e260	e330	e340	312	856	549	546	145	187	264
20	276	295	e280	e310	e340	309	797	581	524	148	180	251
21	287	296	e280	e300	e340	293	781	613	495	147	174	260
22	281	295	e300	e290	e350	296	742	645	461	140	176	269
23	281	294	e300	e310	e360	291	805	646	438	144	176	270
24	278	291	e300	e340	e330	315	764	618	417	145	185	271
25	278	291	e300	e330	e330	368	759	575	387	150	192	266
26	278	e290	e300	e330	e330	417	745	555	348	169	200	265
27	281	e280	e300	e330	e360	447	723	607	319	187	200	262
28	283	e230	e300	e330	e360	459	695	790	294	182	190	262
29	304	e230	e300	e330	---	422	663	871	253	162	180	259
30	295	e280	e300	e330	---	457	633	784	253	163	181	258
31	287	---	e300	e330	---	504	---	706	---	157	184	---
Total	8,732	8,626	8,430	9,850	9,210	10,599	22,972	18,652	15,190	5,209	5,318	6,748
Mean	282	288	272	318	329	342	766	602	506	168	172	225
Max	317	306	300	340	360	504	1,470	871	786	242	200	280
Min	254	230	200	290	250	230	486	462	253	125	134	183
Ac-ft	17,320	17,110	16,720	19,540	18,270	21,020	45,560	37,000	30,130	10,330	10,550	13,380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2006, BY WATER YEAR (WY)

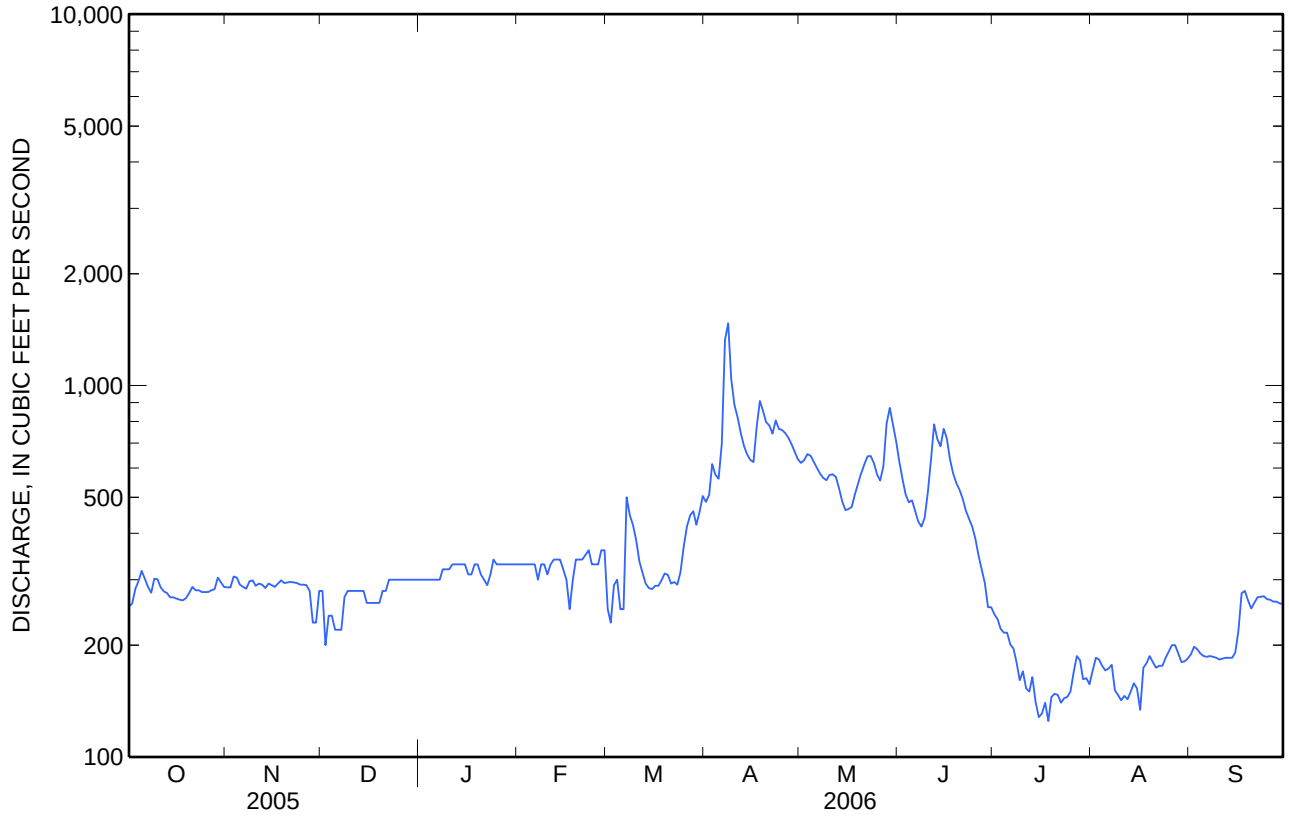
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	251	261	239	250	263	426	388	367	491	192	173	208
Max	282	288	272	318	329	867	766	602	823	245	236	225
(WY)	(2006)	(2006)	(2006)	(2006)	(2006)	(2003)	(2006)	(2006)	(2005)	(2005)	(2002)	(2006)
Min	229	239	223	192	217	267	269	157	318	112	143	192
(WY)	(2004)	(2004)	(2001)	(2004)	(2005)	(2005)	(2004)	(2001)	(2001)	(2003)	(2003)	(2003)

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

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2001 - 2006	
Annual total	111,501		129,536			
Annual mean	305		355		292	
Highest annual mean					355	2006
Lowest annual mean					243	2001
Highest daily mean	1,400	Jun 14	1,470	Apr 8	6,860	Mar 14, 2003
Lowest daily mean	99	Aug 6	125	Jul 18	58	Jul 24, 2003
Annual seven-day minimum	113	Aug 2	137	Jul 14	64	Jul 19, 2003
Maximum peak flow			[a]1,870	Apr 7	[d]7,600	Mar 14, 2003
Maximum peak stage			[b]8.51	Mar 1	[e]11.00	Mar 13, 2003
Instantaneous low flow			[c]118	Jul 18	[f]54	Jul 24, 2003
Annual runoff (ac-ft)	221,200		256,900		211,600	
10 percent exceeds	467		633		437	
50 percent exceeds	269		297		254	
90 percent exceeds	182		176		159	

[a] Gage height, 4.84 ft.
[b] Backwater from ice.
[c] Gage height, 2.56 ft.
[d] Gage height, 9.06 ft.
[e] From floodmarks, backwater from ice.
[f] Gage height, 2.26 ft.



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 good. 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, on July 23 and 25; minimum, 0.0°C, Mar. 1-6.

TEMPERATURE, WATER, DEGREES CELSIUS
SEASON MARCH 2005 TO SEPTEMBER 2006

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

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

TEMPERATURE, WATER, DEGREES CELSIUS
SEASON MARCH 2005 TO SEPTEMBER 2006

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

Water-Data Report 2006

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, 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 mi^2, area at site used prior to Dec. 13, 1968, 40,763 mi^2.

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 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 locaed at the station.

06115200 MISSOURI RIVER NEAR LANDUSKY, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,510	5,580	5,810	e6,000	e5,500	e6,800	7,380	9,570	10,500	6,880	5,840	5,350
2	5,540	5,620	e5,200	e6,000	e5,600	e6,700	7,170	9,740	10,000	6,810	6,080	5,370
3	5,710	5,700	e5,600	e6,000	e5,800	e6,600	7,170	9,860	9,190	6,560	5,760	5,180
4	5,990	5,710	e5,400	e6,000	e5,600	e7,300	7,180	10,100	8,630	6,370	5,720	5,050
5	6,130	5,670	e4,800	e6,000	e5,600	e6,700	7,250	10,000	9,100	6,480	5,910	5,100
6	5,930	5,550	e4,800	e5,900	e5,600	e6,300	e7,800	10,100	9,820	5,960	e5,700	5,180
7	5,790	5,580	e5,000	e5,800	e5,700	e6,200	8,420	10,000	9,980	6,230	5,390	5,330
8	5,910	5,420	e5,000	e5,800	e5,500	e6,300	9,370	9,700	9,680	6,060	5,490	5,090
9	5,860	5,620	e5,000	e5,800	e5,400	e6,200	12,200	9,490	9,420	5,930	5,920	5,130
10	5,870	5,680	e4,900	e5,800	e5,600	e6,000	12,500	9,500	9,610	6,090	5,780	5,160
11	5,630	5,650	e4,800	e5,700	e5,800	e6,000	11,100	9,330	10,100	6,160	5,550	4,860
12	5,820	5,540	e4,900	e5,600	e6,100	e5,800	10,300	9,550	13,600	6,230	5,450	5,020
13	5,450	5,530	e5,700	e5,700	e5,800	e5,700	9,920	9,420	20,500	6,110	4,960	5,110
14	5,600	5,530	e6,100	e5,900	e5,600	e5,600	9,410	9,220	20,900	6,100	5,110	5,010
15	5,620	5,540	e6,400	e5,700	e6,100	e5,500	9,590	9,210	19,300	5,930	5,270	5,060
16	5,570	5,430	e6,300	e5,700	e6,000	e5,500	9,580	9,310	18,600	5,870	5,240	5,010
17	5,620	5,400	e6,100	e5,800	e5,800	e5,800	10,600	9,480	18,000	5,730	5,320	5,000
18	5,670	5,400	e5,800	e5,800	e5,400	e5,900	11,200	9,670	17,000	5,870	5,350	5,400
19	5,660	5,470	e5,500	e5,600	e4,200	e6,200	11,400	9,980	15,300	5,860	5,370	5,540
20	5,600	5,520	e5,200	e5,500	e3,900	e6,400	10,700	10,700	13,800	5,830	5,380	5,560
21	5,610	5,560	e5,000	e5,600	e3,600	e6,300	10,800	12,100	12,700	5,550	5,280	5,660
22	5,670	5,350	e5,200	e5,600	e4,700	6,810	10,500	12,300	11,300	5,540	5,270	5,540
23	5,620	5,640	e5,300	e5,500	e5,200	6,900	10,700	12,500	10,300	5,590	5,430	5,500
24	5,670	5,440	e5,600	e5,400	e5,700	7,420	10,600	11,600	10,100	5,720	5,080	5,360
25	5,700	5,670	e6,700	e5,400	e7,000	7,470	10,300	11,400	8,440	5,840	5,220	5,530
26	5,720	5,920	e7,000	e5,700	e7,600	7,360	9,760	9,800	7,930	6,210	5,130	5,630
27	5,770	5,920	e6,700	e6,000	e7,600	7,280	9,910	11,000	7,760	5,980	5,230	5,730
28	5,870	6,080	e6,400	e5,800	e7,000	7,100	9,990	11,300	7,620	6,220	5,290	5,530
29	5,940	5,980	e6,200	e5,500	---	7,180	9,880	11,300	7,360	6,210	5,360	5,460
30	5,910	5,860	e6,000	e5,200	---	7,260	9,660	12,300	6,960	6,250	5,370	5,390
31	5,830	---	e6,000	e5,400	---	7,300	---	11,400	---	5,850	5,250	---
Total	177,790	168,560	174,410	177,200	159,000	201,880	292,340	320,930	353,500	188,020	168,500	158,840
Mean	5,735	5,619	5,626	5,716	5,679	6,512	9,745	10,350	11,780	6,065	5,435	5,295
Max	6,130	6,080	7,000	6,000	7,600	7,470	12,500	12,500	20,900	6,880	6,080	5,730
Min	5,450	5,350	4,800	5,200	3,600	5,500	7,170	9,210	6,960	5,540	4,960	4,860
Ac-ft	352,600	334,300	345,900	351,500	315,400	400,400	579,900	636,600	701,200	372,900	334,200	315,100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2006, BY WATER YEAR (WY)

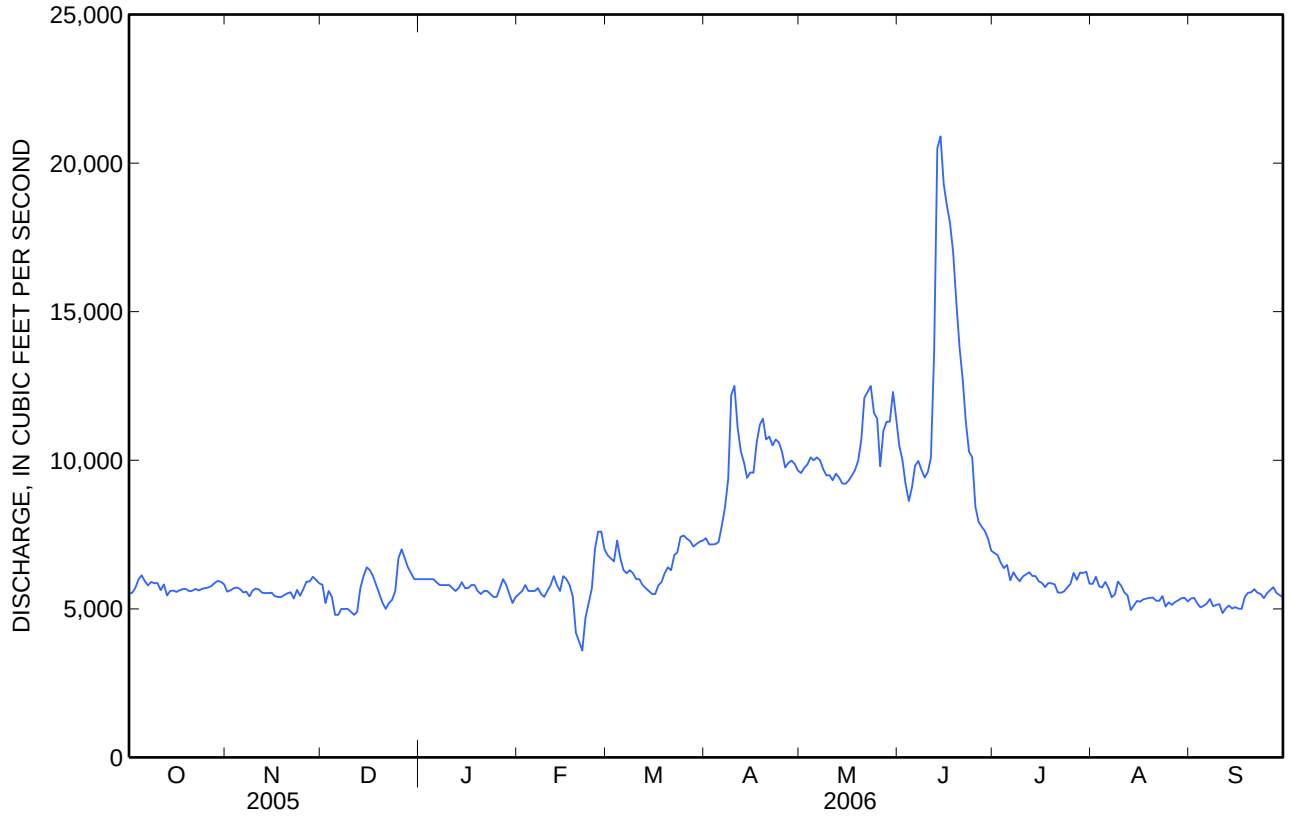
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,460	6,664	6,551	6,556	7,048	8,411	9,415	13,970	19,020	10,510	6,508	6,143
Max	16,480	13,920	13,180	10,840	11,380	19,700	19,240	30,510	55,270	33,590	12,620	12,310
(WY)	(1966)	(1966)	(1960)	(1979)	(1965)	(1978)	(1952)	(1975)	(1948)	(1975)	(1975)	(1965)
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 2005		Water Year 2006		Water Years 1934 - 2006	
Annual total	2,263,220		2,540,970			
Annual mean	6,201		6,962		8,960	
Highest annual mean					15,280	1975
Lowest annual mean					4,438	1937
Highest daily mean	17,000	Jun 6	20,900	Jun 14	136,000	Jun 6, 1953
Lowest daily mean	4,000	Jan 4	3,600	Feb 21	1,220	Dec 13, 1936
Annual seven-day minimum	4,460	Jan 2	4,670	Feb 18	1,620	Dec 9, 1936
Maximum peak flow			[a]22,200	Jun 13	[c]137,000	Jun 3, 1953
Maximum peak stage			[b]25.00	Feb 24	[b]34.17	Mar 22, 1978
Annual runoff (ac-ft)	4,489,000		5,040,000		6,491,000	
10 percent exceeds	9,490		10,300		15,700	
50 percent exceeds	5,540		5,850		7,200	
90 percent exceeds	4,740		5,210		4,430	

[a] Gage height, 21.07 ft.
[b] Backwater from ice.
[c] Gage height, 22.20 ft, from graph based on gage readings, site and datum then in use.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1979 to September 1981.
WATER TEMPERATURE: March to September 1979, October 2004 to September 2005.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1991, October 1991 to September 2006 (seasonal records only, March through November), discontinued.

REMARKS.--Daily sediment records rated good for most of the seasonal period; rated fair to poor for several short-duration runoff events. Daily sediment data not available from Dec. 1 to Mar. 22 due to ice cover. Prior to July 1972, sampling and record computations were under supervision of Corps of Engineers, U.S. Army. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1979-81): Maximum daily, 1,240 microsiemens per centimeter (µS/cm), June 20, 1979; minimumdaily, 410 µS/cm, July 3, 1980.
WATER TEMPERATURE: Maximum, 27.0°C, on Aug. 1, 2005; minimum, 0.05°C, on many days during winter period.
SEDIMENT CONCENTRATION: Maximum daily mean, 27,400 mg/L, June 22, 1976; minimum daily mean, 2 mg/L, Dec. 21, 1983.
SEDIMENT LOAD: Maximum daily, 1,680,000 tons, June 22, 1976; minimum daily, 33 tons, Dec. 21, 1983.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: During period of collection, maximum daily mean, 5,900 mg/L, Apr. 7; minimum daily mean, 43 mg/L, Sept. 8 and 9.
SEDIMENT LOAD: During period of seasonal collection, maximum daily, 134,000 tons, Apr. 7; minimum daily, 590 tons, Sept. 11.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 1 of 2

Date	Time	Instantaneous discharge, cfs (00061)	Specif. conductance, wat unf uS/cm 25 degC (00095)	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							
12...	1030	5,920	470	11.0	41	108	1,730
Apr							
04...	1445	7,110	540	10.0	57	310	5,950
Jun							
01...	1000	10,600	463	16.5	57	356	10,200
14...	1000	21,400	558	19.5	65	985	56,900
Jul							
31...	1230	5,860	405	24.0	77	73	1,160
Sep							
27...	1152	5,750	382	14.5	55	57	885

06115200 MISSOURI RIVER NEAR LANDUSKY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 2 of 2
[Remark codes: <, less than.]

Date	Bed sediment, dry svd sve dia percent <.063mm (80164)	Bed sediment, dry svd sve dia percent <.125mm (80165)	Bed sediment, dry svd sve dia percent <.25mm (80166)	Bed sediment, dry svd sve dia percent <.5 mm (80167)	Bed sediment, dry svd sve dia percent <1 mm (80168)	Bed sediment, dry svd sve dia percent <2 mm (80169)	Bed sediment, dry svd sve dia percent <4 mm (80170)	Bed sediment, dry svd sve dia percent <8 mm (80171)	Bed sediment, dry svd sve dia percent <16 mm (80172)	Bed sediment, dry svd sve dia percent <32 mm (80173)
Apr										
04...	1	5	9	44	75	83	88	95	98	100
Jun										
01...	<1	1	15	74	90	93	96	99	99	100
14...	<1	3	51	94	100	--	--	--	--	--
Jul										
31...	1	6	42	69	80	86	90	95	100	--
Sep										
27...	<1	<1	42	87	99	100	--	--	--	--

06115200 MISSOURI RIVER NEAR LANDUSKY, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)
	October		November		December		January		February		March	
1	141	2,100	101	1,520	---	---	---	---	---	---	---	---
2	139	2,080	118	1,790	---	---	---	---	---	---	---	---
3	160	2,470	129	1,990	---	---	---	---	---	---	---	---
4	920	14,900	131	2,020	---	---	---	---	---	---	---	---
5	1,060	17,500	118	1,810	---	---	---	---	---	---	---	---
6	1,090	17,500	104	1,560	---	---	---	---	---	---	---	---
7	690	10,800	88	1,330	---	---	---	---	---	---	---	---
8	465	7,420	75	1,100	---	---	---	---	---	---	---	---
9	170	2,690	67	1,020	---	---	---	---	---	---	---	---
10	170	2,690	59	905	---	---	---	---	---	---	---	---
11	95	1,440	56	854	---	---	---	---	---	---	---	---
12	100	1,570	60	897	---	---	---	---	---	---	---	---
13	105	1,550	68	1,020	---	---	---	---	---	---	---	---
14	107	1,620	80	1,190	---	---	---	---	---	---	---	---
15	108	1,640	92	1,380	---	---	---	---	---	---	---	---
16	108	1,620	100	1,470	---	---	---	---	---	---	---	---
17	110	1,670	107	1,560	---	---	---	---	---	---	---	---
18	110	1,680	110	1,600	---	---	---	---	---	---	---	---
19	108	1,650	108	1,600	---	---	---	---	---	---	---	---
20	104	1,570	107	1,590	---	---	---	---	---	---	---	---
21	98	1,480	105	1,580	---	---	---	---	---	---	---	---
22	92	1,410	103	1,490	---	---	---	---	---	---	---	---
23	87	1,320	102	1,550	---	---	---	---	---	---	250	4,660
24	84	1,290	103	1,510	---	---	---	---	---	---	1,400	28,000
25	86	1,320	103	1,580	---	---	---	---	---	---	2,990	60,300
26	94	1,450	104	1,660	---	---	---	---	---	---	2,900	57,600
27	104	1,620	104	1,660	---	---	---	---	---	---	1,420	27,900
28	110	1,740	104	1,710	---	---	---	---	---	---	750	14,400
29	110	1,760	105	1,700	---	---	---	---	---	---	610	11,800
30	102	1,630	105	1,660	---	---	---	---	---	---	915	17,900
31	94	1,480	---	---	---	---	---	---	---	---	640	12,600
Total	---	112,660	---	44,306	---	---	---	---	---	---	---	---

06115200 MISSOURI RIVER NEAR LANDUSKY, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)	Mean concen-tration (mg/l)	Sediment discharge (tons/day)
	April		May		June		July		August		September	
1	430	8,570	390	10,100	356	10,100	142	2,640	70	1,100	55	794
2	380	7,360	400	10,500	265	7,160	142	2,610	74	1,210	56	812
3	290	5,610	422	11,200	220	5,460	141	2,500	73	1,140	56	783
4	330	6,400	277	7,550	185	4,310	128	2,200	68	1,050	55	750
5	310	6,070	349	9,420	218	5,360	100	1,750	68	1,090	53	730
6	1,600	33,700	302	8,240	269	7,130	84	1,350	68	1,050	49	685
7	5,900	134,000	286	7,720	278	7,490	90	1,510	67	975	45	648
8	3,200	81,000	278	7,280	258	6,740	96	1,570	67	993	43	591
9	2,390	78,700	313	8,020	240	6,100	99	1,590	73	1,170	43	596
10	1,690	57,000	333	8,540	245	6,360	98	1,610	66	1,030	44	613
11	915	27,400	298	7,510	296	8,070	90	1,500	59	884	45	590
12	680	18,900	275	7,090	1,060	38,900	82	1,380	63	927	46	623
13	640	17,100	295	7,500	1,750	96,900	75	1,240	55	737	48	662
14	590	15,000	316	7,870	1,020	57,600	72	1,190	56	773	49	663
15	510	13,200	306	7,610	820	42,700	73	1,170	58	825	49	669
16	510	13,200	266	6,690	920	46,200	76	1,200	60	849	50	676
17	1,600	45,800	238	6,090	790	38,400	80	1,240	48	689	77	1,040
18	1,410	42,600	242	6,320	630	28,900	83	1,320	55	794	265	3,860
19	820	25,200	285	7,680	500	20,700	84	1,330	64	928	233	3,490
20	630	18,200	460	13,300	435	16,200	79	1,240	67	973	150	2,250
21	490	14,300	621	20,300	426	14,600	70	1,050	92	1,310	125	1,910
22	460	13,000	664	22,100	292	8,910	62	927	85	1,210	59	883
23	780	22,500	375	12,700	215	5,980	59	890	78	1,140	58	861
24	1,490	42,600	262	8,210	236	6,440	65	1,000	69	946	58	839
25	650	18,100	382	11,800	163	3,710	78	1,230	66	930	58	866
26	440	11,600	338	8,940	140	3,000	75	1,260	64	886	59	897
27	379	10,100	550	16,300	138	2,890	82	1,320	64	904	60	928
28	409	11,000	2,010	61,300	142	2,920	127	2,130	62	886	73	1,090
29	349	9,310	1,050	32,000	142	2,820	92	1,540	60	868	78	1,150
30	368	9,600	1,210	40,200	142	2,670	77	1,300	57	826	78	1,140
31	---	---	670	20,600	---	---	77	1,220	55	780	---	---
Total	---	817,120	---	420,680	---	514,720	---	46,007	---	29,873	---	32,089

Water-Data Report 2006

06119600 MUSSELSHELL RIVER NEAR MARTINSDALE, MT

Upper Missouri 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 mi^2.

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. 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				33	129	151	67	15	9.4	12		
2				32	194	117	58	17	8.4	12		
3				31	185	94	56	14	8.6	14		
4				30	164	93	76	13	8.4	16		
5				31	148	111	69	13	8.8	17		
6				218	137	93	63	13	7.3	17		
7				505	134	78	53	15	8.6	25		
8				216	169	103	46	16	4.6	34		
9				193	228	122	40	16	8.8	31		
10				194	222	305	38	16	9.8	29		
11				154	201	335	39	15	9.7	29		
12				133	188	225	44	15	9.6	28		
13				124	184	186	48	17	9.4	26		
14				162	202	193	47	18	9.9	27		
15				161	231	270	35	20	6.5	30		
16				197	277	247	27	17	10	33		
17				283	321	222	22	17	13	38		
18				243	354	200	20	18	14	38		
19				181	382	181	22	17	13	37		
20				133	413	153	21	17	13	40		
21				124	418	120	21	16	15	55		
22				118	383	104	19	12	16	45		
23				154	341	92	19	11	17	41		
24				176	286	82	18	11	16	39		
25				137	229	75	16	11	15	38		
26				125	211	64	19	12	14	38		
27				112	294	56	19	9.6	14	38		
28				102	345	62	19	11	14	38		
29				104	262	50	14	11	13	37		
30				114	227	71	13	10	13	37		
31				---	183	---	12	9.8	---	e30		
Total				4,520	7,642	4,255	1,080	443.4	337.8	969		
Mean				151	247	142	34.8	14.3	11.3	31.3		
Max				505	418	335	76	20	17	55		
Min				30	129	50	12	9.6	4.6	12		
Ac-ft				8,970	15,160	8,440	2,140	879	670	1,920		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 2003 - 2006

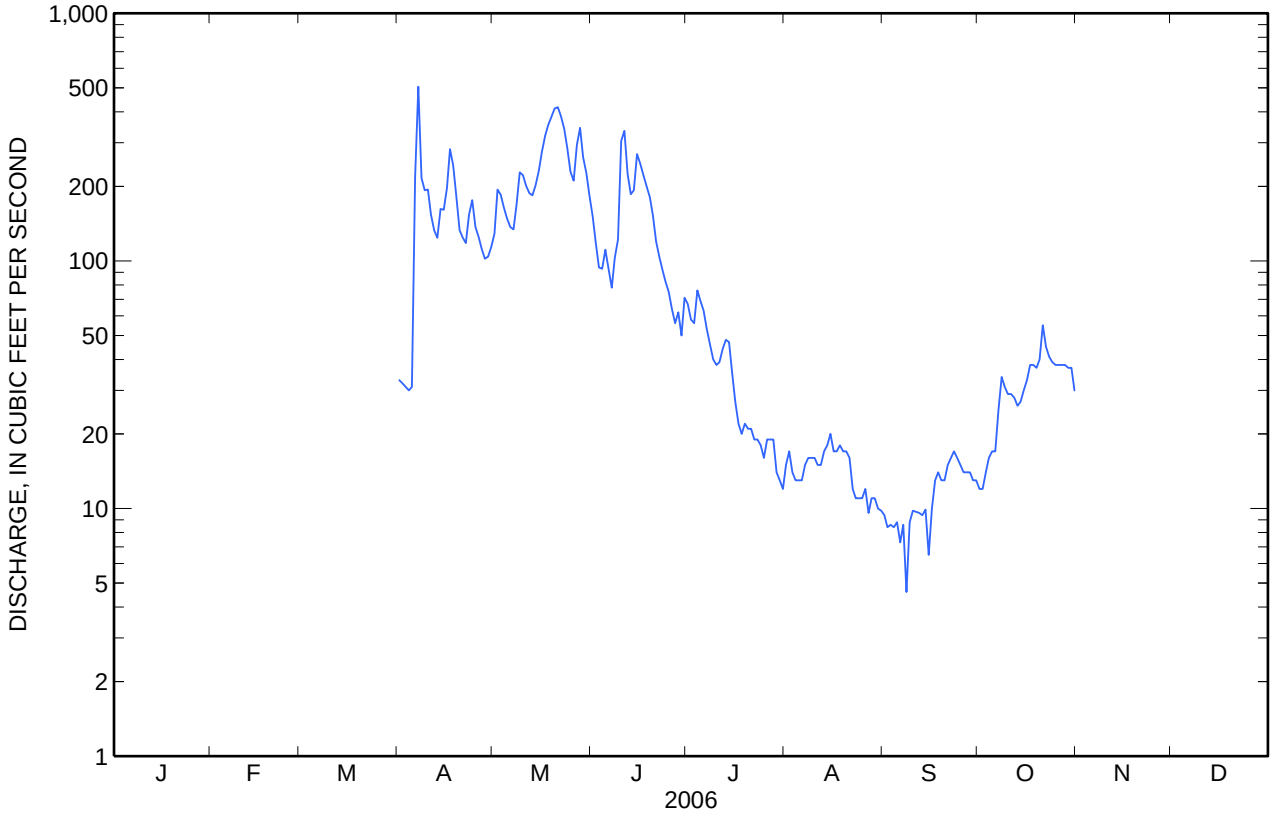
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				82.7	212	175	51.5	23.3	19.3	28.7		
Max				151	306	283	77.8	34.3	35.9	41.2		
(WY)				(2006)	(2005)	(2005)	(2005)	(2005)	(2005)	(2006)		
Min				33.4	101	103	34.8	14.3	11.3	19.2		
(WY)				(2004)	(2004)	(2003)	(2006)	(2006)	(2006)	(2004)		

06119600 MUSSELSHELL RIVER NEAR MARTINSDALE, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 2003 - 2006	
Highest daily mean	505	Apr 7	619	May 22, 2005
Lowest daily mean	4.6	Sep 8	4.6	Sep 8, 2006
Maximum peak flow	599	Apr 7	664	Jun 12, 2004
Maximum peak stage	4.18	Apr 7	4.35	Jun 12, 2004
Instantaneous low flow	[a]4.2	Sep 8	[a]4.2	Sep 8, 2006

[a] Gage height, 1.33 ft.



Water-Data Report 2006

06120500 MUSSELSHELL RIVER AT HARLOWTON, MT

Upper Missouri 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 mi^2.

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. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- 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.--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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	49	55	e46	e70	e55	e80	65	139	137	114	59	67
2	50	53	e45	e70	e55	e75	59	168	143	109	65	64
3	58	57	e45	e70	e50	e75	57	204	140	112	73	61
4	69	61	e45	e70	e50	e75	55	191	129	117	69	60
5	88	62	e45	e70	e55	e80	54	173	141	121	68	60
6	103	62	e40	e75	e55	e80	104	164	142	128	67	57
7	88	62	e40	e70	e55	e80	396	155	135	130	68	48
8	75	66	e45	e70	e60	e75	351	162	149	111	70	32
9	80	66	e50	e70	e55	e70	206	213	203	100	76	33
10	83	63	e60	e75	e45	e65	213	237	506	93	78	31
11	67	63	e70	e70	e48	e60	184	226	658	95	75	27
12	68	63	e80	e65	e55	e65	162	208	436	94	75	24
13	64	62	e70	e60	e58	e60	141	195	316	109	81	22
14	61	64	e65	e60	e50	e65	151	196	286	108	83	19
15	60	63	e60	e60	e40	e65	164	196	304	99	80	22
16	56	e60	e55	e55	e35	e65	172	225	301	82	84	31
17	53	e65	e50	e60	e30	e70	233	274	262	72	85	36
18	52	e65	e45	e55	e35	57	284	287	223	70	89	35
19	50	64	e50	e55	e40	52	233	308	204	79	85	36
20	50	62	e60	e55	e45	47	174	343	252	83	80	37
21	57	61	e70	e55	e50	46	151	366	219	80	71	39
22	59	60	e90	e55	e55	43	143	345	198	80	61	40
23	60	59	e100	e60	e60	49	144	301	192	75	56	41
24	60	58	e110	e65	e55	53	185	251	178	75	57	40
25	59	55	e120	e65	e50	61	169	196	170	74	59	38
26	58	59	e110	e60	e55	58	150	152	160	69	62	36
27	57	62	e100	e55	e60	61	141	185	142	63	67	34
28	60	e50	e90	e50	e90	57	129	312	119	63	67	32
29	59	e50	e80	e55	---	53	123	281	101	64	69	32
30	57	e48	e70	e55	---	67	128	214	100	57	68	31
31	56	---	e75	e55	---	77	---	173	---	58	67	---
Total	1,966	1,800	2,081	1,935	1,446	1,986	4,921	7,040	6,646	2,784	2,214	1,165
Mean	63.4	60.0	67.1	62.4	51.6	64.1	164	227	222	89.8	71.4	38.8
Max	103	66	120	75	90	80	396	366	658	130	89	67
Min	49	48	40	50	30	43	54	139	100	57	56	19
Ac-ft	3,900	3,570	4,130	3,840	2,870	3,940	9,760	13,960	13,180	5,520	4,390	2,310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	72.7	76.7	66.5	58.4	64.8	110	172	399	496	159	74.9	62.1
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).

06120500 MUSSELSHELL RIVER AT HARLOWTON, MT—Continued

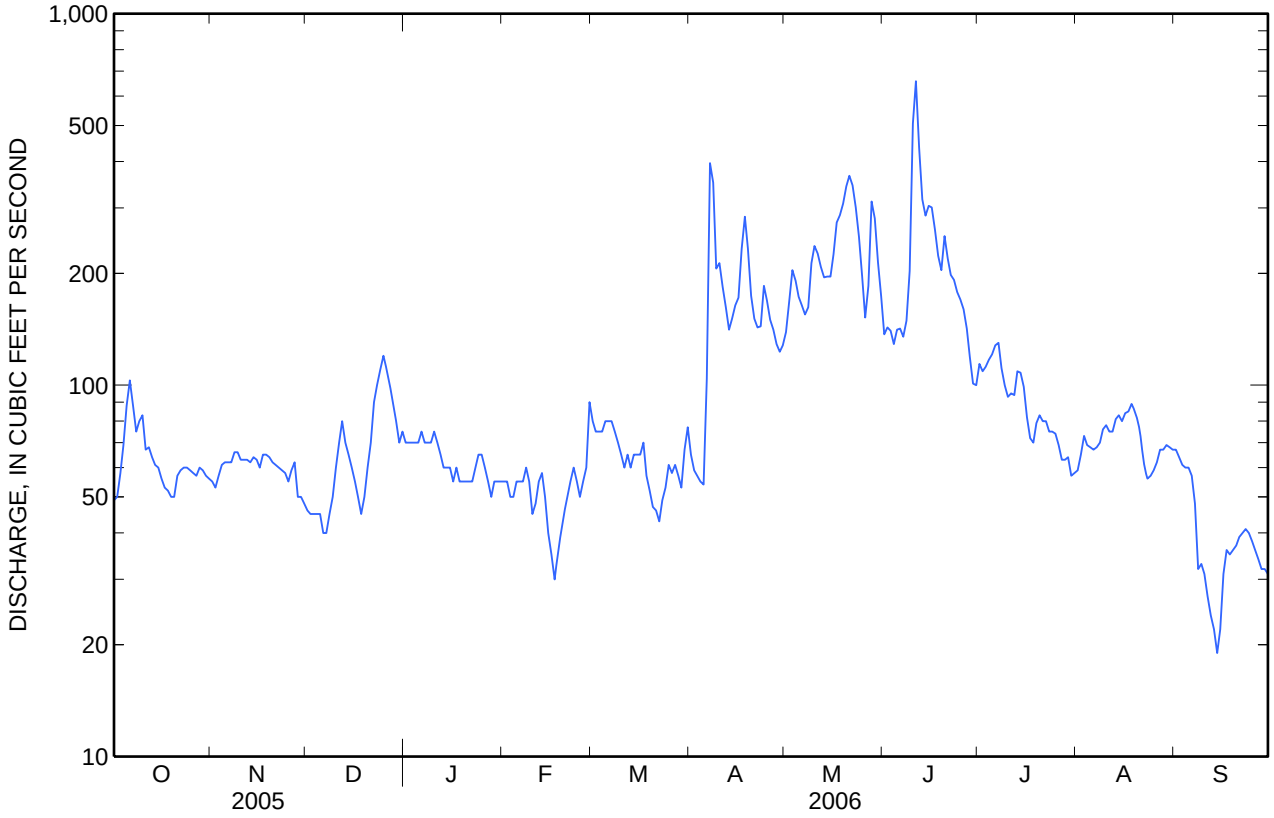
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1907 – 2006*	
Annual total	42,841		35,984			
Annual mean	117		98.6		153	
Highest annual mean					483	1917
Lowest annual mean					21.1	1935
Highest daily mean	1,030	May 21	658	Jun 11	6,200	Jun 20, 1975
Lowest daily mean	13	Jan 15	19	Sep 14	0.00	Aug 4, 1910
Annual seven-day minimum	22	Jan 10	25	Sep 10	0.00	Aug 4, 1910
Maximum peak flow			739	Jun 11	7,270	Jun 20, 1975
Maximum peak stage			4.83	Jun 11	[b]10.01	Jun 20, 1975
Instantaneous low flow			[a]17	Sep 14	0.01	Aug 29, 2001
Annual runoff (ac-ft)	84,980		71,370		110,900	
10 percent exceeds	327		203		349	
50 percent exceeds	62		67		74	
90 percent exceeds	27		45		25	

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

[a] Gage height, 2.63 ft.

[b] Previous site and same datum.



06123030 MUSSELSHELL RIVER ABOVE MUD CREEK, NEAR SHAWMUT, MT

Upper Missouri 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 mi^2.

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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				5.1	114	164	76	32	31	36		
2				5.2	54	130	81	37	33	35		
3				5.0	83	126	87	36	36	38		
4				4.7	101	115	102	41	37	39		
5				4.6	58	107	100	33	34	39		
6				11	50	107	107	34	34	43		
7				24	45	95	110	30	33	57		
8				338	40	91	109	29	30	74		
9				235	42	107	91	32	24	81		
10				152	104	271	77	30	24	81		
11				104	109	553	71	33	33	80		
12				74	102	564	71	33	30	78		
13				56	91	303	71	41	26	76		
14				39	81	213	78	44	25	74		
15				43	88	242	76	40	27	71		
16				50	141	223	67	41	31	75		
17				76	170	185	55	48	36	84		
18				132	187	150	49	53	40	97		
19				137	134	119	44	56	39	94		
20				86	168	173	47	52	40	94		
21				54	220	227	54	52	44	90		
22				145	245	200	52	48	46	92		
23				143	165	170	65	39	47	98		
24				157	126	172	61	34	45	91		
25				192	111	159	57	29	47	88		
26				169	125	154	53	29	44	58		
27				152	150	142	42	30	43	51		
28				139	285	120	38	30	40	50		
29				122	361	99	38	31	39	49		
30				108	180	86	42	32	38	48		
31				---	178	---	35	31	---	43		
Total				2,962.6	4,108	5,567	2,106	1,160	1,076	2,104		
Mean				98.8	133	186	67.9	37.4	35.9	67.9		
Max				338	361	564	110	56	47	98		
Min				4.6	40	86	35	29	24	35		
Ac-ft				5,880	8,150	11,040	4,180	2,300	2,130	4,170		

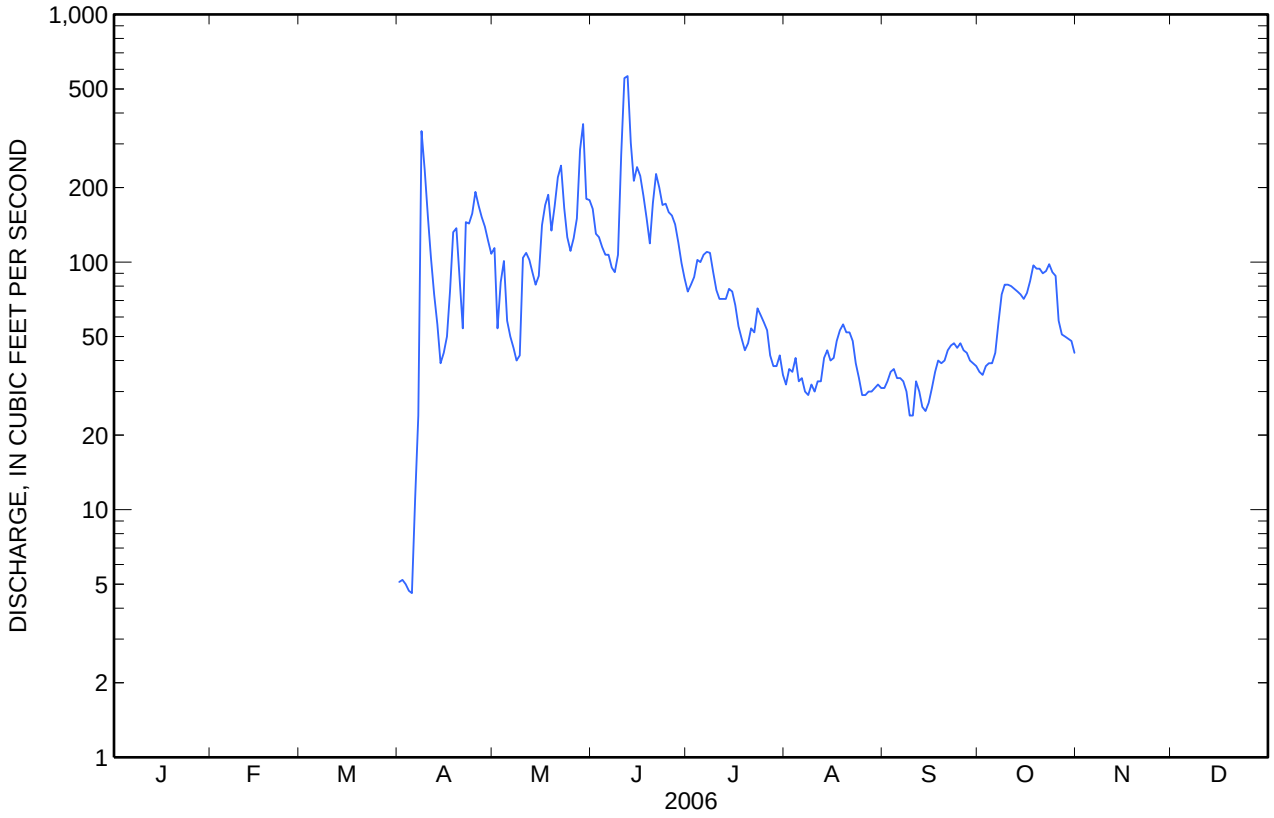
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1998 - 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				32.8	98.8	154	73.8	32.6	28.3	38.9		
Max				98.8	324	303	201	97.8	70.8	98.0		
(WY)				(2006)	(2005)	(2005)	(1998)	(1998)	(1998)	(2007)		
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

	2006 Season		Seasons 1998 - 2006	
Highest daily mean	564	Jun 12	924	May 22, 2005
Lowest daily mean	4.6	Apr 5	0.18	Sep 28, 2001
Maximum peak flow	694	Jun 11	980	Jun 28, 2005
Maximum peak stage	4.54	Jun 11	5.20	Jun 28, 2005



06126050 MUSSELSHELL RIVER NEAR LAVINA, MT

Upper Missouri 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 mi^2.

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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				29	111	196	266	137	50	35		
2				29	113	165	266	146	43	35		
3				28	65	165	290	168	47	40		
4				26	78	174	316	185	51	42		
5				25	97	168	307	179	51	42		
6				27	61	164	284	157	47	41		
7				32	51	187	262	149	45	48		
8				57	46	163	252	138	45	58		
9				351	43	165	259	140	46	75		
10				239	38	231	250	140	45	85		
11				162	76	386	239	147	43	88		
12				110	90	538	249	165	45	84		
13				80	78	471	253	182	49	81		
14				64	63	294	239	190	47	78		
15				53	56	246	243	173	47	76		
16				49	56	255	243	161	51	80		
17				66	106	237	227	141	50	96		
18				92	177	196	230	136	47	95		
19				160	214	161	216	125	50	102		
20				152	244	136	187	127	51	99		
21				100	290	193	172	117	49	95		
22				71	320	239	178	96	45	92		
23				159	314	208	174	70	47	91		
24				163	257	185	196	63	46	95		
25				182	210	191	185	56	44	91		
26				220	214	205	161	42	43	88		
27				191	283	234	140	46	43	68		
28				167	344	276	145	48	41	59		
29				148	454	284	145	49	38	56		
30				125	361	291	145	48	36	57		
31				---	210	---	139	46	---	48		
Total				3,357	5,120	7,004	6,858	3,767	1,382	2,220		
Mean				112	165	233	221	122	46.1	71.6		
Max				351	454	538	316	190	51	102		
Min				25	38	136	139	42	36	35		
Ac-ft				6,660	10,160	13,890	13,600	7,470	2,740	4,400		

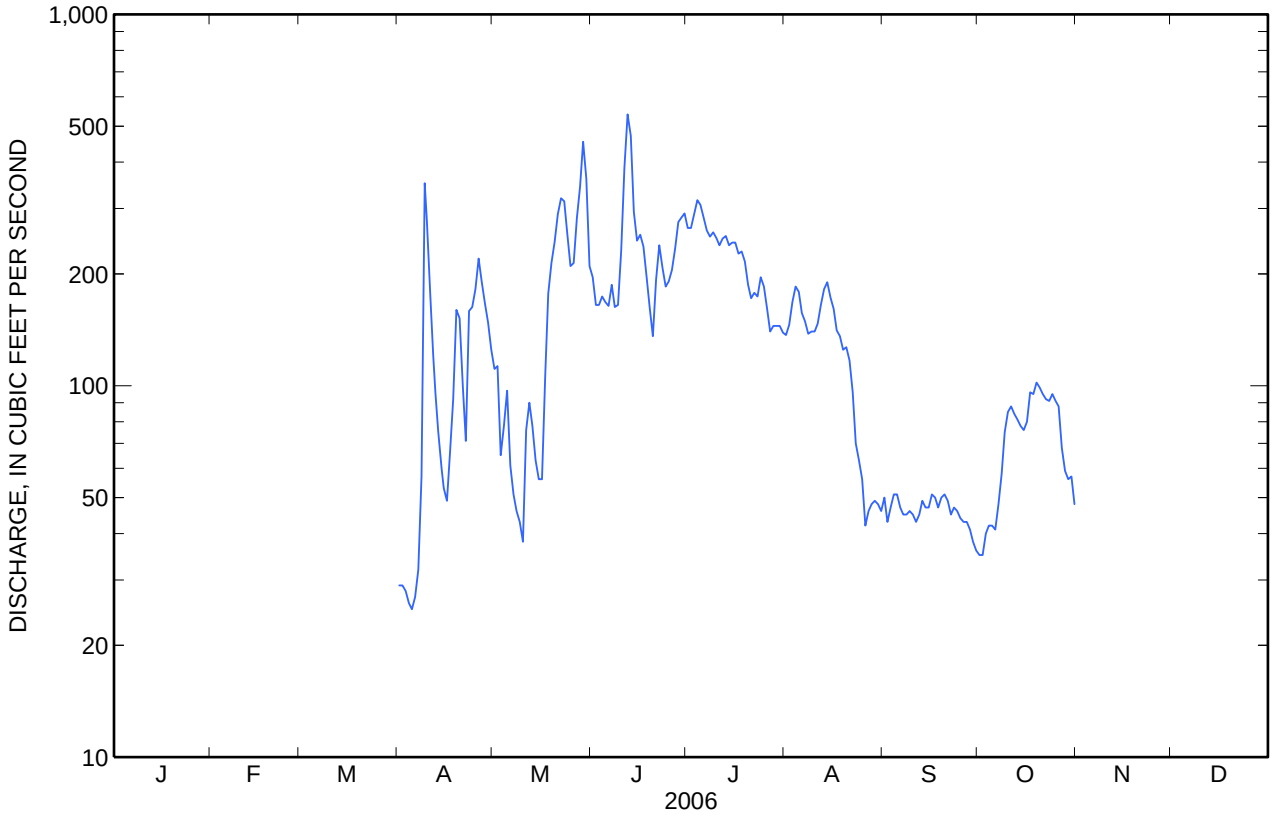
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1992 - 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				96.6	287	468	289	168	114	82.1		
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

	2006 Season		Seasons 1992 - 2006	
Highest daily mean	538	Jun 12	5,850	Jun 14, 1997
Lowest daily mean	25	Apr 5	0.00	Sep 26, 2001
Maximum peak flow	605	Jun 12	6,220	Jun 14, 1997
Maximum peak stage	4.21	Jun 12	11.13	Jun 14, 1997



06126500 MUSSELSHELL RIVER NEAR ROUNDUP, MT

Upper Missouri 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, 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 mi^2.

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 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	61	96	e60	e20	e20	31	29	119	150	196	103	43
2	59	94	e50	e20	e15	e20	31	114	136	188	107	45
3	56	95	e40	e20	e20	e20	31	99	117	199	113	40
4	60	98	e35	e25	e20	e20	30	67	123	250	124	53
5	75	97	e30	e25	e20	e20	28	90	130	263	129	56
6	91	103	e25	e25	e15	e25	34	92	128	232	121	56
7	114	106	e15	e25	e20	e25	32	61	160	195	112	51
8	140	108	e20	e25	e20	e25	37	53	135	169	105	49
9	136	108	e25	e20	e20	e20	200	47	127	182	105	49
10	115	107	e25	e25	e20	e20	303	43	169	183	107	49
11	105	112	e30	e25	e15	e20	192	39	288	176	109	48
12	113	115	e30	e25	e20	e15	136	86	545	174	125	46
13	108	110	e30	e25	e20	e15	108	91	617	179	151	47
14	103	108	e30	e30	e20	e15	84	77	416	178	159	51
15	102	e80	e25	e25	e15	e20	71	65	264	178	164	56
16	97	e70	e25	e20	e10	e20	59	54	269	185	148	59
17	94	e90	e20	e25	e9.0	e20	69	54	252	182	141	59
18	94	104	e20	e25	e10	e20	83	76	220	181	131	56
19	95	114	e20	e25	14	e20	113	150	186	185	128	52
20	91	116	e20	e25	15	e25	162	150	158	167	125	54
21	88	114	e20	e25	16	25	128	216	138	138	124	56
22	85	110	e20	e20	16	26	93	243	203	140	120	54
23	85	107	e20	e25	17	24	104	275	201	136	92	53
24	93	102	e20	e30	19	23	154	215	151	146	79	52
25	95	98	e20	e20	21	23	156	159	145	151	70	51
26	97	108	e20	e25	22	23	197	145	130	137	57	49
27	96	113	e20	e20	26	24	196	195	130	121	41	49
28	93	e90	e20	e20	29	25	171	293	146	110	43	48
29	95	e70	e20	e25	---	25	154	398	207	113	44	45
30	98	e70	e20	e25	---	30	140	510	214	114	44	42
31	98	---	e20	e30	---	33	---	219	---	111	42	---
Total	2,932	3,013	795	745	504.0	697	3,325	4,495	6,255	5,259	3,263	1,518
Mean	94.6	100	25.6	24.0	18.0	22.5	111	145	208	170	105	50.6
Max	140	116	60	30	29	33	303	510	617	263	164	59
Min	56	70	15	20	9.0	15	28	39	117	110	41	40
Med	95	105	20	25	20	23	106	99	159	178	112	51
Ac-ft	5,820	5,980	1,580	1,480	1,000	1,380	6,600	8,920	12,410	10,430	6,470	3,010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2006, BY WATER YEAR (WY)

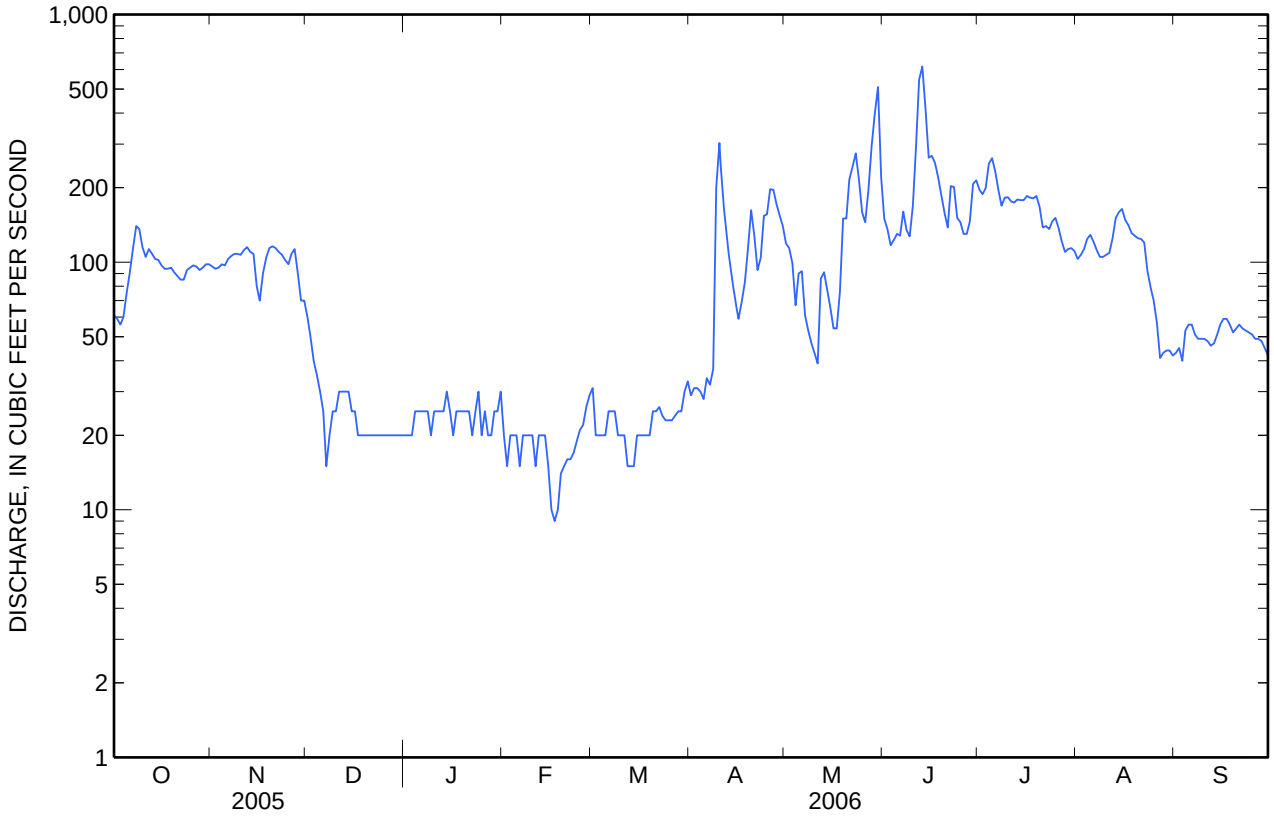
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	76.5	72.4	64.4	61.8	90.9	186	174	404	642	289	183	122
Max	335	242	283	222	414	1,281	788	1,811	4,315	1,308	563	504
(WY)	(1994)	(1994)	(1976)	(1976)	(1971)	(1978)	(1975)	(1976)	(1967)	(1975)	(1993)	(1993)
Min	1.43	3.99	3.65	5.29	5.82	6.81	1.77	30.0	36.6	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 2005		Water Year 2006		Water Years 1947 - 2006	
Annual total	43,933.6		32,801.0			
Annual mean	120		89.9		[a]197	
Highest annual mean					608	1975
Lowest annual mean					17.6	2002
Highest daily mean	874	May 24	617	Jun 13	8,180	Jun 8, 1967
Lowest daily mean	1.9	Apr 17	9.0	Feb 17	0.00	Sep 4, 2002
Annual seven-day minimum	2.4	Apr 12	13	Feb 15	0.00	Sep 11, 2002
Maximum peak flow			657	Jun 13	[b]9,610	Jun 18, 1967
Maximum peak stage			3.20	Jun 13	[c]13.73	Mar 9, 1979
Annual runoff (ac-ft)	87,140		65,060		143,000	
10 percent exceeds	331		184		420	
50 percent exceeds	67		70		94	
90 percent exceeds	6.2		20		16	

[a] Median of yearly mean discharges, 179 ft^3/s, 129,600 ac-ft/yr.
[b] Gage height, 12.45 ft.
[c] Ice jam.



Water-Data Report 2006

06127500 MUSSELSHELL RIVER AT MUSSELSHELL, MT

Upper Missouri 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 mi^2.

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.-- WSP 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				34	136	156	113	50	30	37		
2				43	113	114	102	46	26	34		
3				41	106	99	100	38	27	36		
4				35	88	83	117	45	26	38		
5				34	55	94	146	58	23	40		
6				42	76	113	160	71	29	43		
7				45	79	116	142	73	35	45		
8				39	49	136	121	64	34	49		
9				37	30	127	111	57	35	52		
10				172	20	133	115	57	35	62		
11				220	17	186	106	60	35	80		
12				168	11	270	100	68	35	89		
13				130	34	448	107	84	33	89		
14				110	39	461	116	104	32	85		
15				90	27	302	112	110	41	82		
16				78	19	217	110	118	54	85		
17				76	29	230	126	105	56	94		
18				e80	21	210	118	102	54	96		
19				e100	26	173	118	99	54	95		
20				e130	75	142	126	97	48	100		
21				e160	89	115	110	95	50	102		
22				127	125	103	93	96	54	100		
23				100	144	133	98	96	58	97		
24				110	164	128	95	81	51	95		
25				148	116	92	98	73	47	98		
26				154	86	81	100	65	45	98		
27				187	102	73	88	57	43	95		
28				179	175	57	73	40	42	91		
29				162	236	70	61	35	40	75		
30				150	329	105	61	32	39	72		
31				---	339	---	53	29	---	66		
Total				3,181	2,955	4,767	3,296	2,205	1,211	2,320		
Mean				106	95.3	159	106	71.1	40.4	74.8		
Max				220	339	461	160	118	58	102		
Min				34	11	57	53	29	23	34		
Ac-ft				6,310	5,860	9,460	6,540	4,370	2,400	4,600		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 – 1983 AND SEASONS 1984 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	71.0	108	273	181	340	552	229	134	103	74.1	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)

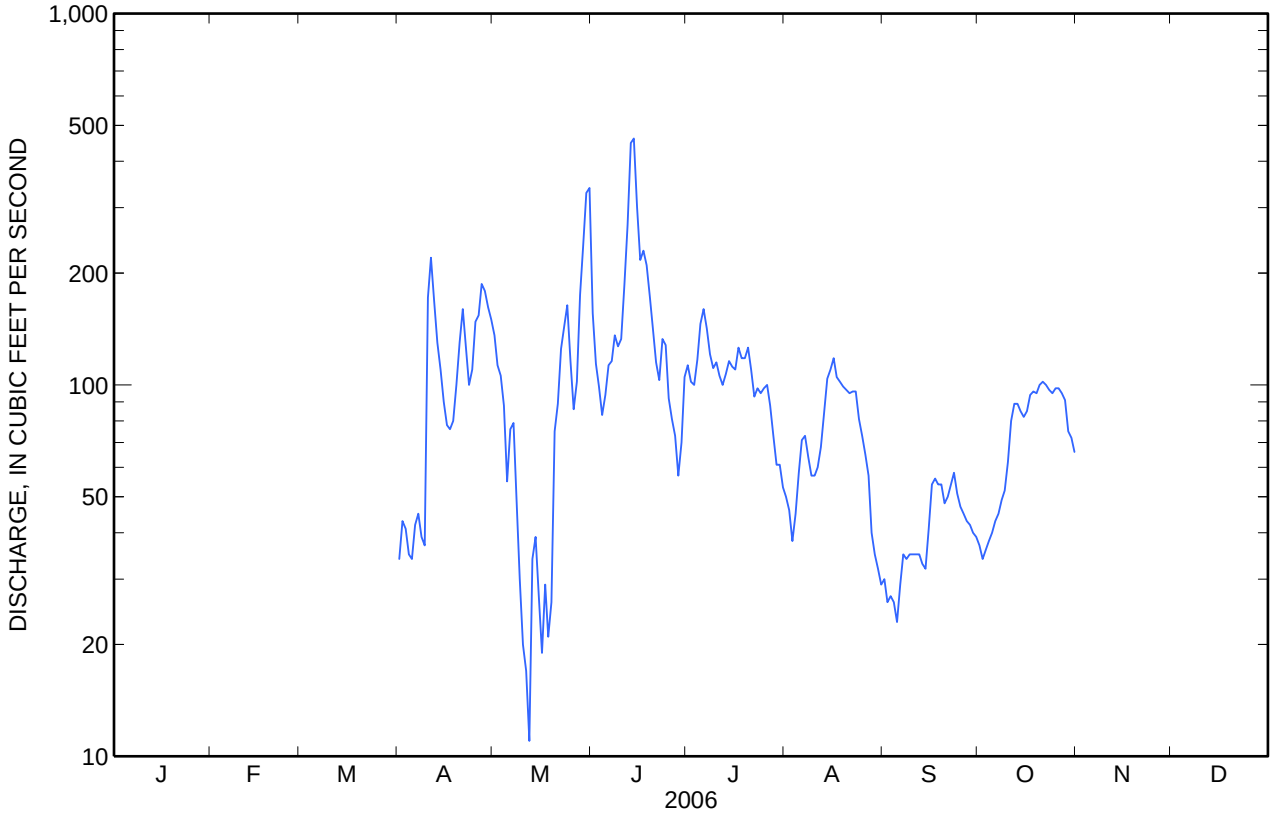
* During period of operation.

