

Water-Data Report 2007

12301300 TOBACCO RIVER NEAR EUREKA, MT

Kootenai Basin
Upper Kootenai Subbasin

LOCATION.--Lat 48°53'37", long 115°05'13" referenced to North American Datum of 1927, in NW ¼ SE ¼ SE ¼ sec.9, T.36 N., R.27 W., Lincoln County, MT, Hydrologic Unit 17010101, on right bank 0.2 mi upstream from Indian Creek, 1.8 mi northwest of Eureka, and 2.8 mi upstream from Lake Kooocanusa flow line.

DRAINAGE AREA.--440 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,518.85 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Diversions for irrigation of about 4,500 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about May 22, 1948, reached a discharge of 2,810 ft³/s, from slope-area measurement of peak flow at site 1.5 mi downstream.

12301300 TOBACCO RIVER NEAR EUREKA, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	83	69	145	97	80	87	459	519	729	290	101	61
2	82	73	126	114	79	76	445	540	800	287	100	55
3	82	83	137	128	80	88	397	625	865	294	95	52
4	83	90	138	124	81	89	340	592	895	282	92	54
5	83	103	129	120	82	99	336	535	929	270	91	51
6	83	160	129	120	82	103	324	494	941	258	87	61
7	83	776	130	115	83	137	316	464	787	238	84	66
8	83	780	124	118	85	132	328	487	688	216	81	74
9	83	429	121	113	87	129	489	610	616	206	82	75
10	85	306	119	115	89	134	489	731	617	196	81	74
11	83	260	118	84	92	151	459	713	616	188	83	73
12	82	227	121	67	88	202	411	719	562	183	80	77
13	81	210	121	e70	86	386	379	881	518	183	74	85
14	80	195	121	e68	85	500	370	999	486	174	71	84
15	80	181	e113	e60	85	407	379	857	461	166	70	82
16	85	185	e107	e74	88	296	397	792	444	155	70	81
17	86	181	97	e76	90	297	402	818	487	155	69	80
18	85	166	e91	e79	94	352	425	901	538	182	58	82
19	86	158	e86	e81	95	471	440	901	526	177	57	86
20	95	173	e94	e87	93	540	416	868	499	164	62	87
21	92	178	e99	e87	95	531	379	764	480	154	68	96
22	88	179	e100	e89	89	459	357	672	466	150	63	96
23	85	175	106	e97	91	402	357	604	445	149	60	94
24	83	165	108	e97	89	419	366	579	417	141	58	92
25	83	156	110	94	88	654	388	569	396	133	56	91
26	83	150	109	89	88	867	425	532	372	129	53	88
27	81	132	109	86	83	769	440	528	341	124	52	87
28	80	127	108	83	89	611	449	682	325	123	52	86
29	81	134	101	81	---	512	484	713	315	118	52	86
30	80	161	93	e81	---	469	519	663	302	108	50	88
31	79	---	98	77	---	457	---	668	---	103	49	---
Total	2,588	6,362	3,508	2,871	2,436	10,826	12,165	21,020	16,863	5,696	2,201	2,344
Mean	83.5	212	113	92.6	87.0	349	406	678	562	184	71.0	78.1
Max	95	780	145	128	95	867	519	999	941	294	101	96
Min	79	69	86	60	79	76	316	464	302	103	49	51
Ac-ft	5,130	12,620	6,960	5,690	4,830	21,470	24,130	41,690	33,450	11,300	4,370	4,650
Cfsm	0.19	0.48	0.26	0.21	0.20	0.79	0.92	1.54	1.28	0.42	0.16	0.18
In.	0.22	0.54	0.30	0.24	0.21	0.92	1.03	1.78	1.43	0.48	0.19	0.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2007, BY WATER YEAR (WY)

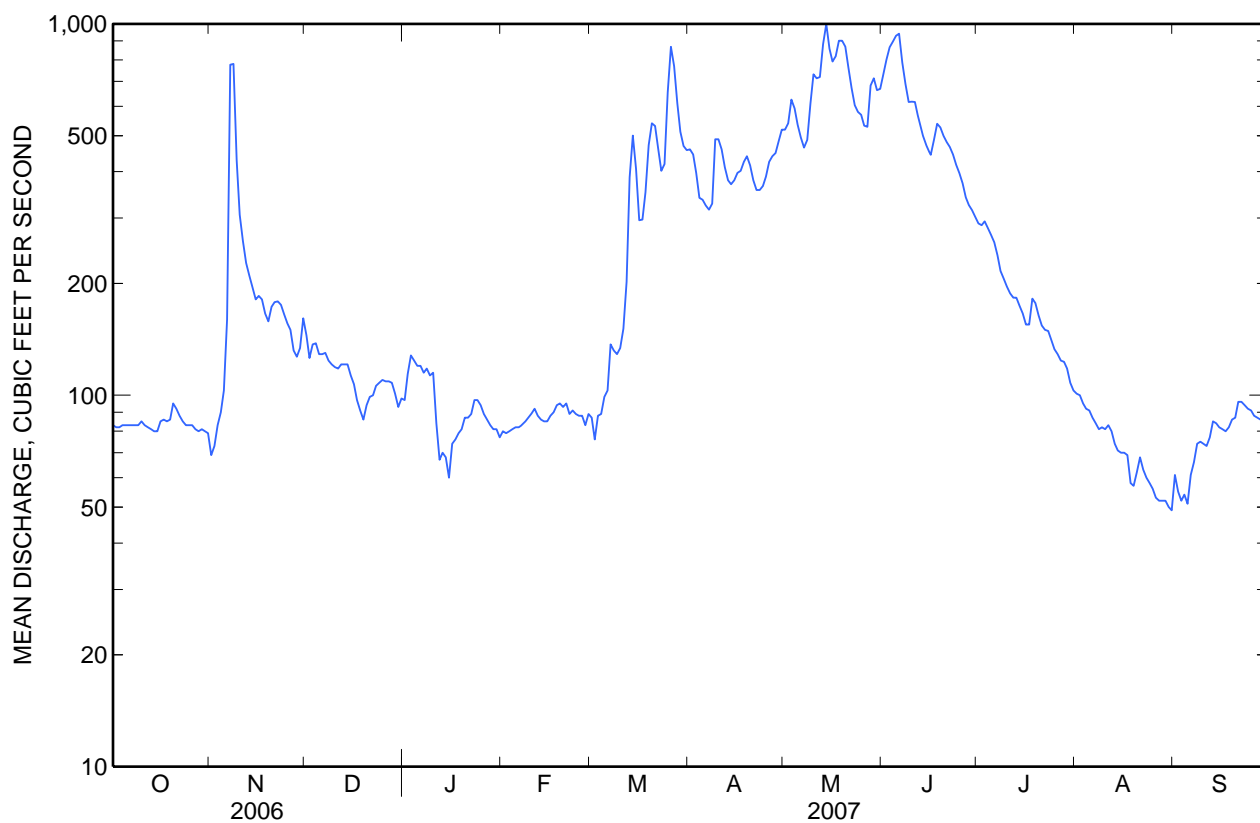
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	113	133	114	103	110	158	423	758	728	299	123	109
Max	343	368	415	248	492	422	883	1,469	1,498	576	235	253
(WY)	(1960)	(1990)	(1996)	(1974)	(1996)	(1972)	(1996)	(1997)	(1974)	(1974)	(1993)	(2004)
Min	50.7	56.3	60.3	53.5	49.9	66.6	140	371	196	79.7	36.7	28.9
(WY)	(1995)	(1995)	(2002)	(1989)	(1988)	(2001)	(1970)	(2001)	(1992)	(1977)	(1988)	(2001)

12301300 TOBACCO RIVER NEAR EUREKA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1959 - 2007	
Annual total	104,383		88,880			
Annual mean	286		244		264	
Highest annual mean					496	1996
Lowest annual mean					109	2001
Highest daily mean	2,270	Jun 16	999	May 14	2,510	May 13, 1991
Lowest daily mean	58	Feb 17	49	Aug 31	20	Jan 11, 1963
Annual seven-day minimum	63	Sep 3	52	Aug 25	23	Sep 6, 1988
Maximum peak flow			1,210	Nov 7	3,180	May 13, 1991
Maximum peak stage			4.57	Nov 7	7.16	May 13, 1991
Instantaneous low flow			^a 47	Aug 31	22	Feb 7, 2001
Annual runoff (ac-ft)	207,000		176,300		191,600	
Annual runoff (cfsm)	0.650		0.553		0.601	
Annual runoff (inches)	8.83		7.51		8.17	
10 percent exceeds	730		606		694	
50 percent exceeds	133		121		132	
90 percent exceeds	81		75		68	

^a Gage height, 1.87 ft.





Water-Data Report 2007

12301920 LAKE KOOCANUSA NEAR LIBBY, MT

Kootenai Basin
Upper Kootenai Subbasin

LOCATION.--Lat 48°24'38", long 115°18'47" referenced to North American Datum of 1927, in NW ¼ sec.33, T.31 N., R.29 W., Lincoln County, MT, Hydrologic Unit 17010101, Kootenai National Forest, in block 18 of Libby Dam on Kootenai River, 11 mi east of Libby and at river mile 221.8.

DRAINAGE AREA.--8,985 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,201.5, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to July 2, 1973, nonrecording gage on upstream face of dam at same elevation.

COOPERATION.--Capacity table and elevations provided by U.S. Army Corps of Engineers.

REMARKS.--Reservoir and flow are completely controlled by gravity type dam with taintor gated spillway; construction began in 1967 and was completed in 1973. Storage began Mar. 21, 1972. Usable capacity is 5,748,000 acre-ft between elevation 2,201.5 ft, bottom of sluice gate, and 2,459 ft, controlled spillway elevation. Dead storage is 121,200 acre-ft below elevation 2,201.5 ft. Minimum operating level is 768,700 acre-ft, elevation 2,287.0 ft for on-site power generation. Figures given herein represent usable contents. Water is used for power production, flood control, irrigation, and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,756,000 acre-ft, June 17, 2006, elevation, 2,459.17 ft; minimum contents observed after normal low operating level reached in May 1972, 139,600 acre-ft, Dec. 16-21, 1972, elevation, 2,226.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 5,530,000 acre-ft, July 21, elevation, 2,454.25 ft; minimum, 2,938,000 acre-ft, Apr. 29 and 30, elevation, 2,386.05 ft.

AREA CAPACITY TABLE.--Dated June 1980.

CAPACITY TABLE

Elevation (ft)	Capacity (acre-feet)
2,360	2,232,000
2,380	2,765,000
2,400	3,367,000
2,420	4,085,000
2,440	4,899,000
2,460	5,795,000