06127500 MUSSELSHELL RIVER AT MUSSELSHELL, MT—Continued

SUMMARY STATISTICS

	2006 Season		Water Years 1929 – 1983*		Seasons 1984 – 2006**	
Annual mean			215			
Highest annual mean			609	1975		
Lowest annual mean			34.1	1961		
Highest daily mean	461	Jun 14	8,600	Jun 19, 1967	6,270	Jun 16, 1997
Lowest daily mean	11	May 12	0.00	Sep 1, 1929	0.00	Aug 14, 2001
Annual seven-day minimum			0.00	Sep 8, 1929		
Maximum peak flow	518	Jun 14	[a]9,850	Jun 16, 1967	6,420	Jun 16, 1997
Maximum peak stage	4.40	Jun 14	[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 period of continuous operation 1928-29, 1931-32, 1945-70, 1982-83.
** Seasonal records October 1983 to current year.
[a] Gage height, 11.57 ft.
[b] Ice jam.



06130500 MUSSELSHELL RIVER AT MOSBY, MT

Upper Missouri 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, 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 mi^2.

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 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	56	95	e60	e20	e20	e30	87	281	231	2.2	6.6	21
2	57	97	e50	e20	e20	e30	103	267	225	0.76	1.4	21
3	64	101	e40	e20	e20	e30	202	257	121	7.5	0.59	18
4	72	98	e30	e20	e20	e30	139	212	69	18	0.17	18
5	88	95	e25	e20	e20	e30	80	186	67	13	0.26	17
6	93	94	e25	e20	e20	e35	70	157	54	9.1	1.7	18
7	88	95	e20	e20	e20	e35	904	111	45	13	0.95	18
8	88	96	e25	e20	e20	e35	665	99	45	30	0.50	16
9	90	99	e25	e20	e20	e35	376	103	57	36	0.00	17
10	105	102	e30	e20	e20	e35	382	90	64	22	0.00	21
11	120	102	e35	e20	e25	e35	352	74	68	13	0.00	22
12	119	102	e40	e20	e30	e35	373	56	66	7.5	0.00	24
13	109	101	e35	e20	e25	e35	325	41	85	7.8	0.00	22
14	102	109	e35	e25	e20	e35	272	e30	220	10	0.00	18
15	107	107	e30	e20	e20	e35	213	e25	398	8.6	0.00	23
16	105	e110	e30	e20	e15	35	176	e25	356	9.2	0.00	26
17	102	121	e30	e20	e15	35	178	22	267	9.5	0.00	33
18	102	110	e25	e20	e20	35	241	18	202	11	58	48
19	98	98	e25	e20	e25	38	334	13	184	8.5	68	51
20	99	114	e25	e20	e30	38	328	19	168	18	72	47
21	100	114	e25	e20	e30	38	334	44	133	65	69	45
22	101	120	e25	e20	e30	36	330	29	98	73	70	45
23	97	122	e25	e20	e30	36	367	27	72	58	64	51
24	94	121	e25	e25	e30	43	335	23	52	41	63	58
25	92	118	e25	e25	e30	44	296	31	58	35	65	52
26	92	120	e25	e20	e30	40	281	43	59	32	60	46
27	95	124	e25	e20	e35	38	287	50	35	24	50	42
28	97	e110	e25	e20	e30	36	286	46	20	24	45	41
29	99	e90	e25	e20	---	35	306	41	10	27	36	39
30	97	e70	e20	e20	---	38	290	52	5.4	19	30	37
31	94	---	e20	e20	---	85	---	133	---	10	24	---
Total	2,922	3,155	905	635	670	1,150	8,912	2,605	3,534.4	662.66	786.17	955
Mean	94.3	105	29.2	20.5	23.9	37.1	297	84.0	118	21.4	25.4	31.8
Max	120	124	60	25	35	85	904	281	398	73	72	58
Min	56	70	20	20	15	30	70	13	5.4	0.76	0.00	16
Ac-ft	5,800	6,260	1,800	1,260	1,330	2,280	17,680	5,170	7,010	1,310	1,560	1,890

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	77.8	77.5	68.6	73.7	166	439	276	503	842	309	109	109
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)

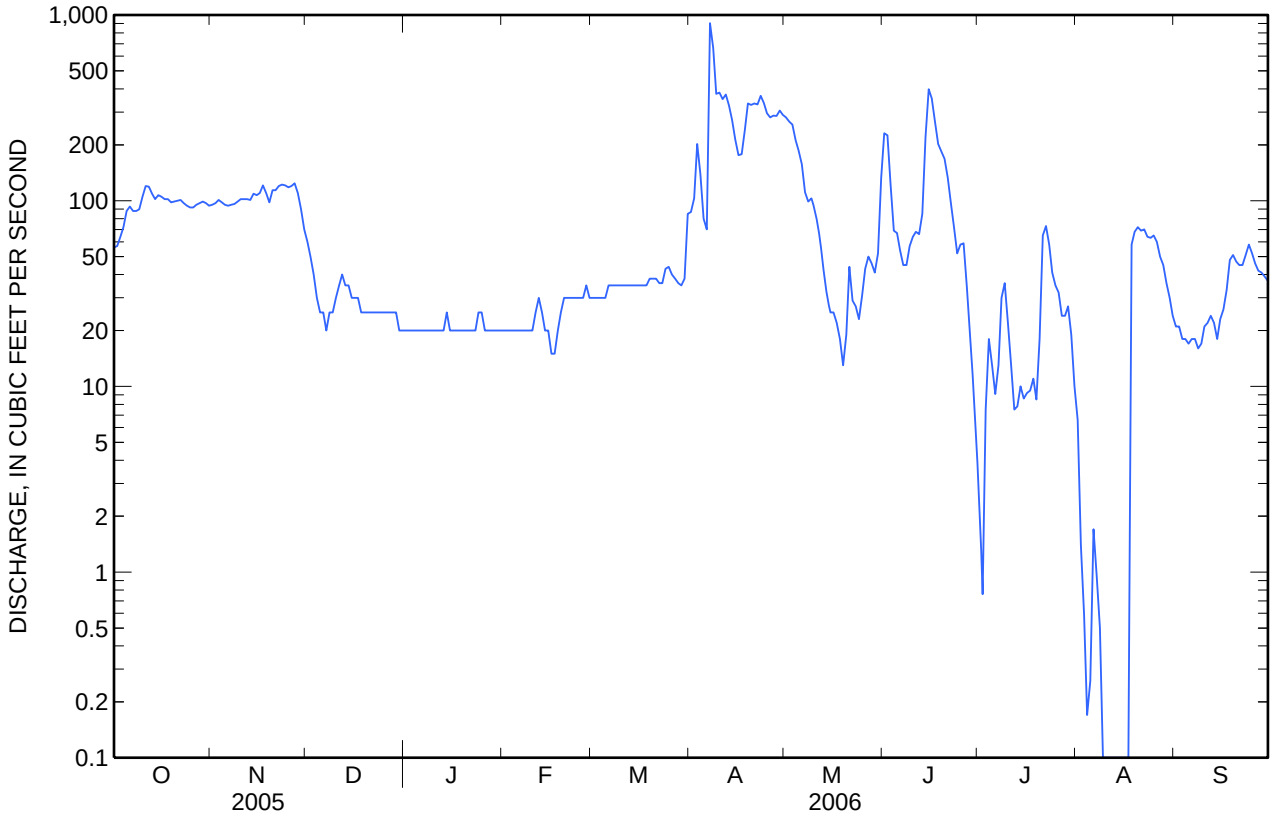
* During period of operation (1931-32, 1935 to current year).

06130500 MUSSELSHELL RIVER AT MOSBY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1931 - 2006*	
Annual total	32,393.81		26,892.23			
Annual mean	88.8		73.7		[c]256	
Highest annual mean					1,089	1978
Lowest annual mean					8.12	2002
Highest daily mean	1,470	Jun 29	904	Apr 7	15,700	Jun 18, 1944
Lowest daily mean	0.03	May 7	0.00	Aug 9	0.00	Oct 1, 1930
Annual seven-day minimum	0.29	May 4	0.00	Aug 9	0.00	Oct 1, 1930
Maximum peak flow			[a]1,220	Apr 7	[d]18,000	Jun 18, 1944
Maximum peak stage			[b]4.71	Jan 22	[e]15.10	Mar 12, 1979
Annual runoff (ac-ft)	64,250		53,340		185,500	
10 percent exceeds	213		180		550	
50 percent exceeds	25		36		80	
90 percent exceeds	3.1		14		0.06	

* During period of operation (1931-32, 1935 to current year).
[a] Gage height, 4.68 ft.
[b] Backwater from ice.
[c] Median of yearly discharges, 176 ft³/s.
[d] Gage height, 14.43 ft, from rating curve extension above 10,000 ft³/s.
[e] From floodmark, backwater from ice.



06131000 BIG DRY CREEK NEAR VAN NORMAN, MT

Fort Peck Lake Basin
Big Dry Subbasin

LOCATION.--Lat 47°20′58″, long 106°21′26″ referenced to North American Datum of 1927, in NE ¼ SW ¼ NW ¼ sec.3, T.18 N., R.42 E., Garfield County, Hydrologic Unit 10040105, on left bank 1100 ft. downstream from Little Dry Creek, 3.2 mi northeast of Van Norman Post Office, 26 mi east of Jordan, and at river mile 55.1.

DRAINAGE AREA.--2,554 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1939 to July 1969, July 1970 to current year (discharge measurements only, October 1947 to March 1949). Prior to July 1970, published as "Dry Creek near Van Norman."

REVISED RECORDS. --Water Supply Paper (WSP) 1309: 1947, maximum discharge (M). WSP 1559: 1944(M), 1947. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,330 ft, referenced to National Geodetic Vertical Datum of 1929. Prior to July 24, 1978, at site 400 ft upstream at same elevation.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. Few small diversions for irrigation of hay meadows 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.

06131000 BIG DRY CREEK NEAR VAN NORMAN, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.68	2.2	e2.0	e3.5	e2.5	5.7	4.6	3.7	1.8	0.44	0.00	0.00
2	0.65	2.1	e2.0	e3.5	e2.5	15	5.7	4.1	1.6	4.4	0.00	0.00
3	0.74	2.4	e2.0	e3.5	e2.5	13	5.2	3.8	1.5	4.9	0.00	0.00
4	1.3	2.5	e2.0	e3.5	e2.5	4.7	5.1	3.5	1.5	1.6	0.00	0.00
5	2.0	2.5	e2.0	e3.0	e3.0	3.9	7.2	3.6	1.9	3.1	0.00	0.00
6	1.9	2.4	e2.5	e2.5	e3.5	4.1	54	3.4	1.2	1.3	0.00	0.00
7	2.3	2.4	e2.5	e2.5	e4.0	3.8	54	3.3	0.85	0.62	0.00	0.00
8	2.4	2.4	e3.0	e2.5	e4.0	5.4	186	2.7	0.69	0.43	0.00	0.00
9	2.6	2.4	e3.0	e2.5	e4.0	3.9	132	2.1	1.4	0.34	5.7	0.00
10	3.3	2.3	e3.0	e2.5	5.2	4.5	90	2.2	5.4	0.28	12	0.00
11	14	2.4	e7.5	e3.0	5.5	4.2	66	2.3	5.0	0.22	0.31	0.00
12	16	2.5	e2.5	e3.5	4.4	3.8	24	2.2	4.6	0.19	0.19	0.00
13	13	2.4	e3.0	e3.5	4.2	3.5	11	1.9	2.9	0.13	0.15	0.00
14	9.0	2.2	e3.0	e3.0	4.0	3.4	7.6	1.8	3.8	0.12	0.06	0.00
15	6.2	2.1	e3.0	e2.5	e3.5	3.5	6.0	1.5	3.1	0.12	0.03	0.00
16	4.8	2.8	e2.5	e2.5	e3.0	3.5	5.5	1.4	1.8	0.10	0.01	0.02
17	4.2	2.3	e2.0	e2.5	e4.0	3.6	20	1.3	1.1	0.06	0.09	0.45
18	3.7	2.4	e2.5	e2.5	e4.0	3.6	27	1.1	0.75	0.05	1.2	0.28
19	3.3	2.5	e2.5	e2.5	e3.0	3.6	12	0.96	0.61	0.06	0.26	0.25
20	3.1	2.4	e3.0	e2.5	e4.0	4.1	8.0	0.98	0.92	0.05	0.10	0.16
21	3.1	2.4	e3.0	e2.5	5.0	4.1	7.6	1.00	1.2	0.08	0.02	0.07
22	2.8	2.4	e3.0	e2.5	4.8	4.3	6.6	0.96	0.94	0.07	0.02	7.6
23	2.7	2.4	e3.0	e2.5	4.8	3.8	7.9	0.94	4.2	0.04	0.01	8.3
24	2.5	2.4	e3.0	e2.5	4.5	3.7	6.7	1.7	5.4	0.01	0.01	1.7
25	2.5	2.3	e3.0	e2.5	4.4	3.7	5.2	1.5	2.6	0.00	0.01	0.41
26	2.5	e2.0	e3.0	e2.5	4.4	3.6	5.0	1.5	1.1	0.00	0.02	0.26
27	2.4	e1.5	e2.5	e2.5	4.0	4.1	4.9	1.6	0.67	0.00	0.01	0.20
28	2.4	e2.0	e3.0	e2.5	3.7	4.3	5.0	2.6	0.53	0.00	0.01	0.19
29	2.3	e2.0	e3.5	e2.5	---	4.2	4.3	2.9	0.40	0.00	0.00	0.14
30	2.2	e2.0	e4.0	e2.5	---	4.7	4.0	2.5	0.32	0.00	0.00	0.08
31	2.2	---	e3.5	e2.5	---	4.8	---	2.2	---	0.00	0.00	---
Total	122.77	69.0	90.0	85.0	108.9	146.1	788.1	67.24	59.78	18.71	20.21	20.11
Mean	3.96	2.30	2.90	2.74	3.89	4.71	26.3	2.17	1.99	0.60	0.65	0.67
Max	16	2.8	7.5	3.5	5.5	15	186	4.1	5.4	4.9	12	8.3
Min	0.65	1.5	2.0	2.5	2.5	3.4	4.0	0.94	0.32	0.00	0.00	0.00
Ac-ft	244	137	179	169	216	290	1,560	133	119	37	40	40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.11	2.94	2.64	6.34	69.6	246	80.6	27.8	58.2	42.4	15.5	15.7
Max	97.5	14.2	33.7	192	1,004	1,760	2,043	300	552	458	367	391
(WY)	(1987)	(1987)	(1976)	(1997)	(1997)	(1959)	(1952)	(1975)	(1944)	(1993)	(1954)	(1986)
Min	0.00	0.00	0.00	0.00	0.00	2.75	1.05	0.21	0.07	0.00	0.00	0.00
(WY)	(1940)	(1961)	(1961)	(1940)	(1940)	(1961)	(1961)	(1958)	(1988)	(1961)	(1959)	(1940)

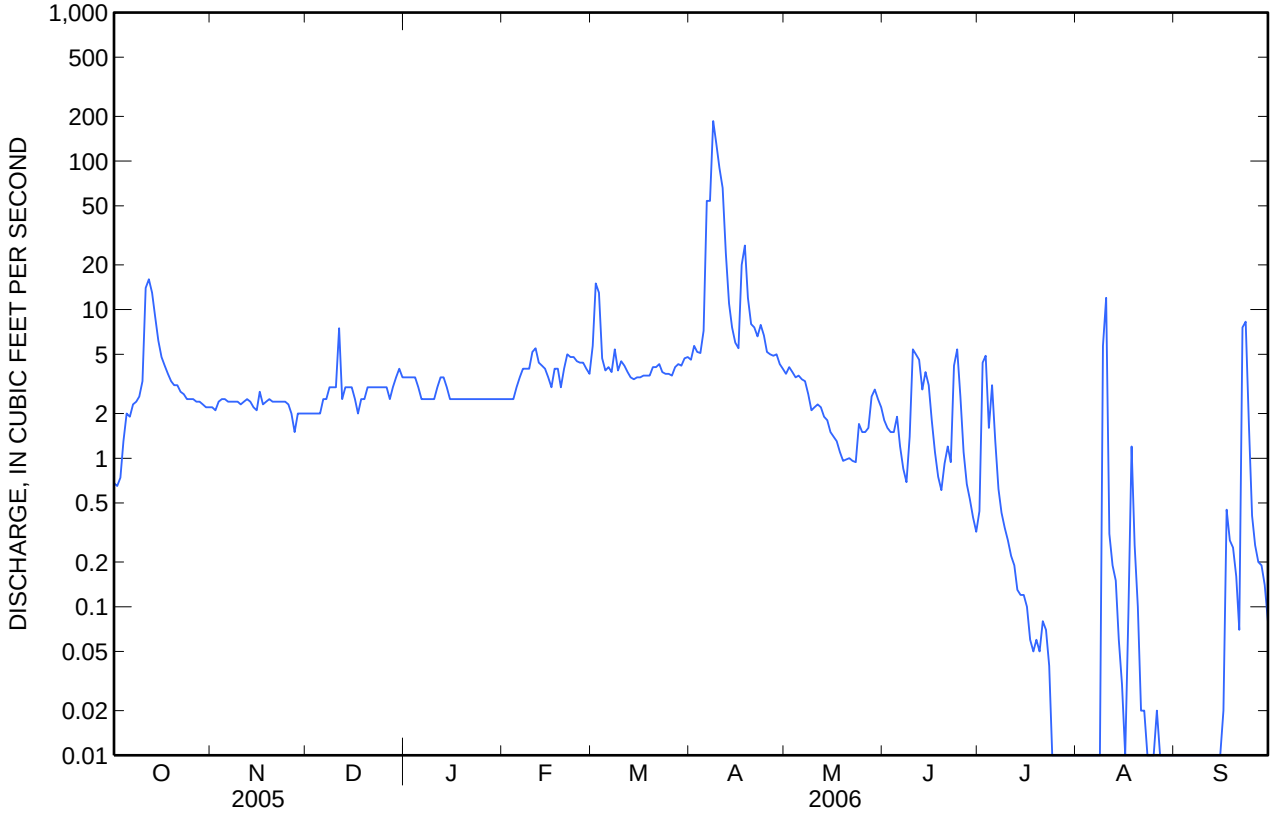
* During period of operation (1940-47, 1949-68, 1970 to current year).

06131000 BIG DRY CREEK NEAR VAN NORMAN, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1940 - 2006*	
Annual total	7,370.25		1,595.92			
Annual mean	20.2		4.37		[a] 47.9	
Highest annual mean					243	1978
Lowest annual mean					1.18	1985
Highest daily mean	1,930	Jun 29	186	Apr 8	21,300	Mar 22, 1947
Lowest daily mean	0.47	Sep 10	0.00	Jul 25	0.00	Oct 1, 1939
Annual seven-day minimum	0.50	Sep 6	0.00	Jul 25	0.00	Oct 1, 1939
Maximum peak flow			226	Apr 8	[b] 24,600	Mar 21, 1947
Maximum peak stage			3.46	Apr 8	[c] 15.26	Mar 21, 1947
Instantaneous low flow			0.00	Jul 25	[d] 0.00	Oct 1, 1940
Annual runoff (ac-ft)	14,620		3,170		34,710	
10 percent exceeds	22		5.4		40	
50 percent exceeds	3.4		2.5		2.5	
90 percent exceeds	0.85		0.01		0.00	

* During period of operation (1940-47, 1949-68, 1970 to current year).
[a] Median of yearly mean discharges, 27.0 ft³/s.
[b] Gage height, 13.39 ft, at different site and datum.
[c] Backwater from ice.
[d] No flow at times most years.



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, 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 2,095.00 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, 9,973,000 acre-ft, June 25, elevation, 2,206.34 ft; minimum, 9,036,000 acre-ft, Feb 25, elevation, 2,200.28 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2005 TO SEPTEMBER 2006

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2,101.96	9,290,000	--
October 31	2,205.55	9,848,000	+558,000
November 30	2,202.92	9,437,000	-411,000
December 31	2,201.55	9,228,000	-209,000
Calendar Year 2005	--	--	+397,000
January 31	2,200.97	9,140,000	-88,000
February 28	2,200.40	9,054,000	-86,000
March 31	2,201.51	9,222,000	+168,000
April 30	2,203.35	9,504,000	+282,000
May 31	2,205.51	9,840,000	+336,000
June 30	2,206.24	9,957,000	+117,000
July 31	2,204.92	9,744,000	-213,000
August 31	2,203.58	9,539,000	-205,000
September 30	2,202.57	9,384,000	-155,000
Water Year 2006	--	--	+94,000

Water-Data Report 2006

06132000 MISSOURI RIVER BELOW FORT PECK DAM, MT

Missouri-Poplar Basin
Prairie 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 mi^2.

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 ft^3/s including 32,000 ft^3/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 ft^3/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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,100	4,200	5,600	8,100	8,100	5,700	5,400	5,600	7,900	7,700	8,000	7,900
2	3,200	4,300	5,700	8,100	8,000	5,900	5,420	6,000	8,000	7,700	7,700	8,100
3	3,100	4,400	5,900	8,100	7,800	5,400	5,100	6,000	8,100	7,900	8,200	7,900
4	3,300	4,300	5,800	8,100	7,900	5,300	5,100	5,900	7,900	8,000	8,100	7,900
5	5,300	4,500	7,600	8,000	7,700	5,600	4,700	5,600	7,800	8,000	8,100	8,000
6	5,200	4,500	8,500	8,000	7,700	5,600	5,100	6,300	7,800	7,700	8,000	8,100
7	4,800	4,500	8,400	8,100	7,600	5,500	5,000	5,900	7,900	8,100	8,300	8,200
8	4,600	4,500	8,300	7,800	7,600	5,400	6,000	5,600	7,800	8,000	8,300	8,100
9	4,600	4,500	7,900	8,000	7,300	5,300	6,400	5,400	7,800	8,200	8,000	8,000
10	4,600	4,500	8,100	7,900	6,100	5,400	5,300	5,600	7,800	8,500	8,000	7,800
11	4,600	4,500	8,200	8,000	5,500	5,400	5,800	5,700	7,900	8,500	7,900	8,100
12	3,100	4,500	8,100	8,000	7,200	5,500	5,400	6,100	8,100	8,500	7,900	8,100
13	3,300	4,500	8,300	8,100	6,000	5,500	5,700	5,200	8,600	8,600	7,700	7,900
14	4,500	4,400	8,200	8,100	5,600	5,500	6,200	6,400	7,500	8,800	8,100	7,800
15	4,500	4,600	8,200	8,100	6,700	5,600	7,800	7,500	4,500	8,600	7,900	7,900
16	4,500	4,800	8,200	8,200	7,700	5,500	7,700	7,600	7,500	8,100	8,100	6,000
17	4,400	4,600	8,200	8,200	6,800	5,500	8,000	7,500	7,600	8,200	8,000	6,600
18	4,500	4,500	8,000	8,100	6,100	5,500	8,900	7,800	8,000	8,300	8,100	5,300
19	4,400	4,500	8,000	8,200	6,300	5,500	7,600	7,700	8,000	8,300	7,900	5,500
20	4,500	4,500	8,100	8,200	7,200	5,400	8,400	7,700	7,900	8,400	8,100	5,700
21	4,400	4,600	8,200	8,000	7,100	5,400	7,900	7,600	8,200	7,800	8,300	5,600
22	4,300	4,600	8,000	8,200	7,100	5,400	7,500	7,800	8,200	8,200	8,100	5,600
23	3,900	4,700	8,100	8,000	6,700	5,500	7,700	7,900	8,000	8,000	8,000	5,500
24	4,300	4,600	8,100	8,000	7,900	5,400	7,800	7,600	8,500	8,600	7,900	5,600
25	3,600	4,700	7,800	8,200	8,000	5,100	7,900	7,900	8,000	8,200	8,400	5,500
26	4,100	4,700	8,000	8,200	7,900	5,200	7,000	8,000	8,200	8,700	8,200	5,700
27	5,900	4,800	8,000	8,200	7,800	5,300	6,900	8,000	8,800	8,600	8,000	5,500
28	5,600	4,600	8,000	8,100	5,700	5,000	6,700	7,900	8,200	8,200	7,900	5,600
29	4,400	4,700	8,000	7,900	---	5,100	5,700	8,000	8,200	8,200	8,200	5,500
30	4,300	5,400	8,100	8,200	---	5,100	6,000	7,900	8,100	8,000	8,500	5,500
31	4,300	---	8,100	8,000	---	5,100	---	8,100	---	8,400	7,600	---
Total	133,200	137,000	241,700	250,400	199,100	167,600	196,120	213,800	236,800	255,000	249,500	204,500
Mean	4,297	4,567	7,797	8,077	7,111	5,406	6,537	6,897	7,893	8,226	8,048	6,817
Max	5,900	5,400	8,500	8,200	8,100	5,900	8,900	8,100	8,800	8,800	8,500	8,200
Min	3,100	4,200	5,600	7,800	5,500	5,000	4,700	5,200	4,500	7,700	7,600	5,300
Ac-ft	264,200	271,700	479,400	496,700	394,900	332,400	389,000	424,100	469,700	505,800	494,900	405,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2006, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,900	8,847	9,090	9,721	9,643	7,309	7,189	8,442	8,609	9,831	11,650	11,250
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)

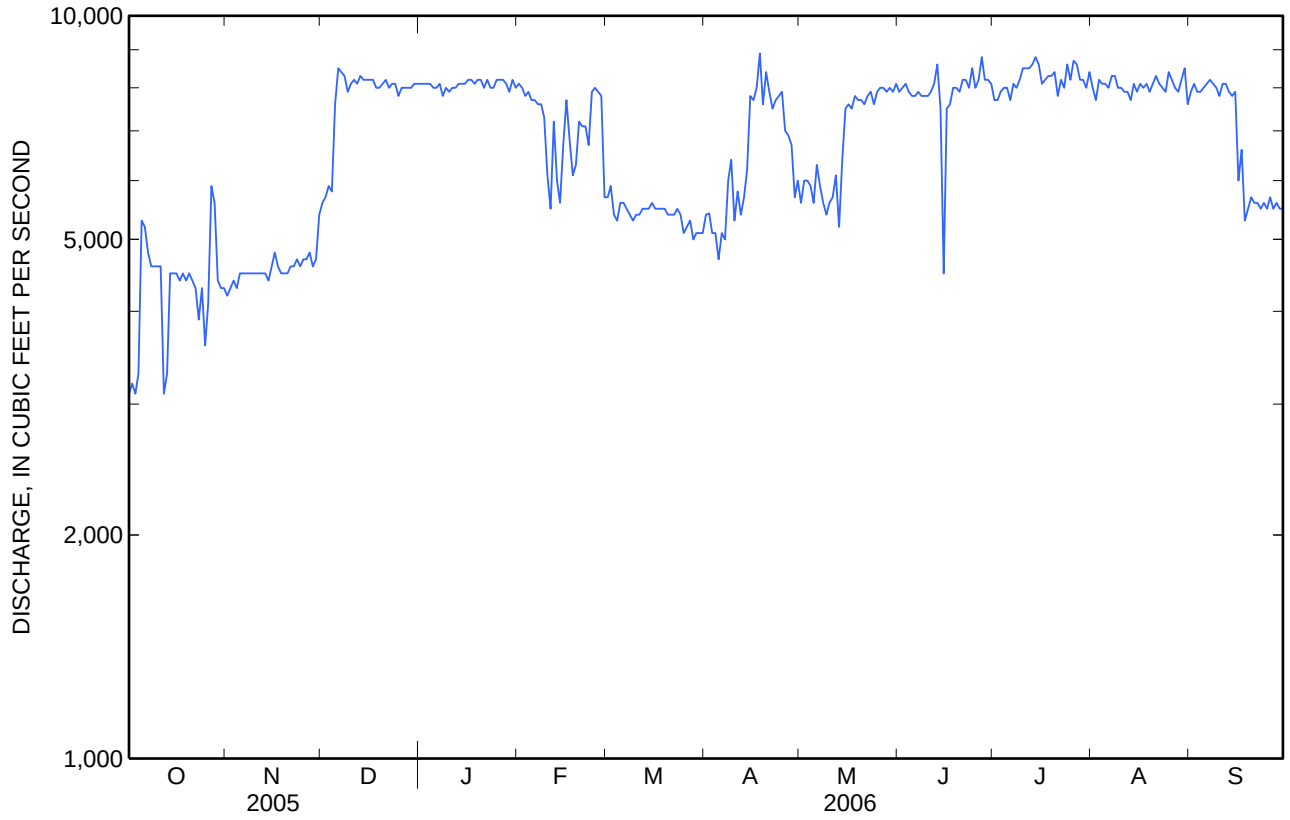
* Period of record after operational level in Fort Peck Lake was reached.

06132000 MISSOURI RIVER BELOW FORT PECK DAM, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1944 – 2006*	
Annual total	2,065,600		2,484,720			
Annual mean	5,659		6,807		9,376	
Highest annual mean					14,950	1975
Lowest annual mean					5,313	1963
Highest daily mean	8,500	Dec 6	8,900	Apr 18	35,400	Jul 7, 1975
Lowest daily mean	3,000	Sep 29	3,100	Oct 1	16	Apr 6, 1978
Annual seven-day minimum	3,140	Sep 28	4,000	Oct 1	161	Mar 26, 1944
Instantaneous low flow					161	Mar 26, 1944
Annual runoff (ac-ft)	4,097,000		4,928,000		6,792,000	
10 percent exceeds	7,400		8,200		14,700	
50 percent exceeds	5,400		7,700		8,200	
90 percent exceeds	4,400		4,500		4,140	

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



06132200 SOUTH FORK MILK RIVER NEAR BABB, MT

Upper Missouri 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 Mar. 1 to Apr. 12, 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e9.0	101	48	37	32	7.9	7.0	6.8		
2			e9.0	90	49	32	26	8.2	6.7	6.5		
3			e8.0	63	51	28	25	8.8	6.4	7.2		
4			e8.0	90	48	27	31	8.8	6.1	7.8		
5			e9.0	148	43	32	34	8.7	5.8	8.2		
6			11	117	39	33	28	8.3	5.3	8.1		
7			12	141	37	29	24	8.5	5.5	7.9		
8			12	140	37	28	22	8.3	6.0	8.2		
9			11	114	37	35	19	8.4	6.0	10		
10			10	106	35	90	17	8.9	5.3	12		
11			9.2	85	31	127	19	9.3	4.9	12		
12			8.6	72	30	119	21	10	4.6	12		
13			7.8	72	28	124	18	10	4.5	11		
14			7.4	65	27	134	16	9.4	6.7	10		
15			7.2	67	27	119	14	9.5	11	10		
16			7.1	62	26	128	12	11	14	11		
17			7.4	54	25	84	13	27	12	14		
18			8.3	47	24	63	12	21	10	13		
19			8.4	43	24	55	11	13	9.5	14		
20			8.7	42	26	54	12	10	13	15		
21			8.6	43	26	52	12	9.1	14	19		
22			8.8	48	27	46	11	8.6	16	18		
23			12	56	28	42	11	7.7	21	15		
24			16	48	26	41	12	7.1	15	14		
25			36	43	26	39	13	8.8	11	13		
26			49	41	32	36	13	9.9	9.5	12		
27			37	40	41	33	11	9.8	9.2	12		
28			35	40	70	30	9.9	8.1	9.0	11		
29			39	41	72	27	9.7	7.2	8.6	11		
30			38	42	54	31	8.8	6.4	7.7	11		
31			60	---	44	---	8.0	6.8	---	11		
Total			518.5	2,161	1,138	1,755	525.4	304.5	271.3	351.7		
Mean			16.7	72.0	36.7	58.5	16.9	9.82	9.04	11.3		
Max			60	148	72	134	34	27	21	19		
Min			7.1	40	24	27	8.0	6.4	4.5	6.5		
Ac-ft			1,030	4,290	2,260	3,480	1,040	604	538	698		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1961 - 2006

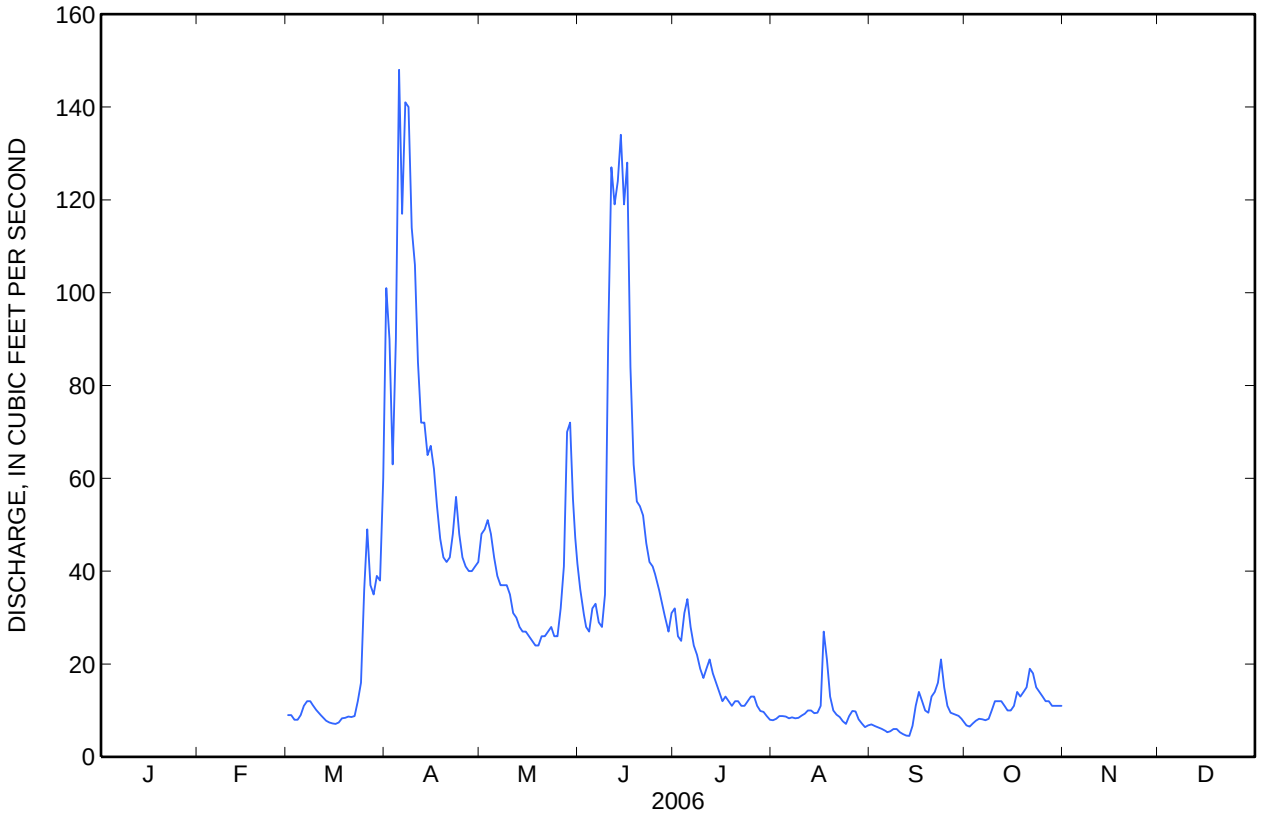
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean		46.0	30.9	64.5	83.0	88.0	35.7	16.9	14.5	16.2		
Max		46.0	136	153	239	465	96.6	42.6	43.8	37.0		
(WY)		(1963)	(1972)	(1969)	(1967)	(1975)	(1975)	(1993)	(1993)	(1986)		
Min		46.0	5.76	20.7	10.2	0.89	0.00	0.38	0.22	5.07		
(WY)		(1963)	(2001)	(1984)	(1977)	(1977)	(1977)	(2001)	(2001)	(1964)		

06132200 SOUTH FORK MILK RIVER NEAR BABB, MT—Continued

SUMMARY STATISTICS

	Season 2006		Seasons 1961-2006	
Highest daily mean	148	Apr 5	5,590	Jun 20, 1975
Lowest daily mean	4.5	Sep 13	0.00	Aug 23, 1973
Maximum peak flow	[a]243	Apr 4	[c]12,000	Jun 8, 1964
Maximum peak stage	[b]4.64	Mar 26	7.17	Feb 24, 1986
Instantaneous low flow			0.00	Aug 23, 1973

[a] Gage height, 4.54 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.



06133000 MILK RIVER AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY

Upper Missouri Basin
Milk Headwaters Subbasin

LOCATION.--Lat 49°00′27″, long 112°32′42″ referenced to North American Datum of 1927, 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 mi^2.

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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e16	341	105	86	33	0.35	0.71	8.2		
2			e15	353	121	68	31	0.25	0.57	7.8		
3			e14	347	131	56	31	0.14	0.42	7.3		
4			e13	268	139	50	27	0.21	0.35	7.0		
5			e17	360	130	45	23	0.18	0.25	6.9		
6			e26	593	112	41	22	0.11	0.21	6.5		
7			e39	682	98	37	25	0.07	0.42	6.7		
8			e57	491	89	41	21	0.04	0.39	7.7		
9			e46	413	89	40	17	0.00	0.32	8.5		
10			e35	325	91	53	15	0.00	0.28	8.8		
11			e28	288	87	109	13	0.04	0.18	10		
12			e25	249	79	216	12	0.00	0.07	12		
13			e26	212	75	189	11	0.00	0.04	14		
14			e27	202	71	211	9.4	0.00	0.11	14		
15			e29	186	70	225	9.1	0.00	0.28	15		
16			e35	183	71	252	7.6	0.00	0.42	15		
17			e33	175	70	267	6.3	0.00	0.46	15		
18			e33	152	66	182	4.7	0.00	0.39	15		
19			e32	136	61	130	3.8	0.00	0.74	15		
20			e35	123	57	109	2.9	8.3	1.1	19		
21			e41	105	54	97	2.3	9.9	8.2	20		
22			e47	108	51	96	1.9	7.7	11	23		
23			e61	120	51	84	1.9	5.9	15	25		
24			e146	136	50	71	1.5	4.1	24	23		
25			e290	122	44	60	1.9	3.2	25	20		
26			e350	107	43	54	1.7	2.6	21	18		
27			e424	99	48	47	1.5	2.0	17	16		
28			308	98	66	41	2.0	1.5	13	15		
29			244	98	99	36	1.4	1.2	11	e13		
30			214	102	134	35	0.95	0.99	9.1	e12		
31			312	---	111	---	0.53	0.78	---	e11		
Total			3,018	7,174	2,563	3,028	342.38	49.56	162.01	415.4		
Mean			97.4	239	82.7	101	11.0	1.60	5.40	13.4		
Max			424	682	139	267	33	9.9	25	25		
Min			13	98	43	35	0.53	0.00	0.04	6.5		
Ac-ft			5,990	14,230	5,080	6,010	679	98	321	824		

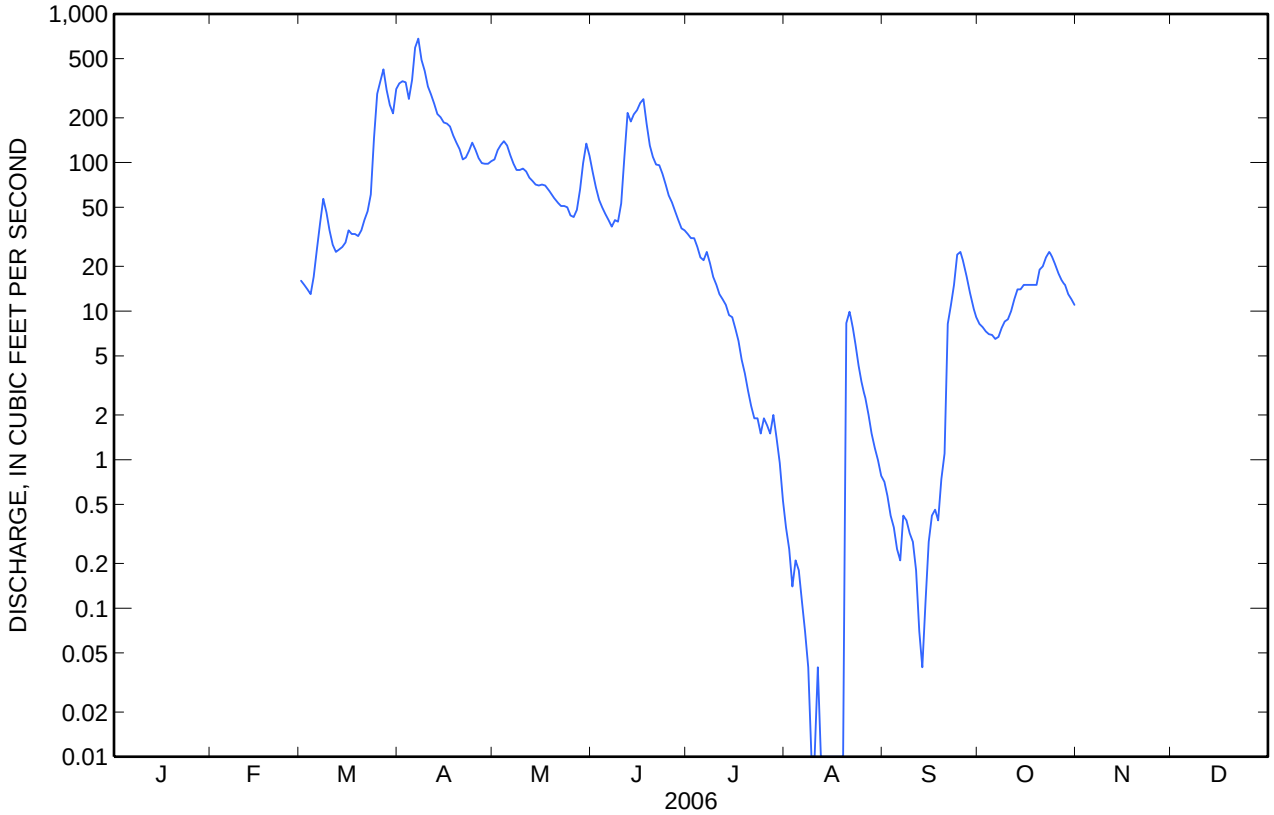
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1931 - 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			103	204	202	178	56.5	19.9	20.3	24.8		
Max			717	615	679	907	348	142	168	133		
(WY)			(1972)	(1969)	(1967)	(2002)	(1951)	(1951)	(1951)	(1952)		
Min			1.95	41.5	13.3	3.07	0.01	0.00	0.00	0.00		
(WY)			(2002)	(1941)	(1941)	(1977)	(1977)	(1939)	(1939)	(1964)		

06133000 MILK RIVER AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY—Continued

	2006 Season		Seasons 1931 - 2006	
Highest daily mean	682	Apr 7	5,410	Jun 9, 1964
Lowest daily mean	0.00	Many days	0.00	Jul 31, 1931
Maximum peak flow	738	Apr 7	[a]7,930	Jun 9, 1964
Maximum peak stage	4.81	Apr 7	[b]12.55	Mar 18, 1976

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



Water-Data Report 2006

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

Upper Missouri 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 mi^2.

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 Water Supply Paper 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e13	67	23	17	17	12	12	13		
2			e11	48	23	16	18	12	13	15		
3			e11	31	26	15	18	11	12	14		
4			e10	36	23	15	16	12	12	14		
5			e11	52	21	16	16	11	11	16		
6			e14	76	19	15	16	11	10	16		
7			e17	62	19	15	15	11	10	17		
8			e12	42	19	16	14	11	10	19		
9			e11	35	19	19	14	11	8.5	19		
10			e11	32	18	40	15	11	8.2	19		
11			e10	29	18	31	16	11	7.3	20		
12			e11	27	18	25	15	11	8.0	19		
13			e11	27	18	26	15	11	9.6	19		
14			e11	26	18	27	14	11	15	18		
15			e12	26	18	34	15	11	19	18		
16			e12	24	17	43	15	14	24	20		
17			e15	23	17	26	16	24	20	21		
18			e19	22	17	22	15	12	17	21		
19			e12	22	17	21	15	12	17	23		
20			e20	22	17	21	15	12	18	28		
21			e14	22	17	21	15	12	17	27		
22			e17	23	16	20	14	13	33	22		
23			71	26	16	19	14	12	17	20		
24			141	24	15	19	15	13	12	19		
25			120	22	15	19	16	13	11	19		
26			131	21	17	18	15	14	11	18		
27			86	20	18	18	14	13	12	17		
28			34	20	34	17	13	12	12	17		
29			38	20	26	17	13	12	11	16		
30			37	21	22	18	12	11	13	e15		
31			73	---	18	---	12	11	---	e15		
Total			1,016	948	599	646	463	378	410.6	574		
Mean			32.8	31.6	19.3	21.5	14.9	12.2	13.7	18.5		
Max			141	76	34	43	18	24	33	28		
Min			10	20	15	15	12	11	7.3	13		
Ac-ft			2,020	1,880	1,190	1,280	918	750	814	1,140		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1911 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			23.7	37.0	33.6	30.0	19.5	16.4	18.2	17.7		
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)		

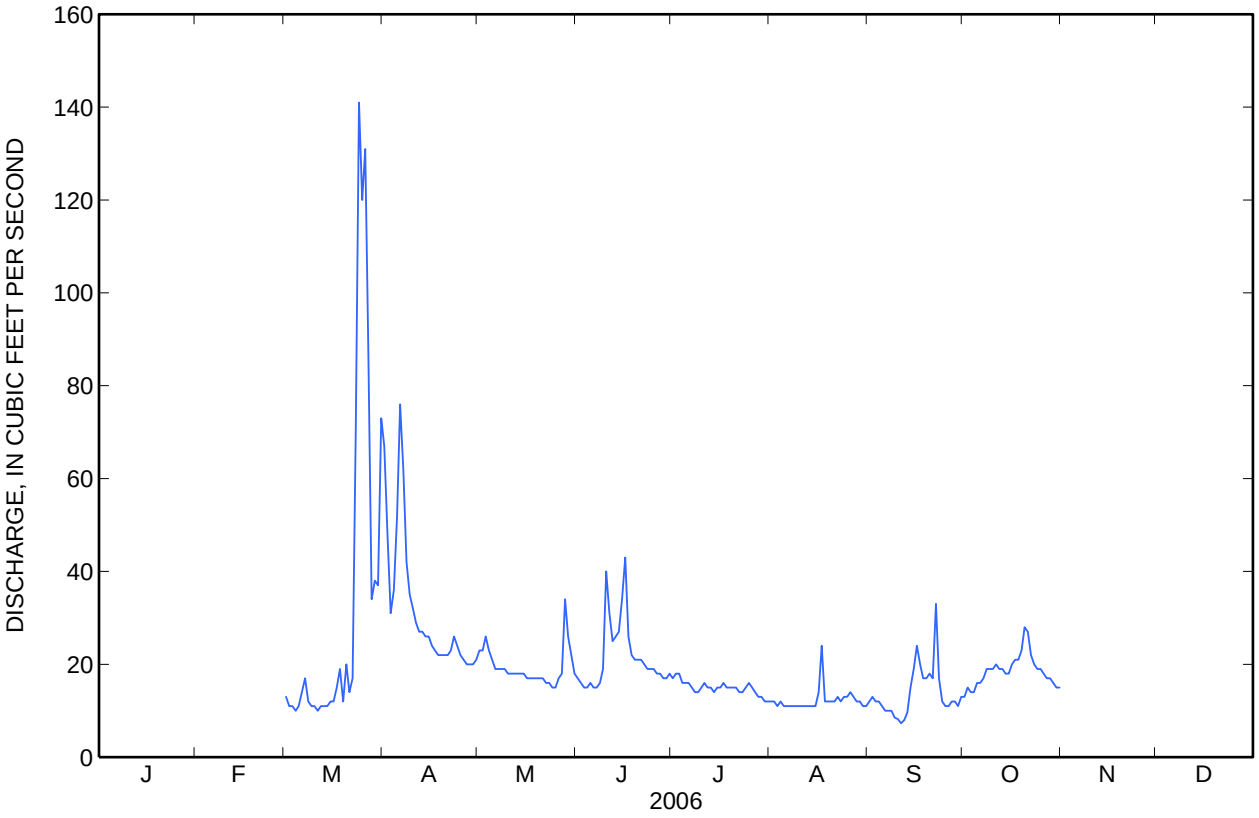
* During periods of operation (May 1911 to July 1912, June to July 1918, May 1919 to current season).

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

SUMMARY STATISTICS

	2006 Season		Seasons 1911 – 2006*	
Highest daily mean	141	Mar 24	1,320	Apr 22, 1953
Lowest daily mean	7.3	Sep 11	1.7	Sep 17, 1940
Maximum peak flow	255	Mar 23	[a] 3,090	May 8, 1967
Maximum peak stage	6.50	Mar 23	[b] 10.50	Mar 19, 1997

* During periods of operation (May 1911 to July 1912, June to July 1918, May 1919 to current season).
[a] Gage height, 7.95 ft, from rating curve extended above 130 ft³/s, on basis of slope-area measurements at gage heights 7.55 ft and 7.95 ft, at previous site and datum.
[b] Backwater from ice, gage height, 9.07 ft, from floodmarks at previous site, which was destroyed.



Water-Data Report 2006

06134000 NORTH MILK RIVER NEAR INTERNATIONAL BOUNDARY

Upper Missouri Basin
Milk Headwaters Subbasin

LOCATION.--Lat 49°01′19″, long 112°58′16″ referenced to North American Datum of 1927, 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.-- WSP 1309: 1909-13; 1915, maximum discharge (M); 1920 (M); 1937 (M). WSP 1559: 1948 (M). WSP 1729: 1944 (M). Water Data Report 1983: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 4,112.16 ft, referenced 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e22	593	671	646	639	554	516	16		
2			e22	561	678	643	643	554	516	17		
3			e21	533	685	643	639	554	516	17		
4			e20	512	682	643	632	554	512	18		
5			e21	480	678	653	629	551	509	18		
6			e22	530	675	653	625	551	512	17		
7			e29	463	667	664	618	547	509	18		
8			e31	403	667	664	607	547	509	19		
9			e54	392	667	671	607	547	509	18		
10			e212	364	664	720	607	544	509	18		
11			e283	360	664	710	604	540	505	18		
12			e353	360	667	696	600	537	501	18		
13			e346	424	657	696	597	540	505	18		
14			e335	459	657	713	586	537	509	18		
15			e327	477	660	675	583	533	512	18		
16			e306	523	660	625	576	540	473	20		
17			e295	530	660	576	572	565	420	21		
18			e378	533	660	551	572	544	396	20		
19			e424	530	667	547	576	533	353	22		
20			e431	526	678	569	579	526	318	28		
21			e441	523	692	625	576	526	309	27		
22			e459	523	696	639	579	526	253	23		
23			e477	526	675	632	579	526	149	21		
24			e512	519	639	614	583	526	82	20		
25			e565	519	639	604	583	533	36	20		
26			e554	583	643	593	576	530	24	19		
27			e547	622	650	586	572	526	24	19		
28			540	636	685	586	572	526	23	18		
29			551	646	660	607	569	523	22	e18		
30			565	664	636	636	569	519	18	e18		
31			636	---	632	---	558	516	---	e18		
Total			9,779	15,314	20,611	19,080	18,407	16,675	10,549	598		
Mean			315	510	665	636	594	538	352	19.3		
Max			636	664	696	720	643	565	516	28		
Min			20	360	632	547	558	516	18	16		
Ac-ft			19,400	30,380	40,880	37,850	36,510	33,070	20,920	1,190		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 - 2006

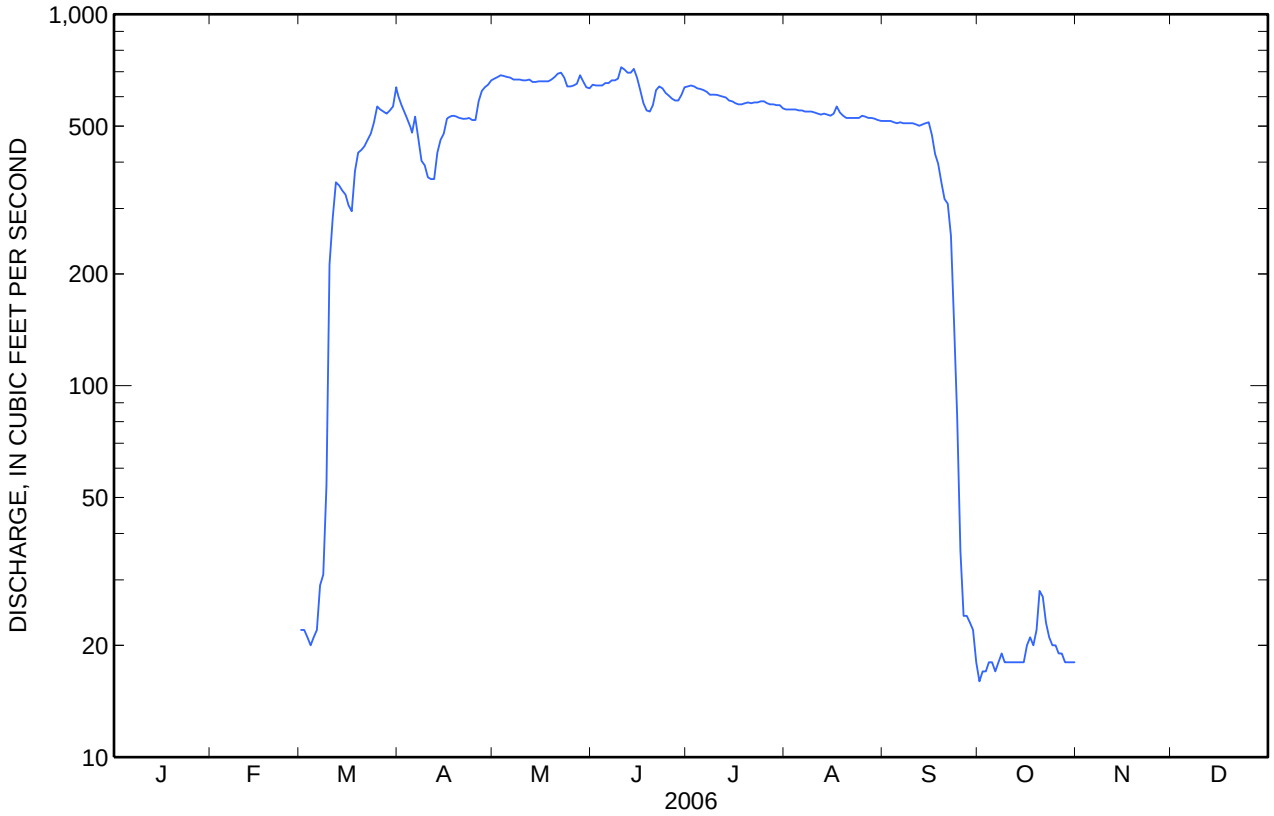
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			68.0	204	429	524	558	530	307	57.7		
Max			402	633	732	745	727	721	702	524		
(WY)			(1981)	(1991)	(2001)	(1976)	(1936)	(1969)	(2002)	(1951)		
Min			9.67	23.6	38.6	43.5	84.3	16.0	5.57	6.06		
(WY)			(2002)	(1940)	(1918)	(1952)	(2002)	(1982)	(1988)	(1942)		

06134000 NORTH MILK RIVER NEAR INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1917 - 2006	
Highest daily mean	720	Jun 10	2,170	Jun 7, 1995
Lowest daily mean	16	Oct 1	0.00	Mar 1, 1940
Maximum peak flow	742	Jun 10	[b]3,670	Jun 6, 1995
Maximum peak stage	[a]5.06	Mar 11	6.89	Jun 6, 1995

[a] Backwater from ice.
[b] From rating curve extended above 1,500 ft³/s.



Water-Data Report 2006

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.0 2., R.16 W., Hydrologic Unit is unknown, 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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	52	62	e29	e77	e61	e54	1,010	812	738	703	551	530
2	51	62	e29	e73	e60	e55	946	823	724	703	554	523
3	55	61	e28	e70	e60	e54	950	840	706	706	554	523
4	64	62	e28	e73	e61	e57	840	851	696	706	558	523
5	72	e63	e30	e71	e60	e63	848	848	696	692	554	519
6	83	e60	e34	e73	e59	e69	1,030	826	692	685	551	519
7	79	e59	e35	e73	e58	e74	1,260	802	696	671	547	519
8	82	e57	e37	e72	e58	e78	1,070	777	713	664	547	516
9	104	e49	e39	e73	e56	e78	879	766	724	653	547	519
10	105	e53	e42	e81	e57	e76	784	763	738	643	551	519
11	92	e71	e40	e80	e57	e75	699	763	798	650	558	516
12	82	e64	e38	e76	e52	e73	646	756	869	639	544	512
13	75	e53	e38	e83	e48	e195	604	752	908	625	537	509
14	68	e46	e37	e82	e45	e306	632	738	918	618	540	523
15	65	e40	e36	e80	e42	e441	660	731	946	607	540	530
16	62	e57	e38	e80	e40	e547	664	731	925	600	547	533
17	60	e68	e39	e81	e36	e519	710	731	876	597	554	494
18	60	e69	e39	e74	e37	e530	699	720	816	586	565	445
19	61	e71	e39	e62	e38	e586	692	717	731	586	544	424
20	62	e64	e42	e64	e40	e636	685	724	706	583	530	392
21	63	e48	e41	e71	e40	e692	671	731	703	583	523	346
22	63	e46	e41	e67	e40	e699	667	745	742	576	523	348
23	62	e44	e38	e69	e39	e777	675	749	749	576	523	313
24	63	e41	e45	e66	e38	e770	689	724	731	586	526	223
25	65	e39	e70	e64	e37	e812	696	696	706	586	526	171
26	65	e35	e86	e63	e38	e883	689	703	689	579	533	123
27	66	e33	e79	e62	e42	e953	727	710	675	572	533	90
28	67	e32	e76	e62	e47	e901	752	731	660	565	526	73
29	66	e31	e74	e63	---	e848	766	766	653	561	526	63
30	64	e30	e67	e59	---	812	795	780	685	561	519	57
31	63	---	e76	e60	---	879	---	766	---	554	533	---
Total	2,141	1,570	1,410	2,204	1,346	13,592	23,435	23,572	22,609	19,216	16,764	11,895
Mean	69.1	52.3	45.5	71.1	48.1	438	781	760	754	620	541	396
Max	105	71	86	83	61	953	1,260	851	946	706	565	533
Min	51	30	28	59	36	54	604	696	653	554	519	57
Ac-ft	4,250	3,110	2,800	4,370	2,670	26,960	46,480	46,760	44,840	38,110	33,250	23,590

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2006, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	101	56.2	33.9	30.6	60.7	229	500	660	723	615	553	351
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)

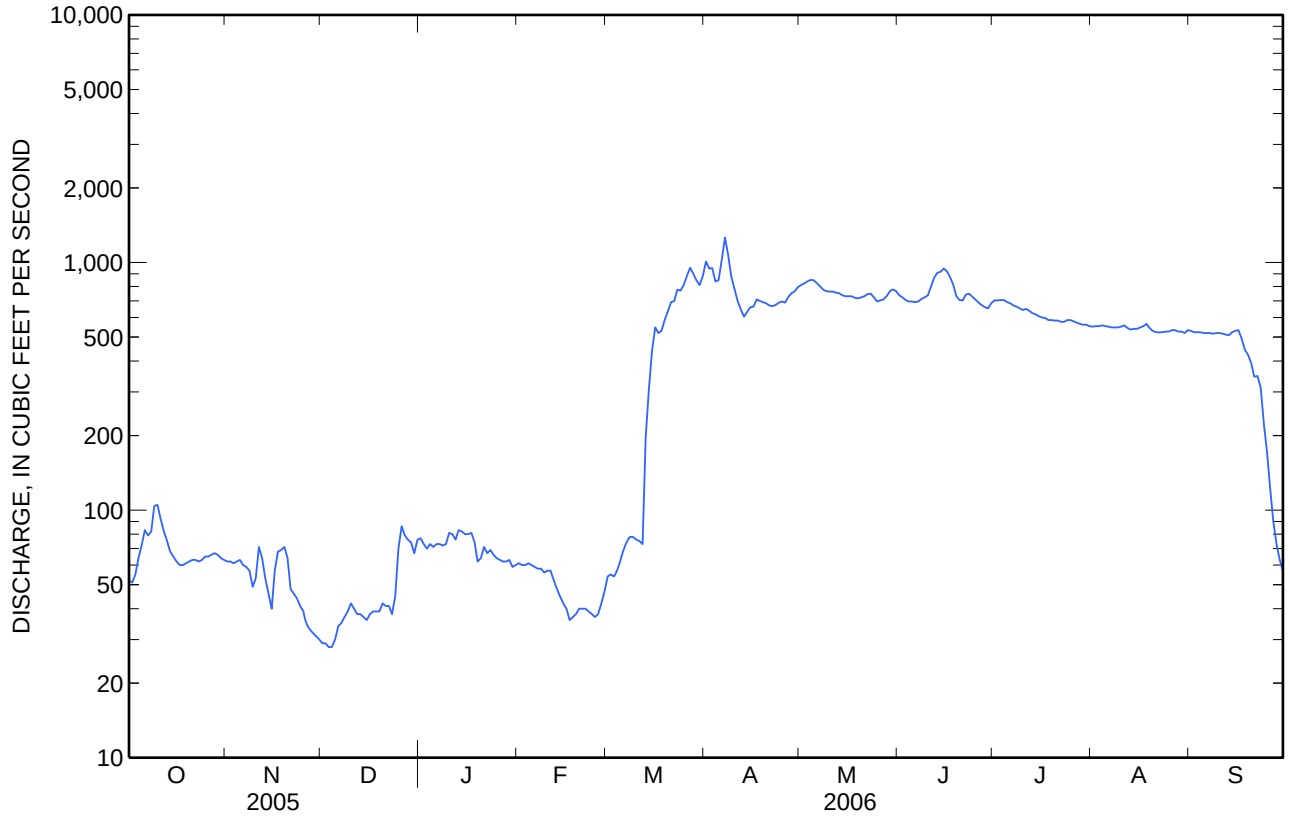
* Flow increased during irrigation season by water from St. Mary Canal.