12301920 LAKE KOOCANUSA NEAR LIBBY, MT—Continued

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY OBSERVATION AT 2400 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,437.36	2,436.20	2,431.23	2,410.09	2,393.24	2,388.93	2,395.46	2,386.15	2,413.76	2,450.34	2,451.80	2,438.84
2	2,437.38	2,435.89	2,430.49	2,409.42	2,392.88	2,388.83	2,395.54	2,386.20	2,415.10	2,450.80	2,451.46	2,438.69
3	2,437.41	2,435.58	2,430.01	2,408.95	2,392.43	2,388.71	2,395.51	2,386.72	2,416.82	2,451.11	2,451.03	2,438.55
4	2,437.36	2,435.33	2,429.27	2,408.46	2,392.00	2,388.65	2,395.37	2,387.29	2,418.71	2,451.49	2,450.68	2,438.39
5	2,437.36	2,435.13	2,428.40	2,407.95	2,391.61	2,388.56	2,395.28	2,387.77	2,421.04	2,451.80	2,450.31	2,438.18
6	2,437.36	2,434.97	2,427.54	2,407.44	2,391.28	2,388.50	2,395.20	2,388.09	2,423.57	2,452.19	2,449.87	2,438.05
7	2,437.36	2,435.45	2,426.71	2,406.92	2,390.81	2,388.42	2,395.17	2,388.39	2,426.05	2,452.63	2,449.47	2,437.80
8	2,437.30	2,436.14	2,425.90	2,406.42	2,390.45	2,388.38	2,395.11	2,388.76	2,428.38	2,453.02	2,449.08	2,437.70
9	2,437.20	2,436.56	2,425.21	2,406.03	2,390.22	2,388.37	2,395.18	2,389.57	2,430.20	2,453.37	2,448.68	2,437.49
10	2,437.18	2,436.90	2,424.74	2,405.62	2,390.18	2,388.34	2,395.48	2,390.90	2,431.75	2,453.47	2,448.09	2,437.31
11	2,437.15	2,437.14	2,424.02	2,404.62	2,390.22	2,388.35	2,395.59	2,392.43	2,433.19	2,453.58	2,447.83	2,437.10
12	2,437.13	2,437.30	2,423.19	2,403.50	2,390.13	2,388.55	2,395.48	2,393.90	2,434.48	2,453.65	2,447.36	2,436.94
13	2,437.11	2,437.35	2,422.27	2,402.39	2,390.08	2,388.99	2,395.53	2,395.61	2,435.52	2,453.69	2,446.89	2,436.71
14	2,437.02	2,437.15	2,421.49	2,401.24	2,389.94	2,389.46	2,395.48	2,397.57	2,436.47	2,453.76	2,446.44	2,436.50
15	2,437.00	2,436.78	2,420.59	2,400.34	2,389.85	2,389.75	2,395.47	2,399.08	2,437.27	2,453.81	2,446.00	2,436.30
16	2,437.04	2,436.48	2,419.88	2,399.72	2,389.81	2,389.95	2,395.44	2,400.52	2,437.96	2,453.87	2,445.50	2,436.13
17	2,437.00	2,436.23	2,419.39	2,399.08	2,389.78	2,390.21	2,395.15	2,402.08	2,438.67	2,453.92	2,444.98	2,436.10
18	2,436.94	2,436.06	2,418.49	2,398.46	2,389.63	2,390.49	2,394.45	2,403.82	2,439.64	2,454.10	2,444.51	2,436.01
19	2,436.92	2,435.88	2,417.61	2,397.90	2,389.62	2,390.85	2,393.58	2,405.57	2,440.65	2,454.11	2,444.03	2,435.94
20	2,436.87	2,435.65	2,416.61	2,397.58	2,389.54	2,391.34	2,392.70	2,407.40	2,441.64	2,454.22	2,443.50	2,435.86
21	2,436.85	2,435.25	2,415.65	2,397.20	2,389.53	2,391.65	2,391.80	2,408.82	2,442.67	2,454.22	2,443.05	2,435.78
22	2,436.81	2,435.20	2,415.00	2,396.83	2,389.51	2,392.02	2,390.84	2,409.64	2,443.88	2,454.18	2,442.56	2,435.77
23	2,436.76	2,435.11	2,414.50	2,396.57	2,389.36	2,392.35	2,389.90	2,409.97	2,444.98	2,454.02	2,442.18	2,435.64
24	2,436.71	2,435.23	2,414.27	2,396.25	2,389.30	2,392.67	2,389.04	2,410.32	2,446.05	2,453.85	2,441.73	2,435.53
25	2,436.69	2,435.30	2,413.99	2,395.90	2,389.22	2,393.72	2,388.18	2,410.45	2,446.81	2,453.71	2,441.29	2,435.46
26	2,436.59	2,435.32	2,413.62	2,395.57	2,389.11	2,394.75	2,387.46	2,410.49	2,447.52	2,453.47	2,440.87	2,435.38
27	2,436.53	2,434.80	2,413.13	2,395.23	2,389.03	2,395.30	2,386.73	2,410.59	2,448.01	2,453.25	2,440.47	2,435.29
28	2,436.50	2,434.01	2,412.62	2,394.88	2,388.95	2,395.31	2,386.17	2,410.92	2,448.43	2,453.00	2,440.01	2,435.18
29	2,436.57	2,433.01	2,411.96	2,394.51	---	2,395.24	2,386.08	2,411.52	2,448.99	2,452.72	2,439.59	2,435.09
30	2,436.45	2,432.01	2,411.42	2,394.09	---	2,395.32	2,386.08	2,412.10	2,449.65	2,452.40	2,439.23	2,435.01
31	2,436.41	---	2,410.78	2,393.66	---	2,395.37	---	2,412.78	---	2,452.10	2,438.94	---
Mean	2,436.98	2,435.65	2,420.32	2,401.06	2,390.28	2,390.88	2,392.82	2,399.85	2,435.59	2,453.09	2,445.40	2,436.62
Max	2,437.41	2,437.35	2,431.23	2,410.09	2,393.24	2,395.37	2,395.59	2,412.78	2,449.65	2,454.22	2,451.80	2,438.84
Min	2,436.41	2,432.01	2,410.78	2,393.66	2,388.95	2,388.34	2,386.08	2,386.15	2,413.76	2,450.34	2,438.94	2,435.01

CONTENTS IN THOUSANDS OF ACRE-FEET, AT END OF MONTH

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	4,747	4,564	3,740	3,166	3,023	3,219	2,939	3,813	5,322	5,432	4,854	4,688

CHANGE IN CONTENTS, IN ACRE-FEET

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	-41,000	-183,000	-824,000	-574,000	-143,000	+196,000	-280,000	+874,000	+1,509,000	+110,000	-578,000	-166,000

Calendar Year 2006 -47,000

Water year 2007 +100,000

Water-Data Report 2007

12301933 KOOTENAI RIVER BELOW LIBBY DAM, NEAR LIBBY, MT

Kootenai Basin
Upper Kootenai Subbasin

LOCATION.--Lat 48°24'03", long 115°19'11" referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.33, T.31 N., R.29 W., Lincoln County, MT, Hydrologic Unit 17010101, Kootenai National Forest, on right bank 0.7 mi downstream from Libby Dam, 2.8 mi upstream from Fisher River, 11 mi east of Libby, and at river mile 221.4.

DRAINAGE AREA.--8,985 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,100 ft, referenced to the National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Feb. 13, 1974, nonrecording gage at site 0.4 mi upstream at same elevation.

REMARKS.--Records are good. Flow has been completely regulated by Lake Koocanusa since Mar. 21, 1972. Diversions for irrigation include about 13,000 acres from tributaries in Canada and the United States that are upstream from the 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.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--36 years, 11,080 ft³/s, 16.74 in/yr, 8,027,000 acre-ft/yr, adjusted for change in contents in Lake Koocanusa since Mar. 21, 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,000 ft³/s, June 18, 2006, gage height, 28.30 ft; minimum daily, 1,900 ft³/s, Jan. 29, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,300 ft³/s, Nov. 30, gage height, 23.97 ft; minimum daily, 3,880 ft³/s, Feb. 12.

12301933 KOOTENAI RIVER BELOW LIBBY DAM, NEAR LIBBY, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,570	7,660	21,400	14,200	9,000	4,080	10,000	19,400	25,800	14,600	17,400	8,990
2	4,480	9,040	17,500	14,200	9,000	4,100	10,000	19,000	25,700	16,800	17,400	9,060
3	4,500	9,050	13,300	13,700	9,170	4,120	10,900	14,500	25,500	17,300	17,400	9,020
4	4,470	9,090	19,700	13,100	9,200	4,090	11,200	14,400	25,000	17,300	17,400	9,050
5	4,520	9,020	22,100	13,100	9,180	4,100	11,100	14,400	20,300	17,200	17,400	9,020
6	4,560	9,020	22,100	13,200	9,220	4,100	9,430	14,400	20,000	17,300	17,500	9,020
7	4,530	8,950	22,200	13,200	9,110	4,110	8,890	14,400	19,300	17,200	17,400	9,020
8	4,500	8,890	22,000	13,200	9,040	4,160	8,580	14,400	15,100	17,200	17,400	9,030
9	4,580	6,430	17,500	13,300	6,290	4,100	8,210	14,000	15,000	17,200	17,300	9,010
10	4,580	4,480	13,300	13,400	3,940	4,100	7,840	14,100	15,000	17,300	17,300	8,980
11	4,530	4,450	19,400	19,600	3,900	4,100	11,300	14,000	15,100	17,300	17,400	8,980
12	4,450	4,450	22,000	21,800	3,880	4,110	12,400	13,900	15,100	17,300	17,400	8,980
13	4,460	7,630	22,000	21,900	3,890	4,060	10,800	13,800	15,100	17,300	17,400	9,050
14	4,530	12,100	22,100	21,700	3,910	3,990	10,700	13,900	15,100	17,300	17,400	9,070
15	4,530	13,300	22,000	17,200	3,880	4,000	11,700	14,000	15,000	17,300	17,400	8,040
16	4,480	13,200	17,500	13,000	3,970	3,960	11,700	14,100	15,100	17,300	17,400	7,090
17	4,470	13,200	13,200	13,000	3,940	4,000	15,500	13,900	15,100	17,300	17,400	6,210
18	4,470	8,970	19,500	13,000	4,010	3,990	23,200	18,600	15,100	17,400	17,400	6,200
19	4,470	8,760	22,000	12,800	4,100	3,980	25,000	20,000	15,000	17,400	17,500	6,090
20	4,540	11,900	21,900	8,780	4,150	4,000	24,900	19,800	15,000	17,400	17,400	6,100
21	4,480	13,100	21,800	8,710	4,120	3,980	24,900	19,800	15,000	17,400	17,500	6,100
22	4,460	8,860	17,600	8,710	4,120	3,980	24,800	24,200	14,900	17,400	17,300	6,100
23	4,470	6,620	13,100	8,770	4,100	3,980	24,800	25,200	14,800	17,400	15,200	6,100
24	4,460	4,430	8,820	8,810	4,130	3,990	24,700	25,500	14,700	17,400	15,100	6,110
25	4,520	4,360	8,700	8,850	4,140	4,000	24,600	25,500	14,700	17,400	15,200	6,110
26	4,510	7,630	11,900	8,790	4,230	3,960	24,500	25,500	14,700	17,400	15,200	6,100
27	4,550	14,600	13,200	8,760	4,150	7,790	24,500	25,700	14,700	17,500	15,200	6,110
28	4,540	19,300	13,200	8,970	4,070	13,600	23,900	25,700	14,600	17,500	15,200	6,120
29	4,450	23,500	13,900	8,930	---	13,000	19,400	25,700	14,600	17,500	15,100	6,120
30	4,590	23,600	14,100	8,950	---	9,530	19,500	25,700	14,600	17,500	12,900	6,110
31	4,520	---	14,100	8,990	---	10,100	---	25,900	---	17,400	11,000	---
Total	139,770	305,590	543,120	394,620	155,840	159,160	488,950	583,400	504,700	534,500	512,900	227,090
Mean	4,509	10,190	17,520	12,730	5,566	5,134	16,300	18,820	16,820	17,240	16,550	7,570
Max	4,590	23,600	22,200	21,900	9,220	13,600	25,000	25,900	25,800	17,500	17,500	9,070
Min	4,450	4,360	8,700	8,710	3,880	3,960	7,840	13,800	14,600	14,600	11,000	6,090
Ac-ft	277,200	606,100	1,077,000	782,700	309,100	315,700	969,800	1,157,000	1,001,000	1,060,000	1,017,000	450,400
Cfsm	0.50	1.13	1.95	1.42	0.62	0.57	1.81	2.09	1.87	1.92	1.84	0.84
In.	0.58	1.27	2.25	1.63	0.65	0.66	2.02	2.42	2.09	2.21	2.12	0.94

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	12,700	14,520	15,120	13,070	10,330	6,018	5,443	7,144	12,700	11,840	11,260	10,310
Max	32,110	24,920	24,340	24,670	22,270	12,940	16,410	18,820	33,750	27,330	18,460	20,940
(WY)	(1973)	(1992)	(1991)	(1996)	(1990)	(1976)	(1996)	(2007)	(2006)	(1981)	(1976)	(1972)
Min	4,509	3,983	2,639	2,510	3,055	3,283	2,927	2,819	3,016	3,160	2,821	5,201
(WY)	(2007)	(1972)	(1974)	(1972)	(1972)	(1989)	(1981)	(1973)	(1988)	(1988)	(1975)	(1994)

12301933 KOOTENAI RIVER BELOW LIBBY DAM, NEAR LIBBY, MT—Continued

ADJUSTED FOR CHANGE IN CONTENTS OF LAKE KOOCANUSA

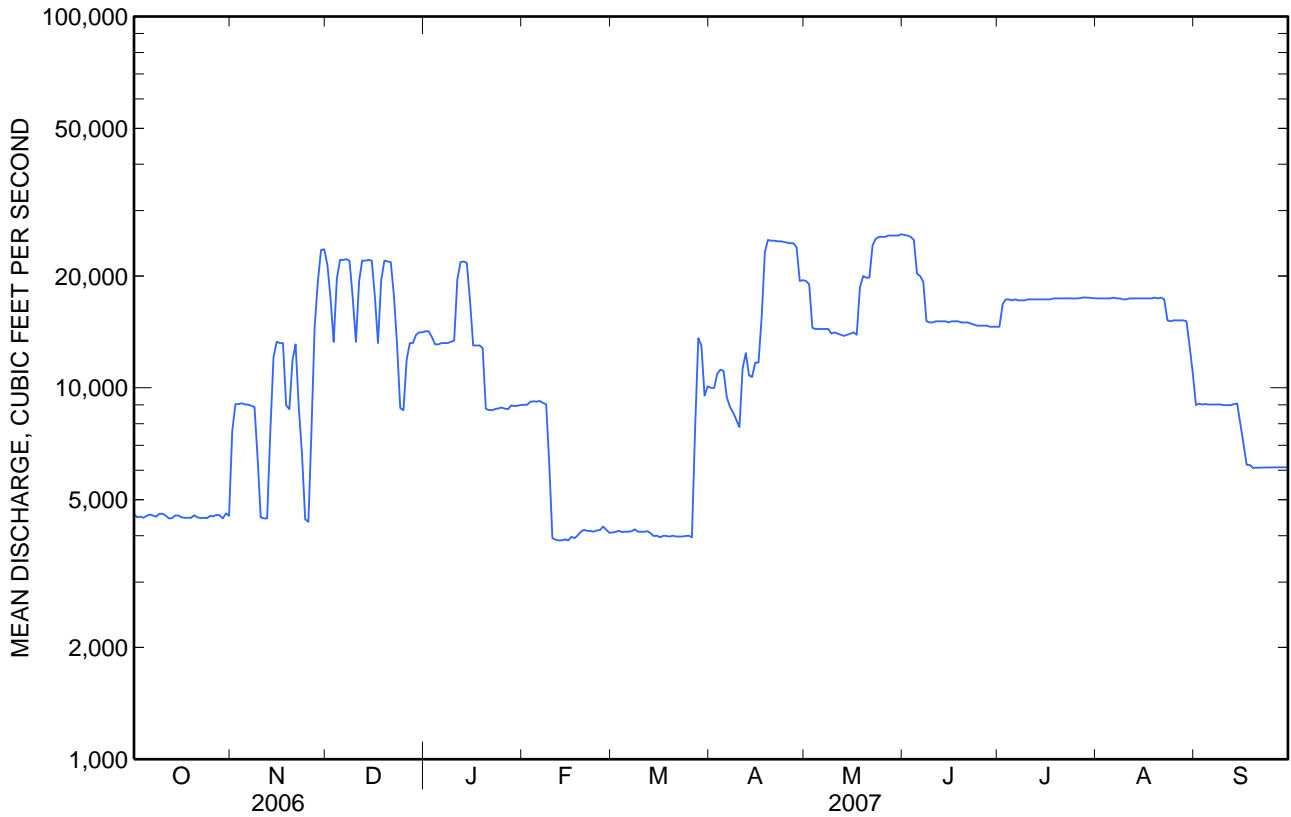
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,841	7,710	4,115	3,394	2,991	1,947	11,590	33,030	42,180	19,030	7,140	4,779
Cfsm	0.43	0.86	0.46	0.38	0.33	0.22	1.29	3.68	4.69	2.12	0.79	0.53
In	0.49	0.88	0.53	0.44	0.35	0.25	1.44	4.24	5.24	2.44	0.92	0.59
Ac-ft	236,200	423,100	253,000	208,700	166,100	119,700	689,800	2,031,000	2,510,000	1,170,000	439,000	284,400