06134500 MILK RIVER AT MILK RIVER, ALBERTA—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1917 – 2006*	
Annual total	122,912.6		139,754			
Annual mean	337		383		327	
Highest annual mean					489	1953
Lowest annual mean					157	1921
Highest daily mean	2,230	Jun 8	1,260	Apr 7	7,840	Jun 11, 2002
Lowest daily mean	3.2	Jan 16	28	Dec 3	0.00	Jan 19, 1922
Annual seven-day minimum	6.0	Jan 13	29	Nov 29	0.00	Jan 19, 1922
Maximum peak flow			1,330	Apr 7	9,850	Feb 25, 1986
Maximum peak stage			4.14	Apr 7	[a]12.46	Feb 25, 1986
Annual runoff (ac-ft)	243,800		277,200		237,000	
10 percent exceeds	697		773		739	
50 percent exceeds	76		516		158	
90 percent exceeds	34		40		13	

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



06134700 VERDIGRIS COULEE NEAR THE MOUTH, NEAR MILK RIVER, ALBERTA

Upper Missouri Basin
Upper Milk Subbasin

LOCATION.--Lat 49°06′39″, long 111°45′31″ referenced to North American Datum of 1927, in NW ¼ sec.12, T.02., R.14 W, fourth meridian, in Alberta, Hydrologic Unit 10050002, on left bank, 0.6 mi upstream from mouth, 5 mi downstream from culvert on provincial highway 501, and 15 mi east of Milk River, Alberta.

DRAINAGE AREA.--137 mi^2, of which 130 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1985 to current season (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 3,040 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 fair except those for estimated daily discharges, which are poor. Nearly all flow is the result of interbasin diversion from St. Mary River into Weston Lake 25 miles upstream. Environment Canada satellite telemeter is located at the station.

06134700 VERDIGRIS COULEE NEAR THE MOUTH, NEAR MILK RIVER, ALBERTA—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00		
2			e0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
3			e0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00		
4			e0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00		
5			e0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00		
6			e0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00		
7			e0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00		
8			e1.5	0.21	0.00	0.00	0.00	0.00	0.00	0.00		
9			e3.5	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
10			e0.53	0.07	0.00	0.00	0.00	0.00	0.00	0.00		
11			e0.04	0.04	0.00	0.18	0.00	0.00	0.00	0.00		
12			e0.00	0.04	0.00	0.11	0.00	0.00	0.00	0.00		
13			e0.00	0.04	0.00	0.49	0.00	0.00	0.00	0.00		
14			e0.00	0.04	0.00	4.9	0.00	0.00	0.00	0.00		
15			e0.00	0.00	0.00	53	0.00	0.00	0.00	0.00		
16			e0.00	0.00	0.00	24	0.00	0.00	0.00	0.00		
17			e0.00	0.00	0.00	6.0	0.00	0.00	0.00	0.00		
18			e0.00	0.00	0.00	1.7	0.00	0.00	0.00	0.00		
19			e0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00		
20			e0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00		
21			e0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00		
22			e0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00		
23			e0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00		
24			0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.00		
25			0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.00		
26			0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
27			0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
28			0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
29			0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30			1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
31			0.35	---	0.00	---	0.00	0.00	---	0.00		
Total			7.79	1.82	0.00	91.50	0.00	0.00	0.00	0.00		
Mean			0.25	0.06	0.00	3.05	0.00	0.00	0.00	0.00		
Max			3.5	0.53	0.00	53	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			15	3.6	0.00	181	0.00	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1985 - 2006

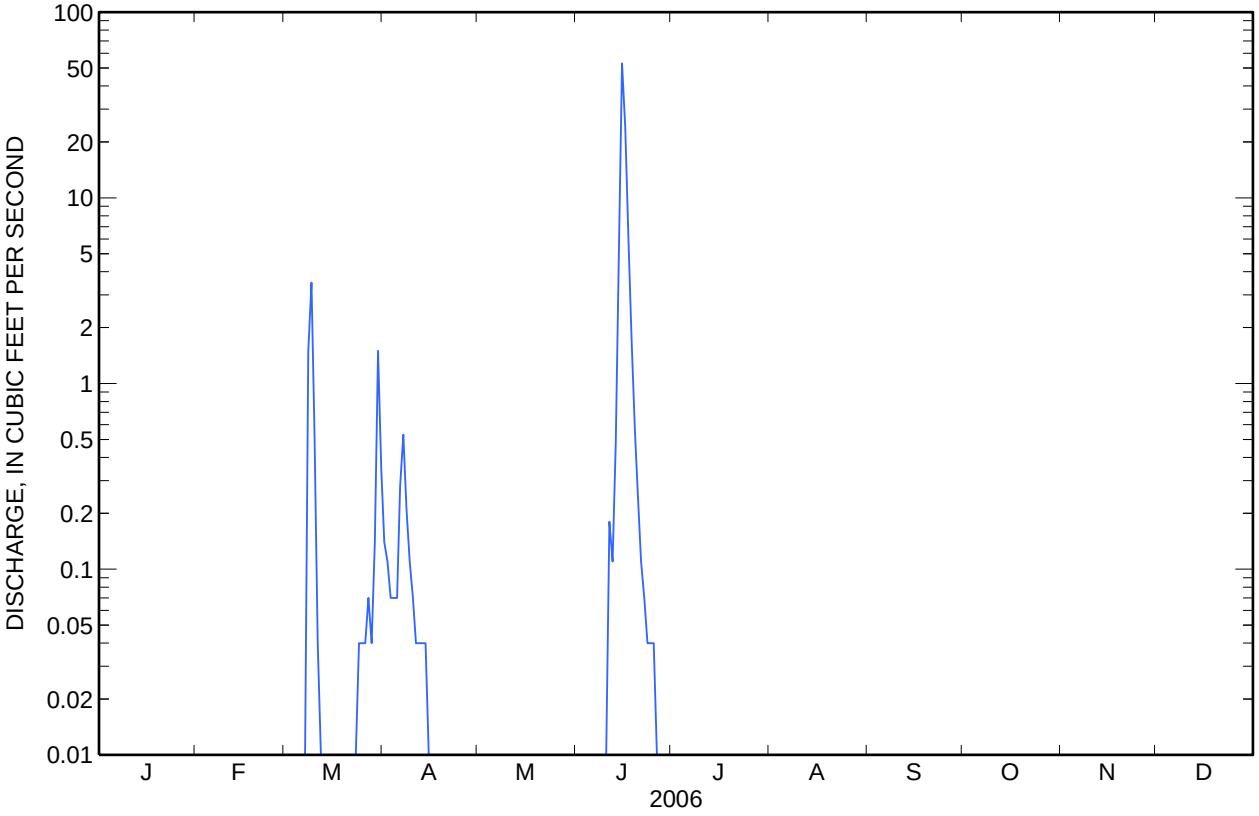
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			5.02	5.19	5.69	6.63	4.46	5.15	5.95	5.66		
Max			43.9	29.6	20.8	18.1	16.4	24.1	25.5	26.2		
(WY)			(1996)	(1996)	(1994)	(1989)	(1991)	(1993)	(1985)	(1986)		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
(WY)			(2001)	(2004)	(1998)	(2000)	(1999)	(1998)	(1999)	(2000)		

06134700 VERDIGRIS COULEE NEAR THE MOUTH, NEAR MILK RIVER, ALBERTA—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1985 - 2006	
Highest daily mean	53	Jun 15	264	Mar 11, 1996
Lowest daily mean	0.00	Many days	0.00	Nov 19, 1985
Maximum peak flow	60	Jun 15	[a]280	Mar 11, 1996
Maximum peak stage	6.12	Jun 15	6.51	Mar 2, 1994

[a]About, gage height not determined, backwater from ice.



06135000 MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY

Upper Missouri Basin
Upper 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 mi^2.

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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e30	836	e730	708	733	476	459	e128		
2			e30	846	744	715	704	463	457	e114		
3			e35	1,040	725	695	726	469	465	e103		
4			e30	973	696	755	729	466	451	e94		
5			e35	982	678	691	707	477	454	87		
6			e40	923	721	757	690	490	460	80		
7			e45	883	756	799	662	475	453	75		
8			e55	1,080	760	783	651	466	444	68		
9			e65	1,360	754	775	624	471	453	65		
10			e60	1,140	743	871	575	463	457	61		
11			e70	933	722	809	568	461	459	63		
12			e60	893	728	697	577	483	451	61		
13			e55	825	724	760	543	489	447	63		
14			e55	766	716	824	544	503	453	61		
15			e60	726	712	1,240	527	e479	490	59		
16			e70	684	716	1,540	516	e457	530	59		
17			e100	714	707	1,120	518	e507	502	57		
18			e200	724	691	1,020	510	e512	483	56		
19			e400	745	671	972	513	e523	460	56		
20			e600	752	705	921	510	515	421	68		
21			e550	735	672	825	511	544	387	82		
22			e500	737	708	751	511	493	385	84		
23			e700	736	680	714	515	477	354	79		
24			e1,000	699	623	695	503	472	307	71		
25			e847	689	657	681	497	462	293	66		
26			e939	e675	651	670	e499	472	281	62		
27			e1,100	e670	657	688	e500	484	222	64		
28			e921	e665	707	701	e495	489	180	65		
29			e1,250	e685	750	762	487	484	e152	62		
30			1,060	e725	729	752	464	471	e141	e60		
31			940	---	666	---	463	455	---	e55		
Total			11,902	24,841	21,899	24,691	17,572	14,948	11,951	2,228		
Mean			384	828	706	823	567	482	398	71.9		
Max			1,250	1,360	760	1,540	733	544	530	128		
Min			30	665	623	670	463	455	141	55		
Ac-ft			23,610	49,270	43,440	48,970	34,850	29,650	23,700	4,420		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			368	565	710	784	616	543	382	125		
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)		

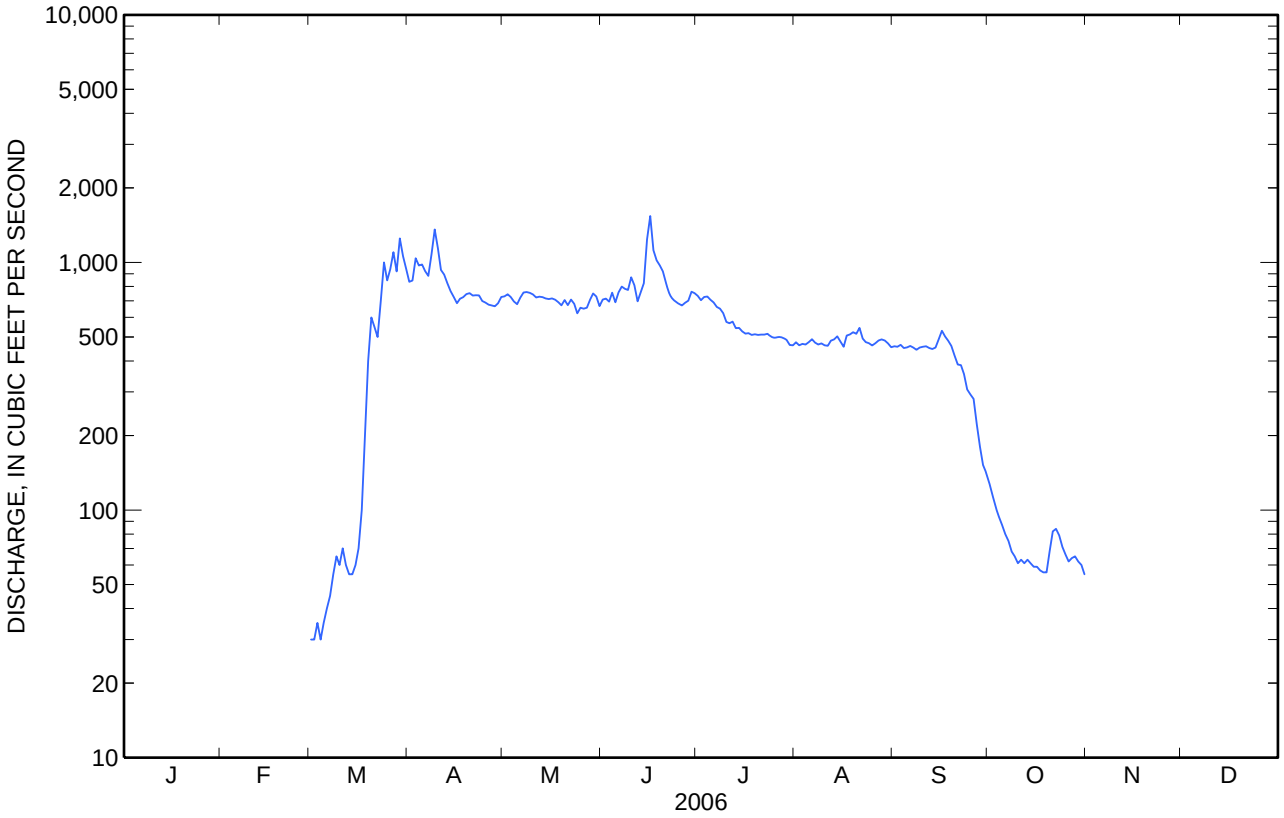
* Flow increased during irrigation season by water from St. Mary Canal.

06135000 MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1917 – 2006*	
Highest daily mean	1,540	Jun 16	12,400	Jun 12, 2002
Lowest daily mean	30	Mar 1,2 and 4	0.00	Feb 1, 1922
Maximum peak flow	[a]1,950	Jun 15	[c]14,400	Jun 12, 2002
Maximum peak stage	[b]7.32	Mar 24	[b]15.03	Mar 13, 1996

* Flow increased during irrigation season by water from St. Mary Canal.
[a] Gage height, 4.58 ft.
[b] Backwater from ice jam.
[c] Gage height, 10.78 ft, from floodmarks.



06136500 FRESNO RESERVOIR NEAR HAVRE, MT

Upper Missouri 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, 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, 94,750 acre-ft, May 9, elevation, 2,575.47 ft; minimum observed, 27,790 acre-ft, Sept. 1, elevation, 2,553.90 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2005 TO SEPTEMBER 2006

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2,562.04	45,800	--
October 31	2,562.74	47,610	+1,810
November 30	2,562.99	48,270	+660
December 31	2,562.40	46,720	-1,550
Calendar Year 2005	--	--	+8,400
January 31	2,563.21	48,850	+2,130
February 28	2,563.23	48,910	+60
March 31	2,569.37	68,180	+19,270
April 30	2,575.07	92,770	+24,590
May 31	2,572.09	79,100	-13,670
June 30	2,573.91	87,240	+8,140
July 31	2,563.08	48,510	-38,730
August 31	2,553.92	27,830	-20,680
September 30	2,560.37	41,690	+13,860
Water Year 2006	--	--	-4,110

06137400 BIG SANDY CREEK AT RESERVATION BOUNDARY, NEAR ROCKY BOY, MT

Milk Basin
Big Sandy Subbasin

LOCATION.--Lat 48°10′21″, long 109°49′31″ referenced to North American Datum of 1927, in SW ¼ NW ¼ NE ¼ sec.20, T.28 N., R.15 E., Chouteau County, MT, Hydrologic Unit 10050005, on left bank 0.9 mi downstream from Muddy Creek, 6.0 mi south of Rocky Boy Agency, and at river mile 90.6.

DRAINAGE AREA.--24.7 mi^2.

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 3,830 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Sept. 6, 2001, water-stage recorder at site 0.1 mi downstream at different elevation.

REMARKS.--Records are good except those for flows over 15 ft^3/s, which are fair, and those for estimated daily discharges, which are poor. No known regulation or diversions occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperatures and specific conductance were made during the year.

06137400 BIG SANDY CREEK AT RESERVATION BOUNDARY, NEAR ROCKY BOY, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5.2	4.9	e5.0	e4.0	3.5	e3.5	9.3	7.6	9.1	e6.5	2.8	1.9
2	5.7	4.8	e5.0	e4.2	4.0	e3.5	9.2	8.3	8.5	e6.5	2.3	1.4
3	6.8	5.2	e5.0	e3.5	4.1	e3.5	8.3	8.4	8.1	e6.5	2.3	1.1
4	6.3	5.1	e5.5	e3.5	4.4	e3.0	8.9	8.0	8.1	e6.0	2.0	0.87
5	7.1	4.8	e5.5	e3.0	3.4	e3.0	10	8.1	8.1	e6.0	1.6	0.80
6	6.2	4.7	e5.5	4.0	3.4	3.2	15	8.0	7.8	e6.0	1.8	0.77
7	6.2	4.6	e5.0	4.0	e3.0	3.3	13	7.6	7.4	e5.5	1.4	0.82
8	5.9	5.2	e4.0	3.9	4.0	e3.0	11	7.5	8.0	e5.5	1.4	0.67
9	5.7	4.6	e3.5	e3.0	3.4	3.2	11	7.5	8.1	e5.0	1.4	0.61
10	5.4	5.0	e3.0	3.8	e3.0	e3.0	11	14	13	e5.0	1.2	0.62
11	5.6	5.3	e3.0	4.0	e3.0	e2.5	9.9	12	18	e4.5	1.4	0.74
12	5.3	5.2	e3.5	3.9	e4.5	e2.5	8.8	11	12	e4.5	1.2	0.86
13	5.2	e5.5	e3.5	e3.5	e4.0	e2.5	8.5	9.7	9.8	e4.5	1.2	0.90
14	4.7	e5.5	e3.5	3.9	e3.5	e3.0	8.4	9.4	9.0	e4.5	1.0	1.1
15	5.1	e5.0	e3.5	4.3	e3.0	e3.0	8.4	9.6	11	e4.0	0.92	4.4
16	5.4	e5.0	e3.5	e4.0	e4.0	e3.0	9.1	9.3	15	e4.0	0.83	4.8
17	5.1	e5.5	e3.5	e3.5	e4.0	3.2	11	9.0	12	e4.0	2.9	6.1
18	5.1	e5.5	e3.0	4.3	e3.5	3.2	9.6	8.7	10	e4.0	3.5	5.9
19	5.1	e5.5	e3.0	3.9	e3.0	3.1	9.1	8.6	9.9	e4.0	1.7	5.9
20	5.6	e5.5	e3.0	e3.5	e3.0	3.1	8.5	8.7	10	e4.0	1.3	5.8
21	5.5	e5.5	e3.0	4.1	e3.5	3.1	8.1	9.2	9.5	e4.0	0.87	5.7
22	5.4	e5.5	e4.0	e3.5	e3.5	3.7	7.9	8.8	8.8	e4.0	0.80	5.8
23	5.2	e5.5	e3.5	e4.5	e3.5	3.3	9.5	8.9	8.4	e4.0	0.73	5.4
24	5.1	e5.5	e3.5	4.1	e3.0	3.8	8.7	8.1	8.4	e3.5	0.85	5.4
25	5.1	e5.5	e3.5	4.2	e3.0	5.0	8.4	7.7	8.0	e3.5	0.93	5.4
26	5.0	e5.5	e3.5	4.0	e3.0	6.4	8.0	10	7.5	e3.5	1.1	5.5
27	5.0	e4.5	e3.5	e3.5	e3.0	5.7	7.9	9.4	7.6	e3.5	0.80	5.4
28	5.0	e5.0	e3.5	e3.5	e3.5	5.7	7.8	13	e7.0	e3.5	0.76	5.0
29	4.9	e5.0	e3.5	4.4	---	6.7	7.7	13	e7.0	e3.5	0.58	4.9
30	4.9	e5.0	e3.0	3.6	---	8.4	7.7	12	e6.5	3.6	0.61	4.9
31	4.8	---	e4.0	3.6	---	8.3	---	10	---	3.0	2.0	---
Total	168.6	154.9	118.5	118.7	97.7	121.4	279.7	291.1	281.6	140.1	44.18	99.46
Mean	5.44	5.16	3.82	3.83	3.49	3.92	9.32	9.39	9.39	4.52	1.43	3.32
Max	7.1	5.5	5.5	4.5	4.5	8.4	15	14	18	6.5	3.5	6.1
Min	4.7	4.5	3.0	3.0	3.0	2.5	7.7	7.5	6.5	3.0	0.58	0.61
Ac-ft	334	307	235	235	194	241	555	577	559	278	88	197

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2006, BY WATER YEAR (WY)

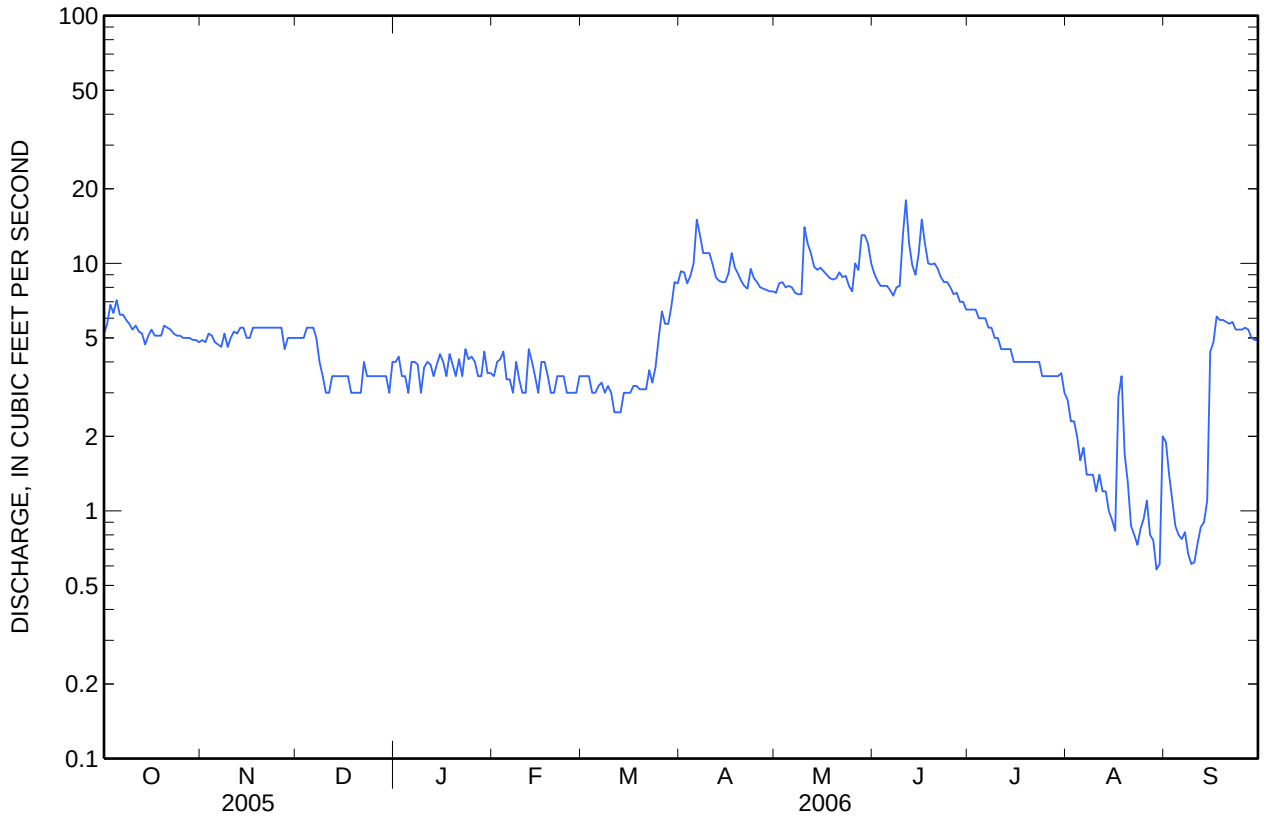
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5.18	4.56	4.02	3.44	4.12	6.23	10.3	13.1	17.3	12.5	6.25	5.21
Max	14.0	11.1	11.8	9.44	21.7	28.0	32.6	68.3	50.0	53.7	29.3	18.8
(WY)	(1986)	(1994)	(1996)	(1996)	(1996)	(1996)	(1994)	(1986)	(1982)	(1993)	(1993)	(1993)
Min	0.66	0.92	0.81	0.71	0.76	0.90	3.67	1.84	1.42	1.01	0.50	0.65
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1988)	(1988)	(2001)	(1988)	(2001)

06137400 BIG SANDY CREEK AT RESERVATION BOUNDARY, NEAR ROCKY BOY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1982 - 2006	
Annual total	3,344.8		1,915.94			
Annual mean	9.16		5.25		7.56	
Highest annual mean					18.1	1986
Lowest annual mean					1.79	2001
Highest daily mean	59	Jun 3	18	Jun 11	298	Jun 27, 1998
Lowest daily mean	2.0	Jan 2	0.58	Aug 29	0.42	Aug 10, 1988
Annual seven-day minimum	2.1	Jan 1	0.72	Sep 5	0.45	Aug 9, 1988
Maximum peak flow			[a]27	Jun 11	[c]510	Jun 27, 1998
Maximum peak stage			[b]2.06	Sep 22	6.07	Jun 27, 1998
Instantaneous low flow					[d]0.03	Jun 26, 1992
Annual runoff (ac-ft)	6,630		3,800		5,480	
10 percent exceeds	21		9.2		15	
50 percent exceeds	5.7		4.8		4.5	
90 percent exceeds	3.0		1.8		1.5	

[a] Gage height, 1.71 ft.
[b] Backwater from beaver dam.
[c] On basis of slope-area measurement of peak flow.
[d] Gage height, 2.32 ft, site and datum then in use.



Water-Data Report 2006

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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				17	6.3	3.2	4.8	0.00	0.00			
2				16	6.5	3.1	4.5	0.00	0.00			
3				15	6.3	3.0	4.3	0.00	0.00			
4				14	5.8	2.7	2.9	0.00	0.00			
5				13	6.0	2.4	3.0	0.00	0.00			
6				13	5.8	1.9	2.4	0.00	0.00			
7				12	5.5	1.6	2.2	0.00	0.00			
8				12	5.1	1.9	1.9	0.00	0.00			
9				12	4.6	1.7	1.4	0.00	0.00			
10				11	4.7	2.8	1.2	0.00	0.00			
11				10	4.5	4.0	1.3	0.00	0.00			
12				10	4.4	5.4	1.0	0.00	0.00			
13				10	4.2	11	1.1	0.00	0.00			
14				9.8	4.9	7.3	0.69	0.00	0.00			
15				9.4	4.3	5.9	0.66	0.00	0.00			
16				9.8	4.3	5.3	0.73	0.00	0.00			
17				10	3.9	4.1	0.64	0.00	0.00			
18				9.6	3.5	3.7	0.54	0.00	0.00			
19				9.3	3.2	3.9	0.49	0.00	0.00			
20				8.3	3.5	3.4	0.38	0.00	0.00			
21				7.1	3.3	2.7	0.34	0.00	0.00			
22				6.6	2.7	4.8	0.31	0.00	0.00			
23				6.1	1.5	5.8	0.25	0.00	0.00			
24				5.7	0.85	5.4	0.20	0.00	0.00			
25				5.6	0.78	5.4	0.18	0.00	0.00			
26				6.0	1.0	5.1	0.13	0.00	0.00			
27				7.5	1.1	5.3	0.09	0.00	0.00			
28				7.2	1.5	5.0	0.07	0.00	0.00			
29				6.6	1.4	4.6	0.05	0.00	0.00			
30				6.4	1.4	5.0	0.01	0.00	0.00			
31				---	2.0	---	0.00	0.00	---			
Total				296.0	114.83	127.4	37.76	0.00	0.00			
Mean				9.87	3.70	4.25	1.22	0.00	0.00			
Max				17	6.5	11	4.8	0.00	0.00			
Min				5.6	0.78	1.6	0.00	0.00	0.00			
Ac-ft				587	228	253	75	0.00	0.00			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2006, BY WATER YEAR (WY)

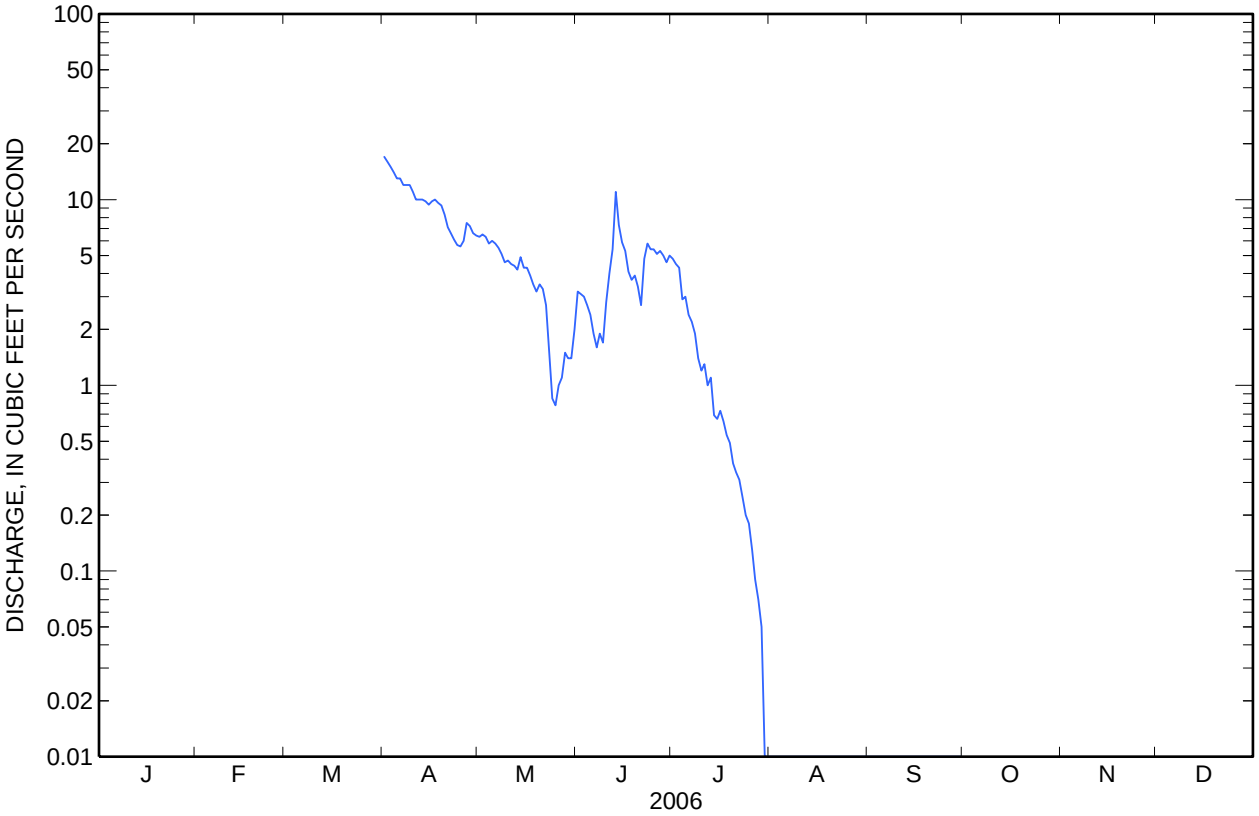
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	0.48	6.68	61.3	57.2	13.6	26.3	17.5	5.12	3.92	7.96	0.04	0.02
Max	3.39	19.5	343	1,218	108	222	137	85.9	54.4	54.5	0.31	0.14
(WY)	(1947)	(1947)	(1947)	(1952)	(1986)	(1953)	(1993)	(1993)	(1993)	(1987)	(1953)	(1953)
Min	0.00	0.00	0.63	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1948)	(1948)	(1949)	(2002)	(1949)	(1949)	(1946)	(1946)	(1946)	(1947)	(1947)	(1947)

06139500 BIG SANDY CREEK NEAR HAVRE, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1946 – 2006*	
Highest daily mean	17	Apr 1	5,100	Apr 3, 1952
Lowest daily mean	0.00	Jul 31	0.00	Feb 1, 1946
Maximum peak flow	[a]18	Apr 1	5,570	Apr 3, 1952
Maximum peak stage	2.61	Jun 12	[b]14.70	Apr 3, 1952

* During the period of operation.
[a] Gage height, 2.59 ft.
[b] From floodmarks.



Water-Data Report 2006

06140500 MILK RIVER AT HAVRE, MT

Upper Missouri 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 mi^2, of which 670 mi^2 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 current year. 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
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	42	43	e40	e45	e45	e45	74	385	936	1,060	862	836
2	41	55	e35	e50	e80	e45	72	556	864	1,050	852	724
3	41	33	e35	e50	74	e40	72	606	849	1,040	850	488
4	43	42	e35	e50	75	e45	71	576	841	1,030	839	461
5	41	40	e35	e45	60	e40	128	578	841	1,030	808	424
6	41	40	e30	e50	58	e45	146	595	839	1,030	802	243
7	41	41	e30	e50	91	e45	143	629	817	1,030	798	228
8	42	44	e40	e45	71	e50	264	647	722	1,020	795	245
9	44	44	e40	e50	66	e60	451	649	707	1,010	788	245
10	43	43	e40	e50	e50	e70	475	667	728	997	784	247
11	44	43	e40	e50	e40	e60	487	635	725	1,080	781	236
12	43	43	e40	e50	e50	e60	484	631	706	1,160	781	231
13	44	43	e40	e45	e45	e70	489	644	693	1,200	774	213
14	43	42	e40	e45	e45	e70	497	630	648	1,230	772	205
15	44	39	e40	e45	e40	e60	500	652	634	1,240	768	196
16	44	41	e40	e40	e35	e60	505	785	591	1,230	771	184
17	43	51	e35	e40	e30	e60	482	898	508	1,230	798	185
18	43	44	e35	e45	e35	e70	481	994	503	1,220	768	206
19	44	43	e35	e45	e40	e20	476	1,140	503	1,210	762	204
20	48	44	e40	e45	e40	e25	473	1,160	509	1,210	762	176
21	45	44	e45	e40	e40	e40	469	1,150	506	1,160	760	162
22	44	44	e50	e40	e40	e130	471	1,150	502	1,030	767	149
23	44	44	e45	e45	e40	e90	472	1,100	499	1,010	769	148
24	44	44	e45	e50	e40	e70	468	1,100	565	996	763	153
25	44	43	e45	e45	e35	e60	480	1,110	570	987	745	170
26	45	45	e45	e45	e40	e80	481	1,130	564	980	734	168
27	45	e35	e40	e40	e45	e80	484	1,140	573	966	737	129
28	44	e40	e40	e40	e45	e70	476	1,150	672	958	718	106
29	44	e35	e40	e45	---	72	348	1,150	718	946	678	70
30	44	e40	e40	e45	---	74	348	1,150	961	935	789	e60
31	44	---	e40	e45	---	74	---	964	---	921	895	---
Total	1,346	1,272	1,220	1,415	1,395	1,880	11,267	26,351	20,294	33,196	24,270	7,492
Mean	43.4	42.4	39.4	45.6	49.8	60.6	376	850	676	1,071	783	250
Max	48	55	50	50	91	130	505	1,160	961	1,240	895	836
Min	41	33	30	40	30	20	71	385	499	921	678	60
Ac-ft	2,670	2,520	2,420	2,810	2,770	3,730	22,350	52,270	40,250	65,840	48,140	14,860

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	143	75.0	53.0	56.8	89.1	309	507	805	812	777	574	323
Max	628	325	160	780	1,400	2,106	2,700	2,191	2,188	2,045	1,303	956
(WY)	(1994)	(1976)	(1900)	(1918)	(1916)	(1918)	(1899)	(1967)	(1908)	(1902)	(1978)	(1993)
Min	0.00	0.00	0.00	0.00	0.00	5.00	25.0	61.4	35.2	15.3	0.00	0.00
(WY)	(1906)	(1906)	(1906)	(1906)	(1922)	(1919)	(1983)	(1905)	(1905)	(1910)	(1910)	(1905)

* During periods of operation (May 1898 to November 1898, April 1898 to November 1922, March 1923 to April 1923, September 1954 to current year).

06140500 MILK RIVER AT HAVRE, MT—Continued

SUMMARY STATISTICS

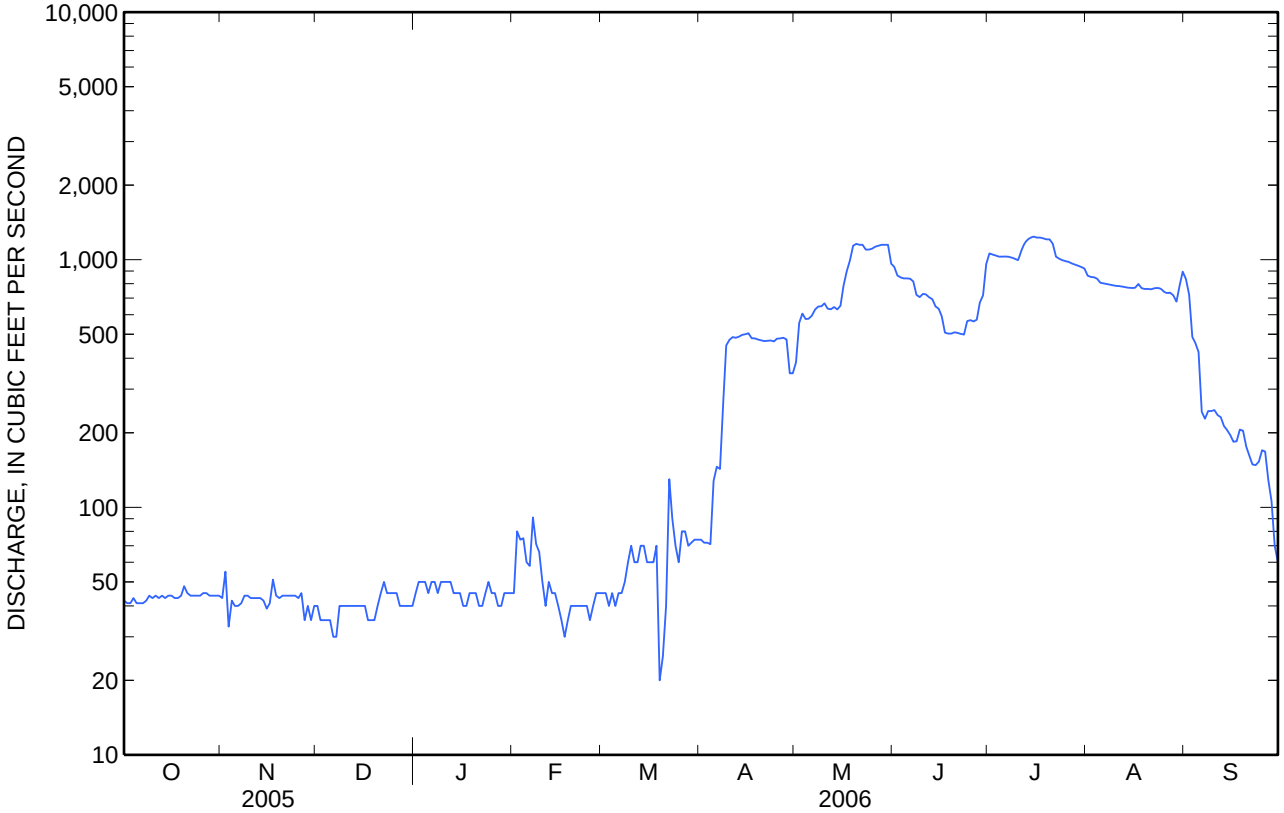
	Calendar Year 2005		Water Year 2006		Water Years 1898 - 2006*	
Annual total	110,844		131,398			
Annual mean	304		360		378	
Highest annual mean					727	1965
Lowest annual mean					39.2	1905
Highest daily mean	1,210	Aug 4	1,240	Jul 15	[a]16,000	Apr 12, 1899
Lowest daily mean	30	Dec 6	20	Mar 19	0.00	Jul 11, 1898[b]
Annual seven-day minimum	34	Dec 1	34	Dec 1	0.00	Aug 15, 1905
Maximum peak flow			1,270	Jul 16	[c]20,000	Apr 12, 1899
Maximum peak stage			5.03	Jul 16	[d]19.30	Apr 12, 1899
Annual runoff (ac-ft)	219,900		260,600		273,800	
10 percent exceeds	939		995		1,040	
50 percent exceeds	70		80		130	
90 percent exceeds	41		40		28	

SUMMARY STATISTICS

	Water Years 1900 - 1916**		Water Years 1917 - 2006*	
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 current year).
** 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 ft^3/s.
[d] Site and datum then in use, from floodmark.
[e] Observed, about.

06140500 MILK RIVER AT HAVRE, MT—Continued



06142400 CLEAR CREEK NEAR CHINOOK, MT

Upper Missouri 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 September 2006 (seasonal records only), discontinued.

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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				2.9	6.4	6.6	0.56	0.00	0.00			
2				3.5	6.4	6.0	0.39	0.00	0.00			
3				3.3	6.9	5.6	0.23	0.00	0.00			
4				5.6	9.7	4.1	0.04	0.00	0.00			
5				6.4	9.8	3.1	0.01	0.00	0.00			
6				5.8	7.2	2.2	0.00	0.00	0.00			
7				6.4	5.1	2.0	0.00	0.00	0.00			
8				12	3.2	2.2	0.00	0.00	0.00			
9				13	2.3	2.7	0.00	0.00	0.00			
10				11	2.2	4.3	0.00	0.00	0.00			
11				9.1	1.8	8.5	0.00	0.00	0.00			
12				8.9	5.2	15	0.00	0.00	0.00			
13				7.8	7.3	14	0.00	0.00	0.00			
14				6.3	6.6	10	0.00	0.00	0.00			
15				6.1	6.6	8.4	0.00	0.00	0.00			
16				4.9	5.1	7.3	0.09	0.00	0.00			
17				5.1	2.8	7.1	0.02	0.00	0.00			
18				8.3	2.0	7.0	0.00	0.00	0.00			
19				10	1.6	6.4	0.00	0.00	0.00			
20				7.7	1.3	6.0	0.00	0.00	0.00			
21				6.2	1.2	4.6	0.00	0.00	0.00			
22				5.5	1.1	3.8	0.00	0.00	0.00			
23				6.5	0.90	2.5	0.00	0.00	0.00			
24				7.8	0.84	2.0	0.00	0.00	0.00			
25				7.3	0.54	1.9	0.00	0.00	0.00			
26				7.1	0.76	1.6	0.00	0.00	0.00			
27				4.7	1.3	1.5	0.00	0.00	0.00			
28				3.5	5.2	1.2	0.00	0.00	0.00			
29				4.6	13	1.1	0.00	0.00	0.00			
30				7.1	13	0.88	0.00	0.00	0.00			
31				---	8.2	---	0.00	0.00	---			
Total				204.4	145.54	149.58	1.34	0.00	0.00			
Mean				6.81	4.69	4.99	0.04	0.00	0.00			
Max				13	13	15	0.56	0.00	0.00			
Min				2.9	0.54	0.88	0.00	0.00	0.00			
Ac-ft				405	289	297	2.7	0.00	0.00			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2006, BY WATER YEAR (WY)

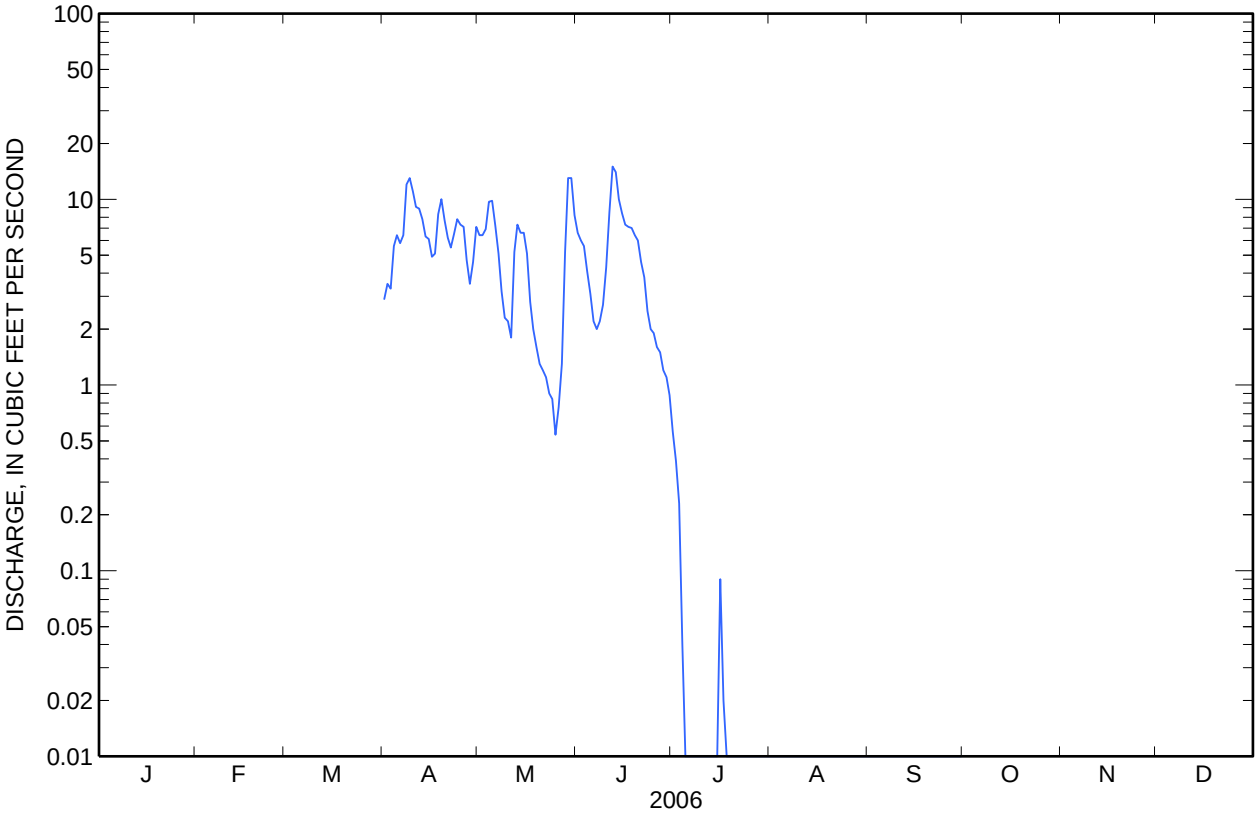
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				10.5	18.2	16.9	8.29	2.45	3.59			
Max				46.0	137	74.0	51.4	34.9	47.4			
(WY)				(1994)	(1986)	(1986)	(1993)	(1993)	(1986)			
Min				0.00	0.00	0.00	0.00	0.00	0.00			
(WY)				(2002)	(2001)	(2001)	(1985)	(1984)	(1984)			

06142400 CLEAR CREEK NEAR CHINOOK, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1984 - 2006	
Highest daily mean	15	May 21	360	Sep 25, 1986
Lowest daily mean	0.00	Aug 25	0.00	Jul 5, 1984 [a]
Maximum peak flow	17	Apr 10	571	Sep 25, 1986
Maximum peak stage	2.37	Apr 10	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.0 2., R.30 W., Hydrologic Unit is unknown, 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 mi^2.

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.

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

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, 6,120 acre-ft, Apr. 3, elevation, 2,953.59 ft; minimum, 1,690 acre-ft, Oct. 31, elevation, 2,940.83 ft.

SEASONAL MONTHEND CONTENTS
FEBRUARY 2006 TO OCTOBER 2006

Date	Contents (acre-feet)
February 28	3,200
March 31	5,470
April 30	5,490
May 31	3,350
June 30	2,880
July 31	2,190
August 31	1,820
September 30	1,740
October 31	1,690

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.02, 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.02, 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.

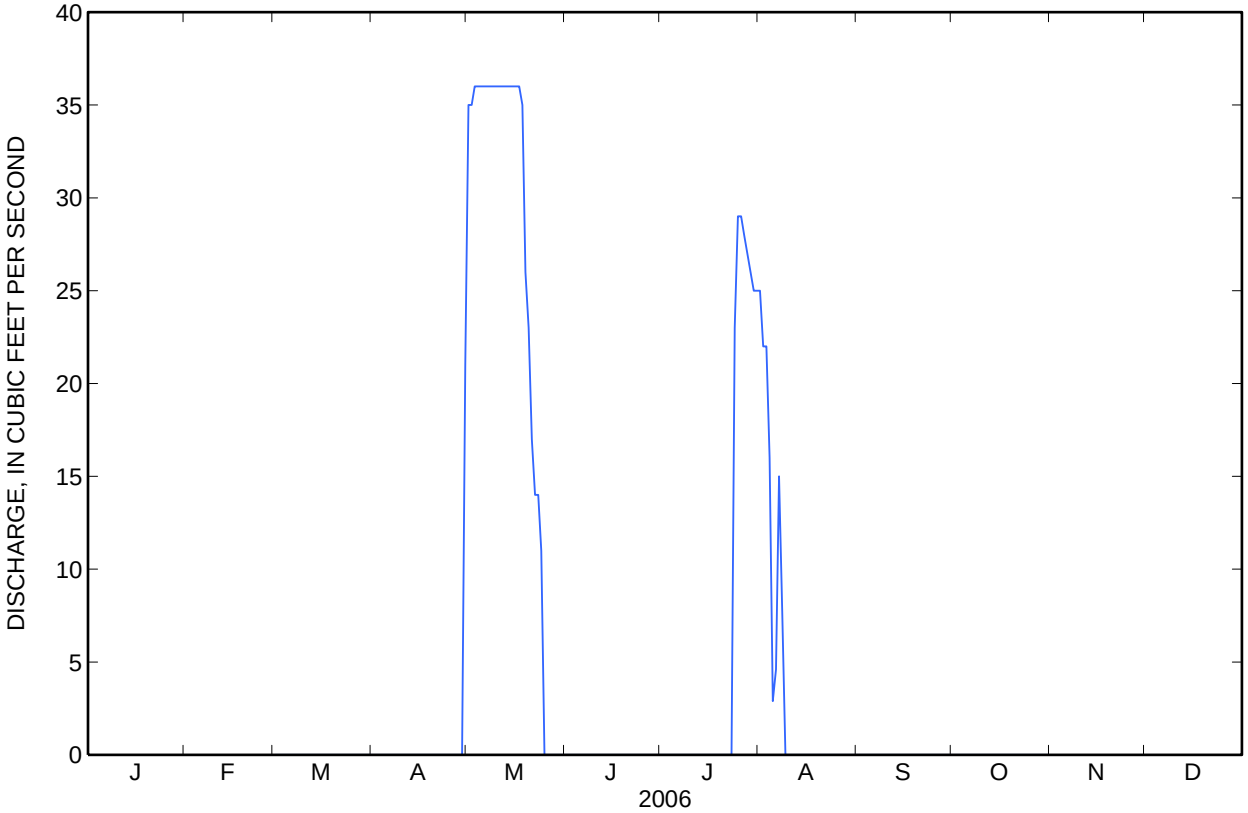
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft^3/s, Apr. 22, 1950, July 9, 1985; no flow most of each season.

06144270 SPANGLER DITCH NEAR GOVENLOCK, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	35	0.00	0.00	25	0.00	0.00		
2			0.00	0.00	35	0.00	0.00	22	0.00	0.00		
3			0.00	0.00	36	0.00	0.00	22	0.00	0.00		
4			0.00	0.00	36	0.00	0.00	16	0.00	0.00		
5			0.00	0.00	36	0.00	0.00	2.9	0.00	0.00		
6			0.00	0.00	36	0.00	0.00	4.6	0.00	0.00		
7			0.00	0.00	36	0.00	0.00	15	0.00	0.00		
8			0.00	0.00	36	0.00	0.00	7.7	0.00	0.00		
9			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	36	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	26	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	23	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	17	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	14	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	14	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	11	0.00	23	0.00	0.00	0.00		
25			0.00	0.00	0.00	0.00	29	0.00	0.00	0.00		
26			0.00	0.00	0.00	0.00	29	0.00	0.00	0.00		
27			0.00	0.00	0.00	0.00	28	0.00	0.00	0.00		
28			0.00	0.00	0.00	0.00	27	0.00	0.00	0.00		
29			0.00	0.00	0.00	0.00	26	0.00	0.00	0.00		
30			0.00	21	0.00	0.00	25	0.00	0.00	0.00		
31			0.00	---	0.00	---	25	0.00	---	0.00		
Total			0.00	21.00	750.00	0.00	212.00	115.20	0.00	0.00		
Mean			0.00	0.70	24.2	0.00	6.84	3.72	0.00	0.00		
Max			0.00	21	36	0.00	29	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	42	1,490	0.00	421	228	0.00	0.00		

06144270 SPANGLER DITCH NEAR GOVENLOCK, SASKATCHEWAN—Continued



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.05, R.01 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 mi^2.

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 (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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.21	130	0.42	0.18	0.07	0.04	0.04	0.07		
2			e0.21	115	0.42	0.18	0.07	0.04	0.04	0.07		
3			e0.21	93	0.42	0.18	0.04	0.04	0.04	0.07		
4			e0.21	43	0.42	0.18	0.04	0.04	0.04	0.11		
5			e0.21	38	0.39	0.18	0.04	0.04	0.04	0.11		
6			e0.21	31	0.39	0.14	0.04	0.04	0.04	0.11		
7			e1.0	40	0.39	0.11	0.04	0.04	0.04	0.07		
8			e1.7	21	0.35	0.14	0.07	0.04	0.04	0.07		
9			e2.7	9.1	0.35	0.14	0.07	0.04	0.04	0.11		
10			e0.71	4.0	0.35	0.14	0.04	0.04	0.04	0.11		
11			e0.53	2.4	0.35	0.18	0.07	0.04	0.04	0.11		
12			e0.39	1.7	0.35	0.14	0.11	0.04	0.04	0.11		
13			e0.28	1.3	0.39	0.14	0.04	0.04	0.04	0.11		
14			e0.25	0.92	0.35	0.14	0.04	0.04	0.04	0.11		
15			e0.25	0.67	0.35	0.18	0.04	0.04	0.04	0.07		
16			e0.25	0.60	0.35	0.18	0.04	0.04	0.04	0.07		
17			e0.39	0.53	0.39	0.11	0.04	0.04	0.07	0.07		
18			e0.60	0.49	0.35	0.11	0.04	0.04	0.04	0.07		
19			e0.35	0.49	0.32	0.11	0.04	0.04	0.04	0.07		
20			e0.32	0.49	0.32	0.11	0.04	0.04	0.04	0.07		
21			e0.28	0.46	0.32	0.11	0.04	0.00	0.04	0.07		
22			e0.28	0.46	0.28	0.07	0.04	0.00	0.04	0.07		
23			e0.39	0.42	0.32	0.07	0.04	0.00	0.07	0.07		
24			e1.3	0.42	0.25	0.07	0.04	0.00	0.07	0.07		
25			e3.3	0.42	0.21	0.07	0.04	0.04	0.07	0.11		
26			e9.6	0.42	0.21	0.07	0.04	0.04	0.07	0.11		
27			e58	0.39	0.21	0.07	0.04	0.04	0.07	0.14		
28			e91	0.39	0.21	0.07	0.04	0.04	0.07	e0.14		
29			e135	0.39	0.21	0.07	0.04	0.04	0.07	e0.14		
30			e124	0.42	0.18	0.11	0.04	0.04	0.07	e0.14		
31			132	---	0.18	---	0.04	0.04	---	e0.11		
Total			566.13	537.88	10.00	3.75	1.46	1.08	1.47	2.93		
Mean			18.3	17.9	0.32	0.12	0.05	0.03	0.05	0.09		
Max			135	130	0.42	0.18	0.11	0.04	0.07	0.14		
Min			0.21	0.39	0.18	0.07	0.04	0.00	0.04	0.07		
Ac-ft			1,120	1,070	20	7.4	2.9	2.1	2.9	5.8		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1910 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			13.7	35.9	10.8	3.73	1.75	0.70	0.95	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)		

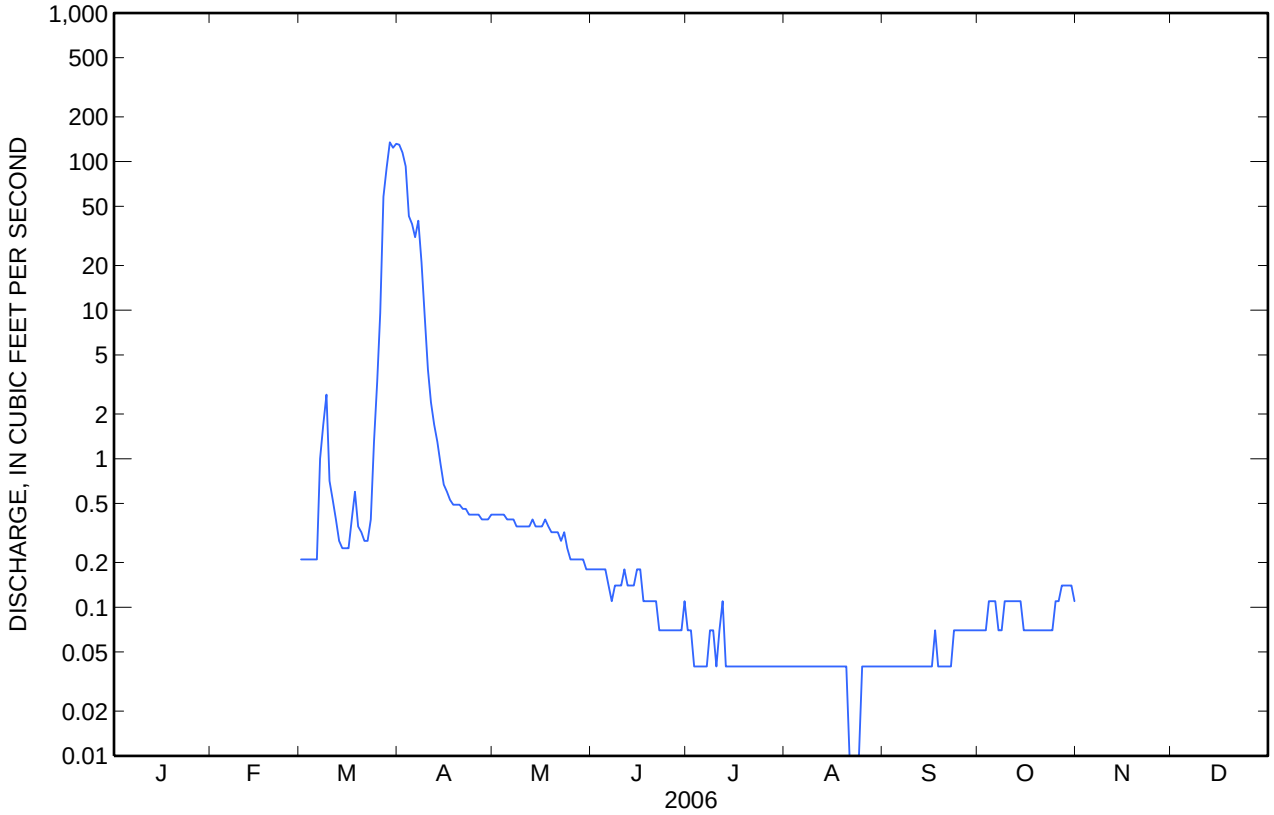
* During period of operation, interrupted records.

06144350 MIDDLE CREEK NEAR SASKATCHEWAN BOUNDARY—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1910 – 2006*	
Highest daily mean	135	Mar 29	2,560	Apr 15, 1952
Lowest daily mean	0.00	Aug 21	0.00	Mar 1, 1950
Maximum peak flow	172	Mar 29	[a]4,980	Apr 15, 1952
Maximum peak stage	6.35	Mar 29	[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.05, 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 mi^2.

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.

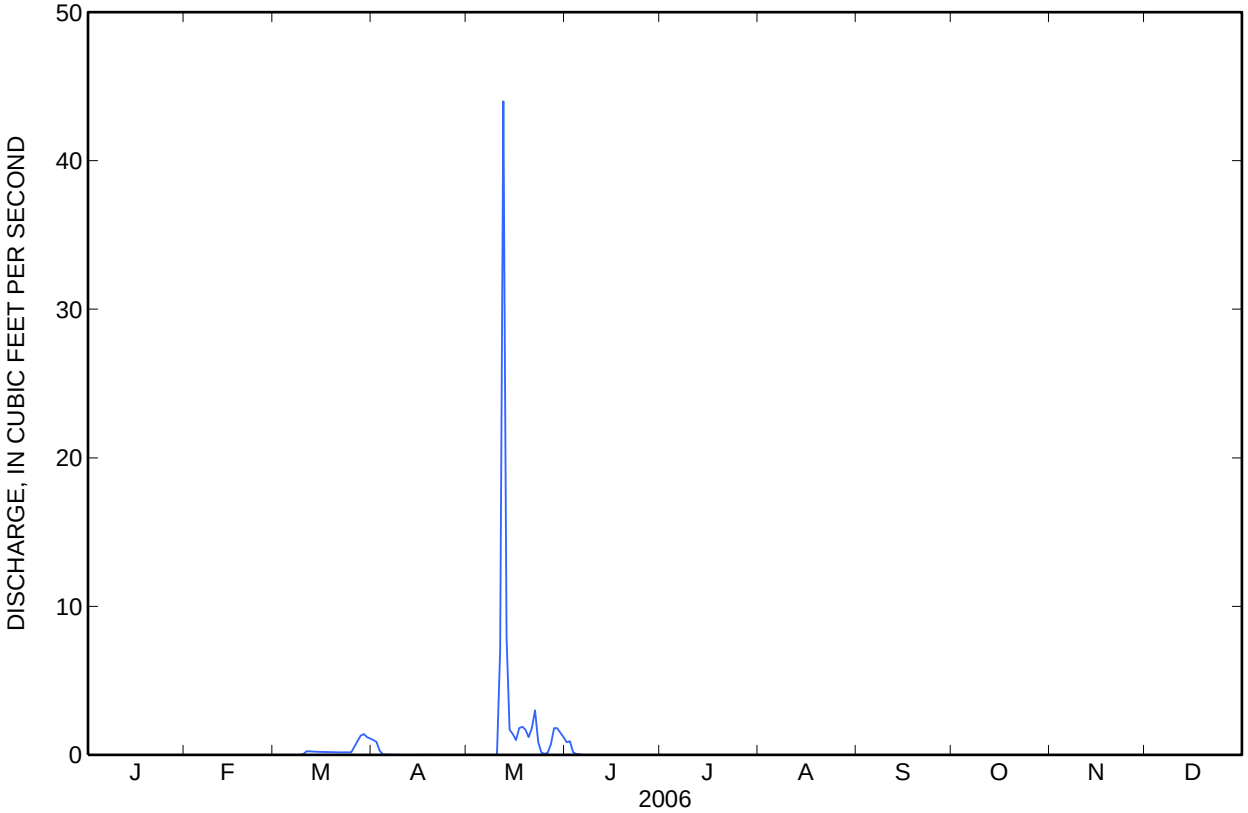
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 77 ft^3/s, May 3, 1985; no flow at times most seasons.