OBSERVED

Calendar Year 2006	Total	4,315,600	Mean	11,820	Max	53,100	Min	3,750	Ac-ft	8,560,000
Water Year 2007	Total	4,549,640	Mean	12,460	Max	25,900	Min	3,880	Ac-ft	9,024,000

ADJUSTED

Calendar year 2006	Total	4,291,455	Mean	11,760	Cfsm	1.31	In	17.77	Ac-ft	8,513,000
Water Year 2007	Total	4,300,983	Mean	11,780	Cfsm	1.31	In	17.80	Ac-ft	8,532,000



Water-Data Report 2007

12302055 FISHER RIVER NEAR LIBBY, MT

Kootenai Basin
Fisher Subbasin

LOCATION.--Lat 48°21'20", long 115°18'50" referenced to North American Datum of 1927, in NW ¼ NE ¼ NW ¼ sec.21, T.30 N., R.29 W., Lincoln County, MT, Hydrologic Unit 17010102, on left bank 0.8 mi upstream from mouth and 11.4 mi east of Libby.

DRAINAGE AREA.--838 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,134.10 ft, referenced to the National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Diversions of about 700 acres occur upstream from the 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 about May 22, 1948, reached a discharge of 6,560 ft³/s, by slope-area measurement at site 0.5 mi upstream.

12302055 FISHER RIVER NEAR LIBBY, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	81	89	262	202	191	218	1,220	1,030	526	197	86	71
2	82	87	255	205	163	195	1,150	1,040	558	196	84	72
3	82	91	238	313	152	217	1,050	1,090	570	178	82	69
4	80	110	236	363	185	206	969	1,000	566	169	79	67
5	81	186	224	334	193	210	907	878	552	162	79	66
6	81	374	214	322	178	216	846	778	564	157	78	64
7	81	1,740	207	305	167	230	806	726	495	151	76	63
8	81	1,480	202	305	165	264	798	747	436	146	75	65
9	81	728	198	291	167	304	866	918	407	141	77	66
10	81	495	194	298	168	329	979	1,000	410	136	75	66
11	81	409	191	260	171	386	948	923	425	132	74	65
12	81	356	202	e150	176	1,370	890	912	379	129	74	64
13	82	332	230	e140	174	3,270	839	993	352	124	73	63
14	82	331	271	e140	173	2,600	805	956	328	120	71	63
15	82	286	336	e150	175	1,880	802	856	309	117	70	64
16	88	360	376	e150	202	1,530	805	805	298	115	70	64
17	94	401	313	e160	207	1,340	805	832	295	114	72	64
18	92	338	e240	e170	220	1,350	821	881	330	118	71	64
19	91	303	e230	e180	235	1,630	816	836	305	124	69	71
20	95	364	e230	e180	254	1,840	785	776	281	119	76	73
21	96	552	e240	e190	274	1,930	750	699	271	113	86	75
22	92	547	e250	e200	258	1,690	725	634	261	109	87	75
23	90	501	255	e200	249	1,480	709	575	248	103	82	74
24	90	470	242	e210	241	1,380	743	550	236	98	77	77
25	90	413	250	201	236	1,920	809	583	230	95	73	76
26	90	370	251	189	233	2,540	885	545	229	95	70	76
27	88	351	238	184	226	2,140	892	536	211	94	70	73
28	88	311	225	174	223	1,780	902	564	201	92	70	73
29	88	273	211	167	---	1,510	990	545	197	89	69	74
30	93	267	193	188	---	1,350	1,040	508	196	95	68	74
31	90	---	197	186	---	1,260	---	499	---	90	68	---
Total	2,674	12,915	7,401	6,707	5,656	38,565	26,352	24,215	10,666	3,918	2,331	2,071
Mean	86.3	430	239	216	202	1,244	878	781	356	126	75.2	69.0
Max	96	1,740	376	363	274	3,270	1,220	1,090	570	197	87	77
Min	80	87	191	140	152	195	709	499	196	89	68	63
Ac-ft	5,300	25,620	14,680	13,300	11,220	76,490	52,270	48,030	21,160	7,770	4,620	4,110
Cfsm	0.10	0.51	0.28	0.26	0.24	1.48	1.05	0.93	0.42	0.15	0.09	0.08
In.	0.12	0.57	0.33	0.30	0.25	1.71	1.17	1.07	0.47	0.17	0.10	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2007, BY WATER YEAR (WY)

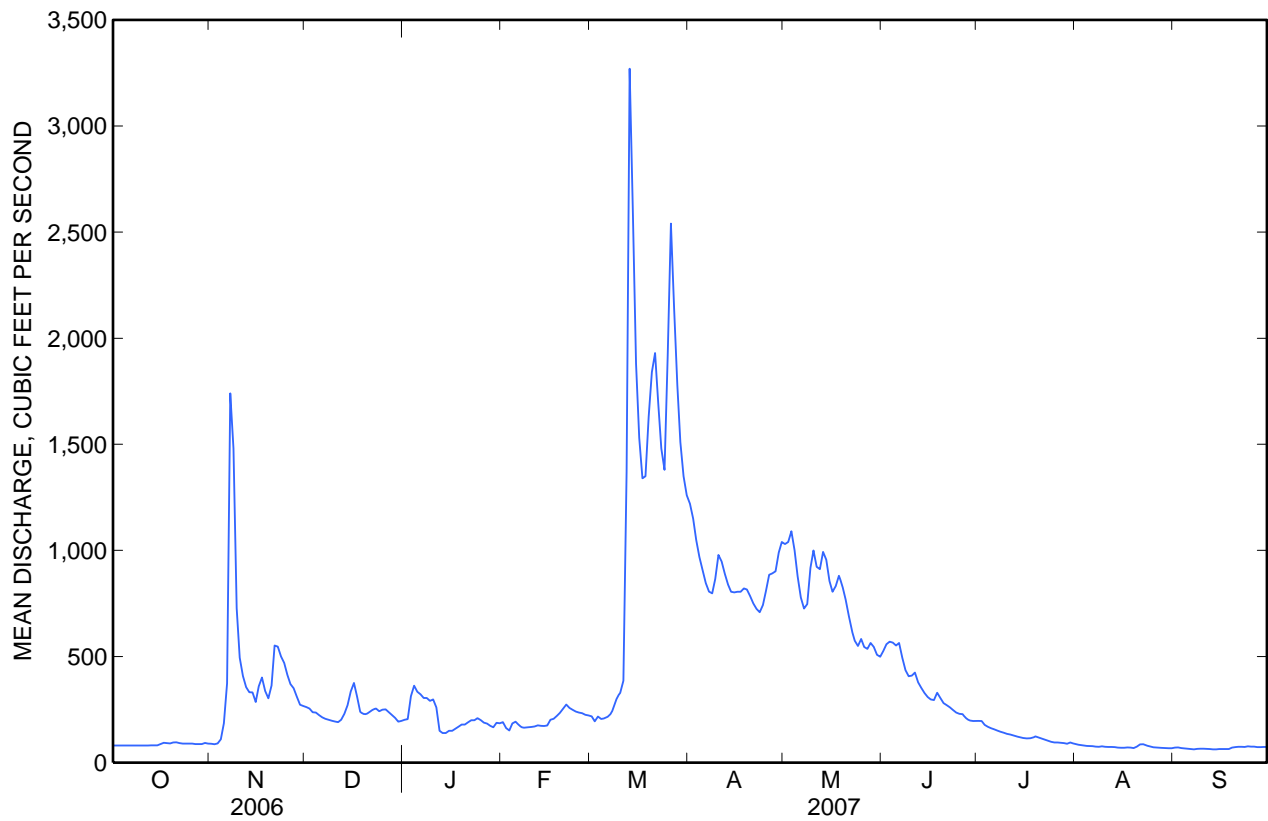
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	132	227	238	256	338	586	1,195	1,344	793	280	134	115
Max	305	819	1,174	1,272	1,965	2,401	2,752	3,300	1,796	532	244	204
(WY)	(1986)	(1996)	(1996)	(1974)	(1996)	(1972)	(1997)	(1997)	(1974)	(1971)	(1997)	(1968)
Min	76.4	87.0	90.4	77.9	95.0	134	318	482	221	92.7	56.0	54.6
(WY)	(2002)	(1980)	(1993)	(1979)	(1993)	(2001)	(2001)	(1977)	(1977)	(1977)	(1994)	(2001)

12302055 FISHER RIVER NEAR LIBBY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1968 - 2007	
Annual total	180,644		143,471			
Annual mean	495		393		469	
Highest annual mean					938	1996
Lowest annual mean					169	1977
Highest daily mean	2,480	Apr 8	3,270	Mar 13	7,790	Feb 9, 1996
Lowest daily mean	72	Sep 13	63	Sep 7	35	Jan 2, 1977
Annual seven-day minimum	73	Sep 8	64	Sep 12	50	Aug 18, 1994
Maximum peak flow			3,410	Mar 13	^a 12,000	Feb 9, 1996
Maximum peak stage			6.97	Mar 13	10.35	Feb 9, 1996
Instantaneous low flow					29	Jan 2, 1977
Annual runoff (ac-ft)	358,300		284,600		340,100	
Annual runoff (cfsm)	0.591		0.469		0.560	
Annual runoff (inches)	8.02		6.37		7.61	
10 percent exceeds	1,430		951		1,220	
50 percent exceeds	262		211		207	
90 percent exceeds	84		74		95	

^a From indirect measurement.





Water-Data Report 2007

12304500 YAAK RIVER NEAR TROY, MT

Kootenai Basin
Yaak Subbasin

LOCATION.--Lat 48°33'43", long 115°58'09" referenced to North American Datum of 1927, in NE ¼ SE ¼ SE ¼ sec.5, T.32 N., R.34 W., Lincoln County, MT, Hydrologic Unit 17010103, Kootenai National Forest, on right bank 500 ft. upstream from bridge on U.S. Highway 2, 0.3 mi. upstream from mouth and 7.7 mi. northwest of Troy.

DRAINAGE AREA.--766 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1910 to September 1916 (fragmentary record), March 1956 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,839.2 ft, referenced to the National Geodetic Vertical Datum of 1929. Oct. 15, 1910, to Sept. 30, 1916, nonrecording gage at several sites within 11 mi of present site at various elevations.

REMARKS.--Records are good except those for estimated discharges, which are poor. Minor diversions for irrigation 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 May to June 1948 reached a stage of 11.0 ft, from floodmarks; discharge, 12,500 ft³/s. Flood in May 1954 reached a stage of 11.4 ft, from floodmarks; discharge, 13,400 ft³/s.