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

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	1.0	0.00	0.85	0.00	0.00	0.00	0.00		
2			0.00	0.88	0.00	0.92	0.00	0.00	0.00	0.00		
3			0.00	0.28	0.00	0.18	0.00	0.00	0.00	0.00		
4			0.00	0.04	0.00	0.07	0.00	0.00	0.00	0.00		
5			0.00	0.04	0.00	0.04	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			0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11			0.25	0.00	7.0	0.00	0.00	0.00	0.00	0.00		
12			0.25	0.00	44	0.00	0.00	0.00	0.00	0.00		
13			0.21	0.00	7.9	0.00	0.00	0.00	0.00	0.00		
14			0.21	0.00	1.7	0.00	0.00	0.00	0.00	0.00		
15			0.21	0.00	1.4	0.00	0.00	0.00	0.00	0.00		
16			0.21	0.00	0.99	0.00	0.00	0.00	0.00	0.00		
17			0.21	0.00	1.8	0.00	0.00	0.00	0.00	0.00		
18			0.18	0.00	1.9	0.00	0.00	0.00	0.00	0.00		
19			0.18	0.00	1.7	0.00	0.00	0.00	0.00	0.00		
20			0.18	0.00	1.2	0.00	0.00	0.00	0.00	0.00		
21			0.18	0.00	1.8	0.00	0.00	0.00	0.00	0.00		
22			0.18	0.00	3.0	0.00	0.00	0.00	0.00	0.00		
23			0.18	0.00	0.85	0.00	0.00	0.00	0.00	0.00		
24			0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.00		
25			0.18	0.00	0.07	0.00	0.00	0.00	0.00	0.00		
26			0.53	0.00	0.14	0.00	0.00	0.00	0.00	0.00		
27			0.92	0.00	0.71	0.00	0.00	0.00	0.00	0.00		
28			1.3	0.00	1.8	0.00	0.00	0.00	0.00	0.00		
29			1.4	0.00	1.8	0.00	0.00	0.00	0.00	0.00		
30			1.2	0.00	1.5	0.00	0.00	0.00	0.00	0.00		
31			1.1	---	1.2	---	0.00	0.00	---	0.00		
Total			9.51	2.24	82.64	2.06	0.00	0.00	0.00	0.00		
Mean			0.31	0.07	2.67	0.07	0.00	0.00	0.00	0.00		
Max			1.4	1.0	44	0.92	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			19	4.4	164	4.1	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.03, 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 mi^2.

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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e2.5	0.07	1.1	0.04	0.00	0.00	0.00		
2			e0.00	e3.1	0.11	0.81	0.04	0.00	0.00	0.00		
3			e0.00	e2.6	0.07	0.64	0.04	0.00	0.00	0.00		
4			e0.00	e2.4	0.07	0.49	0.00	0.00	0.00	0.00		
5			e0.00	e2.4	0.07	0.42	0.00	0.00	0.00	0.00		
6			e0.00	2.5	0.07	0.28	0.00	0.00	0.00	0.00		
7			e0.00	1.8	0.07	0.18	0.00	0.00	0.00	0.00		
8			e0.00	1.4	0.14	0.21	0.00	0.00	0.00	0.00		
9			e0.00	5.9	0.11	0.25	0.00	0.00	0.00	0.00		
10			e0.00	2.5	0.11	0.46	0.00	0.00	0.00	0.00		
11			e0.00	1.0	0.11	0.64	0.00	0.00	0.00	0.00		
12			e0.00	0.71	0.11	0.67	0.00	0.00	0.00	0.00		
13			e0.00	0.64	0.11	0.64	0.00	0.00	0.00	0.00		
14			e0.00	0.60	0.07	0.57	0.00	0.00	0.00	0.00		
15			e0.00	1.3	6.3	0.60	0.00	0.00	0.00	0.00		
16			e0.00	0.92	7.0	0.67	0.00	0.00	0.00	0.00		
17			e0.00	0.81	5.0	0.67	0.00	0.00	0.00	0.00		
18			e0.00	0.81	2.5	0.64	0.00	0.00	0.00	0.00		
19			e0.28	0.92	1.2	0.60	0.00	0.00	0.00	0.00		
20			e1.8	0.74	0.95	0.57	0.00	0.00	0.00	0.00		
21			e2.2	0.64	0.85	0.46	0.00	0.00	0.00	0.00		
22			e1.5	0.60	0.64	0.35	0.00	0.00	0.00	0.00		
23			e0.88	0.46	0.53	0.28	0.00	0.00	0.00	0.00		
24			e0.99	0.28	0.28	0.21	0.00	0.00	0.00	0.00		
25			e1.1	0.21	1.4	0.18	0.00	0.00	0.00	0.00		
26			e1.6	0.18	1.7	0.14	0.00	0.00	0.00	0.00		
27			e1.1	0.18	1.0	0.11	0.00	0.00	0.00	0.00		
28			e0.92	0.07	1.1	0.04	0.00	0.00	0.00	0.00		
29			e0.88	0.07	1.0	0.04	0.00	0.00	0.00	0.00		
30			e0.95	0.07	1.2	0.04	0.00	0.00	0.00	0.00		
31			e1.3	---	1.3	---	0.00	0.00	---	0.00		
Total			15.50	38.31	35.24	12.96	0.12	0.00	0.00	0.00		
Mean			0.50	1.28	1.14	0.43	0.00	0.00	0.00	0.00		
Max			2.2	5.9	7.0	1.1	0.04	0.00	0.00	0.00		
Min			0.00	0.07	0.07	0.04	0.00	0.00	0.00	0.00		
Ac-ft			31	76	70	26	0.2	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1986 - 2006

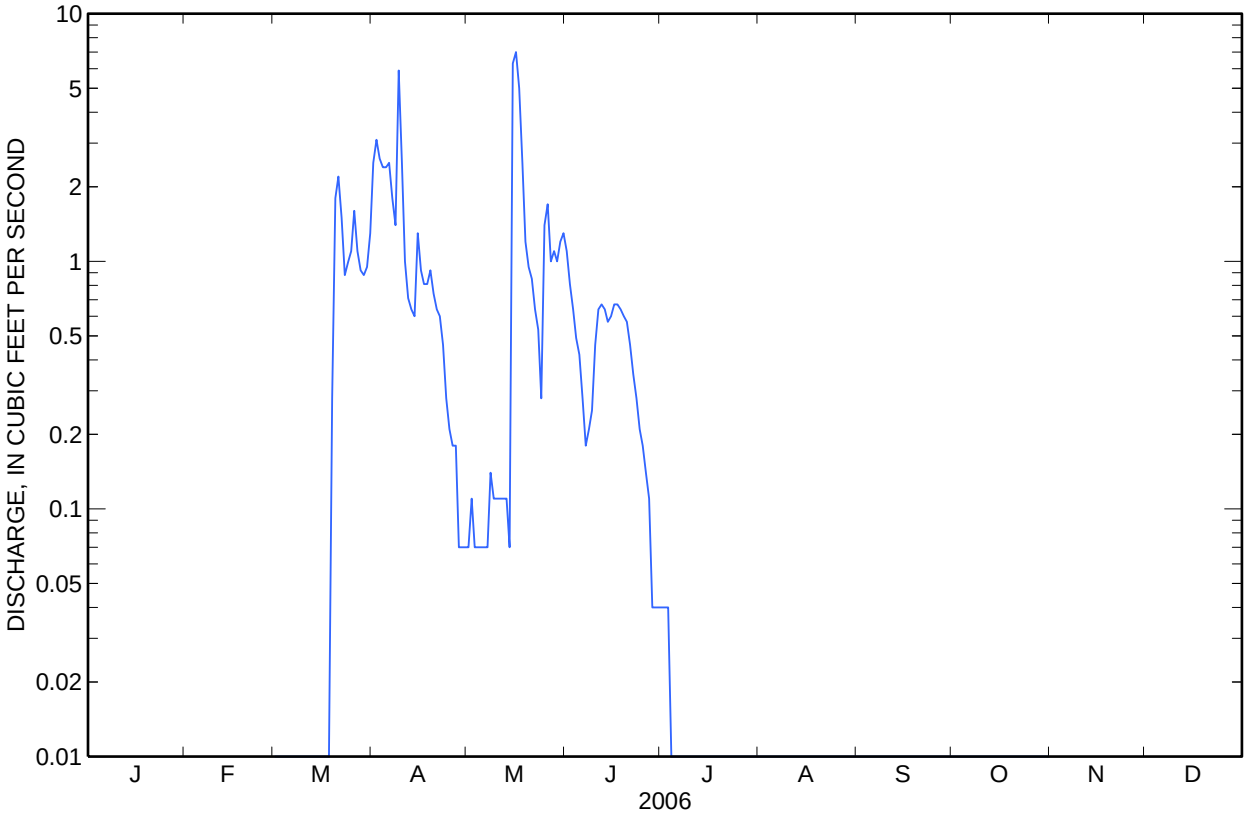
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean		3.50	10.3	5.02	2.40	3.24	0.57	0.12	2.78	0.51		
Max		15.5	53.2	36.4	6.79	14.3	5.45	2.20	56.9	4.04		
(WY)		(1986)	(1997)	(1996)	(1997)	(1988)	(1993)	(1993)	(1986)	(1987)		
Min		0.00	0.00	0.83	0.27	0.00	0.00	0.00	0.00	0.00		
(WY)		(1997)	(2002)	(1992)	(1992)	(1992)	(1990)	(1986)	(1987)	(1991)		

06144440 MIDDLE CREEK NEAR GOVENLOCK, SASKATCHEWAN—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1986 - 2006	
Highest daily mean	11	May 15	724	Sep 26, 1986
Lowest daily mean	0.00	Many days	0.00	Feb 19, 1986
Maximum peak flow	[a]11	May 15	1,190	Sep 25, 1986
Maximum peak stage	[b]4.50	Mar 20	9.81	Sep 25, 1986

[a] Gage height, 4.44 ft.
[b] Backwater from ice.



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.0 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 mi^2.

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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
3			e0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00		
4			e0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00		
5			e0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00		
6			e0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00		
7			e0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
8			e0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00		
9			e0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
10			e0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
11			e0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
12			e0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
13			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
14			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
16			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
17			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
18			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
19			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
20			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
21			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
22			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
23			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
24			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
25			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
26			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
27			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
28			e0.00	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	1.13	0.00	0.00	0.00	0.00	0.00	0.00		
Mean			0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		
Max			0.00	0.25	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	2.2	0.00	0.00	0.00	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1911 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			12.1	49.5	12.3	6.30	3.67	0.50	2.42	0.53		
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)		

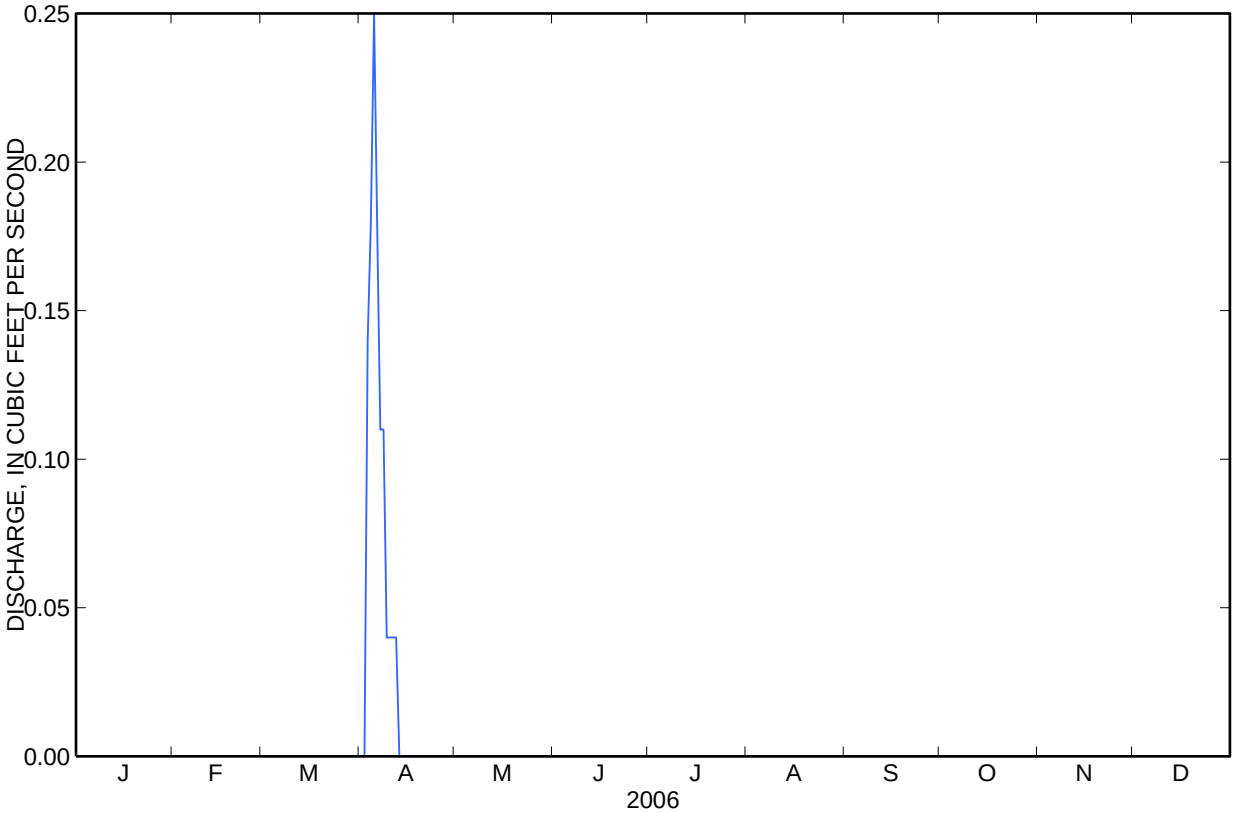
* During periods of seasonal operation (March 1911 to May 1931, March 1962 to October 1966, and February 1986 to current season).

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

SUMMARY STATISTICS

	2006 Season		Seasons 1911 – 2006*	
Highest daily mean	0.25	Apr 5	1,170	Apr 24, 1922
Lowest daily mean	0.00	Many days	0.00	Mar 13, 1911
Maximum peak flow	0.32	Apr 5	[a]1,280	Apr 24, 1922
Maximum peak stage	4.26	Apr 5	[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 SW¼ 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 mi^2, of which 88 mi^2 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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	4.2	75	0.04	0.00	0.00	0.00		
2			0.00	0.00	2.8	76	0.04	0.00	0.00	0.00		
3			0.00	105	1.9	75	0.04	0.00	0.00	0.00		
4			0.00	288	1.4	74	0.04	0.00	0.00	0.00		
5			0.00	223	2.9	75	0.00	0.00	0.00	0.00		
6			0.00	152	4.1	71	0.00	0.00	0.00	0.00		
7			0.00	111	3.0	30	0.00	0.00	0.00	0.00		
8			0.00	95	1.9	11	0.00	0.00	0.00	0.00		
9			0.00	92	1.2	6.9	0.00	0.00	0.00	0.00		
10			0.00	78	0.95	4.8	0.00	0.00	0.00	0.00		
11			0.00	60	0.78	4.0	0.00	0.00	0.00	0.00		
12			0.00	46	0.60	3.1	0.00	0.00	0.00	0.00		
13			0.00	34	0.42	2.2	0.00	0.00	0.00	0.00		
14			0.00	26	0.32	1.7	0.00	0.00	0.00	0.00		
15			0.00	22	0.28	1.4	0.00	0.00	0.00	0.00		
16			0.00	17	0.21	1.2	0.00	0.00	0.00	0.00		
17			0.00	16	0.14	0.92	0.00	0.00	0.00	0.00		
18			0.00	16	0.11	0.74	0.00	0.00	0.00	0.00		
19			0.00	13	0.07	0.64	0.00	0.00	0.00	0.00		
20			0.00	12	0.04	0.57	0.00	0.00	0.00	0.00		
21			0.00	9.7	0.04	0.46	0.00	0.00	0.00	0.00		
22			0.00	7.2	0.04	0.39	0.00	0.00	0.00	0.00		
23			0.00	5.8	0.04	0.32	0.00	0.00	0.00	0.00		
24			0.00	4.7	0.00	0.39	0.00	0.00	0.00	0.00		
25			0.00	6.0	0.00	0.32	0.00	0.00	0.00	0.00		
26			0.00	6.3	0.00	0.25	0.00	0.00	0.00	0.00		
27			0.00	4.3	0.00	0.18	0.00	0.00	0.00	0.00		
28			0.00	3.0	0.04	0.14	0.00	0.00	0.00	0.00		
29			0.00	2.2	0.04	0.07	0.00	0.00	0.00	0.00		
30			0.00	3.7	20	0.07	0.00	0.00	0.00	0.00		
31			0.00	---	75	---	0.00	0.00	---	0.00		
Total			0.00	1,458.90	122.52	517.76	0.16	0.00	0.00	0.00		
Mean			0.00	48.6	3.95	17.3	0.01	0.00	0.00	0.00		
Max			0.00	288	75	76	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	2,890	243	1,030	0.3	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1952 - 2006

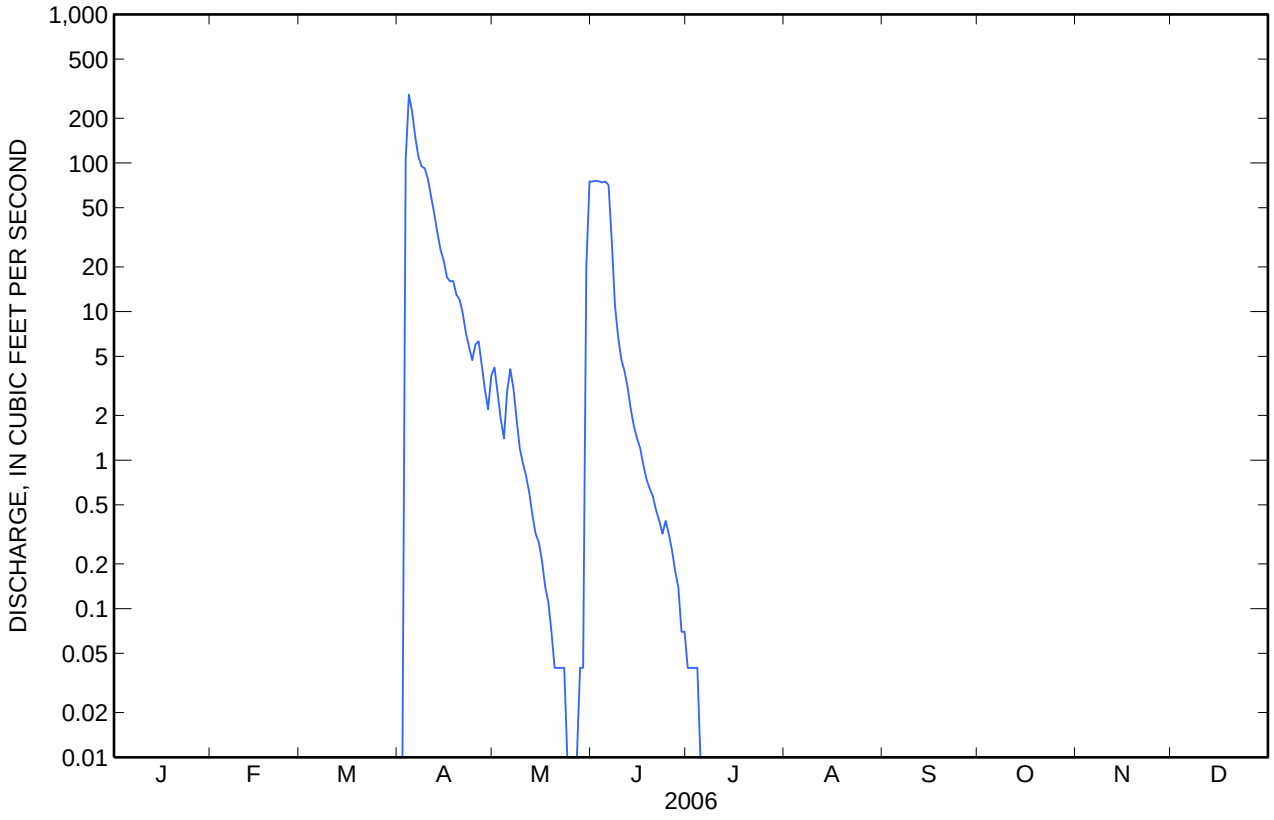
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			52.9	131	37.8	24.4	9.34	2.14	12.9	1.37		
Max			374	1,899	500	294	174	33.1	678	52.3		
(WY)			(1997)	(1952)	(1967)	(1965)	(1955)	(1993)	(1986)	(1987)		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
(WY)			(1953)	(1992)	(1992)	(1963)	(1958)	(1954)	(1952)	(1953)		

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

SUMMARY STATISTICS

	For 2006 Season		Seasons 1952 - 2006	
Highest daily mean	288	Apr 4	7,770	Sep 26, 1986
Lowest daily mean	0.00	Many days	0.00	Mar 1, 1952
Maximum peak flow	307	Apr 4	[a]9,890	Sep 25, 1986
Maximum peak stage	4.90	Apr 4	16.36	Sep 25, 1986

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



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.05, 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.05, 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.

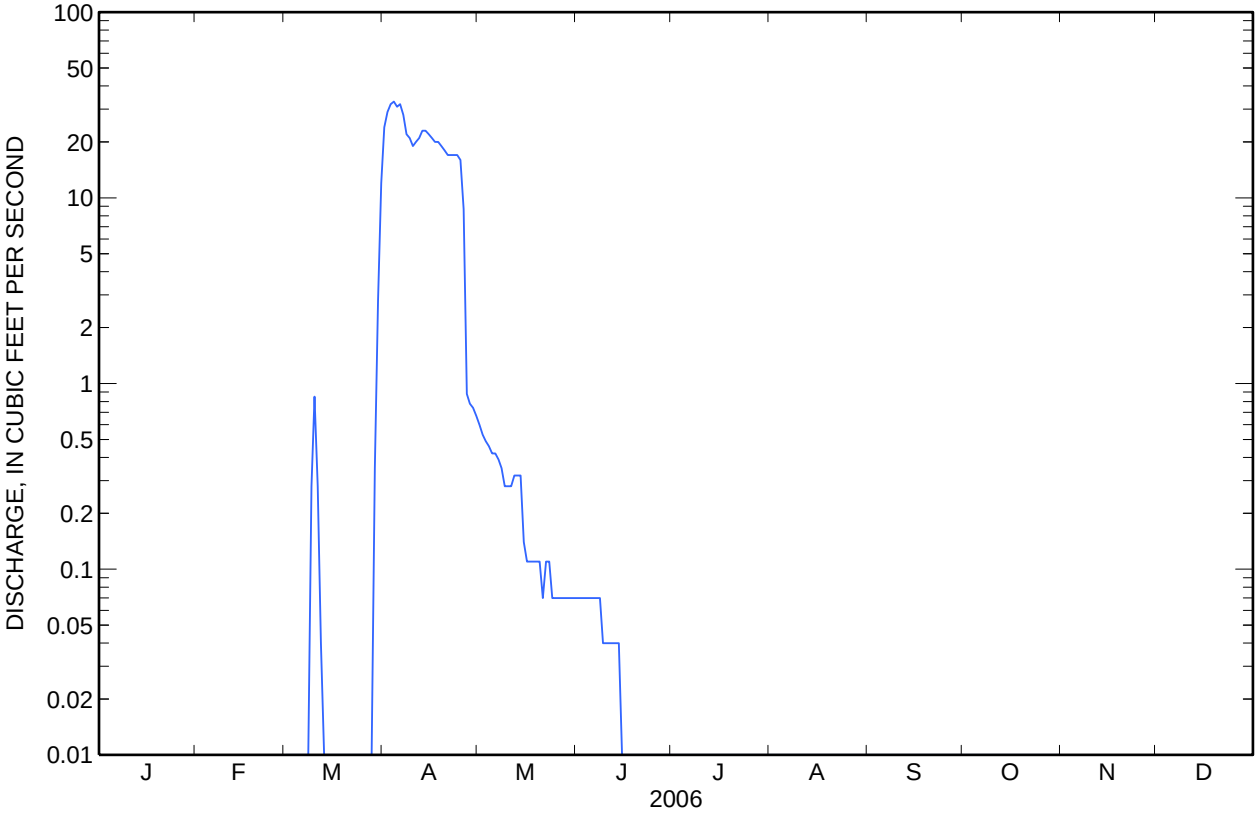
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 42 ft^3/s, Apr. 22, 1971; no flows at times each season.

06147950 GAFF DITCH NEAR MERRYFLAT, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e24	0.60	0.07	0.00	0.00	0.00	0.00		
2			e0.00	e29	0.53	0.07	0.00	0.00	0.00	0.00		
3			e0.00	32	0.49	0.07	0.00	0.00	0.00	0.00		
4			e0.00	33	0.46	0.07	0.00	0.00	0.00	0.00		
5			e0.00	31	0.42	0.07	0.00	0.00	0.00	0.00		
6			e0.00	32	0.42	0.07	0.00	0.00	0.00	0.00		
7			e0.00	28	0.39	0.07	0.00	0.00	0.00	0.00		
8			e0.00	22	0.35	0.07	0.00	0.00	0.00	0.00		
9			e0.28	21	0.28	0.04	0.00	0.00	0.00	0.00		
10			e0.85	19	0.28	0.04	0.00	0.00	0.00	0.00		
11			e0.28	20	0.28	0.04	0.00	0.00	0.00	0.00		
12			e0.04	21	0.32	0.04	0.00	0.00	0.00	0.00		
13			e0.00	23	0.32	0.04	0.00	0.00	0.00	0.00		
14			e0.00	23	0.32	0.04	0.00	0.00	0.00	0.00		
15			e0.00	22	0.14	0.00	0.00	0.00	0.00	0.00		
16			e0.00	21	0.11	0.00	0.00	0.00	0.00	0.00		
17			e0.00	20	0.11	0.00	0.00	0.00	0.00	0.00		
18			e0.00	20	0.11	0.00	0.00	0.00	0.00	0.00		
19			e0.00	19	0.11	0.00	0.00	0.00	0.00	0.00		
20			e0.00	18	0.11	0.00	0.00	0.00	0.00	0.00		
21			e0.00	17	0.07	0.00	0.00	0.00	0.00	0.00		
22			e0.00	17	0.11	0.00	0.00	0.00	0.00	0.00		
23			e0.00	17	0.11	0.00	0.00	0.00	0.00	0.00		
24			e0.00	17	0.07	0.00	0.00	0.00	0.00	0.00		
25			e0.00	16	0.07	0.00	0.00	0.00	0.00	0.00		
26			e0.00	8.7	0.07	0.00	0.00	0.00	0.00	0.00		
27			e0.00	0.88	0.07	0.00	0.00	0.00	0.00	0.00		
28			e0.00	0.78	0.07	0.00	0.00	0.00	0.00	0.00		
29			e0.35	0.74	0.07	0.00	0.00	0.00	0.00	0.00		
30			e2.8	0.67	0.07	0.00	0.00	0.00	0.00	0.00		
31			e12	---	0.07	---	0.00	0.00	---	0.00		
Total			16.60	573.77	7.00	0.80	0.00	0.00	0.00	0.00		
Mean			0.54	19.1	0.23	0.03	0.00	0.00	0.00	0.00		
Max			12	33	0.60	0.07	0.00	0.00	0.00	0.00		
Min			0.00	0.67	0.07	0.00	0.00	0.00	0.00	0.00		
Ac-ft			33	1,140	14	1.6	0.00	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.06, 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.06, 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.

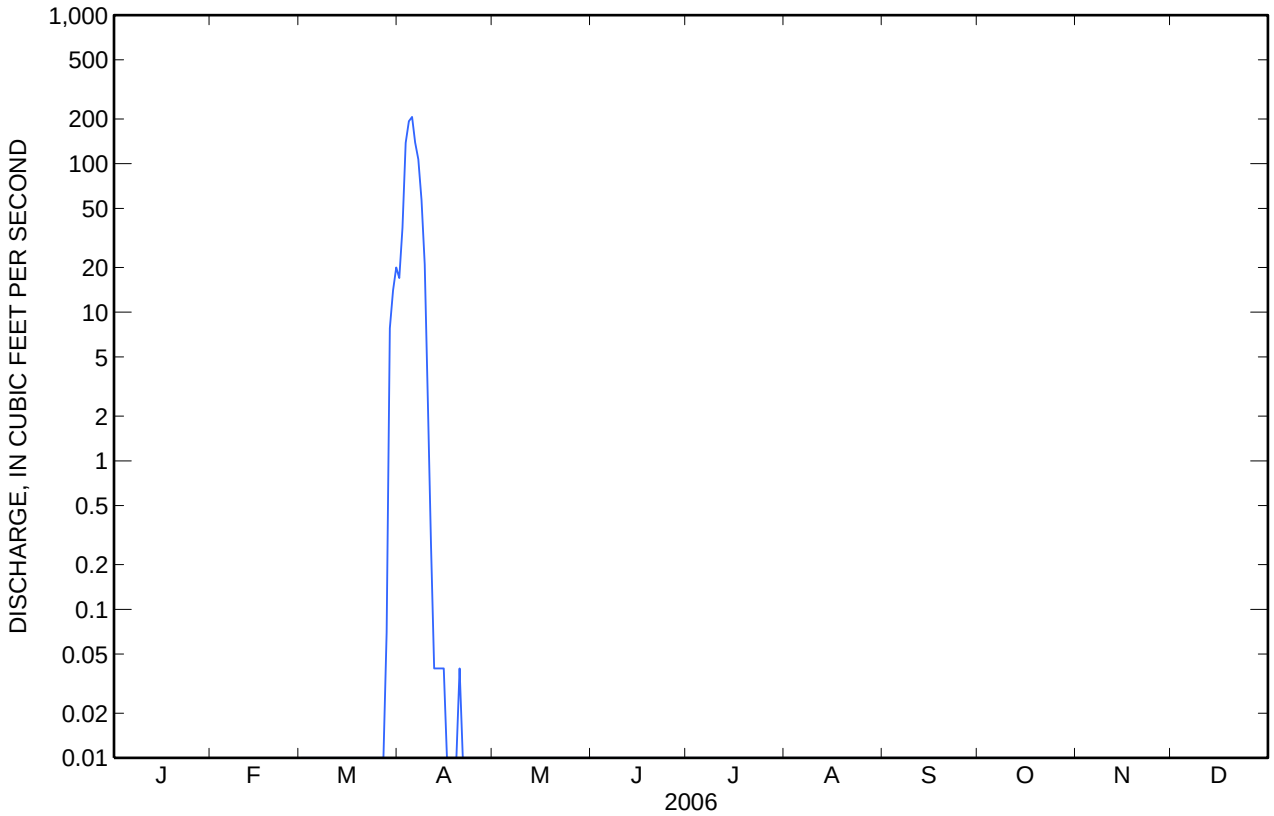
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 884 ft^3/s, Apr. 27, 1965; no flow at times each season.

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

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e17	0.00	0.00	0.00	0.00	0.00	0.00		
2			e0.00	e37	0.00	0.00	0.00	0.00	0.00	0.00		
3			e0.00	138	0.00	0.00	0.00	0.00	0.00	0.00		
4			e0.00	193	0.00	0.00	0.00	0.00	0.00	0.00		
5			e0.00	206	0.00	0.00	0.00	0.00	0.00	0.00		
6			e0.00	139	e0.00	0.00	0.00	0.00	0.00	0.00		
7			e0.00	107	e0.00	0.00	0.00	0.00	0.00	0.00		
8			e0.00	57	e0.00	0.00	0.00	0.00	0.00	0.00		
9			e0.00	21	e0.00	0.00	0.00	0.00	0.00	0.00		
10			e0.00	2.4	e0.00	0.00	0.00	0.00	0.00	0.00		
11			e0.00	0.28	e0.00	0.00	0.00	0.00	0.00	0.00		
12			e0.00	0.04	e0.00	0.00	0.00	0.00	0.00	0.00		
13			e0.00	0.04	e0.00	0.00	0.00	0.00	0.00	0.00		
14			e0.00	0.04	e0.00	0.00	0.00	0.00	0.00	0.00		
15			e0.00	0.04	e0.00	0.00	0.00	0.00	0.00	0.00		
16			e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00		
17			e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00		
18			e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00		
19			e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00		
20			e0.00	0.04	e0.00	0.00	0.00	0.00	0.00	0.00		
21			e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00		
22			e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00		
23			e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00		
24			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
25			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
26			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
27			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
28			e0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
29			e7.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30			e14	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
31			e20	---	0.00	---	0.00	0.00	---	0.00		
Total			41.87	917.88	0.00	0.00	0.00	0.00	0.00	0.00		
Mean			1.35	30.6	0.00	0.00	0.00	0.00	0.00	0.00		
Max			20	206	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			83	1,820	0.00	0.00	0.00	0.00	0.00	0.00		

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



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.06, 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.

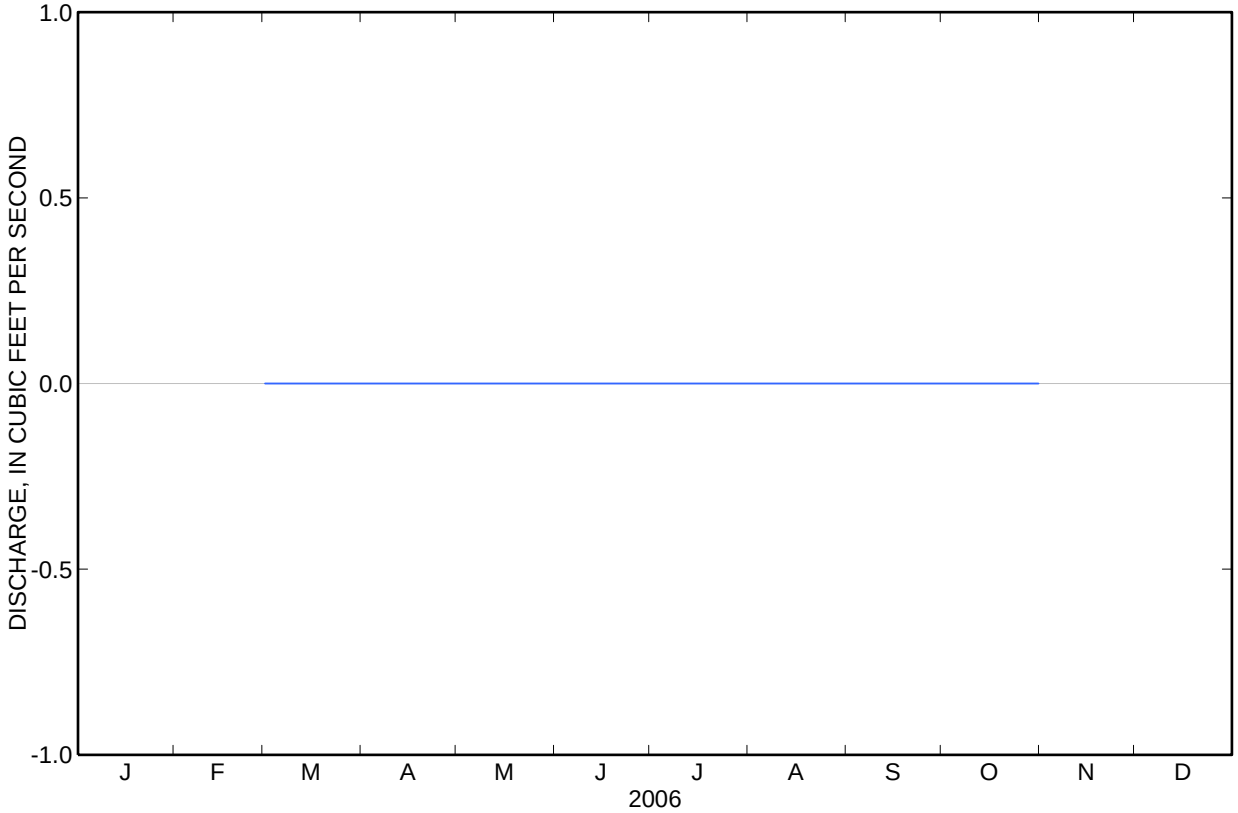
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 450 ft^3/s, Apr. 20, 1955; no flow at times each season.

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

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
3			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
4			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
5			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
6			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
7			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
8			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
9			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
10			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
12			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
13			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
14			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15			e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00		
16			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
17			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
18			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
19			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
20			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
21			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
22			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
23			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
24			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
25			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
26			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
27			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
28			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
29			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30			e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
31			e0.00	---	0.00	---	0.00	0.00	---	0.00		
Total			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Mean			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Max			0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

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.06, 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 except for estimated daily discharges, which are poor. Canal diverts water from Cypress Lake in NW¼ sec.15, T.06, 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.

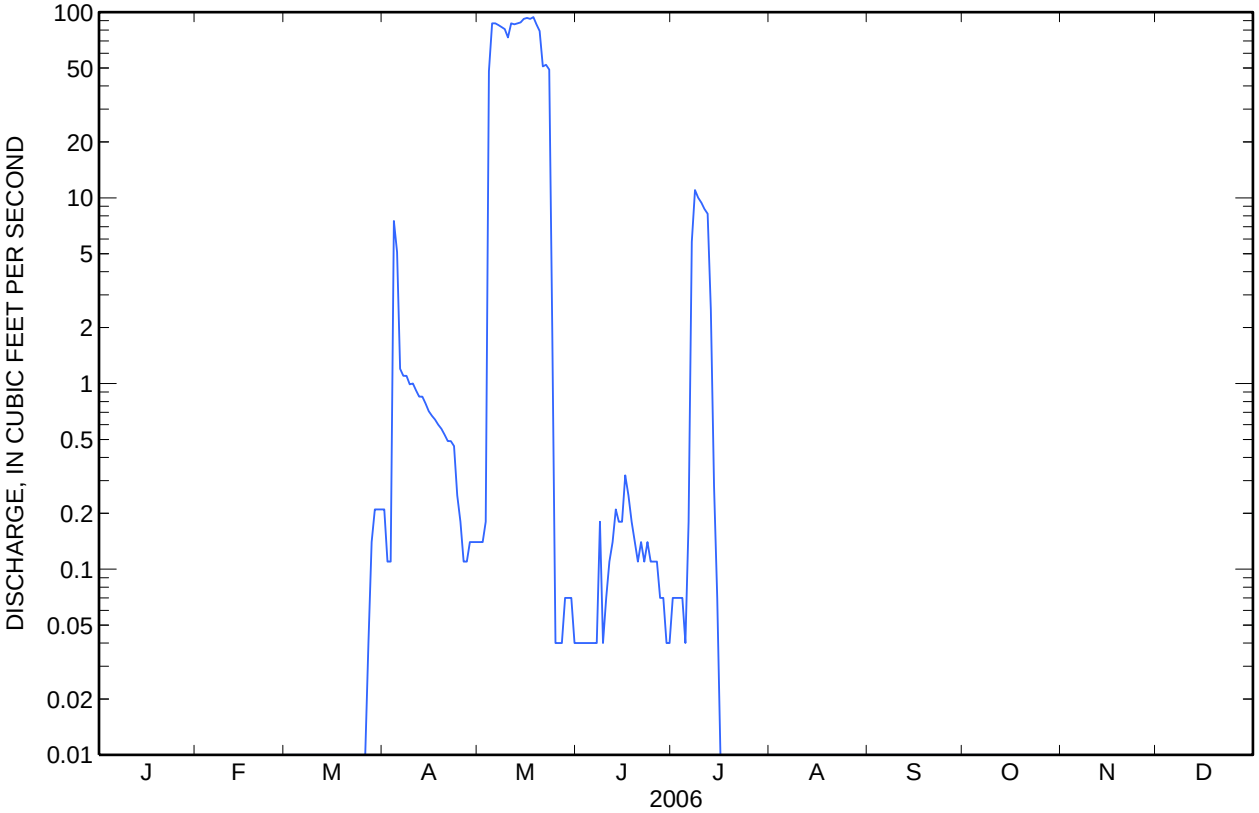
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 304 ft^3/s, May 4, 1951; no flow at times each season.

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

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e0.21	0.14	0.04	0.07	0.00	0.00	0.00		
2			e0.00	e0.11	0.14	0.04	0.07	0.00	0.00	0.00		
3			e0.00	e0.11	0.18	0.04	0.07	0.00	0.00	0.00		
4			e0.00	e7.5	48	0.04	0.07	0.00	0.00	0.00		
5			e0.00	5.1	87	0.04	0.04	0.00	0.00	0.00		
6			e0.00	1.2	87	0.04	0.18	0.00	0.00	0.00		
7			e0.00	1.1	85	0.04	5.8	0.00	0.00	0.00		
8			e0.00	1.1	83	0.18	11	0.00	0.00	0.00		
9			e0.00	0.99	81	0.04	10	0.00	0.00	0.00		
10			e0.00	1.0	73	0.07	9.4	0.00	0.00	0.00		
11			e0.00	0.92	87	0.11	8.7	0.00	0.00	0.00		
12			e0.00	0.85	86	0.14	8.2	0.00	0.00	0.00		
13			e0.00	0.85	87	0.21	2.5	0.00	0.00	0.00		
14			e0.00	0.78	88	0.18	0.28	0.00	0.00	0.00		
15			e0.00	0.71	92	0.18	0.07	0.00	0.00	0.00		
16			e0.00	0.67	93	0.32	0.00	0.00	0.00	0.00		
17			e0.00	0.64	92	0.25	0.00	0.00	0.00	0.00		
18			e0.00	0.60	94	0.18	0.00	0.00	0.00	0.00		
19			e0.00	0.57	86	0.14	0.00	0.00	0.00	0.00		
20			e0.00	0.53	79	0.11	0.00	0.00	0.00	0.00		
21			e0.00	0.49	51	0.14	0.00	0.00	0.00	0.00		
22			e0.00	0.49	52	0.11	0.00	0.00	0.00	0.00		
23			e0.00	0.46	49	0.14	0.00	0.00	0.00	0.00		
24			e0.00	0.25	1.9	0.11	0.00	0.00	0.00	0.00		
25			e0.00	0.18	0.04	0.11	0.00	0.00	0.00	0.00		
26			e0.00	0.11	0.04	0.11	0.00	0.00	0.00	0.00		
27			e0.04	0.11	0.04	0.07	0.00	0.00	0.00	0.00		
28			e0.14	0.14	0.07	0.07	0.00	0.00	0.00	0.00		
29			e0.21	0.14	0.07	0.04	0.00	0.00	0.00	0.00		
30			e0.21	0.14	0.07	0.04	0.00	0.00	0.00	0.00		
31			e0.21	---	0.04	---	0.00	0.00	---	0.00		
Total			0.81	28.05	1,582.73	3.33	56.45	0.00	0.00	0.00		
Mean			0.03	0.94	51.1	0.11	1.82	0.00	0.00	0.00		
Max			0.21	7.5	94	0.32	11	0.00	0.00	0.00		
Min			0.00	0.11	0.04	0.04	0.00	0.00	0.00	0.00		
Ac-ft			1.6	56	3,140	6.6	112	0.00	0.00	0.00		

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



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.06, 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 except those for estimated daily discharges, which are poor. Canal diverts water from Cypress Lake west outflow canal in NE¼ sec.8, T.06, 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.

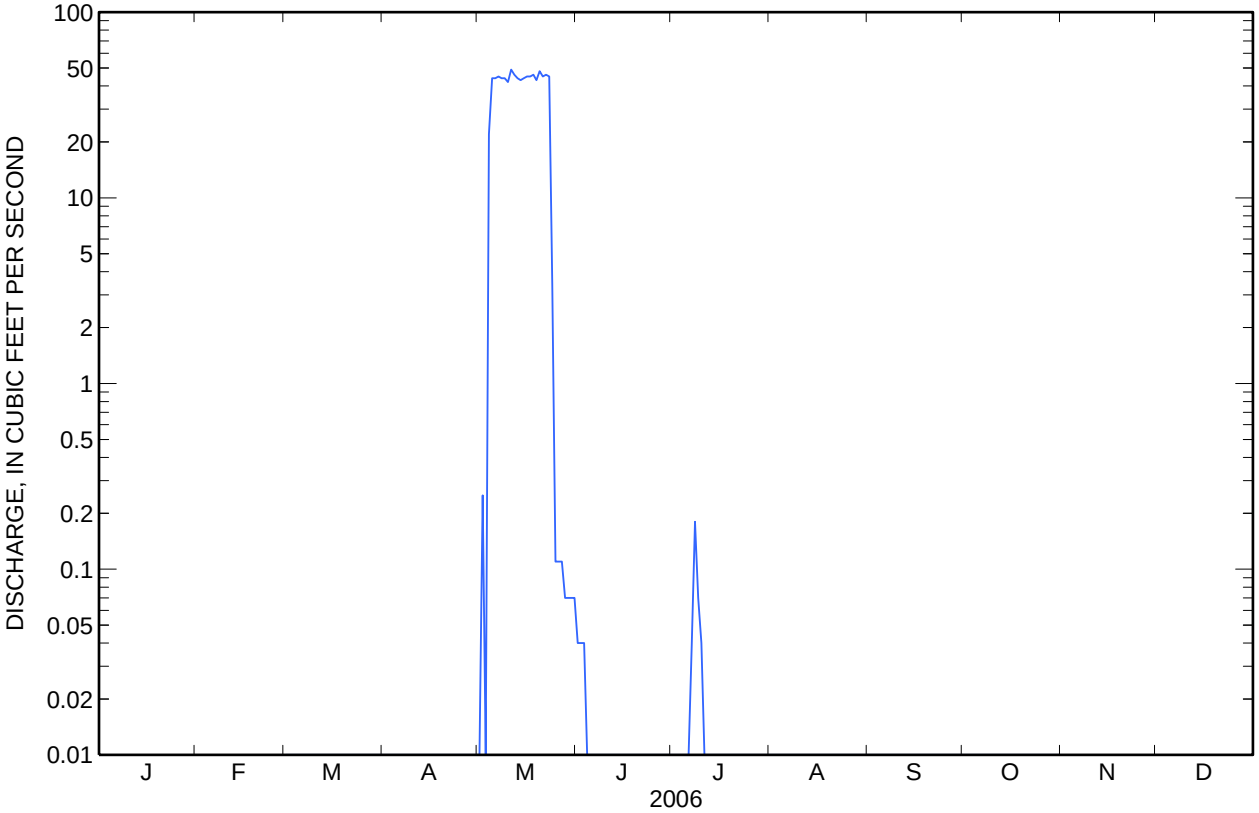
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 101 ft^3/s, May 26, 1988; no flow at times each season.

06149100 VIDORA DITCH NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
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	0.04	e0.00	0.00	0.00	0.00		
2			0.00	0.00	0.25	0.04	e0.00	0.00	0.00	0.00		
3			0.00	0.00	0.00	0.04	e0.00	0.00	0.00	0.00		
4			0.00	0.00	22	0.00	e0.00	0.00	0.00	0.00		
5			0.00	0.00	44	0.00	e0.00	0.00	0.00	0.00		
6			0.00	0.00	44	0.00	e0.00	0.00	0.00	0.00		
7			0.00	0.00	45	0.00	e0.04	0.00	0.00	0.00		
8			0.00	0.00	44	0.00	0.18	0.00	0.00	0.00		
9			0.00	0.00	44	0.00	0.07	0.00	0.00	0.00		
10			0.00	0.00	42	0.00	0.04	e0.00	0.00	0.00		
11			0.00	0.00	49	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	46	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	44	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	43	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	44	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	45	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	45	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	46	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	43	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	48	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	45	0.00	0.00	0.00	0.00	0.00	---	---
22			0.00	0.00	46	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	45	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	3.4	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	0.11	e0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	0.11	e0.00	0.00	0.00	0.00	0.00		
28			0.00	0.00	0.07	e0.00	0.00	0.00	0.00	0.00		
29			0.00	0.00	0.07	e0.00	0.00	0.00	0.00	0.00		
30			0.00	0.00	0.07	e0.00	0.00	0.00	0.00	0.00		
31			0.00	---	0.07	---	0.00	0.00	---	0.00		
Total			0.00	0.00	878.26	0.12	0.33	0.00	0.00	0.00		
Mean			0.00	0.00	28.3	0.00	0.01	0.00	0.00	0.00		
Max			0.00	0.00	49	0.04	0.18	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	1,740	0.2	0.7	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.05, 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.05, 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.

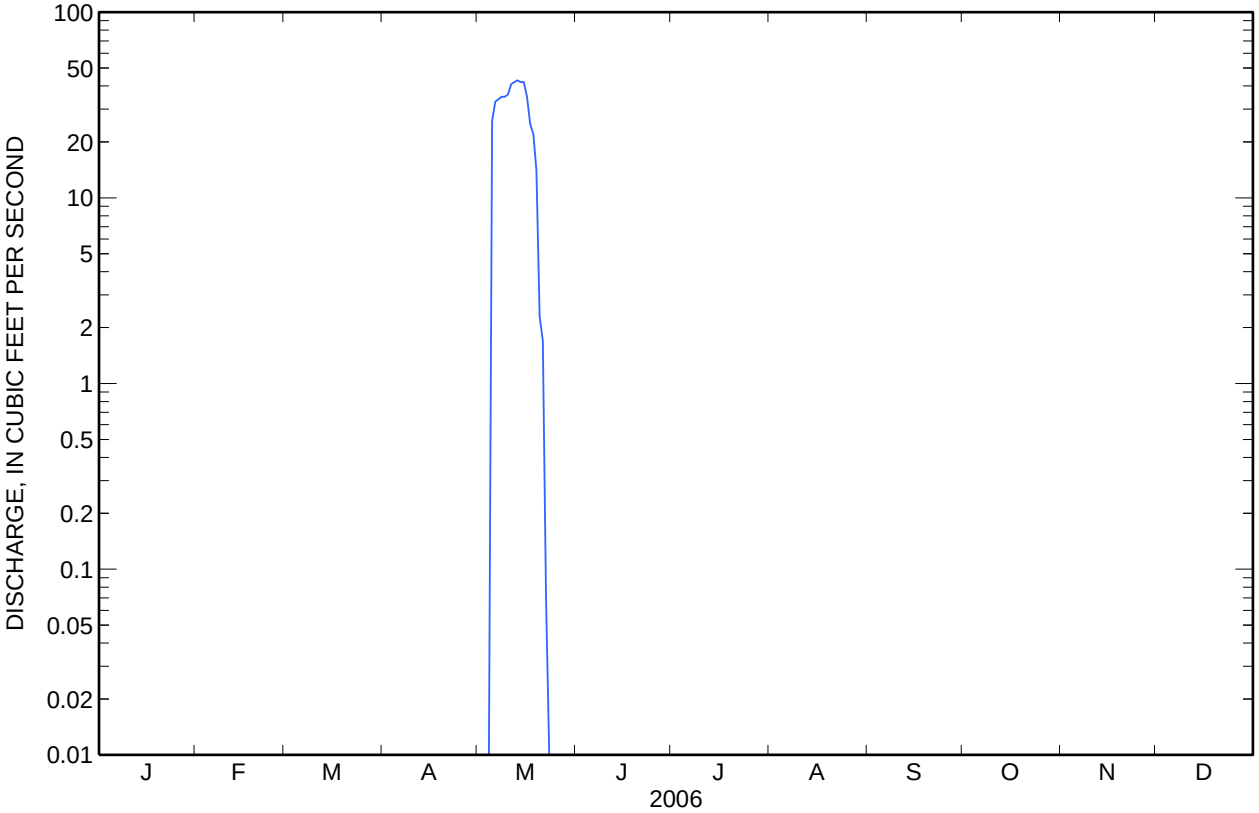
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 72 ft^3/s, June 15, 1974; no flow at times each season.

06149200 RICHARDSON DITCH NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
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	26	0.00	0.00	0.00	0.00	0.00		
6			0.00	0.00	33	0.00	0.00	0.00	0.00	0.00		
7			0.00	0.00	34	0.00	0.00	0.00	0.00	0.00		
8			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
9			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.00	36	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.00	41	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	42	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	43	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	42	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	42	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	25	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	22	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		
20			0.00	0.00	2.3	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	1.7	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	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	0.00	509.07	0.00	0.00	0.00	0.00	0.00		
Mean			0.00	0.00	16.4	0.00	0.00	0.00	0.00	0.00		
Max			0.00	0.00	43	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	0.00	1,010	0.00	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.04, 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.04, 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.

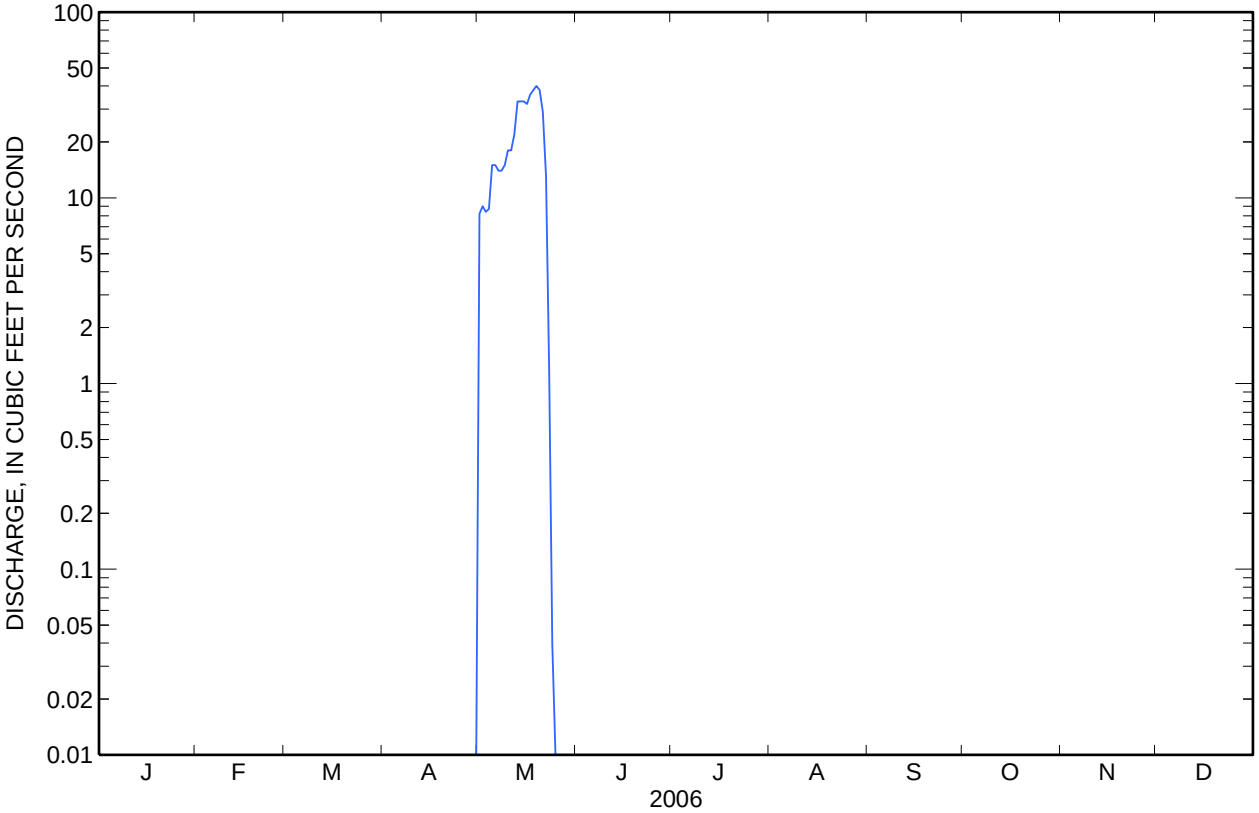
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 68 ft^3/s, June 18, 1975; no flow at times each season.

06149300 MCKINNON DITCH NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	8.2	0.00	0.00	0.00	0.00	0.00		
2			0.00	0.00	9.0	0.00	0.00	0.00	0.00	0.00		
3			0.00	0.00	8.4	0.00	0.00	0.00	0.00	0.00		
4			0.00	0.00	8.7	0.00	0.00	0.00	0.00	0.00		
5			0.00	0.00	15	0.00	0.00	0.00	0.00	0.00		
6			0.00	0.00	15	0.00	0.00	0.00	0.00	0.00		
7			0.00	0.00	14	0.00	0.00	0.00	0.00	0.00		
8			0.00	0.00	14	0.00	0.00	0.00	0.00	0.00		
9			0.00	0.00	15	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.00	18	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.00	18	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	22	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	33	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	33	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	33	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	32	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	38	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	40	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	38	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	29	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	13	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	1.1	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	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	0.00	491.44	0.00	0.00	0.00	0.00	0.00		
Mean			0.00	0.00	15.9	0.00	0.00	0.00	0.00	0.00		
Max			0.00	0.00	40	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	0.00	975	0.00	0.00	0.00	0.00	0.00		

06149300 MCKINNON DITCH NEAR CONSUL, SASKATCHEWAN—Continued



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.03, 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.03, 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.

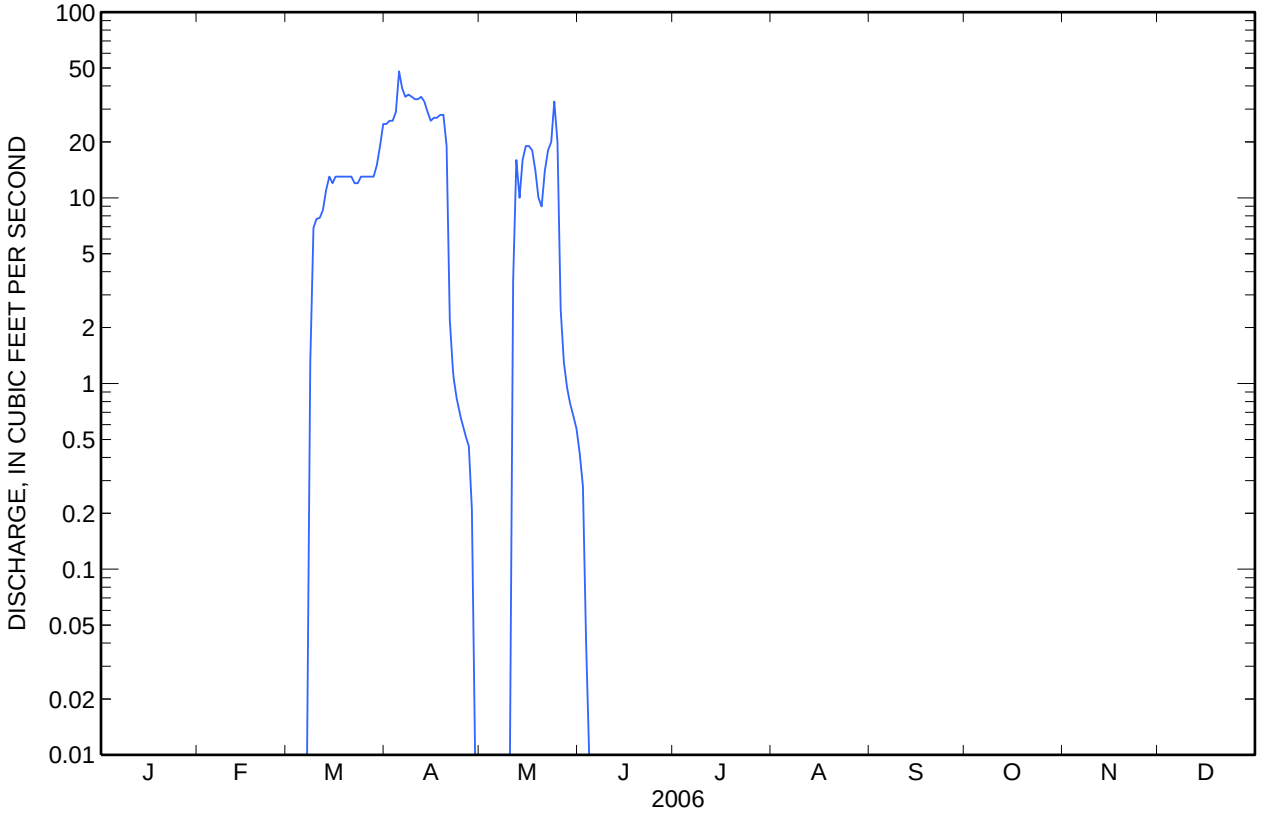
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 85 ft^3/s, Apr. 14, 1952; no flow at times each season.

06149400 NASHLYN CANAL NEAR CONSUL, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	25	0.00	0.42	0.00	0.00	0.00			
2			e0.00	26	0.00	0.28	0.00	0.00	0.00			
3			e0.00	26	0.00	0.04	0.00	0.00	0.00			
4			e0.00	29	0.00	0.00	0.00	0.00	0.00			
5			e0.00	48	0.00	0.00	0.00	0.00	0.00			
6			e0.00	39	0.00	0.00	0.00	0.00	0.00			
7			e0.00	35	0.00	0.00	0.00	0.00	0.00			
8			e1.3	36	0.00	0.00	0.00	0.00	0.00			
9			e6.9	35	0.00	0.00	0.00	0.00	0.00			
10			e7.7	34	0.00	0.00	0.00	0.00	0.00			
11			e7.8	34	3.6	0.00	0.00	0.00	0.00			
12			e8.6	35	16	0.00	0.00	0.00	0.00			
13			e11	33	10	0.00	0.00	0.00	0.00			
14			e13	29	16	0.00	0.00	0.00	0.00			
15			e12	26	19	0.00	0.00	0.00	0.00			
16			e13	27	19	0.00	0.00	0.00	0.00			
17			e13	27	18	0.00	0.00	0.00	0.00			
18			e13	28	14	0.00	0.00	0.00	0.00			
19			e13	28	10	0.00	0.00	0.00	0.00			
20			e13	19	9.0	0.00	0.00	0.00	0.00			
21			e13	2.2	14	0.00	0.00	0.00	0.00			
22			e12	1.2	18	0.00	0.00	0.00	0.00			
23			e12	0.88	20	0.00	0.00	0.00	0.00			
24			e13	0.71	33	0.00	0.00	0.00	0.00			
25			e13	0.60	20	0.00	0.00	0.00	0.00			
26			e13	0.53	2.5	0.00	0.00	0.00	0.00			
27			e13	0.46	1.3	0.00	0.00	0.00	0.00			
28			13	0.21	0.95	0.00	0.00	0.00	0.00			
29			15	0.00	0.78	0.00	0.00	0.00	0.00			
30			19	0.00	0.67	0.00	0.00	0.00	0.00			
31			25	---	0.57	---	0.00	0.00	---			
Total			294.30	625.79	246.37	0.74	0.00	0.00	0.00			
Mean			9.49	20.9	7.95	0.02	0.00	0.00	0.00			
Max			25	48	33	0.42	0.00	0.00	0.00			
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Ac-ft			584	1,240	489	1.5	0.00	0.00	0.00			

06149400 NASHLYN CANAL NEAR CONSUL, SASKATCHEWAN—Continued



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.0 1., R.26 W., Hydrologic Unit is unknown, Lat 49°00′07″, long 109°25′18″ referenced to North American Datum of 1927, in SE¼ 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 mi^2, (2,582 km^2) of which 378 mi^2 (979 km^2) 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 except those for estimated daily discharges, which are poor. 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e8.1	14	12	37	14	0.07	0.00	12		
2			e9.9	16	17	36	13	0.04	0.00	10		
3			e12	13	18	37	12	0.04	0.00	9.0		
4			e13	23	16	37	11	0.04	0.00	8.1		
5			e12	26	10	30	9.5	0.00	0.00	7.7		
6			e11	19	9.3	21	8.3	0.00	0.00	7.6		
7			e9.9	26	7.9	16	7.1	0.00	0.00	7.5		
8			e10	37	7.5	16	5.8	0.00	0.00	6.8		
9			e11	21	9.9	16	5.2	0.00	0.00	6.5		
10			e12	29	7.0	16	4.8	0.00	0.00	6.6		
11			e9.9	24	5.7	16	4.6	0.00	0.00	6.7		
12			e7.1	12	5.6	15	4.3	0.00	0.00	6.5		
13			e5.3	8.4	4.7	14	4.2	0.00	0.00	7.0		
14			e4.6	15	7.9	13	3.4	0.00	0.00	7.2		
15			e4.9	16	4.9	15	5.3	0.00	0.00	7.8		
16			5.2	14	2.8	16	6.2	0.00	0.00	8.1		
17			5.8	11	1.9	18	5.2	0.00	0.00	8.4		
18			5.6	8.8	1.3	21	4.3	0.00	0.00	8.7		
19			4.9	6.4	0.99	18	4.3	0.00	0.00	9.5		
20			4.8	4.6	1.1	17	3.9	0.00	0.00	11		
21			4.7	4.4	1.2	16	3.2	0.00	0.00	11		
22			4.9	4.1	0.81	19	2.0	0.00	0.00	11		
23			5.1	18	0.67	23	1.5	0.00	0.00	11		
24			6.7	20	0.46	21	1.0	0.00	0.00	11		
25			8.3	16	0.57	19	0.74	0.00	0.00	11		
26			9.1	18	1.1	17	0.53	0.00	0.00	11		
27			9.1	17	1.1	19	0.42	0.00	0.00	11		
28			9.5	15	5.1	20	0.39	0.00	6.0	13		
29			11	14	16	17	0.49	0.00	8.4	13		
30			12	13	18	15	0.32	0.00	11	12		
31			11	---	27	---	0.14	0.00	---	7.8		
Total			258.4	483.7	223.50	611	147.13	0.19	25.40	285.5		
Mean			8.34	16.1	7.21	20.4	4.75	0.01	0.85	9.21		
Max			13	37	27	37	14	0.07	11	13		
Min			4.6	4.1	0.46	13	0.14	0.00	0.00	6.5		
Ac-ft			513	959	443	1,210	292	0.4	50	566		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 - 2006

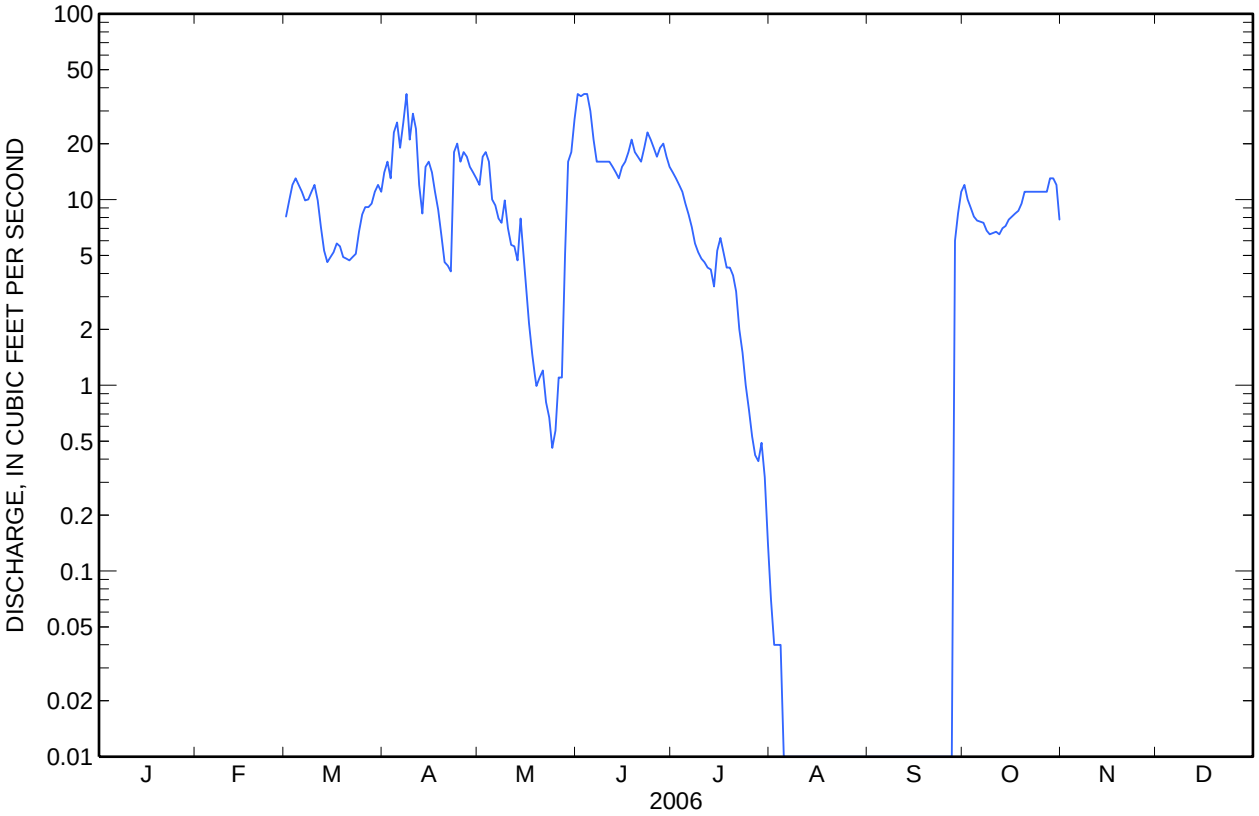
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			49.4	123	56.2	32.5	16.5	6.95	7.98	8.06		
Max			353	1,526	538	261	250	50.7	332	57.7		
(WY)			(1997)	(1952)	(1927)	(1927)	(1955)	(1975)	(1986)	(1987)		
Min			0.00	4.34	0.77	0.00	0.00	0.00	0.00	0.00		
(WY)			(1936)	(1981)	(1937)	(1937)	(1919)	(1919)	(1919)	(1920)		

06149500 BATTLE CREEK AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	For 2006 Season		Seasons 1917 - 2006	
Highest daily mean	37	Apr 8	5,590	Apr 15, 1952
Lowest daily mean	0.00	Many days	0.00	Mar 1, 1918
Maximum peak flow	65	Apr 8	[a]9,780	Sep 25, 1986
Maximum peak stage	4.37	Apr 8	11.57	Sep 25, 1986

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



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 mi^2, revised.

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.

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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				67	1.2	1.0	23	0.55	0.00			
2				50	1.3	0.94	21	0.74	0.00			
3				45	1.3	4.8	3.0	0.74	0.00			
4				36	1.0	23	9.8	0.66	0.00			
5				30	1.2	23	15	0.69	0.00			
6				25	1.6	14	11	0.65	0.00			
7				31	7.5	16	7.2	0.56	0.00			
8				27	3.6	12	8.2	0.56	0.00			
9				21	0.78	7.2	5.8	0.52	0.00			
10				31	0.51	4.5	6.0	0.41	0.00			
11				26	0.90	6.7	5.5	8.3	0.00			
12				13	0.91	12	7.1	19	0.00			
13				18	0.81	8.9	6.5	2.2	0.00			
14				12	3.1	8.7	3.5	3.3	0.00			
15				7.4	6.3	8.2	4.3	7.6	0.01			
16				4.6	13	7.3	4.3	6.9	0.01			
17				3.3	17	6.3	5.7	7.1	0.03			
18				2.8	16	7.0	7.7	6.1	0.02			
19				3.9	6.1	9.9	2.9	1.0	0.04			
20				4.2	13	15	0.72	0.95	0.03			
21				2.1	16	17	0.50	4.4	0.03			
22				0.82	20	16	0.39	9.0	0.03			
23				0.53	10	15	0.39	5.6	0.02			
24				0.46	0.53	15	0.42	1.5	0.00			
25				2.0	0.73	14	0.53	0.03	0.01			
26				2.0	0.97	20	1.6	0.00	0.01			
27				1.6	1.1	17	0.89	0.00	0.00			
28				1.3	1.3	14	0.72	0.00	0.00			
29				2.9	1.1	8.2	0.71	0.00	0.01			
30				1.7	0.99	4.9	0.68	0.00	0.01			
31				---	1.0	---	0.51	0.00	---			
Total				473.61	150.83	337.54	165.56	89.06	0.26			
Mean				15.8	4.87	11.3	5.34	2.87	0.01			
Max				67	20	23	23	19	0.04			
Min				0.46	0.51	0.94	0.39	0.00	0.00			
Ac-ft				939	299	670	328	177	0.5			

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1984 - 2006

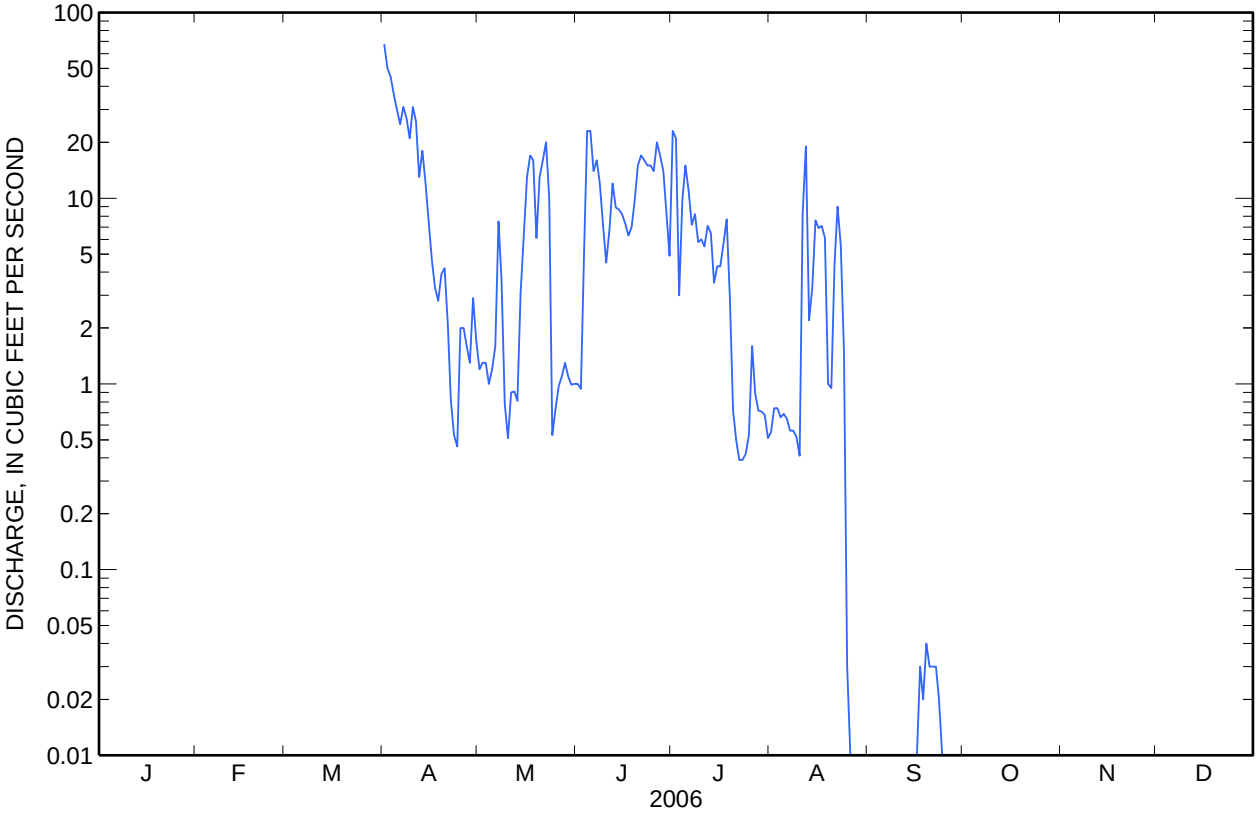
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				55.1	24.3	22.2	12.5	3.14	43.6			
Max				539	101	48.3	57.6	15.3	910			
(WY)				(1996)	(1986)	(2002)	(2000)	(2002)	(1986)			
Min				0.03	0.00	0.09	0.02	0.00	0.00			
(WY)				(2002)	(2002)	(1984)	(1984)	(2001)	(1984)			

06151500 BATTLE CREEK NEAR CHINOOK, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1984 - 2006	
Highest daily mean	67	Apr 1	12,000	Sep 26, 1986
Lowest daily mean	0.00	Aug 26[a]	0.00	Jul 12, 1984[a]
Maximum peak flow	92	Apr 1	19,400	Sep 26, 1986
Maximum peak stage	2.41	Apr 1	22.91	Sep 26, 1986

[a] No flow at times most seasons.



Water-Data Report 2006

06154100 MILK RIVER NEAR HARLEM, MT

Upper Missouri 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 mi^2.

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. 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e70	243	448	622	356	572	381	122		
2			e60	130	380	605	582	573	353	97		
3			e70	89	452	560	622	523	271	79		
4			e60	72	609	509	629	507	191	76		
5			e60	59	637	524	629	488	162	70		
6			e60	55	612	554	619	460	164	77		
7			e70	50	641	565	607	446	191	85		
8			e80	82	636	528	593	447	162	81		
9			e80	150	623	535	581	427	177	77		
10			e80	207	595	517	585	411	178	73		
11			e70	421	584	579	579	382	173	71		
12			e60	556	565	594	545	397	160	69		
13			e70	571	534	569	549	406	175	69		
14			e70	561	506	569	578	428	150	68		
15			e70	507	487	555	590	441	142	67		
16			e80	508	443	563	613	407	146	67		
17			e80	555	394	566	630	427	153	67		
18			e70	565	460	520	622	472	147	66		
19			e70	549	459	434	589	479	140	66		
20			e80	562	529	387	581	446	140	71		
21			e80	556	617	366	585	439	136	72		
22			e80	558	623	368	584	420	145	72		
23			e90	556	616	350	568	424	153	73		
24			e100	559	584	337	501	421	144	68		
25			e210	566	557	323	492	421	141	65		
26			e410	571	581	371	537	401	140	64		
27			e690	578	629	342	529	376	138	63		
28			e640	573	665	304	536	384	149	63		
29			371	577	694	272	534	359	156	64		
30			334	564	700	298	555	360	134	65		
31			311	---	644	---	576	369	---	51		
Total			4,726	12,150	17,504	14,186	17,676	13,513	5,192	2,238		
Mean			152	405	565	473	570	436	173	72.2		
Max			690	578	700	622	630	573	381	122		
Min			60	50	380	272	356	359	134	51		
Ac-ft			9,370	24,100	34,720	28,140	35,060	26,800	10,300	4,440		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 – 1993 AND SEASONS 1994 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	69.4	84.5	434	536	643	575	559	399	337	201	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)

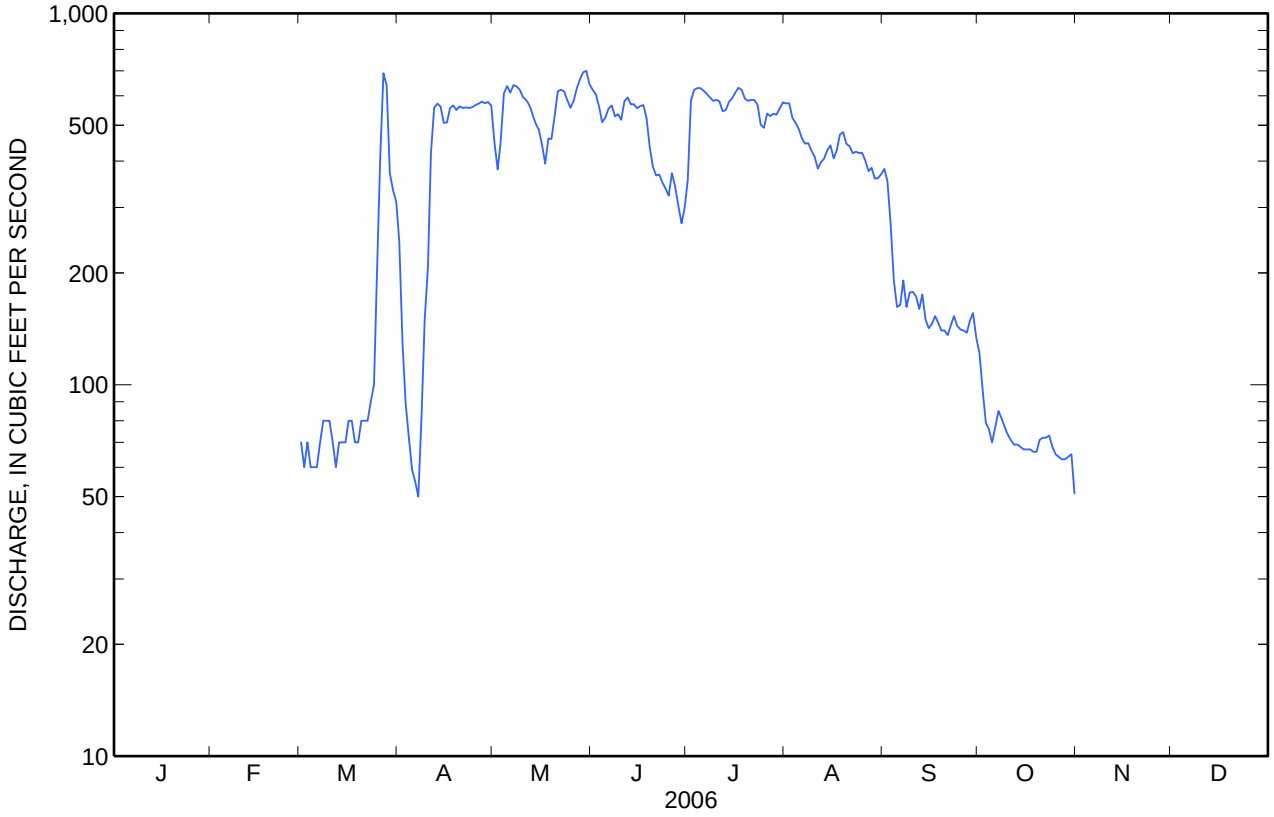
* During period of operation (1960-69, 1983 to current year; seasonal records beginning water year 1994).

06154100 MILK RIVER NEAR HARLEM, MT—Continued

SUMMARY STATISTICS

	Season 2006		Water Years 1960 - 1993		Seasons 1994 – 2006*	
Annual mean			349			
Highest annual mean			857	1965		
Lowest annual mean			139	1984		
Highest daily mean	700	May 30	12,900	Sep 29, 1986	6,190	Mar 18,1996
Lowest daily mean	50	Apr 7	0.00	Aug 10, 1988 [c]	2.5	Apr 6, 2001
Annual seven-day minimum			0.00	Aug 24, 1988		
Maximum peak flow	[a]709	May 30	13,900	Sep 29, 1986	6,450	Mar 18, 1996
Maximum peak stage	[b]8.31	Mar 27	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 period of operation (1960-69, 1983 to current year; seasonal records beginning water year 1994).
[a] Gage height, 7.61 ft.
[b] Backwater from ice.
[c] 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, 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 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 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	e0.05	0.04	0.00	0.10	11	2.3	3.2	0.01	0.08	0.18
2	0.00	0.01	e0.05	0.05	0.00	0.12	12	2.2	2.9	0.00	0.11	0.17
3	0.00	0.03	e0.05	0.04	0.00	0.08	11	2.4	3.5	0.00	0.12	0.15
4	0.00	0.03	e0.05	0.02	0.00	0.11	10	2.4	3.8	0.00	0.18	0.17
5	0.00	0.02	e0.05	0.00	0.00	0.18	9.5	2.2	1.0	0.00	0.21	0.16
6	0.00	0.03	e0.05	0.02	0.00	0.18	11	2.3	0.40	0.00	0.18	0.14
7	0.00	0.04	0.07	0.03	0.00	0.29	9.9	2.0	0.12	0.00	0.19	0.10
8	0.00	0.04	0.05	0.05	0.00	0.40	9.7	1.8	0.03	0.00	0.12	0.09
9	0.00	0.04	0.04	0.04	0.00	0.36	10	1.9	0.07	0.00	0.12	0.08
10	0.00	0.06	0.05	0.05	0.00	e2.0	11	2.3	1.6	0.00	0.12	0.07
11	0.00	0.06	0.04	0.05	0.00	e4.0	10	2.6	4.2	0.00	0.10	0.09
12	0.00	0.06	0.05	0.05	0.00	e3.0	8.9	2.6	3.8	0.01	0.14	0.08
13	0.00	e0.05	0.07	0.05	0.00	e2.0	8.2	2.5	4.6	0.00	0.24	0.08
14	0.00	e0.05	0.05	0.06	0.00	e1.0	7.7	2.9	5.4	0.00	0.18	0.08
15	0.00	e0.05	0.04	0.08	0.00	e1.0	6.9	3.5	6.4	0.00	0.12	0.13
16	0.00	e0.05	0.04	0.06	0.00	e1.0	6.2	3.4	5.7	0.00	0.12	0.05
17	0.00	e0.05	0.02	0.08	0.00	e6.0	7.5	3.3	4.8	0.01	e0.15	0.06
18	0.00	e0.05	0.02	0.10	0.00	e6.0	6.9	1.9	4.0	0.01	e0.15	0.07
19	0.00	e0.05	0.03	0.12	0.00	e6.0	6.5	1.2	3.1	0.00	e0.15	0.07
20	0.00	e0.05	0.02	0.15	0.00	5.3	6.3	0.90	2.8	0.00	e0.20	0.11
21	0.00	e0.05	0.04	0.11	0.01	3.9	5.9	0.89	1.4	0.01	e0.20	0.14
22	0.00	e0.05	0.09	0.00	0.02	3.7	5.5	0.63	0.38	0.00	e0.20	0.12
23	0.00	e0.05	0.06	0.00	0.03	5.9	6.5	0.38	0.14	0.00	0.17	0.09
24	0.00	e0.05	0.04	0.00	0.07	13	4.9	0.21	0.08	0.01	0.20	0.07
25	0.00	e0.05	0.05	0.00	0.09	12	4.2	0.11	0.02	0.02	0.21	0.07
26	0.00	e0.05	0.04	0.00	0.05	14	3.8	0.08	0.00	0.03	0.27	0.05
27	0.01	e0.05	0.04	0.00	0.04	11	3.3	0.13	0.00	0.05	0.15	0.07
28	0.01	e0.05	0.06	0.00	0.06	14	3.0	0.75	0.00	0.06	0.15	0.09
29	0.00	e0.05	0.07	0.00	---	14	3.0	1.7	0.00	0.06	0.16	0.08
30	0.00	e0.05	0.04	0.00	---	13	2.8	3.0	0.00	0.06	0.16	0.10
31	0.00	---	0.04	0.00	---	11	---	3.0	---	0.07	0.21	---
Total	0.02	1.32	1.46	1.25	0.37	154.62	223.1	57.48	63.44	0.41	5.06	3.01
Mean	0.00	0.04	0.05	0.04	0.01	4.99	7.44	1.85	2.11	0.01	0.16	0.10
Max	0.01	0.06	0.09	0.15	0.09	14	12	3.5	6.4	0.07	0.27	0.18
Min	0.00	0.00	0.02	0.00	0.00	0.08	2.8	0.08	0.00	0.00	0.08	0.05
Ac-ft	0.04	2.6	2.9	2.5	0.7	307	443	114	126	0.8	10	6.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2006, BY WATER YEAR (WY)

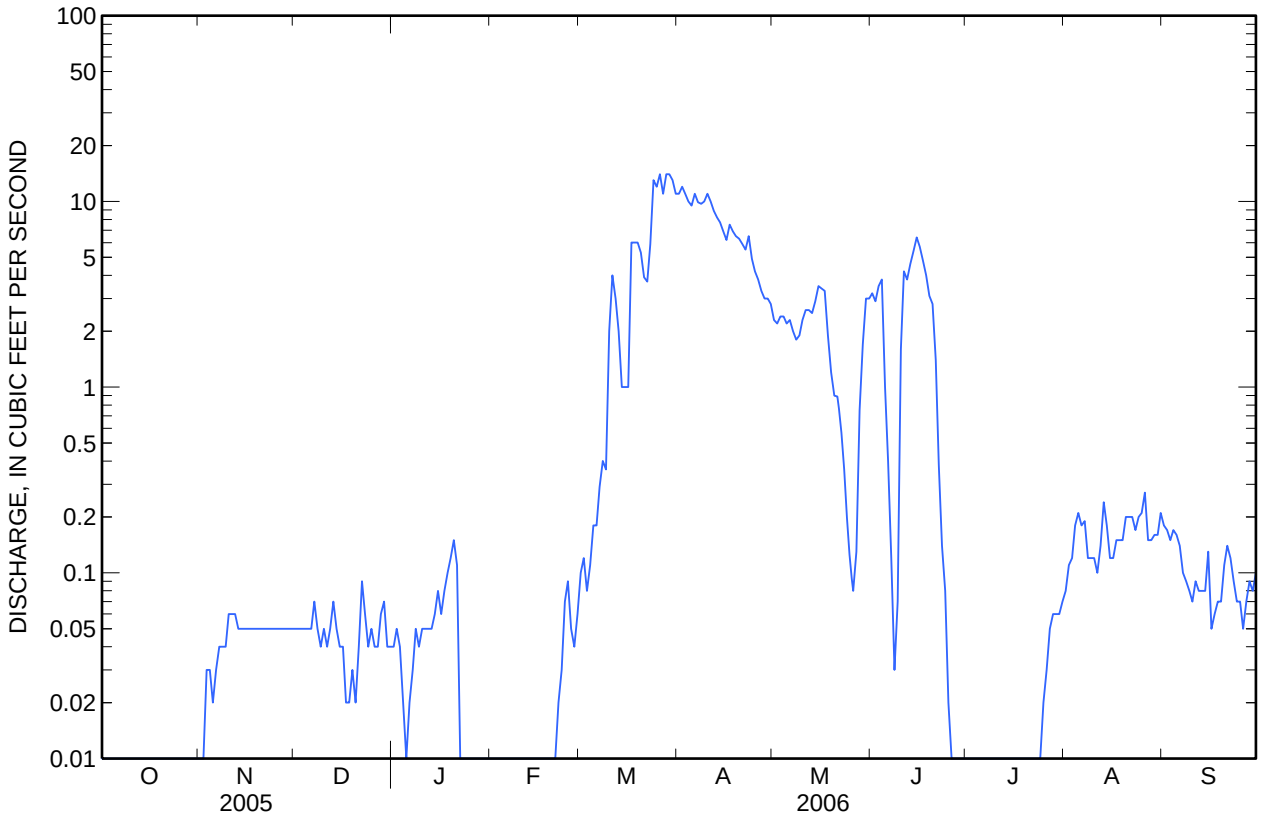
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3.16	3.07	2.51	3.21	8.35	27.5	16.8	28.0	19.8	7.74	2.19	3.34
Max	37.1	20.5	12.9	30.0	74.9	285	122	190	123	51.5	21.3	57.6
(WY)	(1987)	(1987)	(1987)	(1971)	(1971)	(1979)	(1979)	(1975)	(1982)	(1975)	(1975)	(1986)
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.05	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 2005		Water Year 2006		Water Years 1967 - 2006	
Annual total	1,123.12		511.54			
Annual mean	3.08		1.40		[c]10.3	
Highest annual mean					47.8	1979
Lowest annual mean					0.10	2001
Highest daily mean	29	Jun 15	14	Mar 26	1,000	Mar 7, 1979
Lowest daily mean	0.00	Jan 1	0.00	Oct 1	0.00	Dec 1, 1966
Annual seven-day minimum	0.00	Jan 1	0.00	Oct 1	0.00	Dec 1, 1966
Maximum peak flow			[a]23	Mar 28	[d]8,460	Jun 8, 1972
Maximum peak stage			[b]4.96	Mar 10	15.03	Jun 8, 1972
Instantaneous low flow			0.00	Jul 24	0.00	Jan 2, 1995
Annual runoff (ac-ft)	2,230		1,010		7,470	
10 percent exceeds	12		5.6		20	
50 percent exceeds	0.09		0.07		0.85	
90 percent exceeds	0.00		0.00		0.00	

[a] Gage height, 4.63 ft.
[b] Backwater from ice.
[c] Median of yearly mean discharge, 4.64 ft^3/s, 3,360 ac-ft/yr.
[d] From floodmark, from rating curve extended above 490 ft^3/s on basis of slope-area measurement of peak flow.



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 mi^2.

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 fair. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.9	1.5	1.4	1.3	1.5	1.3	2.2	6.9	4.9	3.6	1.7	1.3
2	1.9	1.5	1.5	1.3	1.5	1.3	2.3	6.6	4.9	3.5	1.6	1.3
3	2.0	1.6	1.4	1.4	1.4	1.3	2.4	6.4	4.7	3.4	1.6	1.3
4	1.9	1.5	1.5	1.4	1.4	1.4	2.6	6.1	4.6	3.3	1.6	1.2
5	1.8	1.4	1.4	1.4	1.5	1.3	2.8	5.6	4.6	3.2	1.6	1.2
6	1.8	1.4	1.4	1.4	1.4	1.4	28	5.4	4.4	3.1	1.5	1.3
7	1.8	1.4	1.5	1.3	1.4	1.3	29	5.0	4.3	3.0	1.5	1.3
8	1.8	1.4	1.5	1.2	1.4	1.3	16	5.0	4.3	3.0	1.5	1.2
9	1.9	1.4	1.5	1.2	1.4	1.3	13	4.8	4.2	2.9	1.5	1.2
10	1.8	1.5	1.5	1.3	1.4	1.3	12	5.0	4.4	2.8	1.4	1.2
11	1.8	1.6	1.5	1.3	1.3	1.3	10	4.9	4.2	2.8	1.5	1.2
12	1.8	1.5	1.4	1.3	1.4	1.3	9.4	5.1	4.0	2.8	1.5	1.2
13	1.8	1.4	1.5	1.3	1.4	1.3	8.6	5.5	4.0	2.5	1.5	1.2
14	1.8	1.4	1.5	1.4	1.3	1.3	8.4	5.8	4.1	2.4	1.5	1.3
15	1.8	1.4	1.5	1.4	1.3	1.3	7.9	5.5	6.9	2.3	1.4	1.4
16	1.7	1.4	1.5	1.4	1.2	1.3	7.4	5.4	7.9	2.3	1.4	1.4
17	1.8	1.4	1.6	1.5	1.8	1.3	9.4	5.2	6.5	2.3	1.4	1.4
18	1.8	1.4	1.6	1.4	1.5	1.4	9.6	5.1	6.0	2.3	1.4	1.4
19	1.8	1.4	1.5	1.4	1.3	1.4	9.5	5.0	5.6	2.3	1.4	1.3
20	1.8	1.3	1.5	1.4	1.3	1.4	9.7	4.9	5.3	2.2	1.4	1.4
21	1.7	1.2	1.5	1.4	1.3	1.3	9.7	4.8	5.1	2.2	1.4	1.5
22	1.5	1.2	1.4	1.4	1.3	1.3	9.6	4.7	4.9	2.1	1.4	1.8
23	1.5	1.2	1.4	1.4	1.2	1.4	10	4.6	4.8	2.0	1.4	1.8
24	1.5	1.2	1.4	1.4	1.2	1.4	9.5	4.5	4.8	2.1	1.4	1.6
25	1.5	1.2	1.3	1.4	1.2	1.5	9.0	4.4	4.5	2.1	1.4	1.6
26	1.5	1.3	1.3	1.4	1.2	1.7	8.6	4.5	4.4	2.0	1.4	1.7
27	1.5	1.3	1.3	1.3	1.3	1.8	8.2	4.7	4.2	1.9	1.4	1.8
28	1.6	1.2	1.3	1.4	1.3	1.8	7.7	4.8	3.9	1.8	1.3	2.0
29	1.5	1.3	1.3	1.4	---	2.0	7.4	4.8	3.7	1.8	1.3	2.2
30	1.5	1.3	1.3	1.4	---	2.2	7.2	4.7	3.7	1.7	1.4	2.3
31	1.5	---	1.3	1.4	---	2.2	---	4.8	---	1.7	1.3	---
Total	53.3	41.2	44.5	42.3	38.1	45.1	287.1	160.5	143.8	77.4	45.0	44.0
Mean	1.72	1.37	1.44	1.36	1.36	1.45	9.57	5.18	4.79	2.50	1.45	1.47
Max	2.0	1.6	1.6	1.5	1.8	2.2	29	6.9	7.9	3.6	1.7	2.3
Min	1.5	1.2	1.3	1.2	1.2	1.3	2.2	4.4	3.7	1.7	1.3	1.2
Ac-ft	106	82	88	84	76	89	569	318	285	154	89	87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2006, BY WATER YEAR (WY)

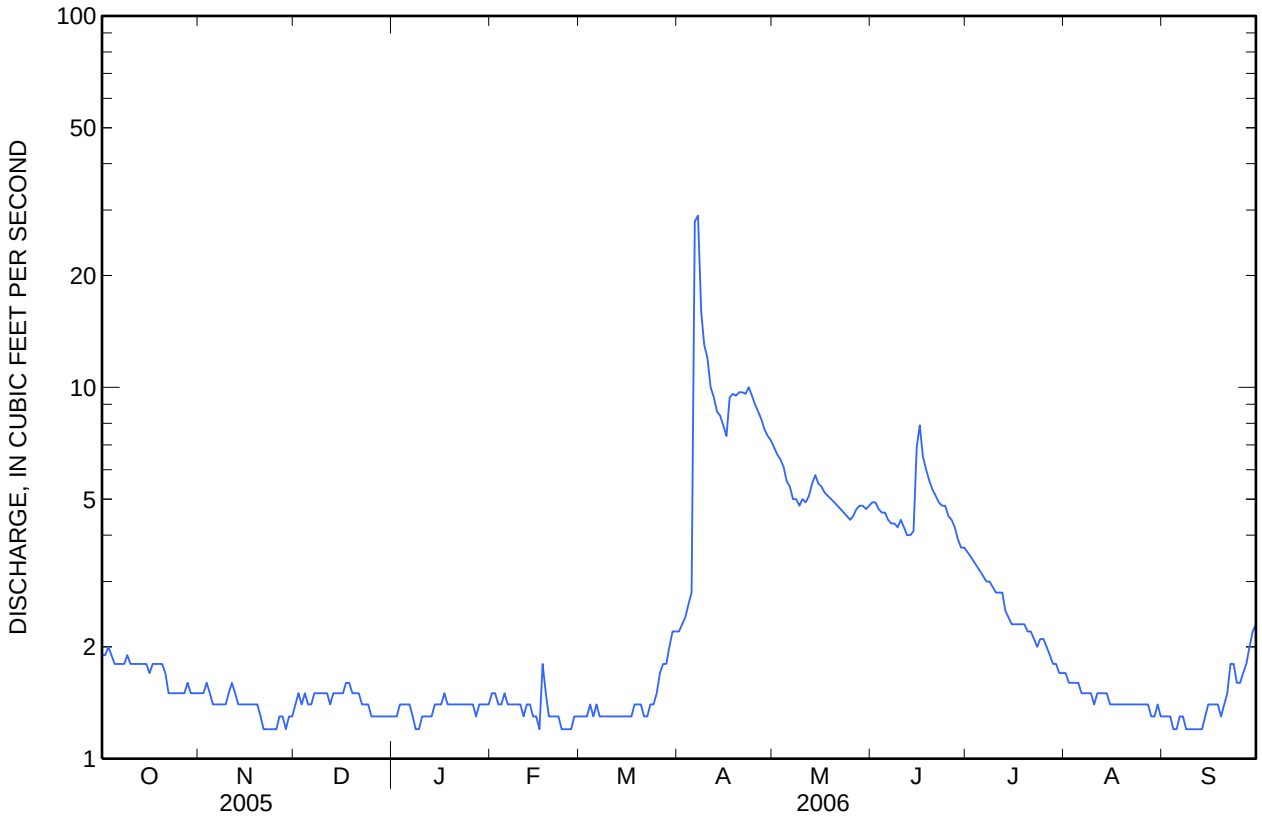
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.27	2.08	1.93	1.83	1.73	2.20	4.54	11.2	8.38	5.11	2.79	2.46
Max	6.92	4.60	3.75	3.84	3.51	5.52	21.5	75.6	26.6	32.9	8.11	8.42
(WY)	(1987)	(1987)	(1986)	(1976)	(1986)	(1996)	(1979)	(1974)	(1975)	(1993)	(1993)	(1978)
Min	1.11	1.07	0.93	0.90	0.95	1.07	1.20	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 2005		Water Year 2006		Water Years 1972 - 2006	
Annual total	1,099.70		1,022.3			
Annual mean	3.01		2.80		[a]3.89	
Highest annual mean					11.6	1974
Lowest annual mean					1.46	2001
Highest daily mean	67	Jun 13	29	Apr 7	500	May 25, 1974
Lowest daily mean	1.0	Feb 8	1.2	Nov 21	0.67	May 21, 1997
Annual seven-day minimum	1.0	Feb 8	1.2	Sep 7	0.76	May 18, 1997
Maximum peak flow			64	Apr 6	[b]576	May 25, 1974
Maximum peak stage			1.52	Apr 6	[c]4.57	May 25, 1974
Instantaneous low flow					0.67	May 21, 1997
Annual runoff (ac-ft)	2,180		2,030		2,820	
10 percent exceeds	5.3		5.5		6.5	
50 percent exceeds	1.5		1.5		2.1	
90 percent exceeds	1.1		1.3		1.3	

[a] Median of yearly mean discharge, 3.00 ft³/s.
[b] From rating curve extended above 44 ft³/s, on basis of slope-area measurement of peak flow.
[c] From floodmark, at stie and datum then in use.



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, 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 mi^2.

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 Verticla Datum of 1929 (levels by Bureau of Indian Affairs). Prior to June 1951, nonrecording gage at site 0.5 mi upstream located 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	e0.00	e0.00	e0.50	e0.50	16	8.0	18	0.00	0.00	0.00
2	0.00	0.00	e0.00	e0.00	e0.50	e0.50	13	9.6	14	0.00	0.00	0.00
3	0.00	0.00	e0.00	e0.00	e0.50	e0.50	11	10	13	0.00	0.00	0.00
4	0.00	0.00	e0.00	e0.00	e0.50	e0.50	10	9.3	11	0.00	0.00	0.00
5	0.00	0.00	e0.00	e0.00	e0.50	e1.0	9.7	8.8	10	0.00	0.00	0.00
6	0.00	0.00	e0.00	e0.00	e0.50	e5.0	9.5	9.0	9.4	0.00	0.00	0.00
7	0.00	0.00	e0.00	e0.00	e0.50	e5.0	19	8.6	7.4	0.00	0.00	0.00
8	0.00	0.00	e0.00	e0.00	e0.50	e5.0	21	8.1	5.9	0.00	0.00	0.00
9	0.00	0.00	e0.00	e0.00	e0.50	e5.0	24	7.1	5.4	0.00	0.00	0.00
10	0.00	0.00	e0.00	e0.00	e0.50	e10	28	7.4	4.9	0.00	0.00	0.00
11	0.00	0.00	e0.00	e0.00	e1.0	e5.0	29	7.4	6.9	0.00	0.00	0.00
12	0.00	0.00	e0.00	e0.00	e1.0	e5.0	24	7.3	12	0.00	0.00	0.00
13	0.00	0.00	e0.00	e0.00	e1.0	e10	20	7.4	8.4	0.00	0.00	0.00
14	0.00	0.00	e0.00	e0.00	e0.50	e10	17	7.3	8.1	0.00	0.00	0.00
15	0.00	0.00	e0.00	e0.00	e0.50	e10	14	7.7	12	0.00	0.00	0.00
16	0.00	0.00	e0.00	e0.00	e0.50	e10	12	7.4	15	0.00	0.00	0.00
17	0.00	0.00	e0.00	e0.00	e0.10	e10	16	8.0	12	0.00	0.00	0.00
18	0.00	0.00	e0.00	e0.10	e0.10	e10	36	7.8	15	0.00	0.00	0.00
19	0.00	0.00	e0.00	e0.10	e0.10	e10	26	6.7	11	0.00	0.00	0.00
20	0.00	0.00	e0.00	e0.05	e0.10	e10	24	5.8	8.7	0.00	0.00	0.00
21	0.00	0.00	e0.00	e0.05	e0.10	e10	24	5.6	9.6	0.00	0.00	0.00
22	0.00	0.00	e0.00	e0.10	e0.10	e10	19	5.3	9.0	0.00	0.00	0.00
23	0.00	0.00	e0.00	e0.50	e0.10	e10	20	4.9	7.3	0.00	0.00	0.00
24	0.00	0.00	e0.00	e0.50	e0.10	e20	25	6.1	5.6	0.00	0.00	0.00
25	0.00	0.00	e0.00	e1.0	e0.50	e30	19	5.3	4.2	0.00	0.00	0.00
26	0.00	0.00	e0.00	e1.0	e1.0	e20	16	5.5	2.5	0.00	0.00	0.00
27	0.00	e0.00	e0.00	e1.0	e1.0	e30	14	7.7	1.1	0.00	0.00	0.00
28	0.00	e0.00	e0.00	e0.50	e1.0	e30	12	13	0.30	0.00	0.00	0.00
29	0.00	e0.00	e0.00	e0.50	---	e20	10	14	0.00	0.00	0.00	0.00
30	0.00	e0.00	e0.00	e1.0	---	29	8.9	15	0.00	0.00	0.00	0.06
31	0.00	---	e0.00	e0.50	---	22	---	15	---	0.00	0.00	---
Total	0.00	0.00	0.00	6.90	13.80	354.00	547.1	256.1	247.70	0.00	0.00	0.06
Mean	0.00	0.00	0.00	0.22	0.49	11.4	18.2	8.26	8.26	0.00	0.00	0.00
Max	0.00	0.00	0.00	1.0	1.0	30	36	15	18	0.00	0.00	0.06
Min	0.00	0.00	0.00	0.00	0.10	0.50	8.9	4.9	0.00	0.00	0.00	0.00
Ac-ft	0.00	0.00	0.00	14	27	702	1,090	508	491	0.00	0.00	0.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.90	5.41	4.24	4.87	28.1	76.4	51.6	51.3	40.6	21.4	3.13	12.0
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)

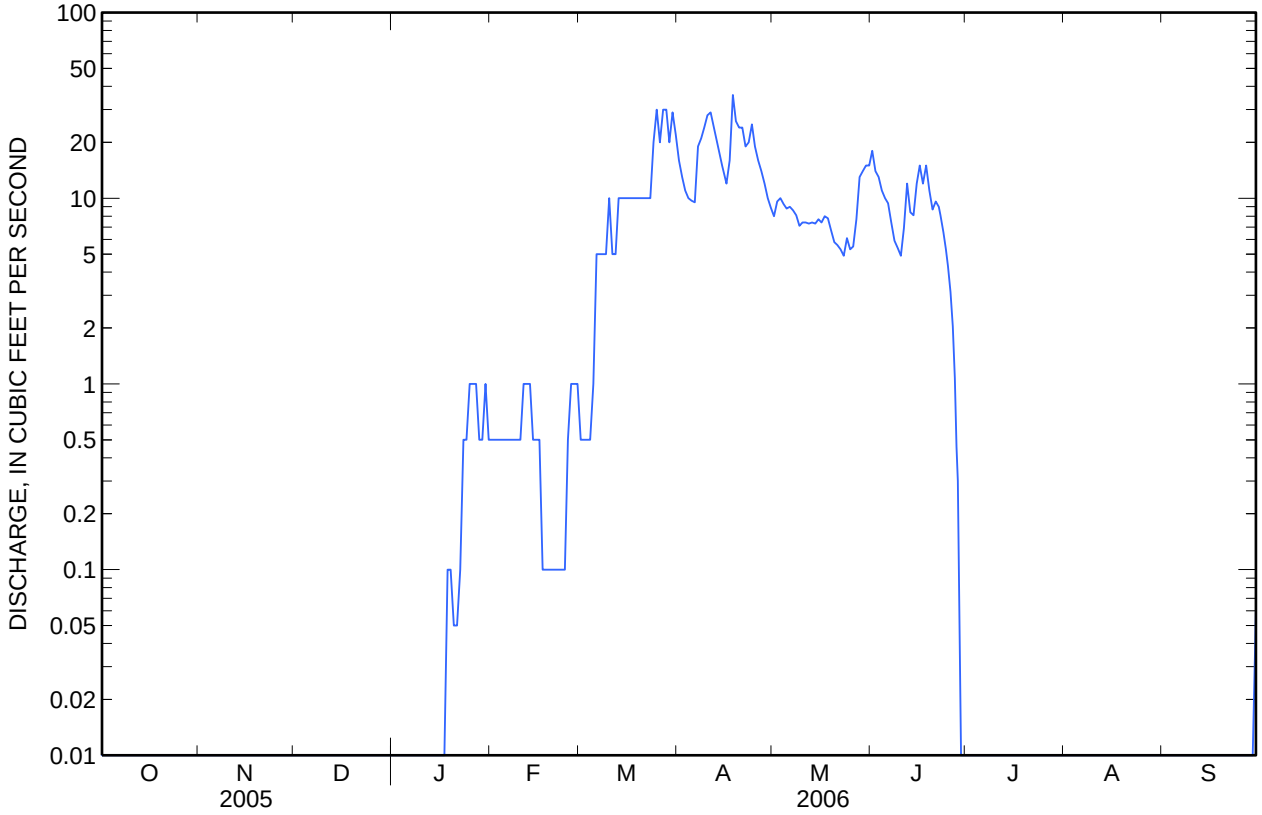
* During period of operation [1918-21 (fragmentary), 1951-73, 1982 to current year].

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

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1918 - 2006*	
Annual total	2,780.75		1,425.66			
Annual mean	7.62		3.91		25.9	
Highest annual mean					131	1986
Lowest annual mean					1.01	2001
Highest daily mean	199	Jun 29	36	Apr 18	5,070	Sep 25, 1986
Lowest daily mean	0.00	Jan 14	0.00	Oct 1	0.00	Jun 11, 1918
Annual seven-day minimum	0.00	Jan 14	0.00	Oct 1	0.00	Jun 11, 1918
Maximum peak flow			[a]43	Apr 18	[c]7,590	Sep 25, 1986
Maximum peak stage			[b]6.97	Mar 26	[d]17.05	Mar 29, 1952
Instantaneous low flow					0.00	Many days
Annual runoff (ac-ft)	5,520		2,830		18,740	
10 percent exceeds	25		13		44	
50 percent exceeds	0.10		0.00		2.6	
90 percent exceeds	0.00		0.00		0.00	

* During period of operation [1918-21 (fragmentary), 1951-73, 1982 to current year].
[a] Gage height, 3.97 ft.
[b] Backwater from ice.
[c] Gage height, 15.91 ft, from floodmark, at different site and datum.
[d] Backwater from ice, from floodmark in gage house, at different site and datum.



Water-Data Report 2006

06155030 MILK RIVER NEAR DODSON, MT

Upper Missouri 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 record 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e120	189	43	9.8	0.43	0.05	0.01	0.01		
2			e100	40	25	3.7	0.45	0.05	0.01	0.01		
3			e100	3.7	3.3	1.3	0.40	0.07	0.01	0.01		
4			e90	1.2	0.51	1.0	0.38	0.06	0.01	0.01		
5			e100	0.94	0.42	0.96	2.3	0.07	0.01	0.01		
6			e110	0.95	14	0.78	22	0.05	0.01	0.01		
7			e130	0.81	77	0.87	8.4	0.04	0.01	0.02		
8			e130	0.70	101	1.2	0.86	0.04	0.01	0.02		
9			e130	0.67	71	1.3	0.24	0.08	0.01	0.02		
10			e120	1.1	51	1.5	0.15	0.05	0.01	0.02		
11			e110	1.2	19	1.6	0.14	0.03	0.01	0.02		
12			e100	0.96	4.1	1.2	0.19	0.03	0.01	0.02		
13			e110	0.56	1.0	0.95	0.12	0.03	0.01	0.02		
14			e110	0.25	0.52	1.1	0.11	0.03	0.01	0.02		
15			e120	0.26	0.50	2.8	0.12	0.03	0.02	0.03		
16			e30	0.35	0.50	24	0.12	0.02	0.01	105		
17			e6.0	0.68	0.51	13	0.10	0.03	0.01	115		
18			e4.0	0.41	0.49	2.7	0.14	0.03	0.01	106		
19			e4.0	0.34	0.49	1.0	0.11	0.03	0.00	104		
20			e3.0	0.42	0.51	1.0	0.10	0.02	0.00	101		
21			e3.0	0.52	0.58	0.89	0.09	0.02	0.00	97		
22			e3.0	0.46	0.51	0.73	0.11	0.02	0.00	93		
23			e4.0	0.62	0.54	0.69	0.12	0.02	0.00	88		
24			e6.0	0.51	0.52	0.62	0.13	0.02	0.00	82		
25			e6.0	0.55	0.49	0.54	0.12	0.02	0.00	92		
26			e3.0	1.2	0.61	0.44	0.12	0.02	0.00	58		
27			e200	17	0.74	0.42	0.09	0.02	0.01	55		
28			e460	22	0.82	0.41	0.09	0.02	0.01	54		
29			e500	32	0.74	0.52	0.09	0.02	0.01	51		
30			e450	62	0.88	0.53	0.10	0.01	0.01	54		
31			e400	---	11	---	0.05	0.01	---	116		
Total			3,762.0	381.36	431.28	77.55	37.97	1.04	0.23	1,371.25		
Mean			121	12.7	13.9	2.58	1.22	0.03	0.01	44.2		
Max			500	189	101	24	22	0.08	0.02	116		
Min			3.0	0.25	0.42	0.41	0.05	0.01	0.00	0.01		
Ac-ft			7,460	756	855	154	75	2.1	0.5	2,720		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 – 1993 AND SEASONS 1994 – 2006

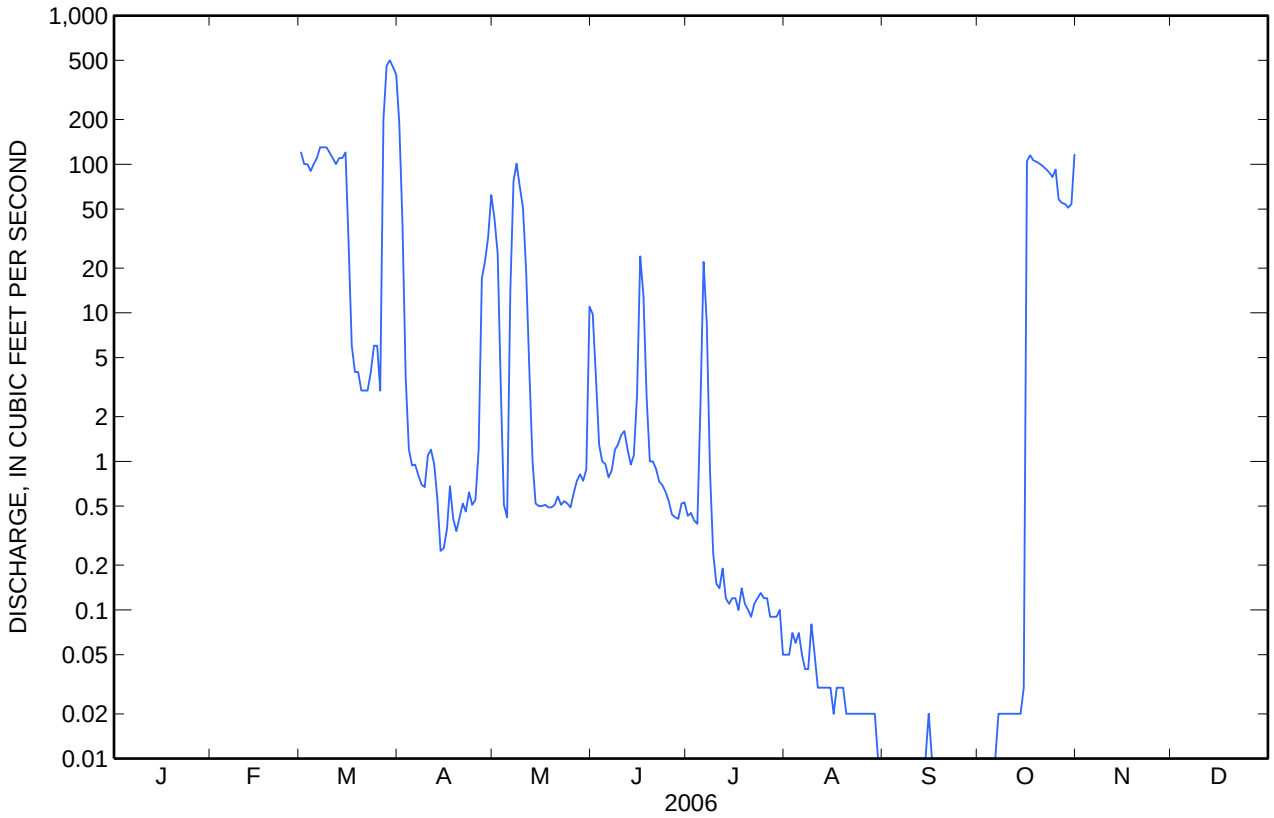
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	83.2	129	558	264	91.6	229	110	36.3	11.3	89.9	106	77.8
Max	230	526	2,252	1,691	375	655	350	85.0	29.4	692	421	275
(WY)	(1990)	(1986)	(1996)	(1996)	(1994)	(1995)	(1998)	(2002)	(1999)	(1994)	(1987)	(1987)
Min	18.2	20.3	0.14	0.21	3.10	0.42	1.06	0.03	0.01	5.39	25.3	17.3
(WY)	(1985)	(1985)	(2005)	(2005)	(2005)	(2004)	(2005)	(2006)	(2006)	(1998)	(1985)	(1985)

06155030 MILK RIVER NEAR DODSON, MT—Continued

SUMMARY STATISTICS

	For 2006 Season		Seasons 1994 - 2006		Water Years 1982 - 1993	
Annual mean					181	
Highest annual mean					524	1986
Lowest annual mean					40.9	1984
Highest daily mean	500	Mar 29	5,000	Mar 20, 1996	11,500	Sep 26, 1986
Lowest daily mean	0.00	Sep 19	0.00	Aug 15, 2003	0.00	Sep 16, 1983[c]
Annual seven-day minimum					0.00	Sep 16, 1983
Maximum peak flow	500	Mar 29	[b]5,200	Mar 17, 1994	13,200	Sep 26, 1986
Maximum peak stage	[a]9.42	Mar 28	[a]24.51	Mar 14, 1996	29.79	Sep 26, 1986
Instantaneous low flow					0.00	Oct 6, 1990
Annual runoff (ac-ft)					131,300	
10 percent exceeds					386	
50 percent exceeds					47	
90 percent exceeds					5.2	

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



06155900 MILK RIVER AT CREE CROSSING, NEAR SACO, MT

Upper Missouri 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 mi^2.

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 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			94	900	33	129	31	110	96	27		
2			95	703	46	127	34	108	98	26		
3			90	486	64	141	38	109	95	24		
4			91	326	82	135	56	107	87	24		
5			91	188	66	144	64	119	85	25		
6			90	140	54	158	66	108	90	25		
7			93	99	44	160	64	103	99	32		
8			118	83	36	135	57	112	105	33		
9			184	66	31	114	63	102	87	34		
10			264	59	37	104	88	90	69	36		
11			290	51	165	124	82	88	62	33		
12			213	48	151	134	86	97	51	29		
13			143	42	128	151	88	88	35	28		
14			115	42	84	156	84	88	30	27		
15			103	52	49	146	59	71	44	27		
16			101	49	35	156	50	64	47	28		
17			103	51	31	145	45	71	52	26		
18			91	40	31	147	54	86	48	26		
19			72	36	34	132	73	102	46	46		
20			57	45	35	127	77	98	44	174		
21			47	51	42	120	80	99	41	167		
22			37	50	63	127	89	120	41	167		
23			34	50	95	110	113	132	41	161		
24			38	42	112	88	131	135	39	155		
25			94	39	98	70	150	147	36	150		
26			230	47	94	54	156	157	35	139		
27			352	42	100	42	150	137	33	133		
28			314	32	117	35	142	125	30	138		
29			175	37	131	33	132	129	29	114		
30			549	36	138	31	124	113	29	104		
31			955	---	132	---	118	105	---	102		
Total			5,323	3,932	2,358	3,475	2,644	3,320	1,724	2,260		
Mean			172	131	76.1	116	85.3	107	57.5	72.9		
Max			955	900	165	160	156	157	105	174		
Min			34	32	31	31	31	64	29	24		
Ac-ft			10,560	7,800	4,680	6,890	5,240	6,590	3,420	4,480		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 2000 - 2006

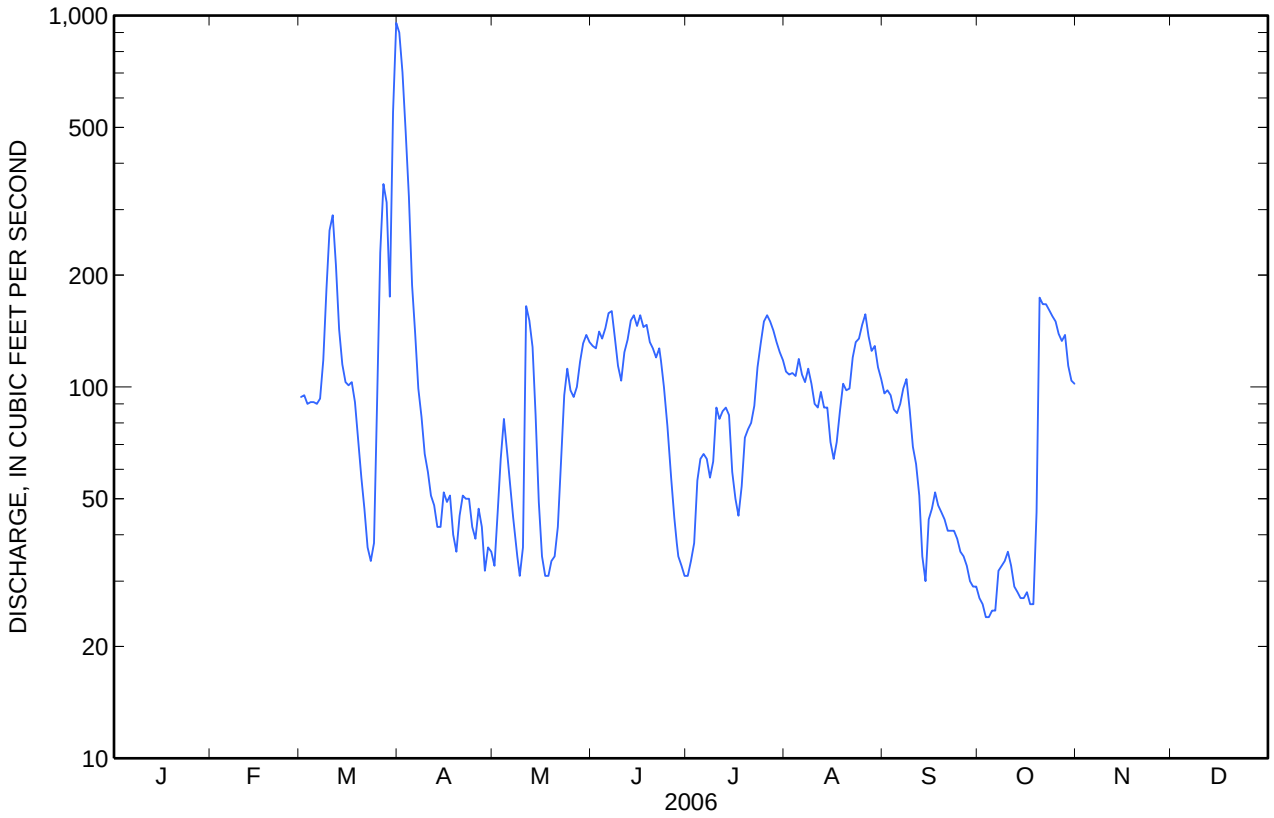
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			365	70.1	100	189	119	115	63.0	38.9		
Max			1,196	131	271	517	244	225	108	72.9		
(WY)			(2004)	(2006)	(2004)	(2002)	(2002)	(2002)	(2002)	(2007)		
Min			38.3	20.5	9.44	68.1	28.3	16.7	18.6	12.6		
(WY)			(2002)	(2002)	(2001)	(2001)	(2001)	(2001)	(2000)	(2002)		

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

SUMMARY STATISTICS

	For 2006 Season		Seasons 2000 - 2006	
Highest daily mean	955	Mar 31	3,800	Mar 15, 2004
Lowest daily mean	24	Oct 3	2.6	May 28, 2001
Maximum peak flow	1,050	Mar 31	[a]2,600	Mar 21, 2003
Maximum peak stage	5.64	Mar 31	[b]15.19	Mar 14, 2004
Instantaneous low flow	23	Sep 14	2.6	May 28, 2001

[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.06, 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 Wate 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.06, R.25 W., third meridian, for storage in Cypress Lake. Water Survey of Canada satellite telemeter is located at the station.