12304500 YAAK RIVER NEAR TROY, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	99	117	325	282	665	283	2,600	2,920	2,040	444	145	108
2	96	109	325	328	729	265	2,430	3,070	2,020	410	142	104
3	96	106	330	580	891	266	2,160	3,340	1,950	385	139	96
4	95	158	327	590	870	269	1,930	3,030	1,870	366	135	91
5	101	352	327	519	633	277	1,770	2,650	2,030	354	134	88
6	101	504	316	481	435	290	1,670	2,340	1,990	336	132	86
7	98	1,780	298	442	311	318	1,660	2,220	1,650	319	130	83
8	96	1,860	293	428	259	393	1,800	2,450	1,450	303	127	83
9	95	870	290	404	255	446	2,260	3,100	1,320	290	128	82
10	95	561	293	411	252	467	2,790	3,300	1,310	279	127	83
11	96	485	297	314	250	667	2,520	3,130	1,310	268	129	82
12	102	426	334	e220	252	2,020	2,240	3,100	1,160	259	128	82
13	102	404	353	e210	246	3,110	2,030	3,450	1,030	251	125	81
14	100	368	360	e220	245	2,420	1,920	3,420	957	241	120	80
15	101	330	448	e230	250	1,820	1,950	3,080	915	231	115	80
16	122	518	438	e240	274	1,510	1,940	2,930	858	223	112	80
17	131	539	327	e250	274	1,330	1,940	3,020	850	214	111	78
18	122	433	e250	e270	285	1,790	1,940	3,040	873	213	108	80
19	118	361	e240	e290	297	2,510	1,890	3,100	810	230	107	84
20	123	720	e250	e310	321	3,090	1,830	2,990	749	253	112	90
21	120	887	e250	e320	324	3,130	1,730	2,520	712	232	121	101
22	111	735	e260	e310	311	2,510	1,680	2,250	680	215	118	102
23	107	659	e270	e310	306	2,130	1,730	2,010	636	204	112	101
24	105	570	e280	e300	300	2,790	1,910	1,920	591	194	107	100
25	111	513	e290	293	299	5,860	2,130	1,800	559	183	104	97
26	110	466	306	280	298	6,370	2,300	1,670	554	174	101	96
27	108	416	307	277	288	4,710	2,290	1,740	513	169	102	93
28	106	340	299	281	282	3,430	2,460	2,320	483	162	102	90
29	107	309	272	327	---	2,850	2,830	2,190	467	156	106	89
30	117	323	243	407	---	2,600	2,970	1,990	462	153	103	92
31	116	---	233	571	---	2,540	---	1,980	---	148	102	---
Total	3,307	16,219	9,431	10,695	10,402	62,461	63,300	82,070	32,799	7,859	3,684	2,682
Mean	107	541	304	345	372	2,015	2,110	2,647	1,093	254	119	89.4
Max	131	1,860	448	590	891	6,370	2,970	3,450	2,040	444	145	108
Min	95	106	233	210	245	265	1,660	1,670	462	148	101	78
Med	105	449	298	310	298	2,020	1,950	2,920	894	232	118	89
Ac-ft	6,560	32,170	18,710	21,210	20,630	123,900	125,600	162,800	65,060	15,590	7,310	5,320
Cfsm	0.14	0.71	0.40	0.45	0.48	2.63	2.75	3.46	1.43	0.33	0.16	0.12
In.	0.16	0.79	0.46	0.52	0.51	3.03	3.07	3.99	1.59	0.38	0.18	0.13

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	194	318	319	298	352	618	1,914	3,402	1,874	484	192	160
Max	833	1,192	1,630	1,552	1,626	2,015	3,754	6,463	4,992	970	373	506
(WY)	(1960)	(1996)	(1996)	(1974)	(1996)	(2007)	(1969)	(1997)	(1974)	(1969)	(1993)	(1959)
Min	84.0	93.2	94.0	94.6	83.0	134	421	1,026	377	151	80.9	53.2
(WY)	(1988)	(1980)	(2003)	(1988)	(2001)	(2001)	(2001)	(1977)	(1992)	(1977)	(2001)	(2001)

12304500 YAAK RIVER NEAR TROY, MT—Continued

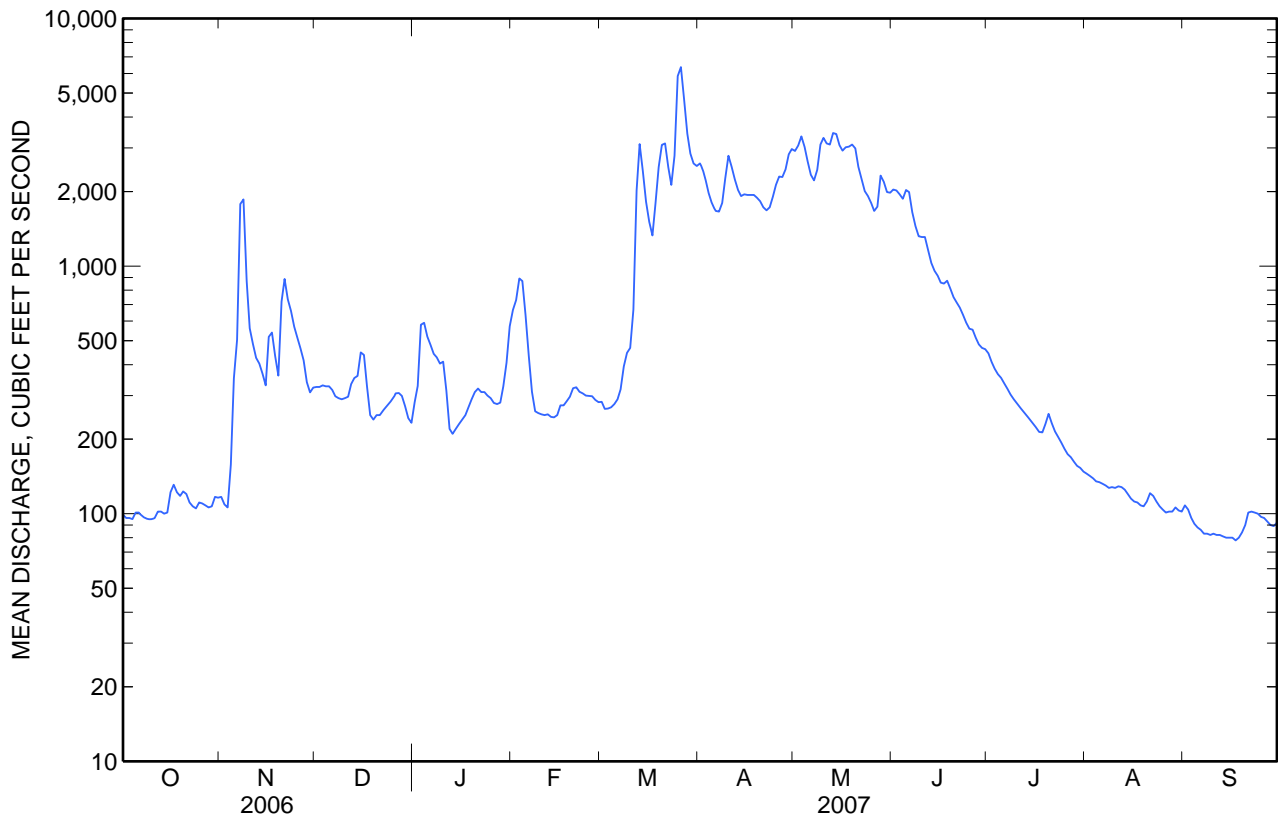
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1957 - 2007	
Annual total	321,430		304,909			
Annual mean	881		835		845	
Highest annual mean					1,562	1974
Lowest annual mean					278	1977
Highest daily mean	5,990	May 20	6,370	Mar 26	11,600	May 16, 1997
Lowest daily mean	95	Oct 4	78	Sep 17	49	Sep 19, 2001
Annual seven-day minimum	97	Oct 4	80	Sep 12	49	Sep 19, 2001
Maximum peak flow			6,660	Mar 25	^b 12,600	May 17, 1997
Maximum peak stage			7.92	Mar 25	^c 9.70	May 21, 1956
Instantaneous low flow			^a 78	Sep 17	47	Sep 22, 2001
Annual runoff (ac-ft)	637,600		604,800		612,200	
Annual runoff (cfs)	1.15		1.09		1.10	
Annual runoff (inches)	15.61		14.81		14.99	
10 percent exceeds	2,510		2,480		2,500	
50 percent exceeds	376		311		288	
90 percent exceeds	111		101		119	

^a Gage height, 2.79 ft.