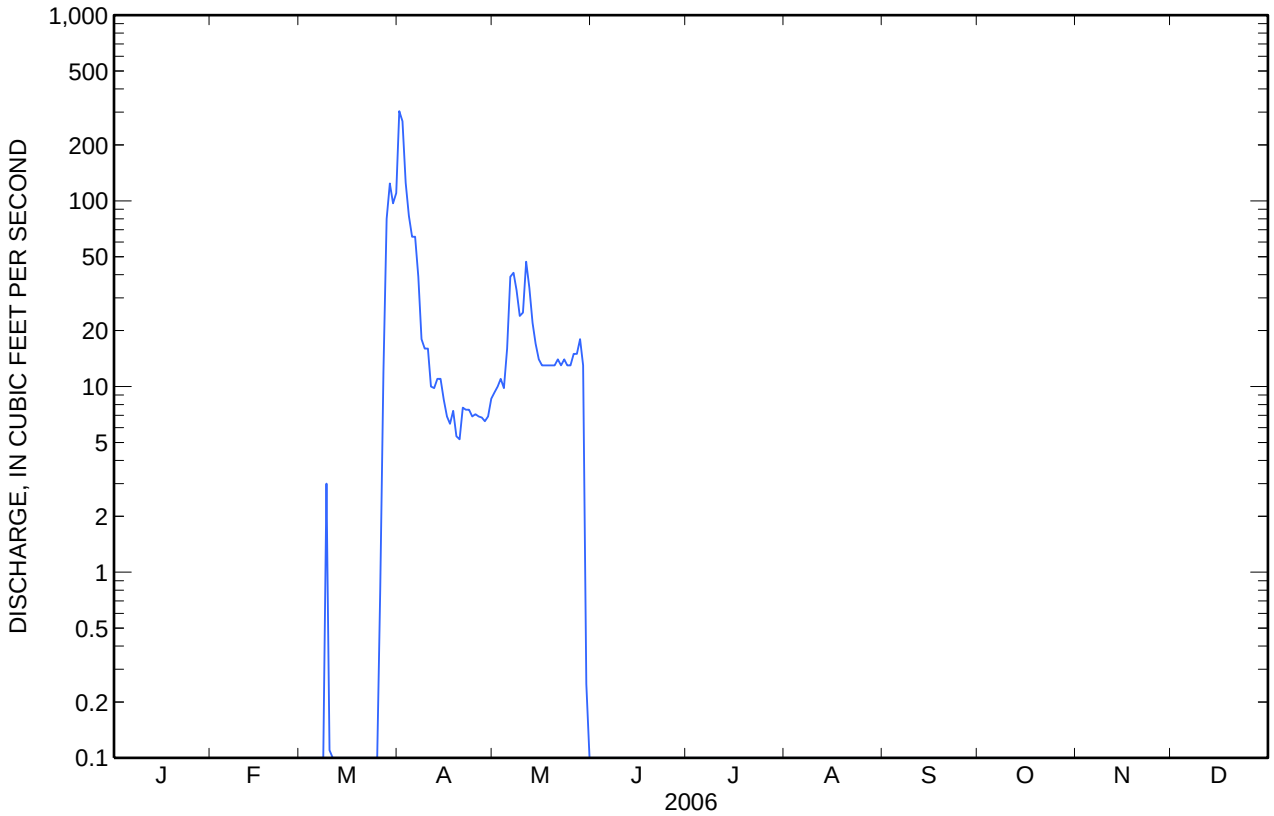
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 696 ft^3/s, June 28, 1998; no flow at times each season.

06156500 BELANGER CREEK DIVERSION CANAL NEAR VIDORA, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	304	9.3	0.00	0.00	0.00	0.00	0.00		
2			e0.00	268	10	0.00	0.00	0.00	0.00	0.00		
3			e0.00	125	11	0.00	0.00	0.00	0.00	0.00		
4			e0.00	83	9.8	0.00	0.00	0.00	0.00	0.00		
5			e0.00	64	16	0.00	0.00	0.00	0.00	0.00		
6			e0.00	64	39	0.00	0.00	0.00	0.00	0.00		
7			e0.00	39	41	0.00	0.00	0.00	0.00	0.00		
8			e0.00	18	33	0.00	0.00	0.00	0.00	0.00		
9			e3.0	16	24	0.00	0.00	0.00	0.00	0.00		
10			e0.11	16	25	0.00	0.00	0.00	0.00	0.00		
11			e0.00	10	47	0.00	0.00	0.00	0.00	0.00		
12			e0.00	9.8	34	0.00	0.00	0.00	0.00	0.00		
13			e0.00	11	22	0.00	0.00	0.00	0.00	0.00		
14			e0.00	11	17	0.00	0.00	0.00	0.00	0.00		
15			e0.00	8.5	14	0.00	0.00	0.00	0.00	0.00		
16			e0.00	6.9	13	0.00	0.00	0.00	0.00	0.00		
17			e0.00	6.3	13	0.00	0.00	0.00	0.00	0.00		
18			e0.00	7.4	13	0.00	0.00	0.00	0.00	0.00		
19			e0.00	5.4	13	0.00	0.00	0.00	0.00	0.00		
20			e0.00	5.2	13	0.00	0.00	0.00	0.00	0.00		
21			e0.00	7.7	14	0.00	0.00	0.00	0.00	0.00		
22			e0.00	7.5	13	0.00	0.00	0.00	0.00	0.00		
23			e0.00	7.5	14	0.00	0.00	0.00	0.00	0.00		
24			e0.00	6.9	13	0.00	0.00	0.00	0.00	0.00		
25			e0.00	7.1	13	0.00	0.00	0.00	0.00	0.00		
26			e0.81	6.9	15	0.00	0.00	0.00	0.00	0.00		
27			e12	6.8	15	0.00	0.00	0.00	0.00	0.00		
28			80	6.5	18	0.00	0.00	0.00	0.00	0.00		
29			124	6.9	13	0.00	0.00	0.00	0.00	0.00		
30			97	8.6	0.25	0.00	0.00	0.00	0.00	0.00		
31			110	---	0.00	---	0.00	0.00	---	0.00		
Total			426.92	1,150.9	545.35	0.00	0.00	0.00	0.00	0.00		
Mean			13.8	38.4	17.6	0.00	0.00	0.00	0.00	0.00		
Max			124	304	47	0.00	0.00	0.00	0.00	0.00		
Min			0.00	5.2	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			847	2,280	1,080	0.00	0.00	0.00	0.00	0.00		

06156500 BELANGER CREEK DIVERSION CANAL NEAR VIDORA, SASKATCHEWAN—Continued



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.06., R.27 W., third meridian, Hydrologic Unit 10050013, on south shore, and 12 mi north of Consul.

DRAINAGE AREA.--107 mi^2.

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.

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

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 YEAR.--Maximum contents, 22,030 acre-ft, Apr. 23, elevation, 3,186.49 ft; minimum, 9,850 acre-ft, Oct. 26, elevation, 3,183.60 ft.

SEASONAL MONTHEND CONTENTS, FEBRUARY 2006 TO OCTOBER 2006

Date	Contents (acre-feet)
February 28	16,740
March 31	17,830
April 30	20,800
May 31	18,100
June 30	16,860
July 31	14,810
August 31	12,470
September 30	11,240
October 31	11,250

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.06, 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.

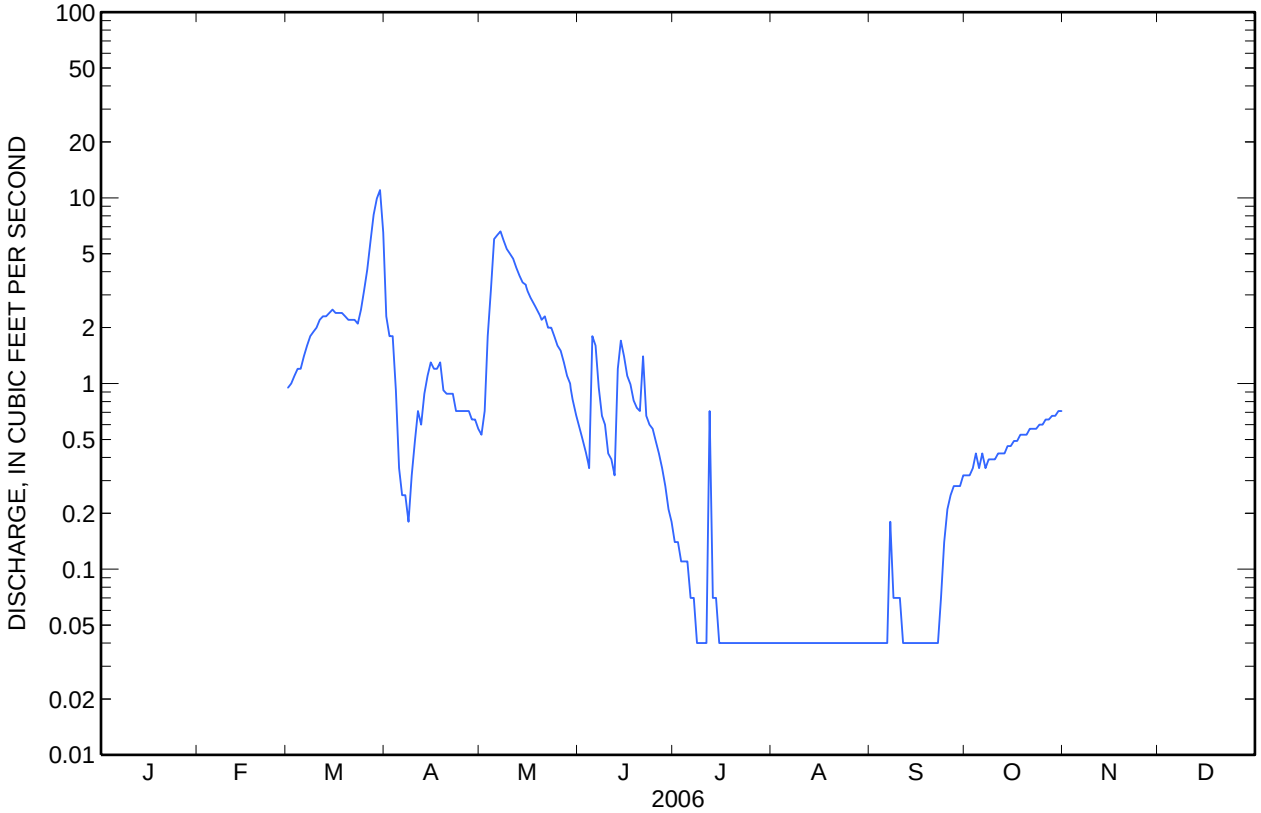
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 202 ft^3/s, Apr. 19, 1952; no flow at times most seasons.

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

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.95	e2.3	0.53	0.57	0.14	e0.04	e0.04	e0.32		
2			e1.0	e1.8	0.71	0.49	0.14	e0.04	e0.04	e0.32		
3			e1.1	e1.8	1.8	0.42	0.11	e0.04	e0.04	e0.35		
4			e1.2	e0.92	3.2	0.35	0.11	e0.04	e0.04	e0.42		
5			e1.2	e0.35	6.0	1.8	0.11	e0.04	e0.04	e0.35		
6			e1.4	e0.25	6.3	1.6	0.07	e0.04	e0.04	e0.42		
7			e1.6	e0.25	6.6	0.95	0.07	e0.04	e0.18	e0.35		
8			e1.8	0.18	5.9	0.67	0.04	e0.04	e0.07	e0.39		
9			e1.9	0.32	5.3	0.60	0.04	e0.04	e0.07	e0.39		
10			e2.0	0.49	5.0	0.42	0.04	e0.04	e0.07	e0.39		
11			e2.2	0.71	4.7	0.39	e0.04	e0.04	e0.04	e0.42		
12			e2.3	0.60	4.2	0.32	e0.71	e0.04	e0.04	e0.42		
13			e2.3	0.88	3.8	1.2	e0.07	e0.04	e0.04	e0.42		
14			e2.4	1.1	3.5	1.7	e0.07	e0.04	e0.04	e0.46		
15			e2.5	1.3	3.4	1.4	e0.04	e0.04	e0.04	e0.46		
16			e2.4	1.2	3.0	1.1	e0.04	e0.04	e0.04	e0.49		
17			e2.4	1.2	2.8	0.99	e0.04	e0.04	e0.04	e0.49		
18			e2.4	1.3	2.6	0.81	e0.04	e0.04	e0.04	e0.53		
19			e2.3	0.92	2.4	0.74	e0.04	e0.04	e0.04	e0.53		
20			e2.2	0.88	2.2	0.71	e0.04	e0.04	e0.04	e0.53		
21			e2.2	0.88	2.3	1.4	e0.04	e0.04	e0.04	e0.57		
22			e2.2	0.88	2.0	0.67	e0.04	e0.04	e0.04	e0.57		
23			e2.1	0.71	2.0	0.60	e0.04	e0.04	e0.07	e0.57		
24			e2.5	0.71	1.8	0.57	e0.04	e0.04	e0.14	e0.60		
25			e3.2	0.71	1.6	0.49	e0.04	e0.04	e0.21	e0.60		
26			e4.1	0.71	1.5	0.42	e0.04	e0.04	e0.25	e0.64		
27			e5.8	0.71	1.3	0.35	e0.04	e0.04	e0.28	e0.64		
28			e8.1	0.64	1.1	0.28	e0.04	e0.04	e0.28	e0.67		
29			e9.9	0.64	1.0	0.21	e0.04	e0.04	e0.28	e0.67		
30			e11	0.57	0.78	0.18	e0.04	e0.04	e0.32	e0.71		
31			e6.5	---	0.67	---	e0.04	e0.04	---	e0.71		
Total			95.15	25.91	89.99	22.40	2.44	1.24	2.94	15.40		
Mean			3.07	0.86	2.90	0.75	0.08	0.04	0.10	0.50		
Max			11	2.3	6.6	1.8	0.71	0.04	0.32	0.71		
Min			0.95	0.18	0.53	0.18	0.04	0.04	0.04	0.32		
Ac-ft			189	51	178	44	4.8	2.5	5.8	31		

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.06, 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 (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.06, 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.

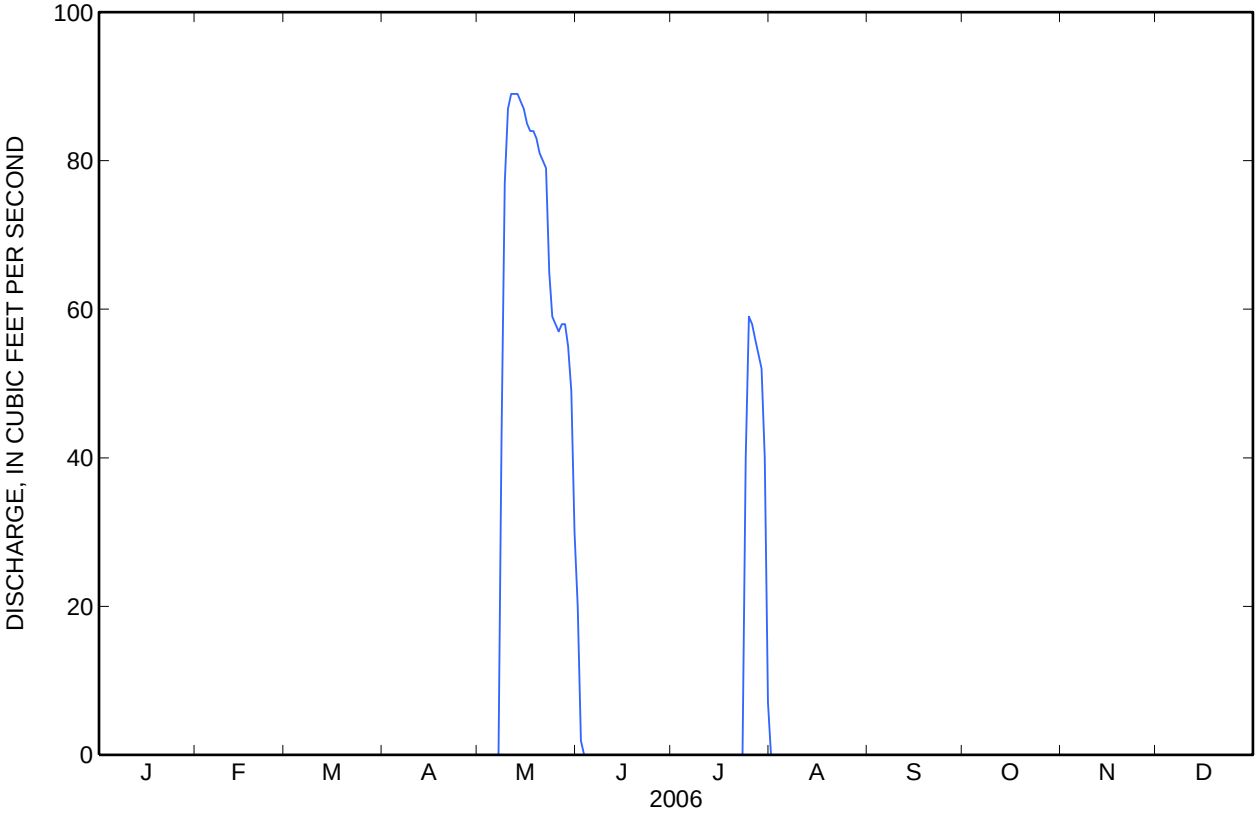
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 91 ft^3/s, May 18, 1993; no flow at times each season.

06158500 EASTEND CANAL AT EASTEND, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	20	0.00	0.00	0.00	0.00		
2			0.00	0.00	0.00	1.9	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	43	0.00	0.00	0.00	0.00	0.00		
9			0.00	0.00	77	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.00	87	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.00	89	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	89	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	89	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	88	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	87	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	85	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	84	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	84	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	83	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	81	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	80	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	79	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	65	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	59	0.00	40	0.00	0.00	0.00		
25			0.00	0.00	58	0.00	59	0.00	0.00	0.00		
26			0.00	0.00	57	0.00	58	0.00	0.00	0.00		
27			0.00	0.00	58	0.00	56	0.00	0.00	0.00		
28			0.00	0.00	58	0.00	54	0.00	0.00	0.00		
29			0.00	0.00	55	0.00	52	0.00	0.00	0.00		
30			0.00	0.00	49	0.00	40	0.00	0.00	0.00		
31			0.00	---	30	---	7.1	0.00	---	0.00		
Total			0.00	0.00	1,714.00	21.90	366.10	0.00	0.00	0.00		
Mean			0.00	0.00	55.3	0.73	11.8	0.00	0.00	0.00		
Max			0.00	0.00	89	20	59	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	3,400	43	726	0.00	0.00	0.00		

06158500 EASTEND CANAL AT EASTEND, SASKATCHEWAN—Continued



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.06., 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 mi^2.

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.

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

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 YEAR.--Maximum contents, 2,380 acre-ft, May 8, elevation, 3,013.69 ft; minimum, 352 acre-ft, June 1, elevation, 3,006.77 ft.

SEASONAL MONTHEND CONTENTS, FEBRUARY 2006 TO OCTOBER 2006

Date	Contents (acre-feet)
February 28	502
March 31	774
April 30	2,280
May 31	360
June 30	1,340
July 31	543
August 31	560
September 30	725
October 31	864

06161300 HUFF LAKE PUMPING CANAL NEAR VAL MARIE, SASKATCHEWAN

Milk Basin

LOCATION.--Lat 49°22′20″, long 107°53′05″ referenced to North American Datum of 1927, in NW ¼ sec.7, T.0 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.

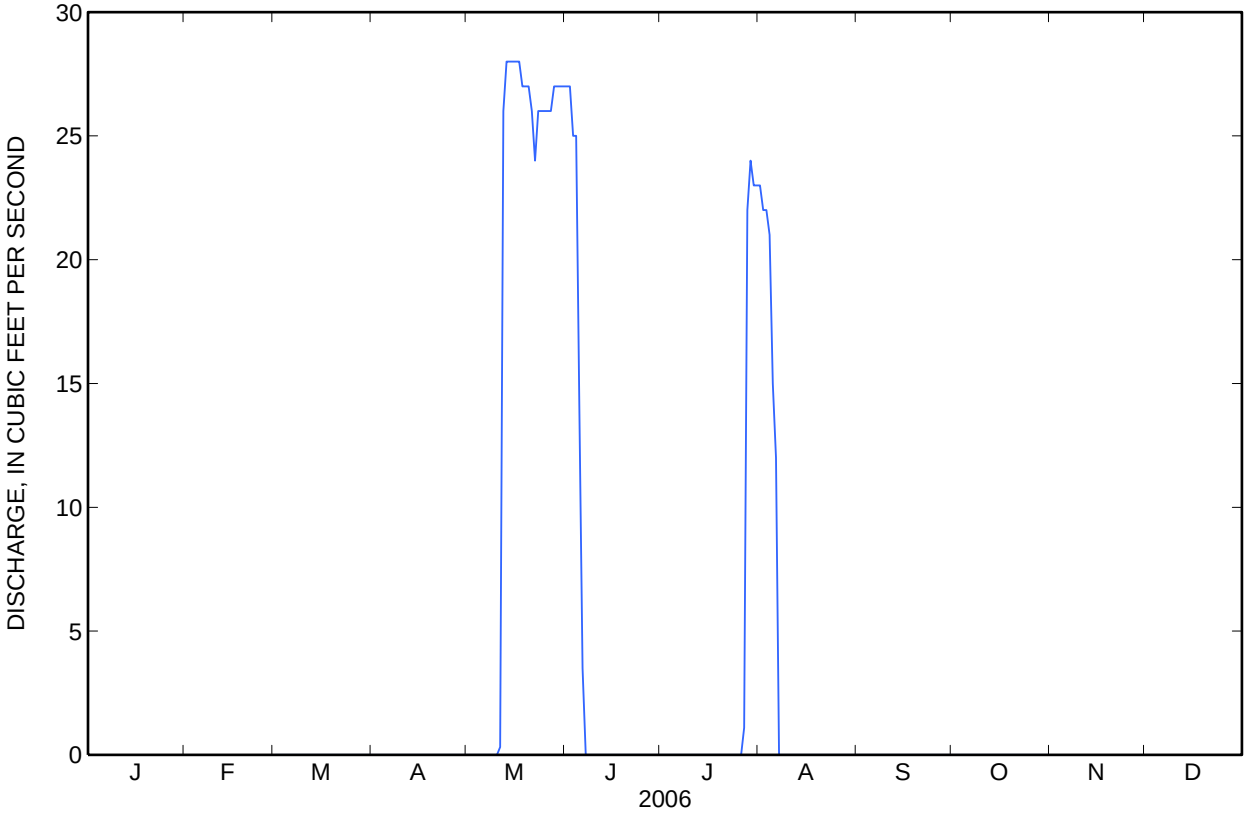
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 31 ft^3/s, May 30 to June 2, 7-10, 1975, May 5, 6, 7, 9, 1977; no flow at times each season.

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

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	27	0.00	23	0.00	0.00		
2			0.00	0.00	0.00	27	0.00	22	0.00	0.00		
3			0.00	0.00	0.00	25	0.00	22	0.00	0.00		
4			0.00	0.00	0.00	25	0.00	21	0.00	0.00		
5			0.00	0.00	0.00	14	0.00	15	0.00	0.00		
6			0.00	0.00	0.00	3.5	0.00	12	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	0.32	0.00	0.00	0.00	0.00	0.00		
12			0.00	0.00	26	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	28	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	28	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	28	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	28	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	28	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	27	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	27	0.00	0.00	0.00	0.00	0.00		
20			0.00	0.00	27	0.00	0.00	0.00	0.00	0.00		
21			0.00	0.00	26	0.00	0.00	0.00	0.00	0.00		
22			0.00	0.00	24	0.00	0.00	0.00	0.00	0.00		
23			0.00	0.00	26	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	26	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	26	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	26	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	26	0.00	1.1	0.00	0.00	0.00		
28			0.00	0.00	27	0.00	22	0.00	0.00	0.00		
29			0.00	0.00	27	0.00	24	0.00	0.00	0.00		
30			0.00	0.00	27	0.00	23	0.00	0.00	0.00		
31			0.00	---	27	---	23	0.00	---	0.00		
Total			0.00	0.00	535.32	121.50	93.10	115.00	0.00	0.00		
Mean			0.00	0.00	17.3	4.05	3.00	3.71	0.00	0.00		
Max			0.00	0.00	28	27	24	23	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	241	185	228	0.00	0.00		

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



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.05., R.14 W., in SW¼, sec.7, T. 05, 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 (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.05, 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.

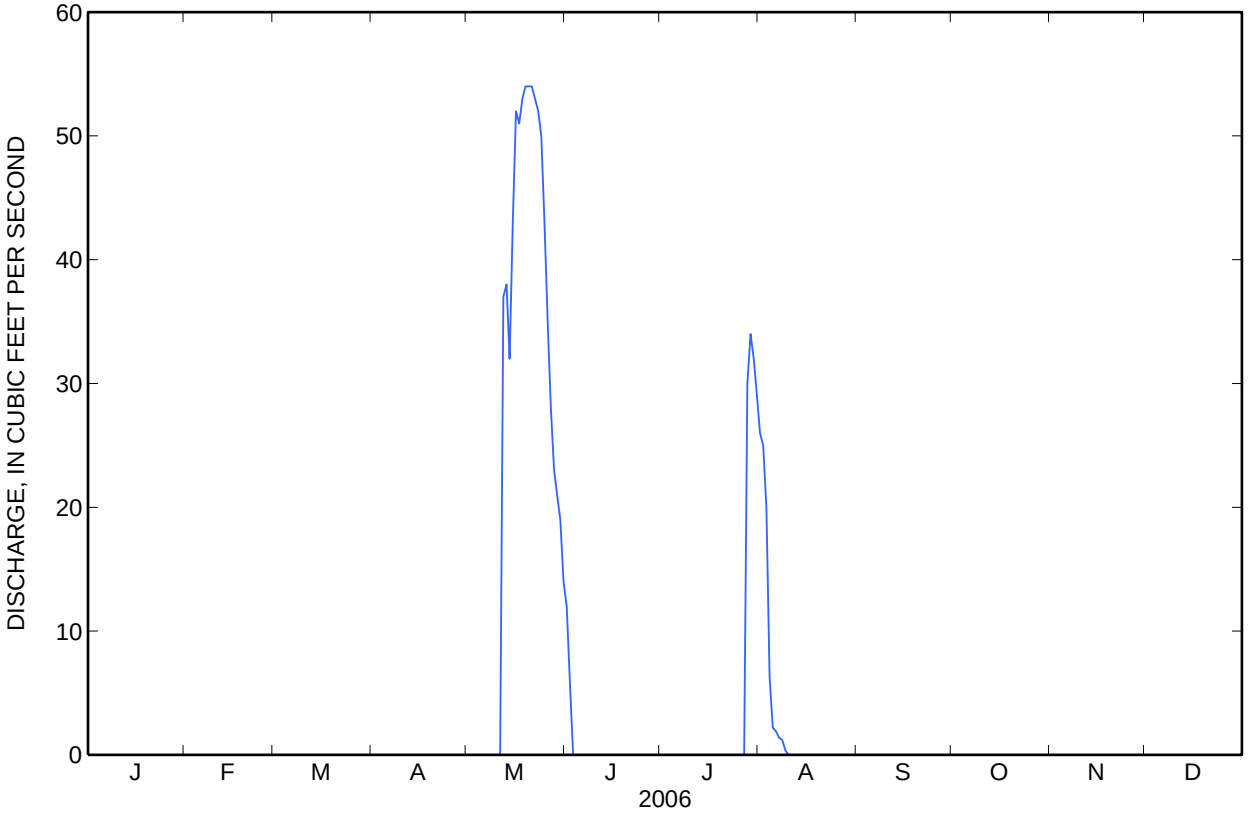
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 68 ft^3/s, July 24, 1996; no flow at times each season.

06161500 HUFF LAKE GRAVITY CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	0.00	0.00	12	0.00	26	0.00	0.00		
2			0.00	0.00	0.00	5.8	0.00	25	0.00	0.00		
3			0.00	0.00	0.00	0.00	0.00	20	0.00	0.00		
4			0.00	0.00	0.00	0.00	0.00	6.3	0.00	0.00		
5			0.00	0.00	0.00	0.00	0.00	2.2	0.00	0.00		
6			0.00	0.00	0.00	0.00	0.00	1.9	0.00	0.00		
7			0.00	0.00	0.00	0.00	0.00	1.4	0.00	0.00		
8			0.00	0.00	0.00	0.00	0.00	1.2	0.00	0.00		
9			0.00	0.00	0.00	0.00	0.00	0.35	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	37	0.00	0.00	0.00	0.00	0.00		
13			0.00	0.00	38	0.00	0.00	0.00	0.00	0.00		
14			0.00	0.00	32	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	43	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	52	0.00	0.00	0.00	0.00	0.00		
17			0.00	0.00	51	0.00	0.00	0.00	0.00	0.00		
18			0.00	0.00	53	0.00	0.00	0.00	0.00	0.00		
19			0.00	0.00	54	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	52	0.00	0.00	0.00	0.00	0.00		
24			0.00	0.00	50	0.00	0.00	0.00	0.00	0.00		
25			0.00	0.00	43	0.00	0.00	0.00	0.00	0.00		
26			0.00	0.00	35	0.00	0.00	0.00	0.00	0.00		
27			0.00	0.00	28	0.00	0.00	0.00	0.00	0.00		
28			0.00	0.00	23	0.00	30	0.00	0.00	0.00		
29			0.00	0.00	21	0.00	34	0.00	0.00	0.00		
30			0.00	0.00	19	0.00	32	0.00	0.00	0.00		
31			0.00	---	14	---	29	0.00	---	0.00		
Total			0.00	0.00	806.00	17.80	125.00	84.35	0.00	0.00		
Mean			0.00	0.00	26.0	0.59	4.03	2.72	0.00	0.00		
Max			0.00	0.00	54	12	34	26	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	1,600	35	248	167	0.00	0.00		

06161500 HUFF LAKE GRAVITY CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued



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.05., 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.

REMARKS.--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 25 acre-ft. Water is used for irrigation. Figures given herein represent total contents. Water Survey of Canada satellite telemeter is located at the station. This is one of a number of stations which are maintained jointly by Canada and the United States.

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 YEAR.--Maximum contents, 3,350 acre-ft, Apr. 4, elevation, 2,677.11 ft; minimum, 217 acre-ft, Sept. 15, elevation, 2,666.52 ft.

SEASONAL MONTHEND CONTENTS, FEBRUARY 2006 TO OCTOBER 2006

Date	Contents (acre-feet)
February 28	2,390
March 31	2,990
April 30	3,090
May 31	1,070
June 30	1,380
July 31	741
August 31	241
September 30	229
October 31	239

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 NE¼ sec.15, T.04, 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.04, R.14 W., third meridian, on left bank for irrigation of about 4,700 acres in the Frenchman River basin in Saskatchewan.

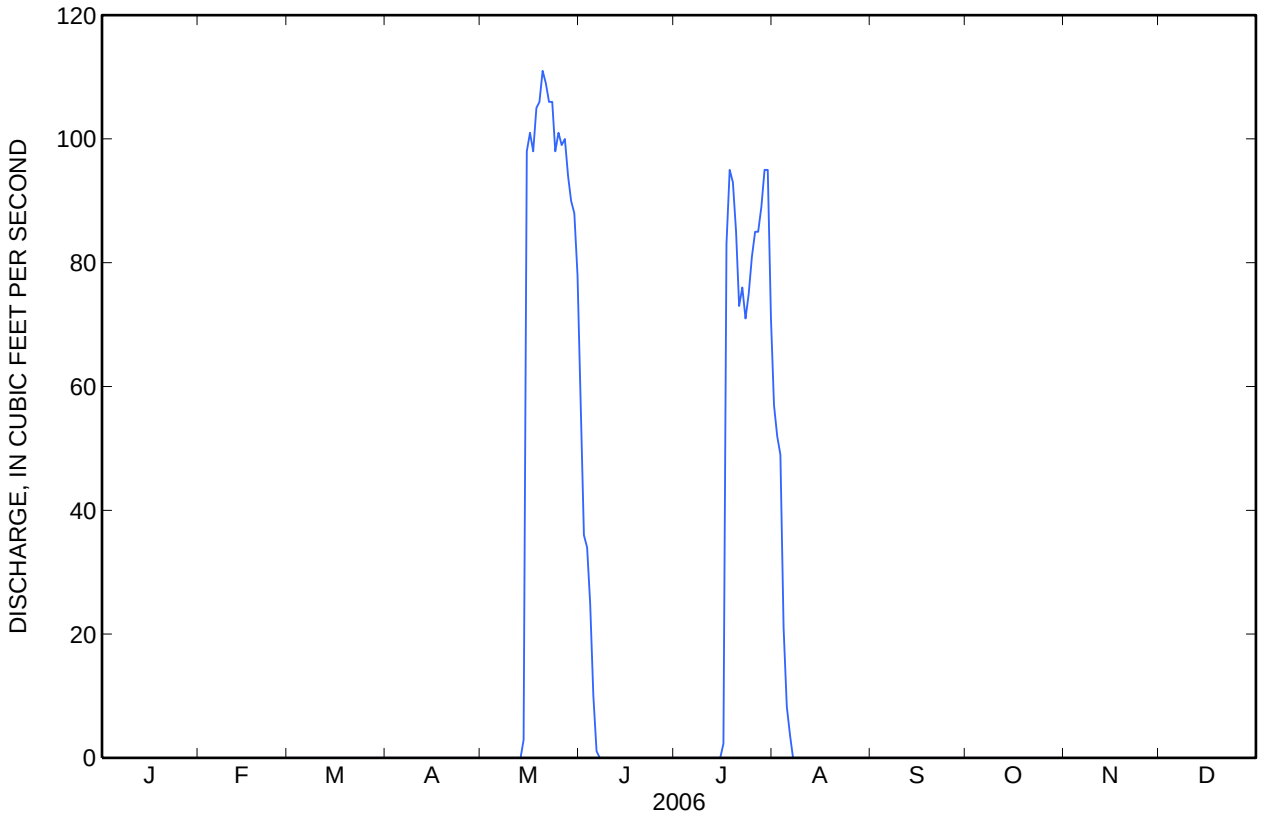
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 131 ft^3/s, May 23, 1997; no flow at times each season.

06162500 NEWTON LAKE MAIN CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
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	57	0.00	0.00		
2			0.00	0.00	0.00	36	0.00	52	0.00	0.00		
3			0.00	0.00	0.00	34	0.00	49	0.00	0.00		
4			0.00	0.00	0.00	25	0.00	21	0.00	0.00		
5			0.00	0.00	0.00	10	0.00	8.3	0.00	0.00		
6			0.00	0.00	0.00	1.1	0.00	3.7	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	2.9	0.00	0.00	0.00	0.00	0.00		
15			0.00	0.00	98	0.00	0.00	0.00	0.00	0.00		
16			0.00	0.00	101	0.00	2.3	0.00	0.00	0.00		
17			0.00	0.00	98	0.00	83	0.00	0.00	0.00		
18			0.00	0.00	105	0.00	95	0.00	0.00	0.00		
19			0.00	0.00	106	0.00	93	0.00	0.00	0.00		
20			0.00	0.00	111	0.00	85	0.00	0.00	0.00		
21			0.00	0.00	109	0.00	73	0.00	0.00	0.00		
22			0.00	0.00	106	0.00	76	0.00	0.00	0.00		
23			0.00	0.00	106	0.00	71	0.00	0.00	0.00		
24			0.00	0.00	98	0.00	75	0.00	0.00	0.00		
25			0.00	0.00	101	0.00	81	0.00	0.00	0.00		
26			0.00	0.00	99	0.00	85	0.00	0.00	0.00		
27			0.00	0.00	100	0.00	85	0.00	0.00	0.00		
28			0.00	0.00	94	0.00	89	0.00	0.00	0.00		
29			0.00	0.00	90	0.00	95	0.00	0.00	0.00		
30			0.00	0.00	88	0.00	95	0.00	0.00	0.00		
31			0.00	---	78	---	71	0.00	---	0.00		
Total			0.00	0.00	1,690.90	163.10	1,254.30	191.00	0.00	0.00		
Mean			0.00	0.00	54.5	5.44	40.5	6.16	0.00	0.00		
Max			0.00	0.00	111	57	95	57	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	3,350	324	2,490	379	0.00	0.00		

06162500 NEWTON LAKE MAIN CANAL NEAR VAL MARIE, SASKATCHEWAN—Continued



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.01., 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.

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

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 YEAR.--Maximum contents observed, 13,130 acre-ft, Apr 5, elevation, 2,637.41 ft; minimum, 2,800 acre-ft, Oct. 31, elevation, 2,628.66 ft.

SEASONAL MONTHEND CONTENTS, FEBRUARY 2006 TO OCTOBER 2006

Date	Contents (acre-feet)
February 28	5,980
March 31	8,820
April 30	10,420
May 31	8,210
June 30	7,860
July 31	4,320
August 31	3,530
September 30	3,410
October 31	2,800

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 mi^2, of which 343 mi^2 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 fair. 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e7.1	600	25	42	0.28	17	0.00	0.00		
2			e6.7	576	21	41	0.25	24	0.00	0.00		
3			e5.3	346	17	37	0.21	34	0.00	0.00		
4			e3.5	213	15	34	0.14	25	0.00	0.00		
5			e3.5	151	12	29	0.11	15	0.00	0.00		
6			e3.5	135	8.5	26	0.07	9.3	0.00	0.00		
7			e4.6	392	6.0	23	0.04	16	0.00	3.2		
8			e5.7	731	4.3	19	0.04	13	0.00	6.0		
9			e8.1	812	3.8	16	0.04	7.1	0.00	6.3		
10			e7.1	352	4.1	12	0.04	3.8	0.00	2.6		
11			e6.7	224	4.1	7.6	0.04	2.3	0.00	1.3		
12			e6.0	218	3.7	4.4	0.04	1.2	0.00	0.81		
13			e7.1	209	3.6	2.4	0.00	0.71	0.00	0.60		
14			e7.1	139	3.2	2.2	0.00	0.42	0.00	0.46		
15			e4.9	115	2.4	77	0.00	0.28	0.00	0.35		
16			e4.9	103	1.7	251	0.00	0.18	0.00	0.28		
17			e4.6	233	1.5	82	0.00	0.14	0.00	0.21		
18			e4.2	189	1.4	37	0.00	0.11	0.00	0.18		
19			e4.6	132	1.1	20	0.00	0.07	0.00	0.14		
20			e4.6	108	30	13	0.00	0.07	0.00	0.14		
21			e5.7	100	40	8.2	0.00	0.04	0.00	0.14		
22			e7.1	95	39	5.7	0.00	0.04	0.00	0.11		
23			e7.1	76	44	3.9	0.00	0.04	0.00	0.11		
24			e11	61	49	2.2	0.00	0.04	0.00	0.11		
25			e42	55	46	1.6	0.00	0.00	0.00	0.07		
26			e71	53	48	1.1	0.00	0.00	0.00	0.07		
27			e141	53	46	0.81	0.00	0.00	0.00	0.07		
28			e189	48	61	0.57	5.9	0.00	0.00	0.07		
29			e247	33	53	0.39	9.6	0.00	0.00	0.07		
30			e388	27	57	0.28	13	0.00	0.00	22		
31			e636	---	50	---	20	0.00	---	49		
Total			1,854.7	6,579	702.4	800.35	49.80	169.84	0.00	94.39		
Mean			59.8	219	22.7	26.7	1.61	5.48	0.00	3.04		
Max			636	812	61	251	20	34	0.00	49		
Min			3.5	27	1.1	0.28	0.00	0.00	0.00	0.00		
Ac-ft			3,680	13,050	1,390	1,590	99	337	0.00	187		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1917 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	0.00	0.22	177	395	137	83.2	52.1	17.0	7.15	10.3	14.2	0.00
Max	0.00	0.68	1,490	5,313	1,051	886	602	199	65.9	77.7	33.8	0.00
(WY)	(1936)	(1950)	(1997)	(1952)	(1927)	(1923)	(1955)	(2002)	(1951)	(1966)	(1918)	(1936)
Min	0.00	0.00	0.00	0.35	2.54	0.39	0.02	0.00	0.00	0.00	0.00	0.00
(WY)	(1936)	(1936)	(2002)	(2000)	(1937)	(1937)	(1984)	(1934)	(1919)	(1932)	(1936)	(1936)

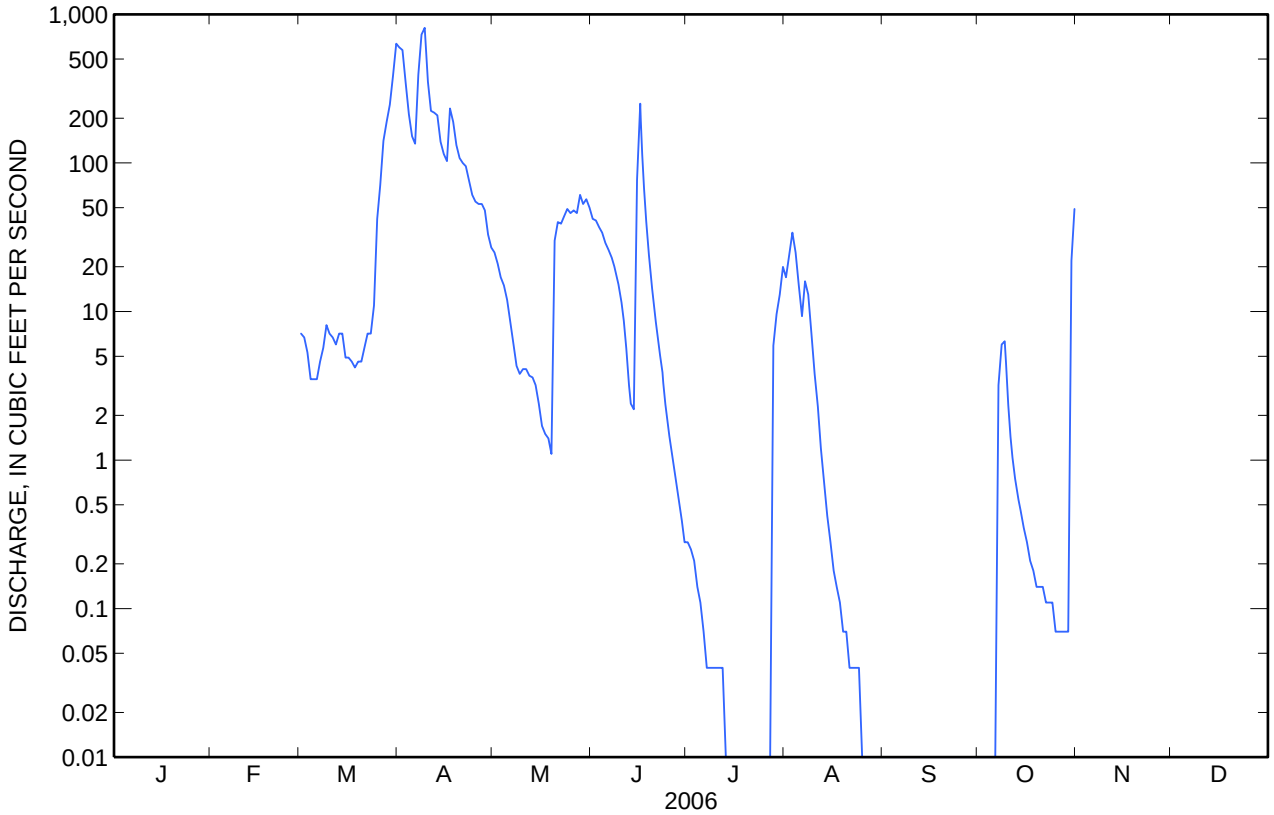
* Seasonal records most years.

06164000 FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1917 – 2006*	
Highest daily mean	636	Mar 31	19,200	Apr 15, 1952
Lowest daily mean	0.00	Many days	0.00	Jul 28, 1919
Maximum peak flow	[a] 886	Apr 9	[c]22,700	Apr 15, 1952
Maximum peak stage	[b] 8.86	Mar 31	[d]19.90	Apr 15, 1952

* Seasonal records most years.
[a] Gage height, 7.78 ft.
[b] Backwater from ice.
[c] From rating curve extended above 2,300 ft³/s on basis of slope-area measurement of peak flow.
[b] From floodmarks.



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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	77	127	e100	113	136	119	1,310	68	143	198	201	144
2	72	176	e100	116	142	116	1,390	68	136	191	193	139
3	69	179	e100	125	143	116	1,120	90	135	225	191	144
4	82	189	e100	134	139	119	852	102	138	259	196	138
5	82	185	e100	141	140	122	557	113	140	268	199	125
6	72	172	e100	136	142	122	385	99	140	258	201	109
7	70	154	e100	135	143	128	294	91	150	264	194	102
8	70	141	122	135	142	150	250	75	181	246	203	109
9	70	137	118	138	145	206	417	61	171	201	184	101
10	70	139	117	135	132	244	718	62	156	212	164	84
11	70	144	122	139	139	285	821	95	164	227	149	71
12	70	144	123	142	141	241	476	174	172	284	151	61
13	69	133	124	146	144	182	292	154	153	287	154	55
14	66	131	119	144	143	143	228	124	164	274	149	41
15	64	132	114	150	137	126	230	93	159	259	136	54
16	67	120	108	149	122	121	214	65	158	253	122	64
17	67	e120	107	141	108	122	219	52	159	247	132	70
18	66	e120	105	142	119	122	309	56	225	260	142	66
19	66	126	109	155	128	109	320	48	223	282	149	62
20	68	130	114	151	123	95	245	112	198	292	159	63
21	66	126	120	145	129	81	196	132	176	291	157	62
22	63	122	129	138	129	75	161	141	159	294	162	62
23	62	121	130	132	123	68	146	166	150	302	186	64
24	63	139	127	134	115	65	127	188	134	316	190	60
25	63	e110	123	140	109	78	104	186	116	270	189	56
26	61	e110	120	139	107	187	111	176	100	257	200	53
27	63	e110	115	138	111	314	114	180	146	260	196	52
28	65	e110	114	136	115	330	100	165	158	256	175	49
29	67	e100	111	134	---	236	95	171	211	221	170	48
30	67	e100	113	131	---	337	77	179	212	215	170	47
31	65	---	114	132	---	1,120	---	145	---	207	151	---
Total	2,112	4,047	3,518	4,266	3,646	5,879	11,878	3,631	4,827	7,876	5,315	2,355
Mean	68.1	135	113	138	130	190	396	117	161	254	171	78.5
Max	82	189	130	155	145	1,120	1,390	188	225	316	203	144
Min	61	100	100	113	107	65	77	48	100	191	122	41
Ac-ft	4,190	8,030	6,980	8,460	7,230	11,660	23,560	7,200	9,570	15,620	10,540	4,670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2006, BY WATER YEAR (WY)

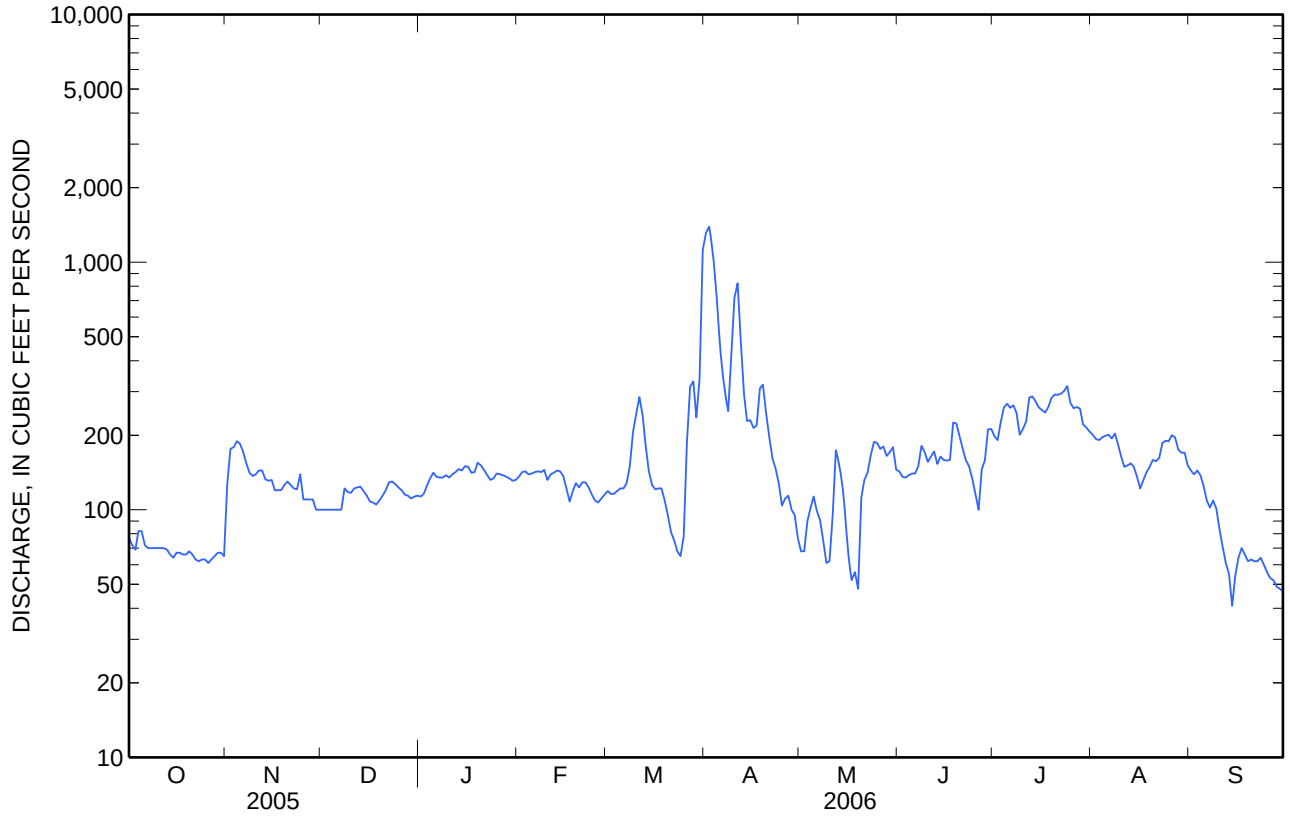
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	133	133	119	117	208	946	718	451	456	404	233	224
Max	881	286	406	271	1,758	4,075	6,221	2,545	2,258	1,844	693	1,517
(WY)	(1994)	(1979)	(1987)	(1987)	(1996)	(1979)	(1978)	(1986)	(1982)	(1991)	(1993)	(1986)
Min	24.9	60.1	44.8	33.1	49.1	47.4	38.4	56.4	103	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 2005		Water Year 2006		Water Years 1978 - 2006	
Annual total	51,880		59,350			
Annual mean	142		163		[a]344	
Highest annual mean					1,042	1978
Lowest annual mean					70.1	2001
Highest daily mean	494	Jun 11	1,390	Apr 2	12,300	Apr 3, 1978
Lowest daily mean	52	May 6	41	Sep 14	2.1	Aug 20, 1984
Annual seven-day minimum	63	Oct 22	52	Sep 24	4.0	Jul 27, 1984
Maximum peak flow			1,420	Apr 2	[b]12,400	Apr 3, 1978
Maximum peak stage			6.01	Apr 2	[c]26.70	Mar 4, 1986
Annual runoff (ac-ft)	102,900		117,700		249,200	
10 percent exceeds	219		257		597	
50 percent exceeds	124		136		142	
90 percent exceeds	72		66		50	

[a] Median of yearly mean discharge, 207 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 mi^2.

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 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	0.88	0.55	1.4	0.00	1.8	0.00	0.01		
2			e0.00	0.67	0.48	0.76	0.00	1.3	0.06	0.00		
3			e0.00	0.47	0.50	0.65	0.00	0.99	1.3	0.00		
4			e0.00	0.45	1.4	0.70	0.00	0.83	2.4	0.00		
5			e0.00	0.50	0.85	0.66	0.00	0.71	2.6	0.01		
6			e0.00	0.67	0.92	0.52	0.00	0.73	2.7	0.01		
7			e0.00	0.49	1.4	0.42	0.00	0.90	2.5	0.01		
8			e0.00	0.45	0.76	0.37	0.00	1.6	2.3	0.00		
9			e5.0	0.42	0.75	0.32	0.00	2.0	1.9	0.00		
10			e5.0	0.41	0.79	0.27	0.00	1.3	1.2	0.00		
11			e3.0	10	0.40	0.20	0.00	0.76	0.80	0.00		
12			e2.0	4.5	0.00	0.13	0.00	1.1	0.58	0.00		
13			e3.0	0.83	0.00	0.08	0.00	1.8	0.45	0.00		
14			e5.0	0.51	0.00	0.21	0.00	1.7	0.37	0.00		
15			e5.0	0.44	0.00	0.38	0.00	1.6	0.34	0.00		
16			e6.0	0.41	0.00	0.51	0.00	1.3	0.23	0.00		
17			e10	0.47	0.00	0.37	0.00	1.1	0.15	0.00		
18			e10	0.44	0.00	0.15	0.00	1.6	0.06	0.00		
19			e10	0.49	0.00	0.20	0.00	1.5	0.00	0.00		
20			e10	0.66	0.00	0.36	0.00	0.86	0.00	0.00		
21			e15	21	0.00	3.9	0.00	0.01	0.00	0.00		
22			e15	53	0.00	1.6	0.00	0.01	0.00	0.00		
23			e20	35	0.00	0.61	0.00	0.01	0.01	0.00		
24			e20	15	0.00	0.46	0.00	0.01	0.01	0.00		
25			e20	4.6	0.00	0.39	0.00	0.01	0.01	0.00		
26			e20	2.4	0.00	0.32	0.00	0.01	0.01	0.00		
27			32	5.1	0.15	0.23	0.22	0.01	0.01	0.00		
28			24	27	1.1	0.12	1.1	0.04	0.01	0.00		
29			24	8.3	0.96	0.02	1.3	0.01	0.01	0.00		
30			17	0.95	1.5	0.00	1.3	0.01	0.01	0.00		
31			1.9	---	3.8	---	1.4	0.01	---	0.00		
Total			282.90	196.51	16.31	16.31	5.32	25.62	20.02	0.04		
Mean			9.13	6.55	0.53	0.54	0.17	0.83	0.67	0.00		
Max			32	53	3.8	3.9	1.4	2.0	2.7	0.01		
Min			0.00	0.41	0.00	0.00	0.00	0.01	0.00	0.00		
Ac-ft			561	390	32	32	11	51	40	0.08		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1981 - 2006

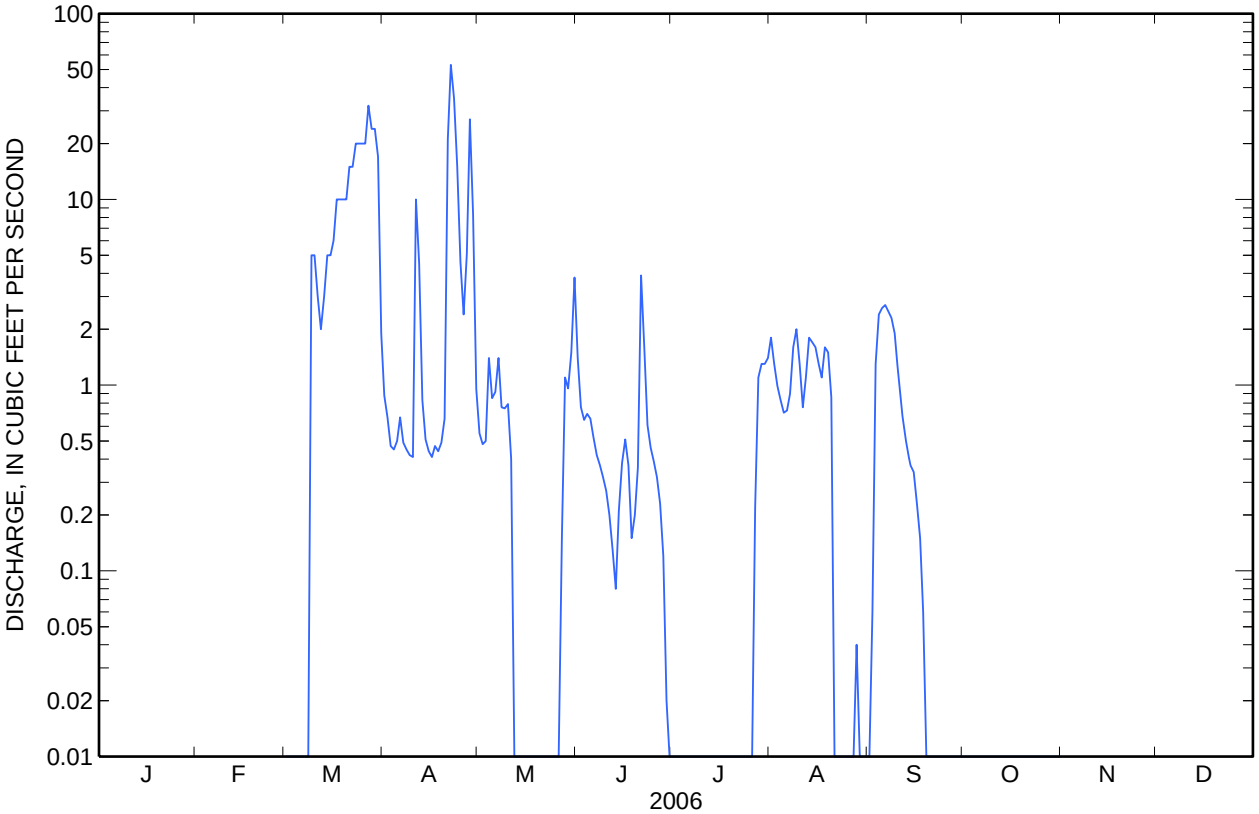
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			61.6	18.9	54.3	32.5	39.5	6.48	51.6	19.6		
Max			304	140	718	315	223	40.7	1,187	342		
(WY)			(2004)	(1987)	(1986)	(1982)	(1998)	(1993)	(1986)	(1987)		
Min			0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00		
(WY)			(1995)	(1995)	(1984)	(2001)	(1985)	(2001)	(1984)	(1985)		

06166000 BEAVER CREEK BELOW GUSTON COULEE, NEAR SACO, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1981 - 2006	
Highest daily mean	53	Apr 22	11,900	Sep 27, 1986
Lowest daily mean	0.00	Many days	0.00	Apr 5, 1981 [c]
Maximum peak flow	[a]61	Mar 28	[d]23,500	Sep 26, 1986
Maximum peak stage	[b]5.96	Mar 10	14.68	Sep 26, 1986

[a] Gage height, 3.15 ft.
[b] Backwater from ice.
[c] No flow at times each year.
[d] From slope-area measurement of peak flow.



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, 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 (WSP) 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 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.62	1.9	e1.00	e0.80	e1.5	e0.90	120	6.2	10	0.43	0.00	0.00
2	0.70	1.9	e1.0	e1.0	e1.5	e1.0	81	6.0	8.8	0.39	0.00	0.00
3	0.70	2.2	e1.00	e1.0	e1.5	e1.0	55	5.9	7.1	0.37	0.00	0.00
4	0.74	2.4	e1.00	e1.0	e1.5	e1.0	44	5.8	5.5	0.42	0.00	0.00
5	0.74	e2.0	e1.0	e1.0	e1.5	e1.5	32	5.8	4.3	0.37	0.00	e0.00
6	0.72	e1.5	e1.0	e1.0	e1.5	e2.0	24	5.6	3.3	0.27	0.00	e0.00
7	0.82	e1.5	e0.90	e1.0	e1.5	e2.0	19	5.2	2.5	0.19	0.00	e0.00
8	0.80	e1.5	e0.80	1.5	e1.5	e2.5	16	5.2	2.1	0.11	0.00	e0.00
9	0.76	e1.5	e0.80	1.6	e1.5	e2.9	15	5.2	1.9	0.07	0.00	e0.00
10	0.76	e1.5	e0.80	1.5	e1.5	e4.1	14	5.2	1.9	0.05	0.00	e0.00
11	0.77	e2.0	e0.80	1.5	e1.5	e4.4	16	4.8	3.3	0.03	0.00	e0.00
12	0.76	e2.0	e0.80	e1.5	e1.5	e40	14	4.7	3.2	0.02	0.00	0.00
13	0.76	e1.5	e0.80	1.7	e1.0	e30	14	4.3	3.5	0.02	0.00	0.00
14	0.78	e1.5	e1.0	1.7	e1.0	e25	12	4.0	4.3	0.01	0.00	0.00
15	0.86	e1.0	e1.00	e1.5	e0.95	e2.5	11	3.8	4.3	0.01	0.00	0.00
16	0.90	e1.0	e1.00	e1.5	e0.90	e2.5	9.8	3.7	3.5	0.00	0.00	0.00
17	0.87	e1.0	e0.90	e1.0	e0.90	e2.0	24	3.4	2.6	0.00	0.00	0.02
18	0.95	e0.50	e0.70	e1.0	e0.85	e2.0	107	3.6	2.1	0.00	0.00	0.03
19	1.0	e0.50	e0.60	e1.0	e0.80	e2.0	55	3.6	2.2	0.00	0.00	0.03
20	1.1	e1.0	e0.70	e1.0	e0.75	e1.5	32	3.1	2.2	0.00	0.00	0.03
21	1.1	e1.0	e0.60	e1.0	e0.80	e1.0	25	2.8	1.8	0.00	0.00	0.04
22	1.2	e1.5	e0.70	e1.0	e0.85	e1.5	19	2.7	1.6	0.01	0.00	0.08
23	1.3	e1.5	e0.70	e1.5	e0.85	e1.5	14	2.6	1.5	0.00	0.00	0.07
24	1.4	e1.0	e0.80	e1.5	e0.80	e1.5	12	3.5	1.1	0.01	0.00	0.05
25	1.4	e1.0	e0.70	e1.5	e0.85	e10	11	3.2	0.95	0.00	0.00	0.03
26	1.5	e1.0	e0.70	e1.5	e0.80	e80	9.8	5.0	0.87	0.00	0.00	0.03
27	1.6	e1.0	e0.70	e1.5	e0.85	e170	8.8	5.5	0.69	0.00	0.00	0.04
28	1.7	e1.0	e0.70	e1.0	e0.85	e140	8.1	7.7	0.55	0.00	0.00	0.04
29	1.7	e1.0	e0.70	e1.0	---	e290	7.6	9.0	0.48	0.00	0.00	0.43
30	1.7	e1.0	e0.70	e1.5	---	e310	6.9	12	0.41	0.00	0.00	0.49
31	1.8	---	e0.80	e1.5	---	e200	---	9.5	---	0.00	0.00	---
Total	32.51	40.90	25.40	39.30	31.80	1,336.30	837.0	158.6	88.55	2.78	0.00	1.41
Mean	1.05	1.36	0.82	1.27	1.14	43.1	27.9	5.12	2.95	0.09	0.00	0.05
Max	1.8	2.4	1.0	1.7	1.5	310	120	12	10	0.43	0.00	0.49
Min	0.62	0.50	0.60	0.80	0.75	0.90	6.9	2.6	0.41	0.00	0.00	0.00
Ac-ft	64	81	50	78	63	2,650	1,660	315	176	5.5	0.00	2.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.81	1.49	0.75	0.31	5.34	77.3	79.8	16.0	13.1	9.16	1.20	1.04
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)

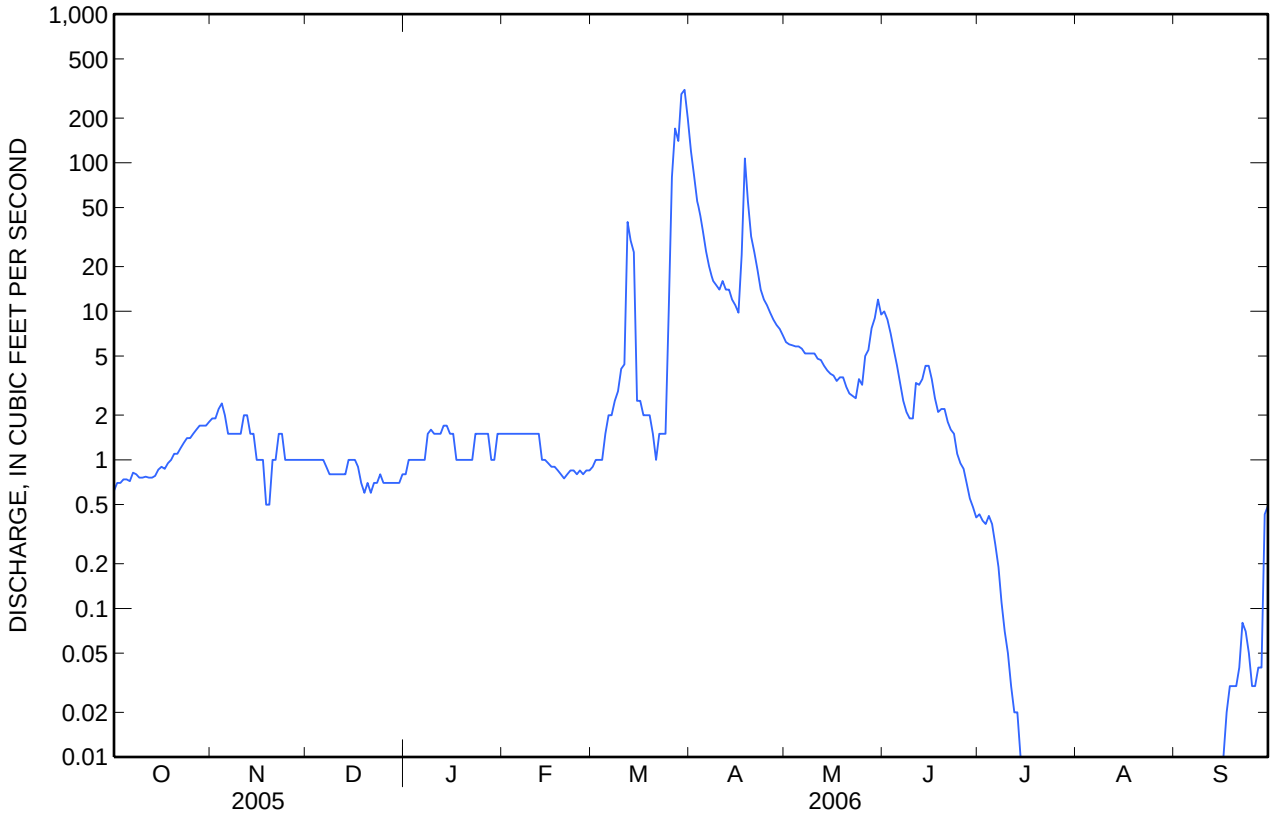
* During period of operation (September 1956 to current year).

06169500 ROCK CREEK BELOW HORSE CREEK, NEAR INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1956 - 2006*	
Annual total	1,642.14		2,594.55			
Annual mean	4.50		7.11		[c]13.6	
Highest annual mean					37.4	1999
Lowest annual mean					1.88	1998
Highest daily mean	66	Jun 30	310	Mar 30	3,460	Apr 7, 1969
Lowest daily mean	0.00	Jan 5	0.00	Jul 16	0.00	Mar 1, 1957
Annual seven-day minimum	0.00	Jan 5	0.00	Jul 25	0.00	Mar 1, 1957
Maximum peak flow			[a]310	Mar 30	[d]4,420	Apr 7, 1969
Maximum peak stage			[b]5.47	Mar 29	[b]13.40	Mar 29, 1978
Instantaneous low flow			0.00	Many days	[e]0.00	Mar 1, 1957
Annual runoff (ac-ft)	3,260		5,150		9,850	
10 percent exceeds	11		9.9		14	
50 percent exceeds	1.0		1.0		1.0	
90 percent exceeds	0.00		0.00		0.00	

* Seasonal records only prior to October 1978.
[a] Highest daily mean discharge, backwater from ice.
[b] Backwater from ice.
[c] Median of yearly discharge, 9.46 ft^3/s, 6,854 acre-ft/yr (October 1978 to current year).
[d] Gage height, 12.03 ft.
[e] At times most years.



Water-Data Report 2006

06172310 MILK RIVER AT TAMPICO, MT

Upper Missouri 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 mi^2.

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 ft^3/s.

06172310 MILK RIVER AT TAMPICO, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
CALENDAR YEAR JANUARY TO DECEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e170	2,020	175	83	33	41	35	46		
2			e150	2,060	154	67	32	38	27	44		
3			e160	1,930	141	57	32	37	23	43		
4			e150	1,590	139	54	32	37	20	39		
5			e150	1,210	163	52	32	41	19	12		
6			e160	823	180	49	37	39	19	7.2		
7			e170	674	165	47	42	37	18	8.5		
8			e200	541	152	44	43	36	15	7.8		
9			e205	446	115	46	42	36	17	32		
10			e300	459	83	46	40	36	19	65		
11			e600	125	69	45	36	33	14	74		
12			e500	441	66	44	35	30	13	71		
13			e800	585	86	45	36	26	12	66		
14			e750	405	122	55	37	23	12	60		
15			e450	321	111	107	38	23	13	58		
16			e350	319	77	182	36	22	11	59		
17			e300	353	63	167	32	22	15	57		
18			e290	456	55	158	32	23	13	54		
19			e270	907	49	180	30	21	13	55		
20			e260	810	46	174	28	20	12	55		
21			e260	666	47	103	30	18	17	62		
22			e250	477	45	59	32	20	108	133		
23			277	332	46	49	35	21	307	170		
24			255	221	41	45	37	21	306	175		
25			246	181	39	42	41	24	283	174		
26			247	167	38	39	44	27	250	171		
27			280	192	41	35	41	30	191	166		
28			546	186	47	35	40	32	65	160		
29			751	195	50	35	47	34	52	158		
30			1,060	182	63	33	54	38	49	168		
31			1,170	---	93	---	48	40	---	154		
Total			11,727	19,274	2,761	2,177	1,154	926	1,968	2,604.5		
Mean			378	642	89.1	72.6	37.2	29.9	65.6	84.0		
Max			1,170	2,060	180	182	54	41	307	175		
Min			150	125	38	33	28	18	11	7.2		
Ac-ft			23,260	38,230	5,480	4,320	2,290	1,840	3,900	5,170		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 – 1994 AND SEASONS 1995 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	211	178	1,007	729	531	547	457	188	158	175	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)

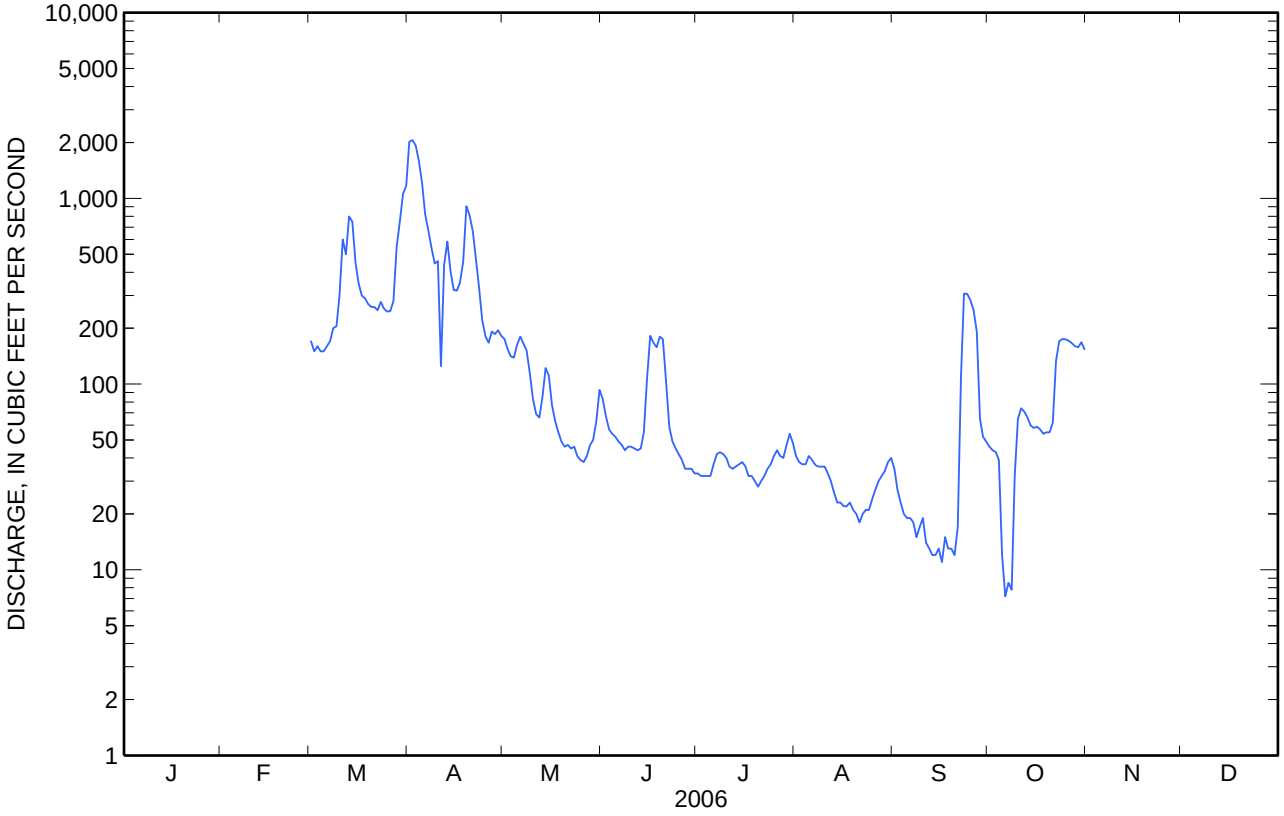
* During period of operation (1974-77, 1987 to current year. Seasonal records beginning with 1995 water year).

06172310 MILK RIVER AT TAMPICO, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1995 - 2006		Water Years 1974 – 1994*	
Annual mean					400	
Highest annual mean					998	1975
Lowest annual mean					84.6	1988
Highest daily mean	2,060	Apr 2	[a]11,000	Mar 27, 1997	8,810	May 26, 1974
Lowest daily mean	7.2	Oct 6	1.8	Jun 7, 2002	0.00	Aug 28, 1988
Annual seven-day minimum					0.00	Sep 7, 1988
Maximum peak flow	2,120	Apr 1	[a]11,000	Mar 27, 1997	[c]8,210	May 26, 1974
Maximum peak stage	9.42	Apr 1	[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 period 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.



06174500 MILK RIVER AT NASHUA, MT

Upper Missouri 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, 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 mi^2.

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 of Engineers 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	120	79	e110	e130	e145	e120	e1,200	197	129	18	81	106
2	128	80	e120	e130	e140	e130	1,580	169	157	e20	92	112
3	135	81	e120	e140	e140	e120	1,910	151	192	31	78	114
4	127	82	e120	e140	e145	e120	1,990	141	165	57	77	102
5	121	85	e120	e140	e155	e130	1,840	171	143	52	83	94
6	129	112	e120	e150	e160	e200	1,490	147	123	35	80	83
7	117	138	e120	e140	e160	e300	1,010	152	110	32	81	77
8	99	161	e130	e140	e160	e400	810	169	94	32	126	74
9	90	171	e130	e150	e160	e300	730	161	97	59	133	84
10	87	177	e140	e150	e160	e270	636	148	98	65	118	82
11	84	207	e140	e160	e170	e270	594	134	107	66	100	77
12	81	205	e140	e160	e160	e260	526	112	121	59	94	86
13	79	174	e140	e160	e160	e300	289	90	152	57	77	75
14	85	152	e140	e170	e150	e320	460	79	150	47	72	63
15	87	147	e130	e180	e150	e400	644	78	118	43	81	51
16	83	138	e120	e170	e130	e400	526	108	116	43	58	44
17	85	144	e120	e170	e120	e400	425	123	132	36	55	49
18	88	116	e120	168	e130	e300	408	123	205	38	88	53
19	87	135	e120	169	e140	e300	484	93	207	39	94	59
20	86	153	e120	163	e140	e300	733	71	193	30	102	58
21	86	155	e130	e140	e150	e300	858	69	182	30	103	51
22	87	142	e140	e145	e140	e300	784	69	177	61	105	47
23	85	136	e140	e145	e130	e300	611	75	152	74	101	47
24	85	143	e140	e145	e130	e240	482	80	105	76	92	106
25	84	121	e150	e145	e120	e230	348	100	69	74	102	299
26	85	126	e150	e140	e120	e230	272	102	60	86	105	331
27	85	134	e150	e140	e130	e230	192	111	51	99	108	300
28	84	e120	e150	e145	e130	e210	153	109	36	116	114	267
29	84	e120	e140	e145	---	e300	172	104	23	114	124	222
30	83	e110	e140	e150	---	e450	196	130	18	77	124	141
31	82	---	e140	e150	---	e700	---	135	---	66	117	---
Total	2,928	4,044	4,090	4,670	4,025	8,830	22,353	3,701	3,682	1,732	2,965	3,354
Mean	94.5	135	132	151	144	285	745	119	123	55.9	95.6	112
Max	135	207	150	180	170	700	1,990	197	207	116	133	331
Min	79	79	110	130	120	120	153	69	18	18	55	44
Ac-ft	5,810	8,020	8,110	9,260	7,980	17,510	44,340	7,340	7,300	3,440	5,880	6,650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2006, BY WATER YEAR (WY)

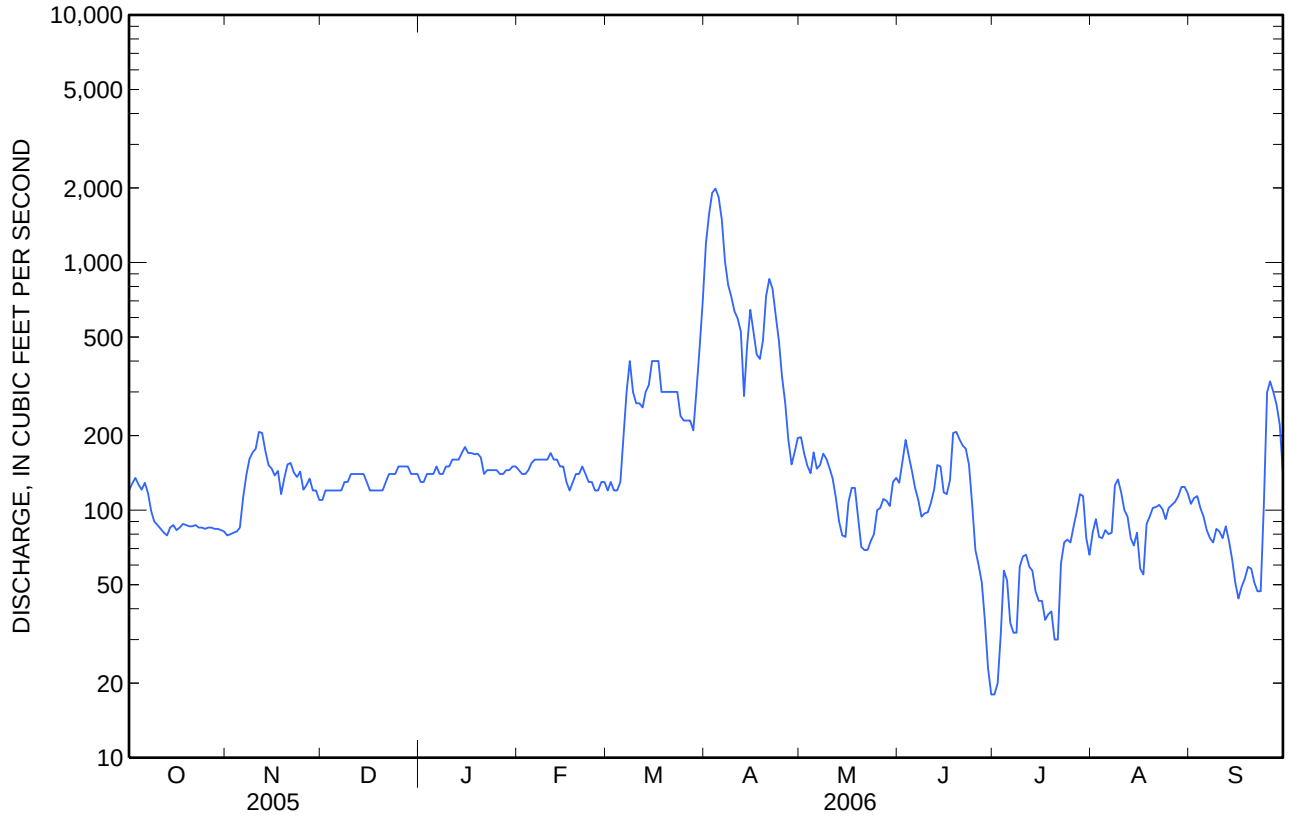
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	297	208	156	144	235	1,266	2,116	968	941	639	298	266
Max	6,837	768	487	843	2,337	6,678	20,930	5,207	6,611	3,578	1,754	2,138
(WY)	(1987)	(1987)	(1987)	(1974)	(1996)	(1986)	(1952)	(1975)	(1953)	(1962)	(1993)	(1978)
Min	34.4	61.2	39.7	36.0	38.9	56.5	15.1	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 2005		Water Year 2006		Water Years 1940 - 2006	
Annual total	86,947		66,374			
Annual mean	238		182		[b]628	
Highest annual mean					2,359	1952
Lowest annual mean					57.7	1984
Highest daily mean	4,430	Jun 11	1,990	Apr 4	44,200	Apr 18, 1952
Lowest daily mean	26	Apr 8	18	Jun 30	0.00	Jul 14, 1984
Annual seven-day minimum	32	Apr 5	28	Jun 27	0.00	Jul 17, 1984
Maximum peak flow			2,010	Apr 4	45,300	Apr 18, 1952
Maximum peak stage			[a]7.12	Mar 11	31.38	Apr 18, 1952
Annual runoff (ac-ft)	172,500		131,700		455,000	
10 percent exceeds	247		300		1,220	
50 percent exceeds	128		130		174	
90 percent exceeds	77		62		58	

[a] Backwater from ice.
[b] Median of yearly discharge, 533 ft³/s, 386,000 ac-ft/yr.



Water-Data Report 2006

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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,640	4,040	4,790	e8,500	e8,400	e6,000	6,460	5,520	7,370	7,630	7,750	7,660
2	3,700	4,020	4,790	e8,500	8,550	e6,000	6,740	5,700	7,460	7,520	7,620	7,510
3	3,720	4,030	4,350	e8,500	8,090	e6,200	6,840	5,790	7,380	7,410	7,670	7,600
4	3,920	4,150	4,290	e8,500	7,810	e5,700	6,840	5,660	7,390	7,400	7,610	7,750
5	3,940	4,110	4,560	e8,500	7,970	e5,600	6,840	5,700	7,660	7,470	7,700	7,730
6	4,260	4,190	4,500	e8,400	7,310	e5,900	6,660	5,740	7,610	7,570	7,630	7,790
7	4,830	4,280	4,280	e8,400	7,040	e6,000	6,280	5,650	7,410	7,510	7,730	7,680
8	4,570	4,270	4,250	e8,500	7,200	e6,000	6,160	5,820	7,270	7,420	7,690	7,550
9	4,420	4,370	4,260	e8,200	7,170	e6,000	6,050	5,620	7,540	7,440	7,810	7,570
10	4,370	4,330	4,280	e8,400	6,820	e5,800	6,370	5,510	7,790	7,630	7,950	7,650
11	4,340	4,370	4,280	e8,200	e6,400	e5,800	6,080	5,470	7,730	7,910	7,870	7,660
12	4,370	4,390	4,290	e8,400	e5,900	e5,800	5,850	5,540	7,630	7,310	7,660	7,540
13	4,210	4,350	4,300	e8,400	e7,600	e5,900	5,720	5,710	7,970	7,920	7,500	7,760
14	3,910	4,370	4,360	8,280	e6,400	e5,900	5,610	5,230	8,480	7,560	7,490	7,660
15	4,010	4,330	4,660	8,190	e6,000	e6,000	5,840	5,300	9,260	7,600	7,570	7,800
16	4,240	4,280	6,250	7,990	e7,100	e6,200	6,510	6,070	5,540	7,700	7,650	7,650
17	4,280	4,340	e8,600	7,970	e6,300	e6,000	7,860	7,270	6,350	7,570	7,630	6,960
18	4,310	4,300	e8,600	e8,600	e6,800	e6,000	7,870	7,090	6,730	7,630	7,750	6,220
19	4,250	4,370	e8,300	e8,500	e6,400	e6,000	8,130	7,470	7,770	7,430	7,700	5,880
20	4,310	4,320	e8,300	e8,600	e6,600	e6,000	7,900	7,310	7,820	7,590	7,740	5,830
21	4,260	4,310	e8,400	e8,600	e7,500	e5,900	7,870	7,270	7,810	7,510	7,660	5,730
22	4,280	4,360	e8,500	e8,400	e7,400	e5,900	8,110	7,150	7,960	7,540	7,810	5,900
23	4,110	4,410	e8,300	e8,600	e7,400	e5,900	8,240	7,200	7,970	7,710	7,740	5,960
24	4,070	4,490	e8,400	e8,400	e7,100	e6,000	8,130	7,380	7,880	7,670	7,820	5,820
25	4,010	4,490	e8,400	e8,400	e8,300	e5,900	8,140	7,670	7,740	7,890	7,690	5,680
26	4,070	4,480	e8,100	e8,600	e8,400	e5,500	7,750	7,530	7,650	7,860	7,750	5,630
27	3,790	4,570	e8,300	e8,600	e8,300	e5,600	7,450	7,570	7,740	7,880	7,810	5,870
28	3,940	4,660	e8,300	e8,600	e8,200	e5,700	6,260	7,510	7,700	8,270	7,750	5,880
29	4,060	4,550	e8,300	e8,500	---	e5,500	5,920	7,540	7,980	7,680	7,630	5,620
30	4,060	4,620	e8,300	e8,300	---	e5,700	5,730	7,520	7,570	7,910	7,740	5,520
31	4,040	---	e8,500	e8,600	---	e5,700	---	7,460	---	7,780	7,720	---
Total	128,290	130,150	198,090	261,130	204,460	182,100	206,210	200,970	228,160	236,920	238,840	205,060
Mean	4,138	4,338	6,390	8,424	7,302	5,874	6,874	6,483	7,605	7,643	7,705	6,835
Max	4,830	4,660	8,600	8,600	8,550	6,200	8,240	7,670	9,260	8,270	7,950	7,800
Min	3,640	4,020	4,250	7,970	5,900	5,500	5,610	5,230	5,540	7,310	7,490	5,520
Ac-ft	254,500	258,200	392,900	518,000	405,500	361,200	409,000	398,600	452,600	469,900	473,700	406,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2006, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11,090	8,946	8,928	9,627	9,805	8,792	9,400	9,190	9,322	10,120	11,780	11,490
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 reached operational level (1943 to current year).

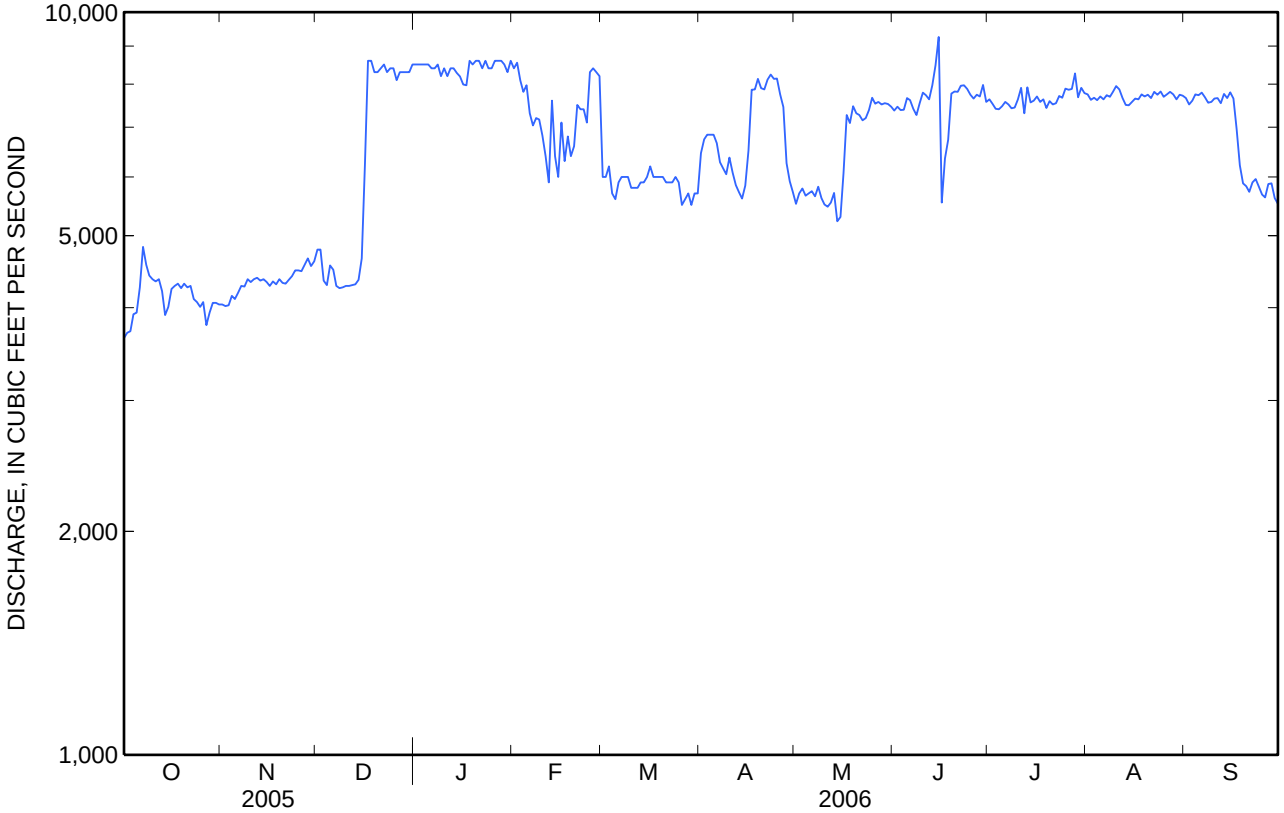
06177000 MISSOURI RIVER NEAR WOLF POINT, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1943 – 2006*	
Annual total	2,045,930		2,420,380			
Annual mean	5,605		6,631		9,876	
Highest annual mean					15,850	1955
Lowest annual mean					5,548	2005
Highest daily mean	9,340	Jun 13	9,260	Jun 15	45,100	Apr 19, 1952
Lowest daily mean	3,570	Sep 30	3,640	Oct 1	680	Dec 5, 1942
Annual seven-day minimum	3,760	Sep 29	3,990	Oct 27	906	Jan 12, 1943
Maximum peak flow			[a]9,630	Jun 15	[c]46,800	Apr 19, 1952
Maximum peak stage			[b]9.46	Jan 24	15.64	Mar 27, 1960
Instantaneous low flow					[d]320	Dec 10, 1941
Annual runoff (ac-ft)	4,058,000		4,801,000		7,154,000	
10 percent exceeds	6,830		8,340		15,500	
50 percent exceeds	5,580		7,310		8,780	
90 percent exceeds	4,270		4,280		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 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 ft^3/s.

06177000 MISSOURI RIVER NEAR WOLF POINT, MT—Continued



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 mi^2.

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 ft^3/s, Apr. 6, 1954, gage height, 10.25 ft, from floodmark, from rating curve extended above 2,500 ft^3/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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e1.0	331	10	9.7	1.5	0.00	0.04	1.1		
2			e1.0	164	10	7.9	1.4	0.00	0.06	1.1		
3			e1.0	120	9.4	6.7	1.4	0.01	0.06	1.0		
4			e1.0	98	9.0	5.7	1.1	0.02	0.06	1.2		
5			e1.0	70	8.9	5.0	0.87	0.00	0.06	1.3		
6			e1.5	53	8.3	4.3	0.71	0.00	0.06	1.4		
7			e2.0	40	7.5	3.9	0.63	0.00	0.06	2.2		
8			e20	33	7.3	4.2	0.40	0.00	0.05	3.0		
9			e40	29	7.1	6.0	0.19	0.00	0.06	3.0		
10			e35	27	6.8	9.3	0.10	0.00	0.06	3.0		
11			e30	25	6.5	15	0.04	0.03	0.06	3.0		
12			e25	23	6.5	13	0.02	0.00	0.05	2.4		
13			e20	20	6.4	10	0.02	0.02	0.04	2.5		
14			e12	18	5.8	10	0.00	0.01	0.04	2.6		
15			e10	17	5.7	11	0.00	0.02	0.06	2.6		
16			e8.0	16	5.8	9.5	0.00	0.01	0.07	3.1		
17			e8.0	21	5.5	6.8	0.00	0.03	0.21	3.1		
18			e10	33	5.2	5.4	0.00	0.06	0.09	3.0		
19			e10	38	5.1	4.6	0.00	0.04	0.05	2.9		
20			e15	29	4.6	4.4	0.00	0.02	0.06	3.2		
21			e25	24	4.6	3.7	0.00	0.03	0.06	3.2		
22			e20	23	4.4	3.4	0.00	0.05	0.18	3.2		
23			e15	22	4.8	3.8	0.01	0.06	0.21	3.2		
24			e10	20	245	4.7	0.07	0.06	0.10	3.0		
25			e15	17	55	4.2	0.08	0.07	0.32	3.3		
26			e120	15	23	3.3	0.05	0.08	0.89	3.4		
27			e140	15	18	2.6	0.06	0.07	0.95	3.3		
28			e250	13	17	2.2	0.15	0.06	0.98	3.3		
29			354	11	16	1.7	0.16	0.03	0.96	3.3		
30			334	11	14	1.6	0.11	0.02	1.00	3.2		
31			422	---	12	---	0.01	0.01	---	2.8		
Total			1,956.5	1,376	555.2	183.6	9.08	0.81	6.95	81.9		
Mean			63.1	45.9	17.9	6.12	0.29	0.03	0.23	2.64		
Max			422	331	245	15	1.5	0.08	1.0	3.4		
Min			1.0	11	4.4	1.6	0.00	0.00	0.04	1.0		
Med			15	24	7.3	4.9	0.06	0.02	0.06	3.0		
Ac-ft			3,880	2,730	1,100	364	18	1.6	14	162		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1931 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	0.00	20.2	68.1	79.5	17.7	14.8	8.45	1.51	1.44	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.

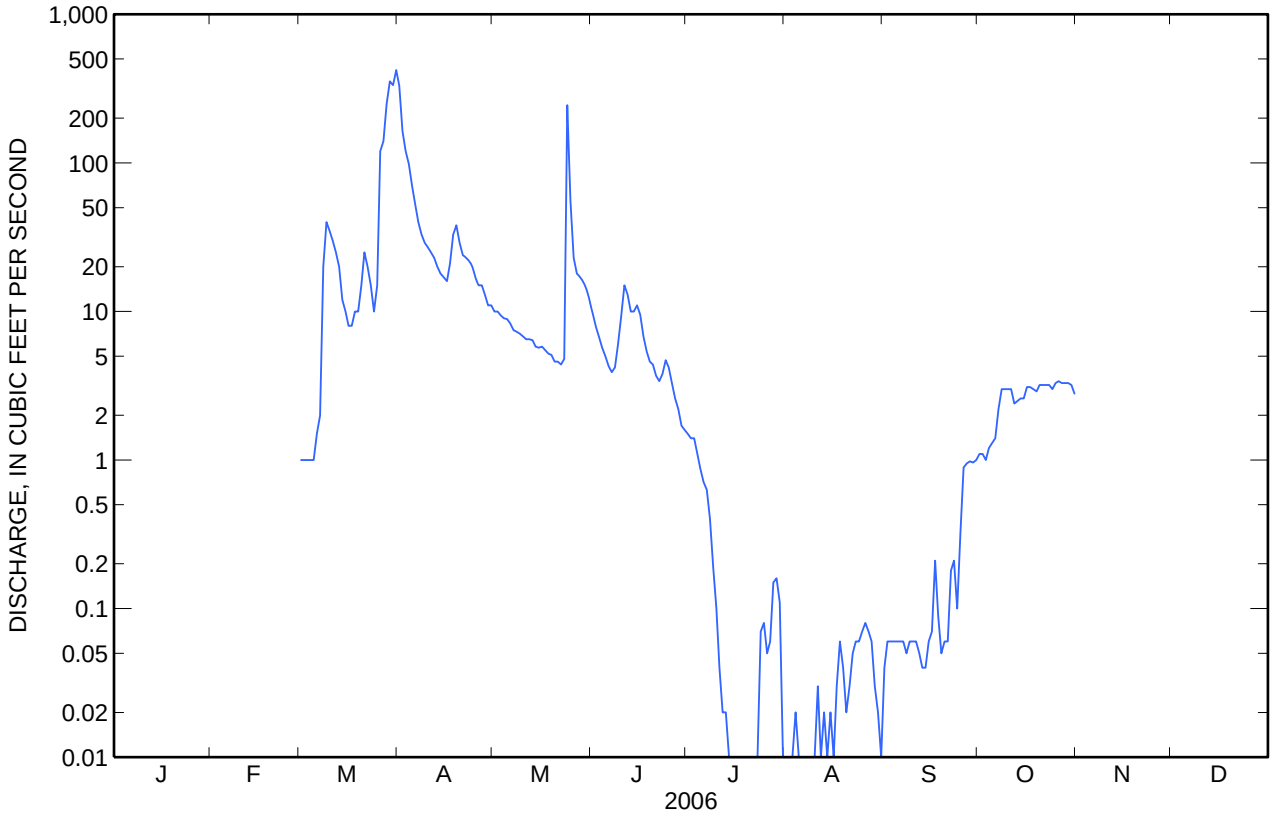
06178000 POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	2005 Calendar Year		2006 Season		Seasons 1931 – 2006*	
Highest daily mean	111	Jun 29	422	Mar 31	5,000	Apr 6, 1954
Lowest daily mean	0.08	Sep 1	0.00	Many days	0.00	Jun 30, 1932
Maximum peak flow			701	May 24	[a]12,700	Apr 6, 1954
Maximum peak stage			5.84	May 24	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.



WATER-QUALITY RECORDS

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

PERIOD OF RECORD.--Water years 1964-65, 1976 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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)	Specif. conductance, wat unf uS/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													
11...	1000	25	700	10.1	90	8.2	873	8.0	7.0	290	51.9	38.4	11.2
May													
23...	1230	4.4	698	10.3	128	8.6	1,090	24.5	21.5	280	27.8	51.6	7.74
Jun													
20...	1000	4.8	701	10.7	126	8.8	1,350	18.0	19.0	330	30.5	62.4	8.58
Aug													
15...	1230	.01	701	8.0	100	8.8	1,720	31.0	22.0	340	31.4	63.7	10.0

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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)	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)
Apr													
11...	2	95.0	350	5.13	.33	14.6	133	560	.76	37.8	<.010	<.016	E.001
May													
23...	4	138	381	5.50	.45	2.6	199	662	.90	7.86	<.010	<.016	<.002
Jun													
20...	5	209	500	6.06	.45	1.6	251	871	1.18	11.3	<.010	<.016	E.001
Aug													
15...	6	273	564	11.3	.53	1.0	391	1,120	1.53	.03	E.010	<.016	<.002

06178000 POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 3 of 3
[Remark codes: <, less than; E, estimated.]

Date	Total nitro-gen, wat unf by anal ysis, mg/L (62855)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Arsenic water unfltrd ug/L (01002)	Boron, water, fltrd, ug/L (01020)	Cadmium water, unfltrd ug/L (01027)	Lead, water, unfltrd recover -able, ug/L (01051)	Zinc, water, unfltrd recover -able, ug/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											
11...	1.08	.030	.110	3.1	501	<.04	.28	E1	66	29	2.0
May											
23...	.59	E.005	.034	3.1	893	<.04	.08	E1	52	28	.33
Jun											
20...	.82	.011	.041	3.9	1,170	<.04	.08	E1	54	22	.29
Aug											
15...	1.07	.006	.054	5.0	1,850	<.04	.18	E2	98	54	<.01

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., Hydrologic Unit is unknown, Lat 49°00′00″, long 105°24′32″ referenced to North American Datum of 1927, in SW¼SW¼ 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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.5	2.5	2.3	2.3	2.0	2.3	2.9	4.2	2.2	2.7	e2.0	e2.0
2	2.5	2.5	2.3	2.3	2.0	2.1	3.0	8.9	2.0	2.5	e2.0	e2.0
3	2.6	2.3	2.2	2.2	2.0	2.0	2.9	8.9	2.0	e2.0	e2.0	e2.0
4	2.5	2.5	2.2	2.2	2.0	1.9	2.9	7.8	1.9	e2.0	e2.0	e2.0
5	2.3	2.6	2.2	2.1	2.0	1.9	3.2	7.4	2.0	e2.0	e2.0	e3.7
6	2.2	2.9	2.1	2.1	1.9	1.9	2.9	6.8	1.9	e3.5	e2.0	4.5
7	2.3	2.5	2.1	2.1	1.9	2.2	2.7	6.7	1.8	3.2	e2.0	3.7
8	2.4	2.4	2.1	2.1	1.9	2.6	2.7	6.6	1.8	e2.5	e2.0	e2.8
9	2.5	2.4	2.2	2.1	2.0	2.9	2.7	6.1	2.1	e2.0	e1.7	e2.5
10	2.3	2.4	2.2	2.1	1.9	3.2	2.8	5.9	2.2	e2.0	e1.7	e2.0
11	2.4	2.4	2.3	2.1	1.9	2.8	2.9	5.7	2.4	e2.0	e1.7	e1.5
12	2.5	2.5	2.3	2.1	2.0	2.5	2.8	5.8	2.3	e2.0	e1.5	e1.0
13	2.4	2.5	2.3	2.1	2.0	2.3	3.1	6.2	2.1	e3.1	e1.5	e1.0
14	2.6	e2.0	2.2	2.1	2.0	2.2	2.8	6.0	2.2	e3.0	e1.5	e1.5
15	2.3	e2.5	2.1	2.1	2.0	2.1	2.6	5.8	2.7	e2.5	e3.5	e2.0
16	e2.0	e2.5	2.1	2.0	1.9	2.1	2.6	5.8	2.4	e2.0	3.3	e2.0
17	e1.6	e2.5	2.1	2.0	1.7	2.2	3.4	5.7	2.4	e2.4	e3.0	e2.0
18	e2.4	e2.5	2.1	2.0	1.8	2.2	4.2	5.9	2.2	e2.8	e2.5	e2.0
19	e2.5	e3.0	2.1	2.0	1.7	2.1	4.2	5.4	2.2	e2.5	e2.0	e2.0
20	e2.1	e2.5	2.1	2.0	1.8	2.1	3.3	5.1	2.1	e2.5	e2.0	e2.0
21	e2.0	e2.5	2.1	2.0	1.8	2.1	3.1	5.7	2.2	e2.6	e2.0	e2.0
22	e2.1	e2.5	2.2	2.0	1.9	2.1	3.1	5.5	2.2	e2.2	e2.0	e2.0
23	e1.6	e2.5	2.3	2.0	1.8	2.1	3.2	6.0	e2.0	e2.0	e2.0	e2.0
24	e2.5	e2.5	2.3	2.0	1.9	2.0	2.8	6.4	e1.5	e2.6	e2.0	e2.0
25	e2.5	2.5	2.3	2.1	1.9	2.2	2.6	5.0	e1.0	3.2	e3.3	e2.0
26	e2.5	2.3	2.3	2.3	2.0	2.4	2.5	5.9	e1.0	e2.8	e2.8	e3.9
27	e2.1	2.3	2.3	2.2	1.9	2.7	2.6	5.8	e1.0	e2.4	e2.2	3.3
28	e5.0	2.3	2.3	2.1	1.9	2.8	2.6	5.9	2.3	e2.2	e2.0	3.2
29	3.6	2.2	2.4	2.0	---	2.9	2.5	5.9	2.7	e2.0	e2.0	3.6
30	2.8	2.2	2.3	2.0	---	3.1	2.5	5.2	2.9	e2.0	e2.0	e3.0
31	2.5	---	2.3	2.0	---	2.9	---	2.9	---	e2.0	e2.0	---
Total	76.1	73.7	68.7	64.8	53.5	72.9	88.1	186.9	61.7	75.2	66.2	71.2
Mean	2.45	2.46	2.22	2.09	1.91	2.35	2.94	6.03	2.06	2.43	2.14	2.37
Max	5.0	3.0	2.4	2.3	2.0	3.2	4.2	8.9	2.9	3.5	3.5	4.5
Min	1.6	2.0	2.1	2.0	1.7	1.9	2.5	2.9	1.0	2.0	1.5	1.0
Ac-ft	151	146	136	129	106	145	175	371	122	149	131	141

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2006, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.58	2.45	2.26	2.19	2.53	19.7	20.8	11.1	5.07	2.78	2.36	2.50
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	1.53
(WY)	(1993)	(1993)	(1993)	(1982)	(2004)	(1992)	(1992)	(1978)	(1992)	(1977)	(1992)	(1992)

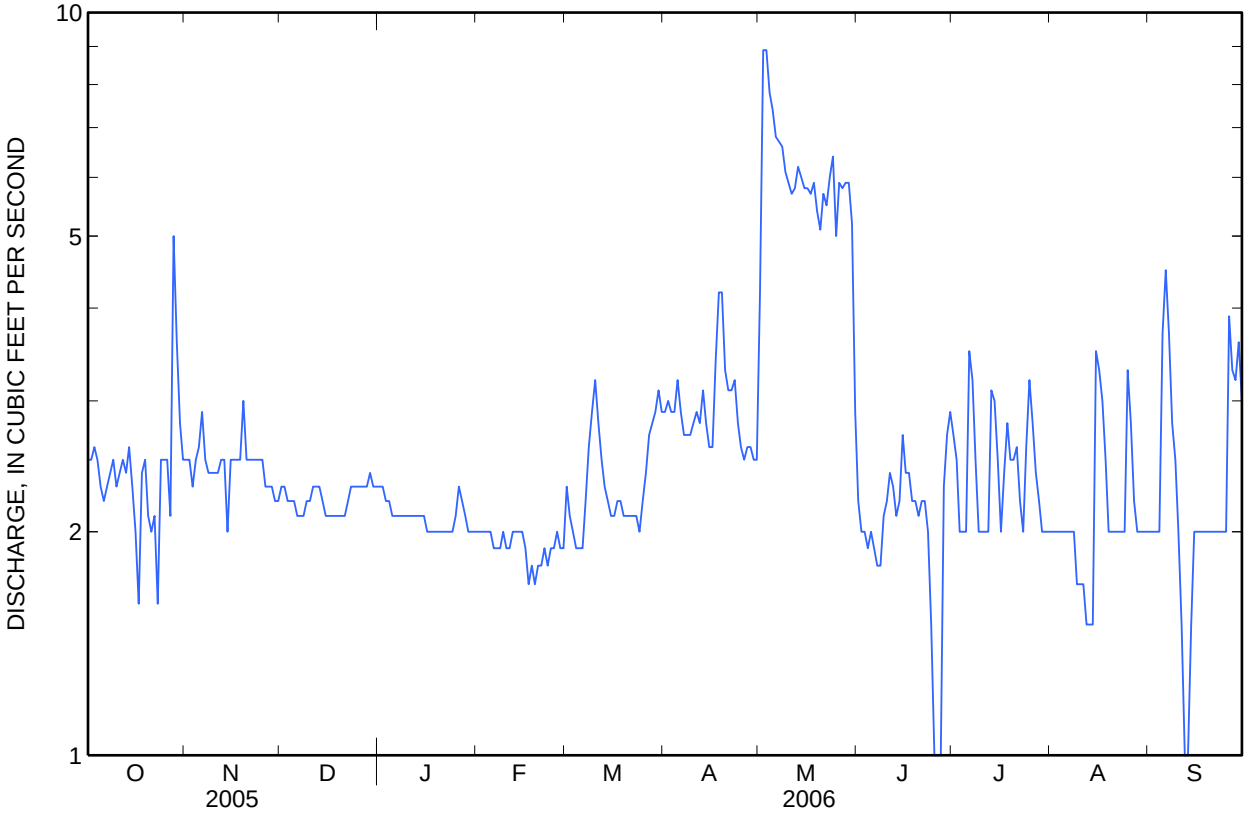
* Since initial filling of Cookson Reservoir.

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1977 – 2006*	
Annual total	1,089.10		959.0			
Annual mean	2.98		2.63		6.37	
Highest annual mean					32.3	1982
Lowest annual mean					2.13	1992
Highest daily mean	15	May 18	8.9	May 2	2,930	Apr 15, 1982
Lowest daily mean	0.50	Jul 29	1.0	Jun 25	0.00	Feb 5, 2004
Annual seven-day minimum	1.1	Jul 26	1.6	Jun 21	0.00	Feb 5, 2004
Maximum peak flow			[a]12	May 2	[c]4,020	Apr 23, 1975
Maximum peak stage			[b]6.06	Aug 31	[d]12.80	Mar 25, 1943
Instantaneous low flow					[b]0.70	Feb 28, 1998
Annual runoff (ac-ft)	2,160		1,900		4,620	
10 percent exceeds	4.1		3.7		6.5	
50 percent exceeds	2.4		2.2		2.5	
90 percent exceeds	1.6		1.9		1.7	

* Since initial filling of Cookson Reservoir.
[a] Gage height, 5.95 ft.
[b] Backwater from beaver dam.
[c] Gage height, 12.01 ft.
[d] Backwater from ice.



WATER-QUALITY RECORDS

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

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 good to excellent except during periods of ice cover (December through March) when the records are rated fair to poor. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily mean, 2,040 microsiemens per centimeter (µS/cm) at 25.0°C, Feb. 10-12, 1997; minimum 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, 1,940 microsiemens per centimeter (µS/cm) at 25.0°C, Feb. 18; minimum, 864 µS/cm at 25.0°C, Mar. 10 and 11.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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)	Specif. conductance, wat unf uS/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													
11...	1215	2.9	701	9.0	89	8.3	1,420	13.0	11.0	370	70.8	47.9	7.91
May													
23...	1000	5.7	698	7.6	91	8.5	1,620	26.5	19.5	410	51.8	67.4	18.2
Jun													
20...	1245	2.1	704	7.3	89	8.4	1,450	22.0	21.0	330	50.2	50.2	8.63
Aug													
15...	0945	1.3	705	6.4	75	8.4	1,460	25.5	19.0	310	41.1	49.7	8.46

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
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)	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)
Apr													
11...	5	205	523	6.78	.41	12.6	274	941	1.28	7.37	.173	.049	.006
May													
23...	4	206	501	8.21	.42	4.8	348	1,010	1.37	15.5	.054	.059	.009
Jun													
20...	5	216	502	6.35	.37	8.3	289	932	1.27	5.29	.044	E.009	.003
Aug													
15...	5	209	528	6.97	.39	9.8	282	926	1.26	3.25	E.007	<.016	<.002

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 3 of 3
[Remark codes: <, less than; E, estimated.]

Date	Total nitrogen, wat unf by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic water unfltrd ug/L (01002)	Boron, water, fltrd, ug/L (01020)	Cadmium water, unfltrd ug/L (01027)	Lead, water, unfltrd recoverable, ug/L (01051)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Apr											
11...	.94	<.006	.065	4.7	1,580	<.04	.46	2	95	120	.94
May											
23...	1.11	<.006	.052	4.5	1,580	<.04	.32	2	87	108	1.7
Jun											
20...	.86	E.005	.077	5.7	1,840	E.02	.69	3	93	104	.59
Aug											
15...	.91	.008	.055	6.2	2,020	<.04	.62	3	90	80	.28

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	1,480	1,450	1,470	1,580	1,490	1,520	1,480	1,470	1,480	1,480	1,460	1,470
2	1,480	1,460	1,470	1,500	1,490	1,490	1,470	1,470	1,470	1,500	1,480	1,490
3	1,490	1,420	1,460	1,530	1,490	1,490	1,480	1,470	1,480	1,510	1,490	1,500
4	1,490	1,440	1,460	1,530	1,500	1,510	1,490	1,480	1,480	1,520	1,510	1,510
5	1,470	1,450	1,460	1,520	1,500	1,510	1,500	1,490	1,490	1,530	1,520	1,520
6	1,490	1,440	1,460	1,540	1,490	1,510	1,510	1,490	1,500	1,540	1,520	1,530
7	1,520	1,480	1,500	1,500	1,500	1,500	1,510	1,500	1,510	1,550	1,540	1,540
8	1,520	1,520	1,520	1,540	1,490	1,510	1,520	1,510	1,520	1,570	1,550	1,560
9	1,540	1,510	1,520	1,540	1,520	1,530	1,540	1,520	1,530	1,580	1,560	1,570
10	1,530	1,510	1,520	1,540	1,520	1,530	1,550	1,540	1,540	1,600	1,570	1,580
11	1,530	1,520	1,520	1,520	1,510	1,520	1,590	1,540	1,560	1,600	1,560	1,580
12	1,520	1,510	1,520	1,520	1,480	1,500	1,600	1,570	1,590	1,590	1,570	1,580
13	1,530	1,510	1,520	1,490	1,470	1,480	1,630	1,590	1,610	1,610	1,580	1,590
14	1,540	1,530	1,540	1,480	1,470	1,480	1,660	1,630	1,650	1,620	1,600	1,620
15	1,540	1,500	1,530	1,500	1,480	1,490	1,670	1,660	1,670	1,650	1,600	1,630
16	1,540	1,530	1,540	1,520	1,500	1,510	1,670	1,650	1,660	1,640	1,630	1,630
17	1,550	1,530	1,540	1,510	1,500	1,510	1,660	1,640	1,640	1,640	1,630	1,640
18	1,540	1,530	1,530	1,810	1,460	1,540	1,640	1,620	1,630	1,650	1,640	1,640
19	1,540	1,520	1,530	1,830	1,460	1,510	1,630	1,550	1,600	1,650	1,640	1,650
20	1,540	1,520	1,530	1,490	1,490	1,490	1,570	1,560	1,570	1,650	1,640	1,650
21	1,530	1,520	1,530	1,490	1,480	1,490	1,570	1,480	1,530	1,660	1,640	1,650
22	1,540	1,530	1,530	1,490	1,460	1,470	1,480	1,440	1,470	1,670	1,650	1,660
23	1,540	1,530	1,540	1,520	1,470	1,500	1,450	1,400	1,420	1,720	1,660	1,690
24	1,540	1,540	1,540	1,540	1,460	1,480	1,400	1,390	1,390	1,740	1,700	1,720
25	1,540	1,540	1,540	1,470	1,470	1,470	1,390	1,390	1,390	1,750	1,730	1,740
26	1,550	1,540	1,540	1,470	1,460	1,460	1,400	1,390	1,400	1,760	1,700	1,740
27	1,560	1,550	1,560	1,590	1,460	1,540	1,420	1,400	1,410	1,710	1,700	1,700
28	1,570	1,530	1,550	1,560	1,540	1,550	1,440	1,420	1,430	1,700	1,690	1,700
29	1,530	1,530	1,530	1,540	1,470	1,490	1,450	1,430	1,440	1,710	1,700	1,700
30	1,530	1,530	1,530	1,480	1,470	1,480	1,460	1,440	1,450	1,720	1,710	1,710
31	1,540	1,520	1,530	---	---	---	1,470	1,450	1,460	1,720	1,710	1,710
Month	1,570	1,420	1,520	1,830	1,460	1,500	1,670	1,390	1,520	1,760	1,460	1,620

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	1,730	1,710	1,720	1,460	1,430	1,440	1,130	1,060	1,080	1,610	1,550	1,570
2	1,730	1,720	1,720	1,430	1,290	1,350	1,120	1,060	1,100	1,570	1,520	1,540
3	1,740	1,720	1,730	1,300	1,300	1,300	1,120	1,030	1,100	1,570	1,530	1,560
4	1,750	1,730	1,740	1,310	1,300	1,300	1,040	1,020	1,030	1,590	1,570	1,580
5	1,760	1,740	1,750	1,320	1,310	1,310	1,040	1,010	1,020	1,590	1,570	1,580
6	1,770	1,740	1,760	1,330	1,320	1,320	1,040	984	1,000	1,600	1,560	1,590
7	1,770	1,760	1,760	1,340	1,330	1,330	1,090	1,020	1,050	1,610	1,600	1,600
8	1,780	1,770	1,770	1,340	1,250	1,320	1,110	1,080	1,100	1,610	1,590	1,600
9	1,790	1,770	1,780	1,250	1,130	1,170	1,350	1,100	1,240	1,600	1,570	1,580
10	1,780	1,770	1,780	1,130	864	1,020	1,410	1,340	1,370	1,600	1,570	1,590
11	1,780	1,770	1,780	879	864	874	1,450	1,400	1,420	1,600	1,580	1,590
12	1,780	1,760	1,770	889	878	883	1,480	1,410	1,440	1,600	1,570	1,590
13	1,800	1,750	1,770	906	887	896	1,480	1,440	1,460	1,610	1,590	1,590
14	1,770	1,730	1,750	945	903	921	1,490	1,370	1,450	1,650	1,590	1,610
15	1,790	1,720	1,750	991	939	963	1,590	1,490	1,510	1,640	1,560	1,620
16	1,830	1,750	1,780	1,040	989	1,010	1,540	1,510	1,530	1,630	1,580	1,610
17	1,900	1,830	1,870	1,090	1,040	1,060	1,530	1,500	1,520	1,630	1,610	1,620
18	1,940	1,760	1,880	1,110	1,080	1,090	1,540	1,520	1,530	1,620	1,600	1,610
19	1,780	1,690	1,740	1,130	1,100	1,120	1,550	1,520	1,540	1,660	1,600	1,630
20	1,710	1,700	1,700	1,170	1,130	1,140	1,520	1,500	1,520	1,640	1,590	1,600
21	1,700	1,690	1,690	1,220	1,160	1,190	1,630	1,500	1,530	1,610	1,600	1,600
22	1,690	1,610	1,660	1,280	1,220	1,240	1,680	1,590	1,630	1,620	1,600	1,610
23	1,610	1,580	1,590	1,270	1,250	1,260	1,690	1,640	1,670	1,610	1,560	1,600
24	1,580	1,520	1,550	1,270	1,260	1,260	1,640	1,560	1,610	1,580	1,490	1,560
25	1,520	1,490	1,510	1,260	1,130	1,230	1,640	1,540	1,600	1,640	1,500	1,570
26	1,500	1,480	1,490	1,240	1,220	1,230	1,640	1,580	1,630	1,630	1,600	1,610
27	1,480	1,470	1,470	1,270	1,240	1,260	1,640	1,600	1,620	1,610	1,560	1,590
28	1,470	1,460	1,460	1,280	1,270	1,270	1,600	1,590	1,600	1,590	1,560	1,570
29	---	---	---	1,270	1,160	1,230	1,610	1,580	1,600	1,590	1,580	1,580
30	---	---	---	1,160	1,140	1,150	1,620	1,580	1,610	1,580	1,450	1,550
31	---	---	---	1,170	1,130	1,160	---	---	---	1,540	1,420	1,470
Month	1,940	1,460	1,700	1,460	864	1,170	1,690	984	1,400	1,660	1,420	1,590

06178500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	1,530	1,430	1,470	1,480	1,440	1,460	1,440	1,410	1,430	1,450	1,440	1,440
2	1,530	1,410	1,470	1,500	1,450	1,470	1,430	1,400	1,420	1,450	1,440	1,440
3	1,610	1,480	1,560	1,480	1,460	1,460	1,440	1,410	1,420	1,460	1,440	1,450
4	1,620	1,500	1,590	1,480	1,460	1,470	1,440	1,420	1,430	1,480	1,460	1,470
5	1,610	1,600	1,610	1,500	1,470	1,480	1,450	1,420	1,430	1,470	1,450	1,460
6	1,610	1,500	1,590	1,500	1,440	1,470	1,470	1,440	1,460	1,470	1,440	1,460
7	1,600	1,570	1,580	1,460	1,430	1,450	1,490	1,460	1,480	1,480	1,450	1,460
8	1,580	1,480	1,520	1,490	1,440	1,470	1,510	1,480	1,490	1,470	1,450	1,460
9	1,490	1,460	1,470	1,490	1,470	1,480	1,520	1,500	1,500	1,460	1,450	1,450
10	1,470	1,440	1,460	1,510	1,480	1,500	1,510	1,490	1,500	1,460	1,450	1,450
11	1,460	1,440	1,450	1,490	1,480	1,480	1,510	1,470	1,490	1,460	1,450	1,460
12	1,500	1,440	1,460	1,510	1,480	1,490	1,480	1,460	1,460	1,470	1,450	1,460
13	1,500	1,460	1,490	1,500	1,400	1,470	1,460	1,440	1,450	1,470	1,460	1,470
14	1,460	1,420	1,440	1,470	1,380	1,450	1,470	1,440	1,450	1,480	1,460	1,460
15	1,440	1,420	1,430	1,480	1,460	1,470	1,530	1,440	1,480	1,500	1,480	1,490
16	1,440	1,430	1,430	1,490	1,470	1,480	1,480	1,440	1,450	1,500	1,470	1,490
17	1,440	1,420	1,430	1,490	1,430	1,470	1,460	1,450	1,460	1,470	1,440	1,450
18	1,430	1,420	1,420	1,470	1,440	1,450	1,470	1,450	1,450	1,440	1,440	1,440
19	1,430	1,390	1,420	1,470	1,450	1,460	1,480	1,450	1,470	1,600	1,440	1,500
20	1,460	1,410	1,440	1,470	1,390	1,450	1,480	1,450	1,460	1,600	1,560	1,580
21	1,470	1,440	1,460	1,460	1,380	1,440	1,490	1,460	1,470	1,580	1,510	1,520
22	1,500	1,460	1,480	1,550	1,460	1,510	1,480	1,460	1,470	1,510	1,420	1,460
23	1,520	1,490	1,500	1,550	1,530	1,540	1,470	1,460	1,470	1,430	1,420	1,430
24	1,510	1,490	1,500	1,550	1,320	1,500	1,470	1,450	1,460	1,440	1,430	1,440
25	1,490	1,480	1,490	1,470	1,440	1,450	1,460	1,450	1,460	1,500	1,440	1,460
26	1,500	1,490	1,500	1,450	1,240	1,390	1,470	1,450	1,460	1,470	1,430	1,450
27	1,510	1,480	1,490	1,440	1,400	1,430	1,470	1,460	1,470	1,460	1,430	1,450
28	1,510	1,470	1,500	1,450	1,420	1,430	1,470	1,460	1,460	1,470	1,450	1,460
29	1,500	1,480	1,490	1,430	1,410	1,420	1,460	1,450	1,460	1,460	1,450	1,450
30	1,500	1,460	1,470	1,430	1,420	1,420	1,470	1,450	1,460	1,470	1,450	1,460
31	---	---	---	1,420	1,410	1,420	1,450	1,430	1,430	---	---	---
Month	1,620	1,390	1,490	1,550	1,240	1,460	1,530	1,400	1,460	1,600	1,420	1,460

Water-Data Report 2006

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, Hydrologic Unit 10060003, on right bank 4 mi north of Poplar, and at river mile 11.

DRAINAGE AREA.--3,174 mi^2.

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 ft^3/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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	12	e20	e20	e10	e40	e40	e600	109	85	22	4.7	2.8
2	11	e20	e20	e10	e40	e40	856	107	73	21	6.2	3.0
3	13	e20	e20	e10	e40	e45	767	102	64	20	6.1	3.1
4	15	e20	e20	e10	e40	e50	540	95	58	19	5.0	3.1
5	16	e25	e20	e10	e40	e50	413	92	58	18	4.3	2.9
6	17	e25	e15	e10	e40	e60	334	88	55	18	3.9	2.9
7	18	e25	e15	e10	e40	e70	282	82	50	16	3.8	2.9
8	19	e25	e10	e10	e40	e80	249	77	45	13	3.9	3.0
9	21	e25	e15	e10	e40	e110	223	73	45	12	3.5	3.1
10	21	e25	e15	e10	e40	e140	204	72	46	12	3.5	3.3
11	22	e25	e15	e10	e40	e150	188	69	51	10	8.9	5.0
12	22	e25	e15	e10	e40	e140	174	67	57	10	5.9	4.8
13	22	e20	e15	e10	e40	e130	165	63	55	11	4.7	4.1
14	22	e20	e15	e10	e35	e140	155	62	51	9.9	4.3	3.8
15	22	e15	e15	e10	e30	e150	148	60	53	9.2	4.1	4.0
16	21	e20	e15	e15	e30	e140	140	58	67	8.1	3.6	4.0
17	22	e20	e15	e20	e25	e130	136	55	74	7.0	4.1	5.4
18	22	e20	e10	e25	e30	e110	155	53	60	7.5	5.1	7.5
19	22	e20	e10	e30	e35	e100	179	49	57	7.4	5.3	7.5
20	22	e20	e10	e35	e40	e90	191	48	59	7.4	4.7	7.9
21	23	e20	e10	e40	e40	e80	183	44	54	e7.0	4.2	8.7
22	23	e20	e10	e40	e40	e80	179	44	46	e6.5	4.0	14
23	e15	e20	e10	e40	e40	e90	177	42	44	e6.0	4.4	17
24	e20	e20	e10	e40	e40	e80	176	40	44	5.9	3.7	22
25	e20	e20	e10	e40	e40	e60	163	84	37	5.7	4.0	16
26	e20	e15	e10	e40	e40	e50	148	119	35	6.3	4.4	16
27	e20	e15	e10	e40	e40	e70	137	79	31	6.6	4.1	14
28	e20	e20	e10	e40	e40	e80	130	125	28	5.6	4.0	14
29	e20	e20	e10	e40	---	e120	122	141	24	5.3	3.6	14
30	e20	e20	e10	e40	---	e180	118	119	23	4.9	3.3	14
31	e20	---	e10	e40	---	e300	---	98	---	4.4	2.8	---
Total	603	625	415	715	1,065	3,155	7,632	2,416	1,529	322.7	138.1	233.8
Mean	19.5	20.8	13.4	23.1	38.0	102	254	77.9	51.0	10.4	4.45	7.79
Max	23	25	20	40	40	300	856	141	85	22	8.9	22
Min	11	15	10	10	25	40	118	40	23	4.4	2.8	2.8
Ac-ft	1,200	1,240	823	1,420	2,110	6,260	15,140	4,790	3,030	640	274	464

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	27.7	26.5	16.7	8.67	26.5	323	643	122	88.8	75.8	26.7	23.4
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)

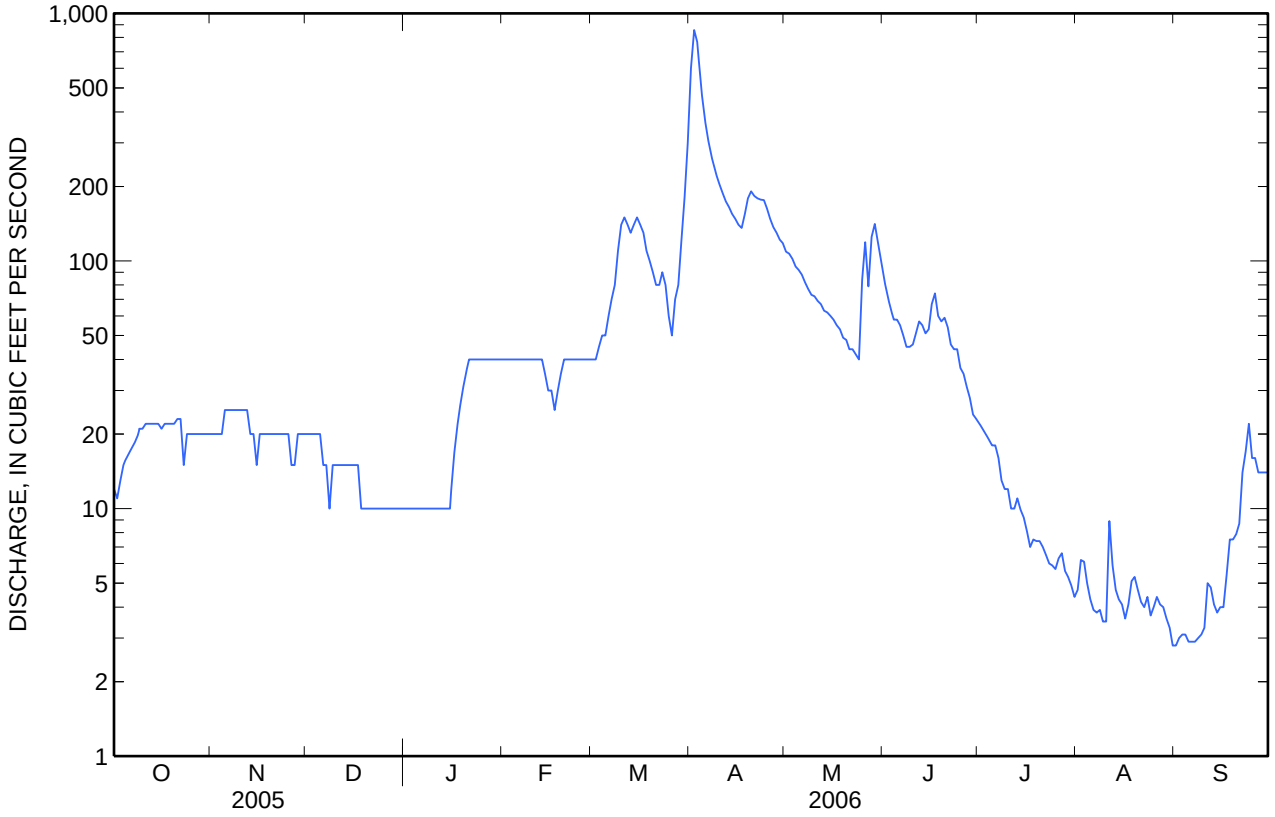
* During period of operation (1908-24, 1947-69, 1975-79, 1982 to current year).

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1908 - 2006*	
Annual total	15,538.2		18,849.6			
Annual mean	42.6		51.6		[a]117	
Highest annual mean					435	1952
Lowest annual mean					13.7	1988
Highest daily mean	202	Jun 15	856	Apr 2	34,200	Apr 7, 1954
Lowest daily mean	3.5	Jan 16	2.8	Aug 31	0.00	Dec 16, 1917[b]
Annual seven-day minimum	3.8	Jan 15	2.9	Aug 31	0.00	Jan 4, 1950
Maximum peak flow			928	Apr 2	37,400	Apr 6, 1954
Maximum peak stage			5.86	Apr 2	[c]17.86	Apr 6, 1954
Annual runoff (ac-ft)	30,820		37,390		84,770	
10 percent exceeds	111		132		173	
50 percent exceeds	20		22		23	
90 percent exceeds	4.0		4.6		3.0	

* During period of operation (1908-24, 1947-69, 1975-79, 1982 to current year).
[a] Median of yearly mean discharge, 81.2 ft³/s.
[b] No flow at times most years.
[c] From floodmark, from slope-area measurement of peak flow.



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 2005 TO SEPTEMBER 2006
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)	Specif. conductance, wat unf uS/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													
12...	0900	175	718	9.8	95	8.5	861	14.0	11.0	190	33.0	25.3	10.6
May													
24...	1200	41	715	8.2	98	8.6	1,590	25.5	20.5	240	29.3	39.9	8.23
Jun													
21...	0900	55	720	7.6	85	8.7	1,280	19.5	17.5	190	27.9	29.3	6.76
Aug													
16...	0915	3.9	720	7.5	90	8.7	2,550	24.0	21.0	270	25.6	49.5	8.79

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
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)	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)
Apr													
12...	4	128	307	13.1	.38	8.4	134	538	.73	254	<.010	<.016	E.001
May													
24...	7	259	469	61.1	.48	3.9	278	962	1.31	107	<.010	<.016	<.002
Jun													
21...	7	227	443	31.5	.43	7.4	201	798	1.08	118	<.010	<.016	<.002
Aug													
16...	11	412	531	292	.53	3.9	356	1,470	2.00	15.3	E.007	<.016	<.002

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
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)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic water unfltrd ug/L (01002)	Boron, water, fltrd, ug/L (01020)	Cadmium water, unfltrd ug/L (01027)	Lead, water, unfltrd recoverable, ug/L (01051)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Apr											
12...	1.20	<.006	.090	2.4	444	<.04	.91	4	93	43	20
May											
24...	.76	<.006	.056	3.1	908	E.02	.66	4	98	82	9.1
Jun											
21...	1.32	E.004	.186	5.2	772	.10	4.02	19	99	238	35
Aug											
16...	.83	E.005	.050	3.2	1,240	E.03	.60	3	96	66	.69

Water-Data Report 2006

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 mi^2, Prior to 1981, drainage area was published as 1,171 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.13	6.7	e7.5	e6.0	e5.5	e2.0	e200	27	3.8	4.8	0.33	0.04
2	0.11	6.1	e7.0	e6.0	e5.0	e1.0	e180	25	3.4	4.9	0.31	0.04
3	0.10	6.4	e7.0	e6.0	e5.0	e0.80	e150	24	3.3	4.3	0.29	0.03
4	0.16	6.4	e7.0	e6.0	e5.0	e0.60	e100	22	3.6	4.2	0.21	0.02
5	0.29	6.7	e7.0	e6.0	e4.5	e0.40	70	22	3.8	3.9	0.16	0.03
6	2.4	7.0	e7.0	e6.0	e4.5	e0.30	53	22	4.0	3.6	0.11	0.03
7	4.9	7.1	e6.5	e6.0	e4.5	e0.30	41	21	3.7	3.0	0.06	0.03
8	4.3	6.9	e6.0	e6.5	e4.5	e0.30	37	21	3.3	2.4	0.03	0.02
9	4.1	6.7	e6.0	e6.5	e4.0	e0.30	47	20	3.5	1.9	0.04	0.02
10	3.7	6.7	e6.5	e7.0	e3.5	e0.60	47	17	4.6	1.8	0.04	0.02
11	3.4	7.0	e6.5	e7.5	e3.5	e1.0	41	16	7.0	1.7	0.03	0.05
12	3.7	7.3	e6.5	e7.5	e3.5	e1.0	36	14	7.2	1.6	0.02	0.05
13	4.2	7.9	e6.5	e7.5	e3.0	e3.0	35	13	6.9	1.4	0.03	0.04
14	4.8	8.2	e6.5	e7.5	e3.0	e120	35	13	7.4	1.1	0.02	0.03
15	4.7	7.8	e6.0	e7.5	e3.0	e140	32	11	24	1.0	0.01	0.02
16	4.1	e7.0	e5.5	e7.5	e2.5	e130	30	9.8	24	0.98	0.01	0.03
17	4.7	e7.0	e5.5	e7.5	e2.5	e120	28	11	19	0.85	0.03	0.07
18	4.8	e7.0	e5.5	e7.5	e2.5	e110	33	9.4	14	0.75	0.15	0.06
19	4.9	e7.0	e5.0	e7.5	e2.5	e120	44	8.7	18	0.51	0.20	0.06
20	4.9	e7.5	e4.5	e7.5	e2.5	e80	57	7.9	39	0.41	0.18	0.05
21	5.1	e8.0	e4.5	e7.5	e3.0	e30	74	7.2	30	0.50	0.12	0.07
22	5.0	e8.5	e5.0	e7.5	e3.5	e17	77	7.2	21	0.52	0.10	0.18
23	4.6	e8.5	e5.0	e7.5	e3.5	e13	70	6.9	16	0.44	0.09	0.16
24	4.6	e9.0	e5.0	e7.0	e4.0	e7.0	64	6.5	14	0.48	0.10	0.12
25	5.6	e8.5	e5.0	e7.0	e4.0	e6.0	57	5.8	9.8	0.75	0.09	0.12
26	5.3	e8.5	e5.0	e6.5	e4.0	e6.5	49	4.8	8.2	0.71	0.07	0.11
27	4.8	e8.5	e5.0	e6.5	e3.5	e11	42	4.5	7.1	0.72	0.05	0.12
28	5.2	e8.5	e5.5	e6.0	e3.0	e30	37	4.8	6.4	0.58	0.05	0.09
29	5.4	e8.0	e5.5	e5.5	---	e24	33	4.6	5.7	0.39	0.04	0.61
30	5.5	e8.0	e6.0	e5.5	---	e50	30	4.7	5.7	0.38	0.04	6.6
31	5.9	---	e6.0	e5.5	---	e140	---	4.1	---	0.45	0.04	---
Total	121.39	224.4	183.0	209.0	103.0	1,166.10	1,829	395.9	327.4	51.02	3.05	8.92
Mean	3.92	7.48	5.90	6.74	3.68	37.6	61.0	12.8	10.9	1.65	0.10	0.30
Max	5.9	9.0	7.5	7.5	5.5	140	200	27	39	4.9	0.33	6.6
Min	0.10	6.1	4.5	5.5	2.5	0.30	28	4.1	3.3	0.38	0.01	0.02
Ac-ft	241	445	363	415	204	2,310	3,630	785	649	101	6.0	18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2006, BY WATER YEAR (WY)

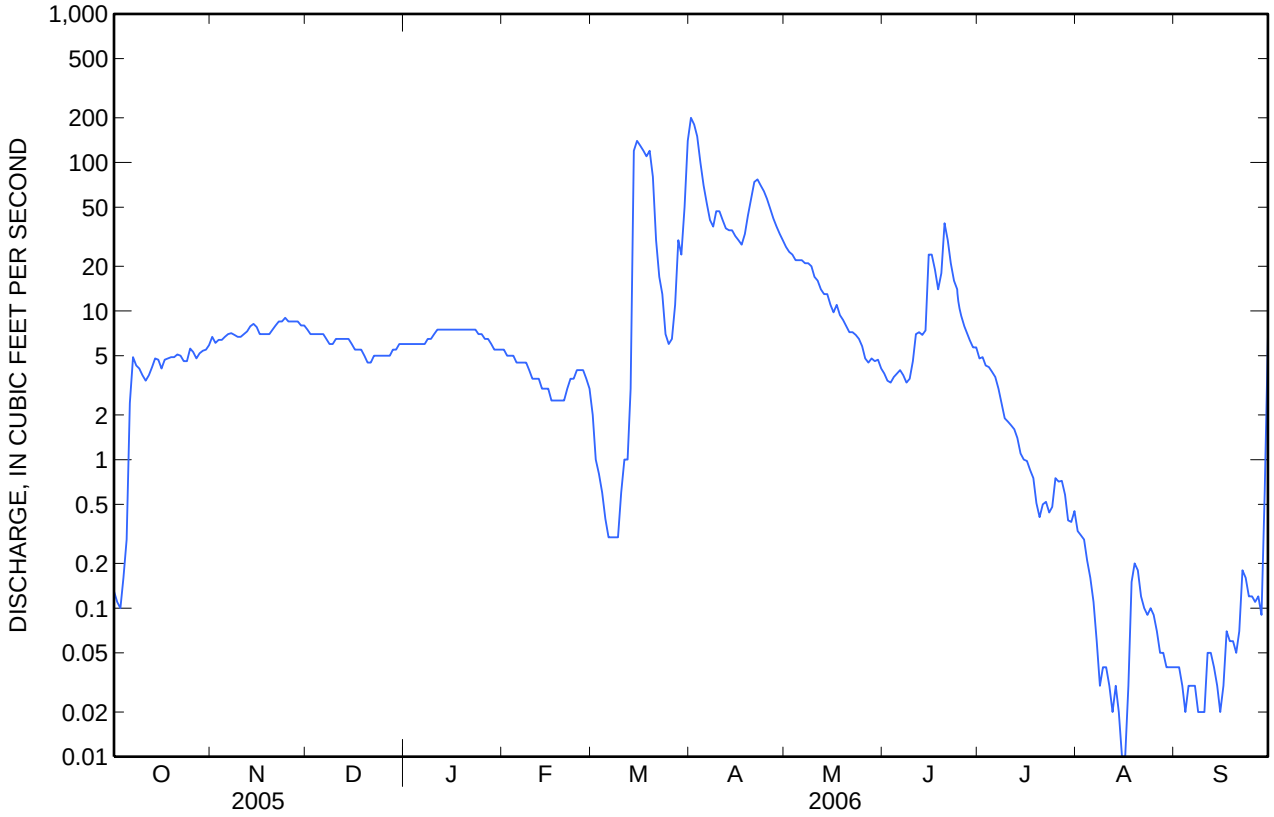
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5.21	5.88	3.72	2.06	21.8	129	107	25.8	18.3	23.5	8.17	4.02
Max	25.0	11.8	6.86	6.74	290	851	826	120	76.2	226	92.5	35.7
(WY)	(1987)	(1999)	(1982)	(2006)	(1996)	(1999)	(1982)	(1979)	(2004)	(1993)	(1987)	(1997)
Min	0.14	0.88	0.45	0.00	0.00	2.65	5.04	5.29	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 2005		Water Year 2006		Water Years 1979 - 2006	
Annual total	5,000.13		4,622.18			
Annual mean	13.7		12.7		[b]29.5	
Highest annual mean					93.2	1979
Lowest annual mean					4.73	1992
Highest daily mean	163	Jun 29	200	Apr 1	3,160	Mar 23, 1999
Lowest daily mean	0.10	Sep 22	0.01	Aug 15	0.00	Aug 2, 1981[c]
Annual seven-day minimum	0.12	Sep 22	0.02	Aug 11	0.00	Jul 23, 1984
Maximum peak flow			[a]200	Apr 1	3,190	Mar 22, 1999
Maximum peak stage			[a]7.71	Apr 1	17.37	Apr 14, 1982
Instantaneous low flow			0.00	Aug 15	0.00	Aug 2, 1981
Annual runoff (ac-ft)	9,920		9,170		21,410	
10 percent exceeds	35		32		38	
50 percent exceeds	6.5		5.3		4.7	
90 percent exceeds	1.5		0.07		0.23	

[a] Backwater from ice.
[b] Median of yearly mean discharge, 18.4 ft³/s, 13,330 ac-ft/yr.
[c] No flow many days most years.



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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.50	115	5.4	0.00	3.8	e0.00	e0.00	0.00		
2			e0.50	268	5.1	0.00	3.4	0.00	e0.00	0.00		
3			e0.50	209	5.1	0.00	3.1	0.00	e0.00	0.00		
4			e0.50	110	4.7	0.00	2.8	0.00	e0.00	0.00		
5			e0.50	61	4.0	0.13	2.5	0.00	0.00	0.00		
6			e0.50	40	3.8	0.16	2.3	0.00	0.00	0.00		
7			e0.50	28	3.7	0.20	2.3	0.00	0.00	0.00		
8			e0.50	23	3.2	0.26	1.7	0.00	0.00	0.00		
9			e0.50	22	3.0	0.71	1.5	0.00	0.00	0.00		
10			e0.50	22	3.3	1.1	1.4	0.00	0.00	0.00		
11			e0.50	12	2.7	1.3	1.6	0.00	0.00	0.00		
12			e0.50	11	1.8	1.1	1.5	0.00	0.00	0.00		
13			e0.50	8.0	1.5	1.6	1.4	0.00	0.00	0.00		
14			e0.50	7.9	1.1	2.7	0.86	0.00	0.00	0.00		
15			e0.50	8.3	0.40	3.4	0.43	e0.00	0.00	0.00		
16			e0.50	6.5	0.05	3.5	0.30	e0.00	0.00	0.00		
17			e0.50	5.7	0.00	7.0	0.21	e0.00	0.00	0.00		
18			e0.50	8.8	0.00	8.9	0.07	e0.00	0.00	0.00		
19			e0.50	11	0.00	7.7	0.00	e0.00	0.00	0.00		
20			e0.50	12	0.00	6.0	0.00	e0.00	0.00	0.00		
21			e0.50	19	0.00	8.5	0.00	e0.00	0.00	0.00		
22			e0.50	30	0.00	16	0.00	e0.00	0.00	0.00		
23			e0.50	35	0.00	13	0.00	e0.00	0.00	0.00		
24			e0.50	28	0.00	10	0.00	e0.00	0.00	0.00		
25			e0.50	24	0.00	8.0	0.00	e0.00	0.00	0.00		
26			e0.50	19	0.00	6.6	0.00	e0.00	0.00	0.00		
27			e0.50	14	0.00	5.4	0.00	e0.00	0.00	0.00		
28			e2.0	12	0.00	4.7	0.00	e0.00	0.00	0.00		
29			e10	8.5	0.00	4.1	0.00	e0.00	0.00	0.00		
30			e25	6.7	0.00	3.9	0.00	e0.00	0.00	0.00		
31			41	---	0.00	---	0.00	e0.00	---	0.00		
Total			91.50	1,185.4	48.85	125.96	31.17	0.00	0.00	0.00		
Mean			2.95	39.5	1.58	4.20	1.01	0.00	0.00	0.00		
Max			41	268	5.4	16	3.8	0.00	0.00	0.00		
Min			0.50	5.7	0.00	0.00	0.00	0.00	0.00	0.00		
Ac-ft			181	2,350	97	250	62	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 – 1991 AND SEASONS 1992 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	0.28	5.11	89.0	49.9	14.9	12.3	21.4	5.26	3.35	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)

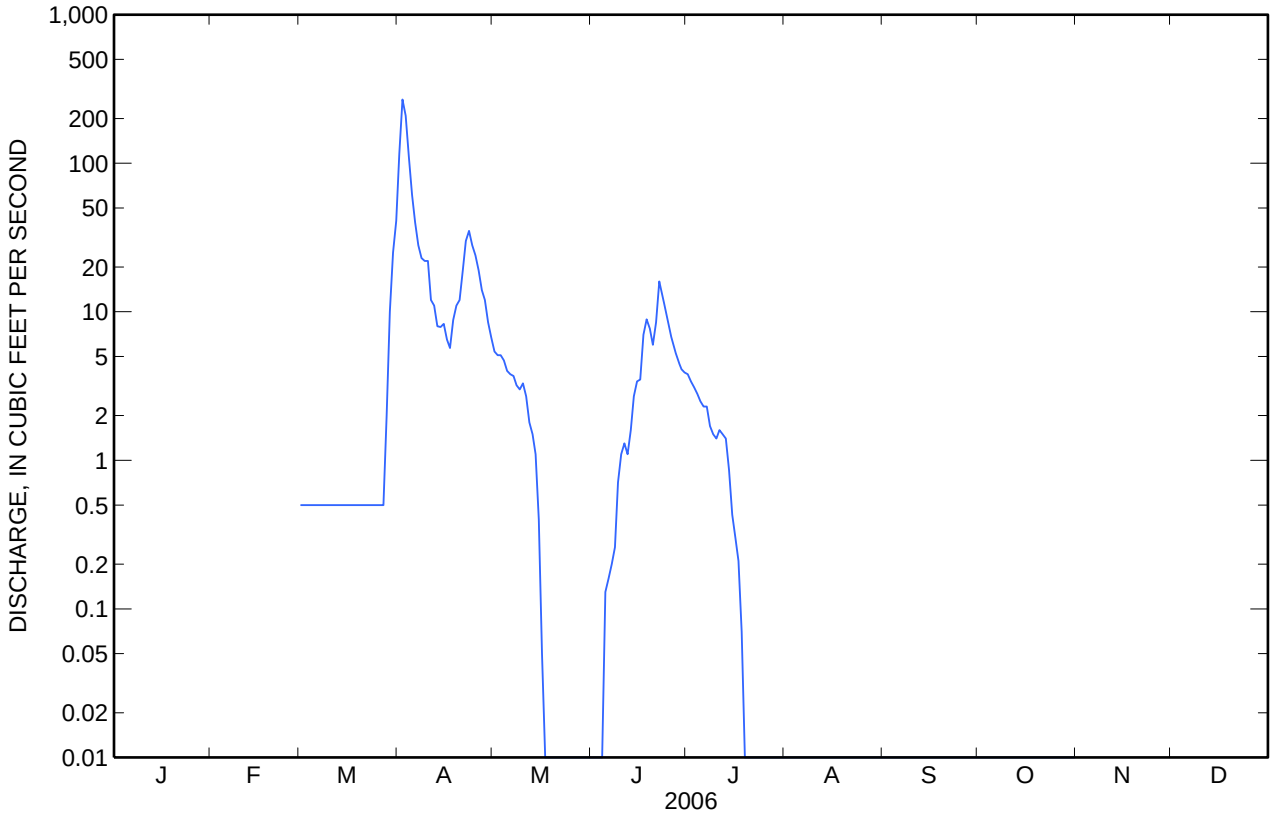
* During period of operation 1985-1991, 1992 to current year. Seasonal records beginning water year 1992.

06183700 BIG MUDDY CREEK DIVERSION CANAL NEAR MEDICINE LAKE, MT—Continued

SUMMARY STATISTICS

	2006 Season		Water Years 1985 – 1991*		Seasons 1992 – 2006*	
Annual mean			14.5			
Highest annual mean			31.6	1989		
Lowest annual mean			0.17	1988		
Highest daily mean	268	Apr 2	1,300	Mar 2, 1986	1,340	Mar 23, 1999
Lowest daily mean	0.00	May 17	0.00	Feb 11, 1986 [c]	0.00	Sep 22, 1992
Annual seven-day minimum			0.00	Feb 11, 1986		
Maximum peak flow	[a]308	Apr 2	1,300	Mar 2, 1986	[d]1,360	Mar 23, 1999
Maximum peak stage	[b]8.83	Mar 16			[e]12.18	Jul 24, 1993
Instantaneous low flow						
Annual runoff (ac-ft)			10,540			
10 percent exceeds			29			
50 percent exceeds			2.6			
90 percent exceeds			0.00			

* During period of operation 1985-1991, 1992 to current year. Seasonal records beginning water year 1992.
[a] Gage height, 8.58 ft.
[b] Backwater from ice. May have been higher during period of no gage-height record.
[c] No flow at times most years.
[d] Gage height, 19.99 ft.
[e] Site and datum then in use.



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 mi^2.

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 are fair. 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	e0.00	0.03	0.00	0.12	0.00	0.00	0.00		
2			e0.00	e0.00	0.03	0.00	0.21	0.00	0.00	0.00		
3			e0.00	4.1	0.03	0.00	0.13	0.00	0.00	0.00		
4			e0.00	1.5	0.04	0.00	e0.10	0.00	0.00	0.00		
5			e0.00	0.34	0.04	0.00	e0.10	0.00	0.00	0.00		
6			e0.00	0.06	0.08	0.00	e0.10	0.00	0.00	0.00		
7			e0.00	0.08	0.13	0.00	e0.10	0.00	0.00	0.00		
8			e0.00	0.08	0.14	0.00	e0.10	0.00	0.00	0.00		
9			e0.00	0.08	0.14	0.00	e0.05	0.00	0.00	0.00		
10			e0.00	0.07	0.19	0.00	e0.05	0.00	0.00	0.00		
11			e0.00	0.10	0.20	0.15	e0.05	0.00	0.00	0.00		
12			e0.00	0.05	0.19	0.08	0.07	0.00	0.00	0.00		
13			e0.00	0.09	0.20	0.13	0.07	0.00	0.00	0.00		
14			e0.00	0.13	0.21	0.11	0.08	0.00	0.00	0.00		
15			e0.00	0.09	0.22	0.04	0.10	0.00	0.00	0.00		
16			e0.00	0.08	0.21	0.02	0.06	0.00	0.00	0.00		
17			e0.00	0.13	0.20	0.00	0.09	0.00	0.00	0.00		
18			e0.00	0.16	0.16	0.00	0.00	0.00	0.00	0.00		
19			e0.00	0.31	0.17	0.00	0.00	0.00	0.00	0.00		
20			e0.00	0.47	0.13	0.00	0.00	0.00	0.00	0.00		
21			e0.00	0.46	0.11	0.00	0.00	0.00	0.00	0.00		
22			e0.00	0.42	0.05	0.03	0.00	0.00	0.00	0.00		
23			e0.00	0.35	0.00	0.08	0.00	0.00	0.00	0.00		
24			e0.00	0.31	0.00	0.20	0.00	0.00	0.00	0.00		
25			e0.00	0.30	0.00	0.06	0.00	0.04	0.00	0.00		
26			e0.00	0.26	0.00	0.05	0.00	0.02	0.00	0.00		
27			e0.00	0.20	0.00	0.02	0.00	0.00	0.00	0.00		
28			e0.00	0.10	0.00	0.06	0.00	0.00	0.00	0.00		
29			e0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.00		
30			e0.00	0.03	0.00	0.09	0.00	0.00	0.00	0.00		
31			e0.00	---	0.00	---	0.00	0.00	---	0.00		
Total			0.00	10.37	2.90	1.26	1.58	0.06	0.00	0.00		
Mean			0.00	0.35	0.09	0.04	0.05	0.00	0.00	0.00		
Max			0.00	4.1	0.22	0.20	0.21	0.04	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	21	5.8	2.5	3.1	0.1	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1986 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Mean			10.2	8.78	0.83	0.43	0.33	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)

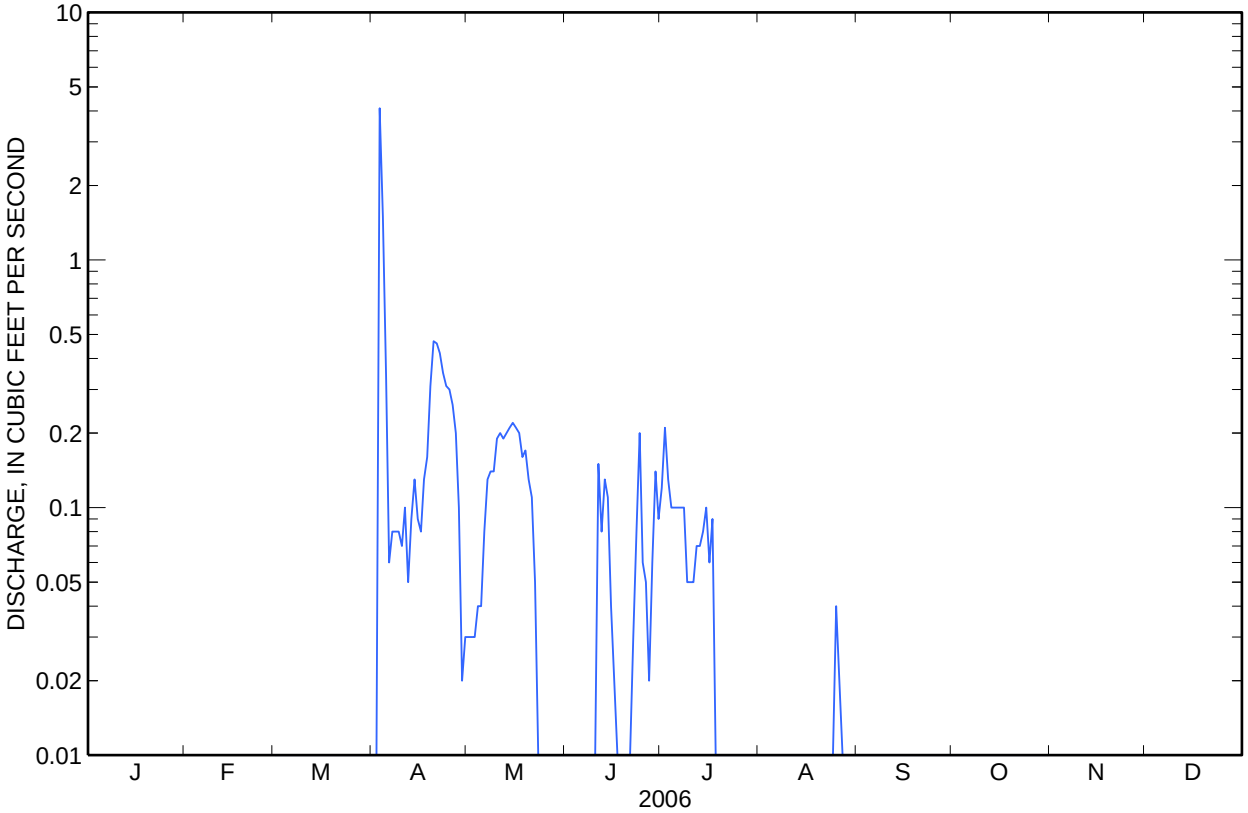
* During periods of operation (September 1985 to October 1989, March 1995 to current year).

06183750 LAKE CREEK NEAR DAGMAR, MT—Continued

SUMMARY STATISTICS

	For 2006 Season		Seasons 1986 – 2006*	
Highest daily mean	4.1	Apr 3	950	Mar 20, 2003
Lowest daily mean	0.00	Mar 1[a]	0.00	Oct 1, 1985[d]
Maximum peak flow	[b] 7.0	Apr 3	950	Mar 20, 2003
Maximum peak stage	[c] 6.68	Mar 7	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, 5.75 ft.
[c] Backwater from ice.
[d] No flow many days most years.



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 mi^2.

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 good 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			e0.00	3.6	3.0	0.14	0.14	0.00	0.00	0.00		
2			e0.00	9.5	2.8	0.15	0.06	0.00	0.00	0.00		
3			0.00	7.2	3.2	0.17	0.01	0.00	0.00	0.00		
4			0.00	14	4.2	0.19	0.00	0.00	0.00	0.00		
5			0.00	9.8	3.1	0.20	0.00	0.00	0.00	0.00		
6			0.00	6.2	2.6	0.09	0.00	0.00	0.00	0.00		
7			0.00	4.0	1.7	0.03	0.00	0.00	0.00	0.00		
8			0.00	2.6	2.6	0.00	0.00	0.00	0.00	0.00		
9			e0.00	2.2	1.2	0.11	0.00	0.00	0.00	0.00		
10			e0.00	1.6	1.4	0.16	0.00	0.00	0.00	0.00		
11			e0.00	1.2	1.2	0.28	0.00	0.00	0.00	0.00		
12			e0.00	0.76	0.85	0.35	0.00	0.00	0.00	0.00		
13			e0.00	0.63	0.60	0.34	0.00	0.00	0.00	0.00		
14			e0.00	0.56	0.55	0.26	0.00	0.00	0.00	0.00		
15			e0.00	0.66	0.43	0.25	0.00	0.00	0.00	0.00		
16			e0.00	0.47	0.34	0.32	0.00	0.00	0.00	0.00		
17			e0.05	0.44	0.24	0.29	0.00	0.00	0.00	0.00		
18			e0.10	2.4	0.23	0.24	0.00	0.00	0.00	0.00		
19			e0.10	20	0.28	0.21	0.00	0.00	0.00	0.00		
20			e0.10	22	0.26	0.17	0.00	0.00	0.00	0.00		
21			e0.10	15	0.27	0.10	0.00	0.00	0.00	0.00		
22			e0.10	13	0.18	0.08	0.00	0.00	0.00	0.00		
23			e0.10	12	0.16	0.09	0.00	0.00	0.00	0.00		
24			e0.10	12	0.15	0.07	0.00	0.00	0.00	0.00		
25			e0.10	10	0.19	0.02	0.00	0.00	0.00	0.00		
26			e0.15	7.7	0.09	0.00	0.00	0.00	0.00	0.00		
27			e0.15	5.6	0.05	0.17	0.00	0.00	0.00	0.00		
28			e0.15	4.7	0.07	0.18	0.00	0.00	0.00	0.00		
29			1.1	4.9	0.18	0.15	0.00	0.00	0.00	0.00		
30			2.2	4.0	0.12	0.14	0.00	0.00	0.00	0.00		
31			1.9	---	0.11	---	0.00	0.00	---	0.00		
Total			6.50	198.72	32.35	4.95	0.21	0.00	0.00	0.00		
Mean			0.21	6.62	1.04	0.17	0.01	0.00	0.00	0.00		
Max			2.2	22	4.2	0.35	0.14	0.00	0.00	0.00		
Min			0.00	0.44	0.05	0.00	0.00	0.00	0.00	0.00		
Ac-ft			13	394	64	9.8	0.4	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1986 – 2006*

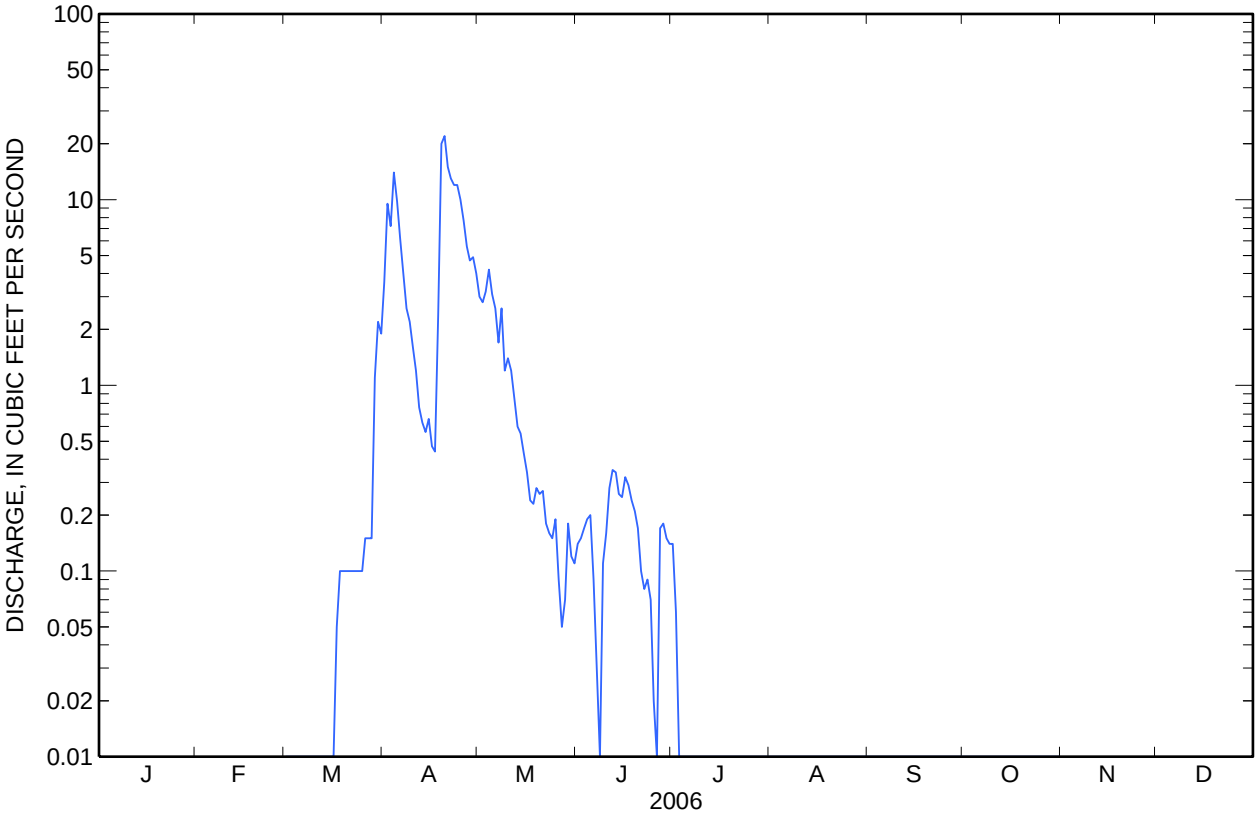
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			29.3	8.14	1.53	1.49	4.76	0.15	0.05	0.01		
Max			140	32.6	6.95	13.7	27.4	0.71	0.33	0.10		
(WY)			(2003)	(1987)	(1999)	(2000)	(1997)	(1999)	(1997)	(2001)		
Min			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
(WY)			(1988)	(1988)	(1988)	(1987)	(1986)	(1986)	(1986)	(1986)		

06183800 COTTONWOOD CREEK NEAR DAGMAR, MT—Continued

SUMMARY STATISTICS

	2006 Season		Water Years 1986 – 2006*	
Highest daily mean	22	Apr 20	1,810	Mar 18, 2003
Lowest daily mean	0.00	Oct 1	0.00	Oct 1, 1985 [a]
Maximum peak flow	29	Apr 19	[b]3,380	Mar 18, 2003
Maximum peak stage	1.63	Apr 19	8.76	Mar 22, 1997

* During periods of operation (1985-1989, 1995 to current year; seasonal records only).
[a] No flow most years.
[b] Gage height, 8.43 ft, from floodmark.



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 mi^2.

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 good 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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			0.00	17	1.5	0.31	0.00	0.00	0.00	0.00		
2			0.00	9.3	1.2	0.12	0.00	0.00	0.00	0.00		
3			0.00	7.8	1.0	0.00	0.00	0.00	0.00	0.00		
4			0.00	7.8	1.1	0.00	0.00	0.00	0.00	0.00		
5			0.00	4.4	1.2	0.00	0.00	0.00	0.00	0.00		
6			0.00	4.5	0.97	0.00	0.00	0.00	0.00	0.00		
7			0.00	2.8	0.86	0.00	0.00	0.00	0.00	0.00		
8			0.00	1.9	0.72	0.00	0.00	0.00	0.00	0.00		
9			0.00	0.90	0.53	0.00	0.00	0.00	0.00	0.00		
10			0.00	0.69	0.52	0.00	0.00	0.00	0.00	0.00		
11			0.00	0.49	0.49	0.46	0.00	0.00	0.00	0.00		
12			0.00	0.47	0.45	0.43	0.00	0.00	0.00	0.00		
13			0.00	0.43	0.44	0.25	0.00	0.00	0.00	0.00		
14			0.00	0.39	0.87	0.05	0.00	0.00	0.00	0.00		
15			0.00	0.34	0.62	0.03	0.00	0.00	0.00	0.00		
16			0.00	0.33	0.43	0.08	0.00	0.00	0.00	0.00		
17			0.00	0.39	0.31	0.00	0.00	0.00	0.00	0.00		
18			0.00	1.0	0.22	0.00	0.00	0.00	0.00	0.00		
19			0.00	18	0.15	0.00	0.00	0.00	0.00	0.00		
20			0.00	55	0.12	0.00	0.00	0.00	0.00	0.00		
21			0.00	30	0.16	0.00	0.00	0.00	0.00	0.00		
22			0.00	14	0.13	0.00	0.00	0.00	0.00	0.00		
23			0.00	7.9	0.03	0.00	0.00	0.00	0.00	0.00		
24			0.00	6.8	0.18	0.00	0.00	0.00	0.00	0.00		
25			e0.00	6.2	0.03	0.00	0.00	0.00	0.00	0.00		
26			e0.00	5.4	0.10	0.00	0.00	0.00	0.00	0.00		
27			e0.10	5.0	0.14	0.00	0.00	0.00	0.00	0.00		
28			e0.15	3.6	0.32	0.00	0.00	0.00	0.00	0.00		
29			e1.5	4.3	0.34	0.00	0.00	0.00	0.00	0.00		
30			6.7	2.2	0.41	0.00	0.00	0.00	0.00	0.00		
31			8.4	---	0.35	---	0.00	0.00	---	0.00		
Total			16.85	219.33	15.89	1.73	0.00	0.00	0.00	0.00		
Mean			0.54	7.31	0.51	0.06	0.00	0.00	0.00	0.00		
Max			8.4	55	1.5	0.46	0.00	0.00	0.00	0.00		
Min			0.00	0.33	0.03	0.00	0.00	0.00	0.00	0.00		
Ac-ft			33	435	32	3.4	0.00	0.00	0.00	0.00		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1986 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Mean			9.26	6.05	1.79	1.97	3.09	0.29	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)

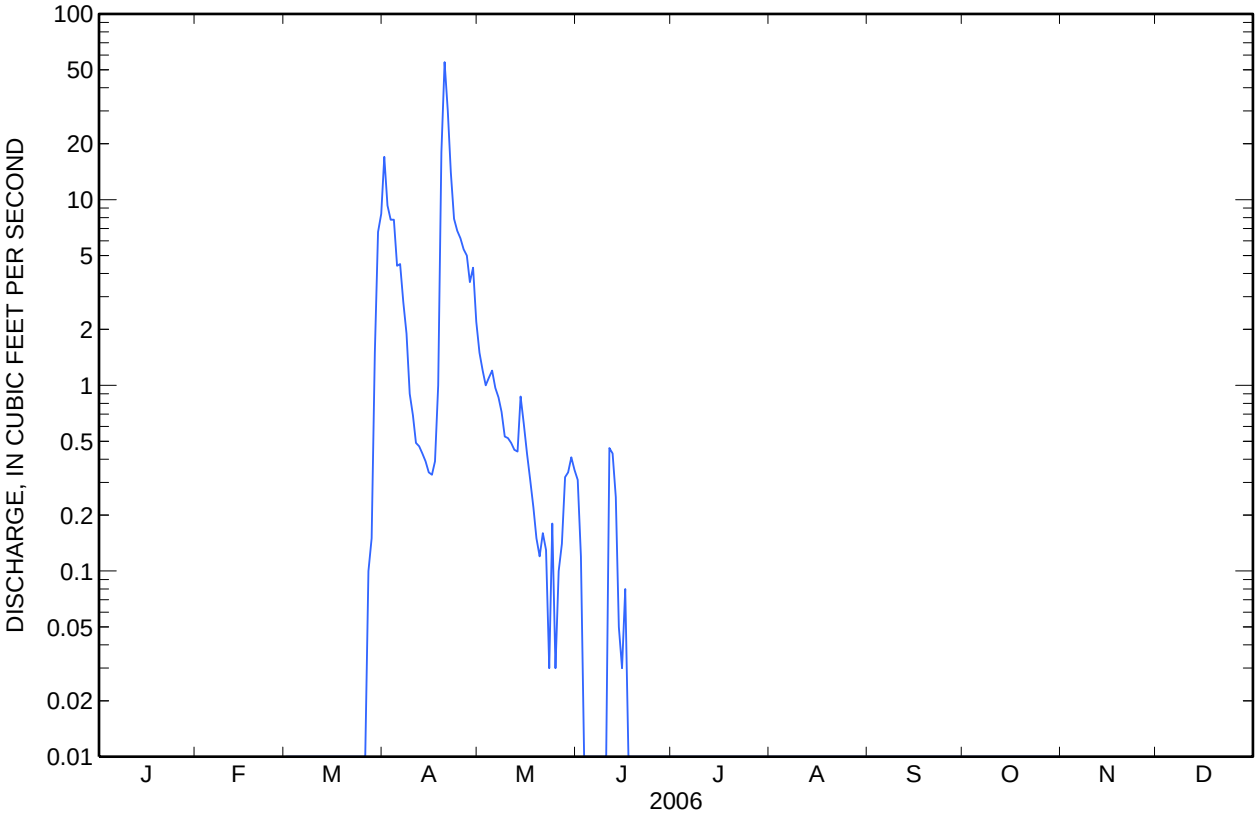
* During period of operation [1985 - 1989, 1995 to current year (seasonal records only)].

06183850 SAND CREEK NEAR DAGMAR, MT—Continued

SUMMARY STATISTICS

	For 2006 Season		Seasons 1986 – 2006*	
Highest daily mean	55	Apr 20	200	Mar 18, 2003
Lowest daily mean	0.00	Oct 1	0.00	Oct 1, 1985
Maximum peak flow	62	Apr 20	[b]284	Mar 18, 2003
Maximum peak stage	[a]3.70	Apr 20	[b]5.80	Mar 26, 1997

* During period of operation [1985 - 1989, 1995 to current year (seasonal records only)].
[a] May have been higher during perod of no gage-height record, Mar. 24-30.
[b] Result of culvert computation of flow.



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 mi^2.

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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,740	3,990	e4,700	e8,800	e8,600	e8,600	e7,400	6,280	7,780	7,590	7,930	7,670
2	3,600	3,960	e4,800	e9,000	e8,800	e8,500	8,810	6,060	7,560	7,450	7,830	7,750
3	3,660	4,020	e5,000	e9,000	e8,700	e6,500	8,570	6,060	7,520	7,400	7,820	7,550
4	3,700	4,040	e5,000	e8,900	e8,900	e6,500	8,570	6,100	7,520	7,270	7,650	7,530
5	3,830	4,080	e4,400	e8,900	e8,500	e6,800	8,460	6,160	7,550	7,180	7,560	7,600
6	4,000	4,140	e4,500	e8,900	e8,100	e6,200	8,210	6,080	7,650	7,180	7,640	7,750
7	4,020	4,130	e4,900	e8,800	e8,500	e6,100	8,010	6,010	7,680	7,270	7,670	7,660
8	4,540	4,220	e4,700	e8,800	e7,700	e6,200	7,470	5,960	7,580	7,310	7,630	7,740
9	4,840	4,270	e4,700	e8,800	e7,400	e6,500	7,190	5,900	7,450	7,210	7,690	7,620
10	4,570	4,290	e4,700	e8,900	e7,500	e6,500	6,840	5,970	7,620	7,220	7,690	7,540
11	4,430	4,360	e4,700	e8,600	e7,500	e6,400	6,980	5,780	7,960	7,280	7,820	7,720
12	4,340	4,350	e4,700	e8,800	e7,200	e6,300	6,920	5,680	8,010	7,550	7,920	7,800
13	4,310	4,400	e4,800	e8,500	e6,700	e6,300	6,560	5,670	7,890	7,550	7,760	7,650
14	4,300	4,380	e4,800	e8,700	e6,300	e6,300	6,440	5,770	7,830	7,170	7,580	7,620
15	4,060	4,340	e4,800	e8,600	e8,000	e6,300	6,290	5,690	8,350	7,700	7,500	7,800
16	3,850	4,330	e4,900	e8,500	e6,800	e6,300	6,210	5,390	9,150	7,340	7,440	7,750
17	4,000	4,350	e5,400	e8,400	e6,300	e6,400	6,210	5,550	8,200	7,470	7,550	8,050
18	4,140	4,310	e7,200	e8,400	7,190	e6,700	6,380	6,570	5,570	7,430	7,710	7,930
19	4,190	4,360	e9,000	e8,400	6,500	e6,400	e8,400	7,380	6,850	7,320	7,800	6,870
20	4,180	4,350	e9,000	e8,800	6,960	e6,400	9,080	7,300	7,130	7,420	7,760	6,420
21	4,170	4,390	e8,600	e8,900	e6,800	e6,400	9,120	7,660	7,780	7,320	7,720	6,010
22	4,190	4,350	e8,600	e8,900	e7,100	e6,300	8,810	7,520	7,770	7,430	7,730	6,030
23	4,190	4,350	e8,600	e8,800	e7,800	e6,300	8,850	7,440	7,800	7,400	7,670	6,220
24	4,170	4,440	e8,800	e8,700	e7,800	e6,300	9,090	7,490	8,010	7,430	7,870	6,170
25	4,040	4,480	e8,600	e8,800	e7,700	e6,300	9,020	7,550	7,940	7,530	7,780	6,120
26	3,970	4,540	e8,600	e8,700	e7,500	e6,300	8,760	7,670	7,750	7,540	7,820	5,900
27	3,990	4,570	e8,700	e8,700	e8,700	e6,200	8,540	7,830	7,630	7,770	7,680	5,790
28	3,910	4,600	e8,300	e9,000	e8,700	e5,900	8,190	7,790	7,580	7,680	7,810	5,840
29	3,760	e4,700	e8,800	e9,000	---	e6,100	7,120	7,860	7,570	7,820	7,800	6,030
30	3,930	e4,700	e8,800	e8,900	---	e6,300	6,550	7,850	7,660	7,940	7,590	5,910
31	3,980	---	e8,800	e8,800	---	e6,700	---	7,840	---	7,680	7,610	---
Total	126,600	129,790	201,900	271,700	214,250	201,300	233,050	205,860	230,340	230,850	239,030	212,040
Mean	4,084	4,326	6,513	8,765	7,652	6,494	7,768	6,641	7,678	7,447	7,711	7,068
Max	4,840	4,700	9,000	9,000	8,900	8,600	9,120	7,860	9,150	7,940	7,930	8,050
Min	3,600	3,960	4,400	8,400	6,300	5,900	6,210	5,390	5,570	7,170	7,440	5,790
Ac-ft	251,100	257,400	400,500	538,900	425,000	399,300	462,300	408,300	456,900	457,900	474,100	420,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,280	8,971	9,051	9,818	10,370	10,140	10,320	9,481	9,618	10,050	11,080	10,790
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 period of operation (1941-52, 1958 to current year).

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

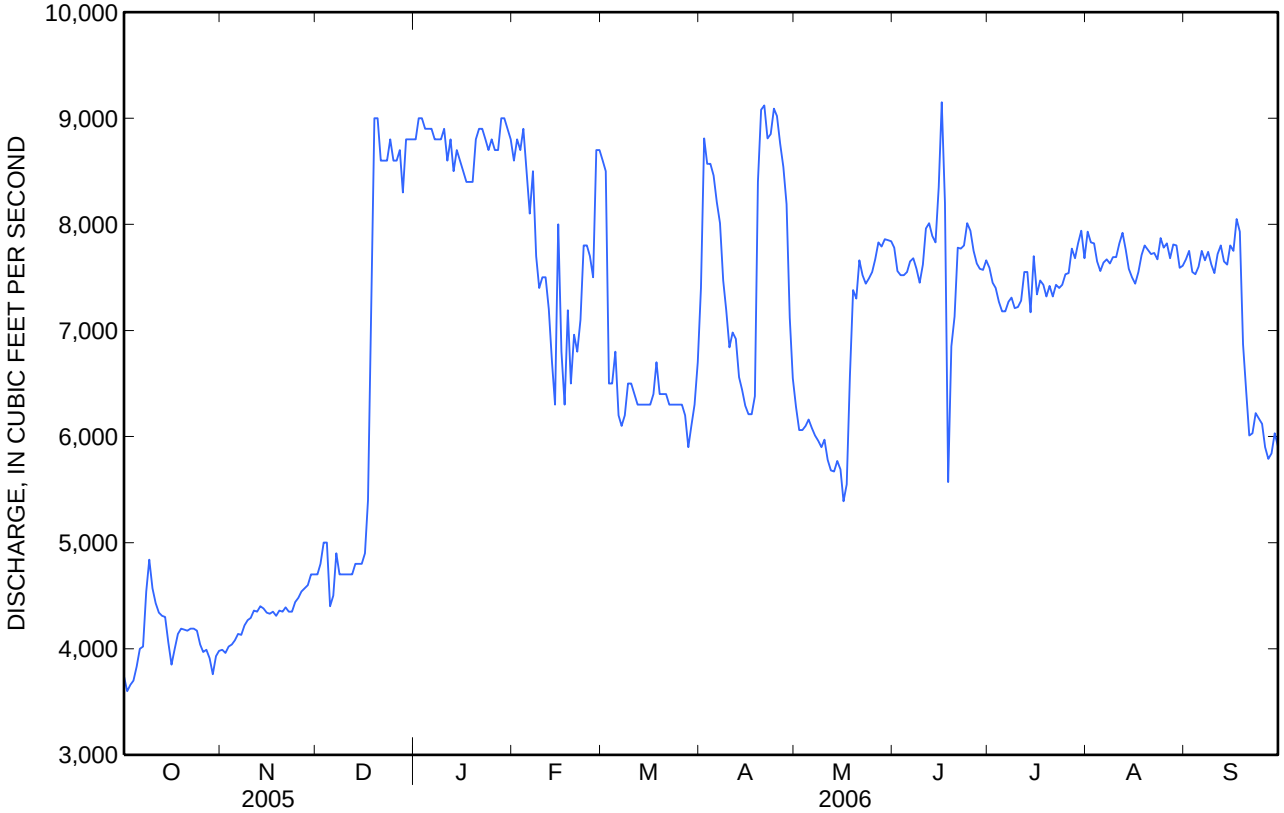
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1941 – 2006*	
Annual total	2,088,020		2,496,710			
Annual mean	5,721		6,840		9,992	
Highest annual mean					16,580	1975
Lowest annual mean					4,083	1942
Highest daily mean	9,930	Jun 14	9,150	Jun 16	69,200	Mar 27, 1943
Lowest daily mean	3,600	Oct 2	3,600	Oct 2	575	Nov 22, 1941
Annual seven-day minimum	3,790	Sep 30	3,790	Oct 1	709	Nov 19, 1941
Maximum peak flow			[a]9,620	Jun 17	[c]78,200	Mar 26, 1943
Maximum peak stage			[b]7.79	Dec 13	[b]19.66	Apr 14, 1979
Instantaneous low flow					575	Nov 22, 1941
Annual runoff (ac-ft)	4,142,000		4,952,000		7,239,000	
10 percent exceeds	6,930		8,780		15,600	
50 percent exceeds	5,710		7,430		9,110	
90 percent exceeds	4,240		4,310		4,500	

	Water Years 1941 – 1951**		Water Years 1958 – 2006***	
Annual mean	9,245		10,150	
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, 2941	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 period 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, 5.37 ft.
[b] Backwater from ice.
[c] Gage height, 14.80 ft, from rating curve extended above 30,000 ft^3/s.
[d] Gage height, 19.14 ft.

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 current year.

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.--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 2005 TO SEPTEMBER 2006

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)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Oct													
11...	1115	4,420	24	.049	.033	720	9.8	94	8.4	616	12.0	11.0	230
Apr													
03...	1100	8,580	220	.186	.166	726	10.4	88	8.2	576	10.5	6.0	190
May													
09...	1200	5,930	39	.062	.043	720	8.8	92	8.5	639	10.0	14.5	240
Jun													
12...	1100	8,070	65	.051	.036	725	9.8	106	8.4	578	22.0	16.5	210
Jul													
10...	1100	7,280	32	.045	.030	711	7.5	95	8.4	573	34.5	23.5	210
Aug													
14...	1115	7,650	29	.047	.032	723	7.6	92	8.4	564	28.0	22.0	200

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 2 of 9

Date	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium frac-tion of cations percent (00932)	Sodium, water, fltrd, mg/L (00930)	Alka-linity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Carbon-ate, wat flt incrm. titr., field, mg/L (00452)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)
Oct													
11...	56.3	21.7	3.78	1	31	47.3	176	161	191	3	10.6	.90	6.35
Apr													
03...	45.6	18.4	4.53	2	37	53.6	157	148	181	--	8.41	.73	5.78
May													
09...	56.6	23.1	4.37	2	33	53.7	173	170	202	3	9.99	.89	4.78
Jun													
12...	51.3	19.8	3.80	1	30	42.4	163	176	165	1	9.12	.91	4.96
Jul													
10...	51.3	19.5	3.66	1	28	37.4	164	156	182	4	9.34	.94	5.25
Aug													
14...	49.9	19.2	3.65	1	28	37.5	162	171	174	17	9.50	.93	5.52

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 3 of 9
[Remark codes: <, less than; E, estimated.]

Date	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis-solved, 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)	Partic-ulate nitro-gen, susp, water, mg/L (49570)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)
Oct													
11...	136	380	.53	4,630	388	.17	.25	<.010	<.016	<.002	.12	E.004	.011
Apr													
03...	127	354	.50	8,590	371	.35	1.0	E.005	.061	E.001	.59	E.003	.018
May													
09...	145	401	.57	6,670	417	.18	.37	<.010	<.016	<.002	.14	E.004	.007
Jun													
12...	120	335	.50	7,960	365	.20	.35	<.010	.019	<.002	.13	.007	.010
Jul													
10...	116	338	.47	6,800	346	.28	.29	<.010	<.016	<.002	.12	.009	.012
Aug													
14...	116	346	.47	7,200	349	.23	.28	E.008	E.009	<.002	.21	.009	.012

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 4 of 9
[Remark codes: <, less than.]

Date	Phosphorus, water, unfltrd mg/L (00665)	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, ug/L (70953)	Pheophytin a, phytoplankton, ug/L (62360)	Arsenic water, fltrd, ug/L (01000)	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Lithium water, fltrd, ug/L (01130)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
Oct													
11...	.110	2.0	<.1	1.9	2.4	3.5	.3	2.3	125	<6	59.8	.58	478
Apr													
03...	.29	7.1	1.0	6.2	7.5	3.8	2.0	1.9	110	10	51.5	.51	419
May													
09...	.111	1.5	.1	1.4	2.6	1.8	.9	2.1	128	<6	68.5	.62	493
Jun													
12...	.187	2.0	.2	1.9	2.4	3.4	.7	2.1	98	<6	57.1	.62	460
Jul													
10...	.101	1.4	<.1	1.4	2.3	1.1	.6	2.3	82	<6	52.3	.67	465
Aug													
14...	.097	2.3	<.1	2.2	2.4	2.6	.3	2.3	105	<6	61.1	.58	470

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 5 of 9
[Remark codes: <, less than.]

Date	Vanadium, water, fltrd, ug/L (01085)	2,6-Diethylaniline water, fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	alpha-HCH-d6, surrog, wat flt 0.7u GF percent recovry (91065)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)
Oct													
11...	.63	<.006	<.006	<.006	<.005	<.005	87.0	<.007	<.050	<.010	<.004	<.041	<.020
Apr													
03...	.64	<.006	<.014	<.006	<.005	<.005	86.8	<.007	<.050	<.010	<.004	<.041	<.020
May													
09...	.76	<.006	<.014	<.006	<.005	<.005	105	<.007	<.050	<.010	<.004	<.041	<.020
Jun													
12...	.69	<.006	<.014	<.006	<.005	<.005	95.6	<.007	<.050	<.010	<.004	<.041	<.020
Jul													
10...	.89	<.006	<.014	<.006	<.005	<.005	104	<.007	<.050	<.010	<.004	<.041	<.020
Aug													
14...	.86	<.006	<.014	<.006	<.005	<.005	98.6	<.007	<.050	<.010	<.004	<.041	<.020

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 6 of 9
[Remark codes: <, less than.]

Date	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water fltrd 0.7u GF ug/L (82687)	Cyana-zine, water, fltrd, ug/L (04041)	DCPA, water, fltrd 0.7u GF ug/L (82682)	Desulf-inyl fipro-nil, water, fltrd, ug/L (62170)	Diazi-non, water, fltrd, ug/L (39572)	Diazi-non-d10 surrog. wat flt 0.7u GF percent recovry (91063)	Diel-drin, water, fltrd, ug/L (39381)	Disul-foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal-flur-alin, water, fltrd 0.7u GF ug/L (82663)	Etho-prop, water, fltrd 0.7u GF ug/L (82672)	Desulf-inyl-fipro-nil amide, wat flt ug/L (62169)
Oct													
11...	<.005	<.006	<.018	<.003	<.012	<.005	94.6	<.009	<.02	<.006	<.009	<.005	<.029
Apr													
03...	<.005	<.006	<.018	<.003	<.012	<.005	97.1	<.009	<.02	<.010	<.009	<.012	<.029
May													
09...	<.005	<.006	<.018	<.003	<.012	<.005	98.5	<.009	<.02	<.004	<.009	<.012	<.029
Jun													
12...	<.005	<.006	<.018	<.003	<.012	<.005	108	<.009	<.02	<.004	<.009	<.012	<.029
Jul													
10...	<.005	<.006	<.018	<.003	<.012	<.005	103	<.009	<.02	<.004	<.009	<.012	<.029
Aug													
14...	<.005	<.006	<.018	<.003	<.012	<.005	108	<.009	<.02	<.004	<.009	<.012	<.029

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 7 of 9
[Remark codes: <, less than.]

Date	Fipro-nil sulfide water, fltrd, ug/L (62167)	Fipro-nil sulfone water, fltrd, ug/L (62168)	Fipro-nil, water, fltrd, ug/L (62166)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water, fltrd 0.7u GF ug/L (82666)	Mala-thion, water, fltrd, ug/L (39532)	Methyl para-thion, water, fltrd 0.7u GF ug/L (82667)	Metola-chlor, water, fltrd, ug/L (39415)	Metri-buzin, water, fltrd, ug/L (82630)	Moli-nate, water, fltrd 0.7u GF ug/L (82671)	Naprop-amide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)
Oct													
11...	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003
Apr													
03...	<.013	<.024	<.016	<.005	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003
May													
09...	<.013	<.024	<.016	<.005	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003
Jun													
12...	<.013	<.024	<.016	<.005	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003
Jul													
10...	<.013	<.024	<.016	<.005	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003
Aug													
14...	<.013	<.024	<.016	<.005	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 8 of 9
[Remark codes: <, less than.]

Date	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water, fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water, fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)
Oct													
11...	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02
Apr													
03...	<.010	<.004	<.022	<.055	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02
May													
09...	<.010	<.004	<.022	<.055	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02
Jun													
12...	<.010	<.004	<.022	<.055	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02
Jul													
10...	<.010	<.004	<.022	<.055	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02
Aug													
14...	<.010	<.004	<.022	<.055	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 9 of 9
[Remark codes: <, less than.]

Date	Thiobencarb water, fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Oct						
11...	<.010	<.006	<.009	29	171	2,040
Apr						
03...	<.010	<.006	<.009	67	473	11,000
May						
09...	<.010	<.006	<.009	39	209	3,350
Jun						
12...	<.010	<.006	<.009	53	250	5,450
Jul						
10...	<.010	<.006	<.009	55	184	3,620
Aug						
14...	<.010	<.006	<.009	20	366	7,560