^b Gage height, 9.58 ft.

^c Gage height in well, from outside gage.



Water-Data Report 2007

12323230 BLACKTAIL CREEK AT HARRISON AVENUE, AT BUTTE, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 45°59'07", long 112°30'26" referenced to North American Datum of 1927, in NE ¼ SE ¼ NE ¼ sec.30, T.3 N., R.7 W., Silver Bow County, MT, Hydrologic Unit 17010201, at culvert on Harrison Avenue near interchange off Interstate 90, at Butte.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to August 1995, December 1996 to August 2003, December 2004 to August 2005, November 2006 to August 2007.
Formerly published as 4558531123026.

GAGE.--None. Elevation at site is 4,544 ft, referenced to the National Geodetic Vertical Datum of 1929.

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

Part 1 of 2
[Remark codes: E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf μS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic, water, fltrd, μg/L (01000)	Arsenic, water, unfltrd, μg/L (01002)	Cadmium, water, fltrd, μg/L (01025)	Cadmium, water, unfltrd, μg/L (01027)
Nov													
13...	0900	6.2	7.7	288	3.5	4.0	120	34.4	7.95	1.9	2.4	E.03	.03
Feb													
26...	0900	4.9	7.7	317	-3.5	2.5	120	34.1	9.07	1.7	2.4	.04	.04
Mar													
26...	0945	12	7.7	227	2.0	3.5	90	25.9	6.24	3.7	4.7	.05	.03
May													
10...	0725	11	7.7	240	8.5	10.0	93	27.1	6.29	4.9	5.6	E.02	.03
Jun													
05...	0840	18	7.7	216	16.0	13.5	83	24.3	5.53	7.3	8.8	--	.03
19...	0655	20	7.6	208	5.5	10.0	84	23.9	5.82	7.2	8.6	E.03	.04
Jul													
24...	0705	4.3	7.5	341	19.0	12.0	140	38.6	9.57	--	4.4	--	.03
Aug													
27...	1540	3.4	8.0	331	24.5	14.5	130	37.4	9.07	2.9	3.1	E.03	.03

12323230 BLACKTAIL CREEK AT HARRISON AVENUE, AT BUTTE, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm (70331)	mg/L (80154)	tons/d (80155)
Nov 13...	1.5	3.1	137	388	E.06	.32	44.6	47.6	3.4	6	80	5	.08
Feb 26...	1.4	4.7	122	565	E.06	.75	44.4	60.3	3.2	6	89	9	.12
Mar 26...	2.9	4.8	378	675	.30	.78	54.5	61.2	2.4	4	81	5	.16
May 10...	3.6	4.9	214	481	.14	.44	37.4	47.4	1.8	2.6	86	3	.09
Jun 05...	4.4	6.0	297	673	.17	.52	30.2	42.6	2.0	3.2	82	6	.29
Jun 19...	4.2	6.0	289	631	.19	.51	31.5	42.3	1.8	3.0	83	5	.27
Jul 24...	--	2.2	82	235	<.12	.17	54.5	59.6	--	2.1	93	1	.01
Aug 27...	1.2	1.8	25	220	<.12	.57	27.8	32.5	.82	2.9	76	4	.04

Water-Data Report 2007

12323240 BLACKTAIL CREEK AT BUTTE, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 45°59'41", long 112°32'09" referenced to North American Datum of 1927, in SW ¼ NE ¼ SE ¼ sec.24, T.3 N., R.8 W., Silver Bow County, MT, Hydrologic Unit 17010201, on left bank, 70 feet upstream from George Street culvert in Butte, and 0.2 mi upstream from Silver Bow Creek.

DRAINAGE AREA.--95.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1988 to current year.

REVISED RECORDS.-- Water Data Report MT-93-1: 1989-92, maximum discharge.

GAGE.--Water-stage recorder. Elevation of gage is 5,430 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for August 2-6, August 10-14, and estimated daily discharges, which are fair. Slight regulation occurs by Basin Creek Reservoir. Diversions for irrigation include about 1,400 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.

12323240 BLACKTAIL CREEK AT BUTTE, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.2	11	10	8.4	8.7	9.6	16	16	23	11	7.7	7.4
2	8.3	11	10	8.7	9.3	9.6	16	16	21	11	8.1	6.8
3	8.6	11	10	9.2	8.5	9.5	15	29	21	11	8.4	7.0
4	8.1	12	10	8.8	8.7	11	15	23	21	10	8.4	7.6
5	8.4	12	10	8.6	11	12	15	20	26	9.7	8.7	23
6	11	12	10	8.6	9.4	20	15	18	54	9.1	9.0	16
7	13	13	10	8.4	9.3	20	15	16	51	9.1	8.2	11
8	11	14	10	8.3	11	37	16	15	54	9.4	7.7	10
9	11	14	10	8.4	11	24	15	14	49	9.5	11	9.4
10	9.8	12	10	8.1	12	22	14	15	46	8.8	7.7	8.9
11	9.6	12	10	e7.8	11	28	13	15	44	8.4	7.2	8.2
12	9.5	11	11	e7.5	11	61	13	15	40	8.1	6.9	8.2
13	9.5	11	11	e7.5	10	65	12	16	36	7.8	7.7	7.9
14	9.6	11	11	e7.5	9.9	38	13	16	34	7.6	7.2	8.0
15	9.8	11	11	e7.5	10	23	13	16	32	7.9	7.1	7.9
16	17	11	11	7.6	11	22	14	14	29	8.1	7.7	8.0
17	13	11	e9.5	7.6	11	21	14	12	28	8.1	7.4	7.9
18	12	11	e9.0	7.7	10	25	18	12	27	16	7.9	10
19	11	10	8.8	7.8	10	25	17	12	24	11	10	14
20	19	11	8.6	7.9	11	23	15	12	22	9.4	8.4	11
21	15	11	8.6	7.9	10	20	15	22	22	9.4	8.5	11
22	14	12	8.7	8.0	10	17	16	24	20	8.5	8.2	11
23	13	11	8.3	8.0	11	17	17	22	18	8.1	7.6	20
24	12	11	8.1	8.1	10	17	19	26	15	8.1	7.8	18
25	12	11	8.2	8.1	10	18	18	33	14	8.9	7.5	15
26	12	11	8.5	8.3	10	17	17	28	14	8.8	7.4	14
27	12	11	8.9	8.5	9.9	20	16	27	13	8.6	7.2	12
28	12	11	8.7	8.5	9.8	18	16	30	12	8.3	7.1	11
29	12	10	8.6	8.3	---	14	15	32	12	8.1	6.9	15
30	12	10	8.4	8.6	---	14	16	30	12	7.9	6.8	12
31	11	---	8.4	8.7	---	15	---	26	---	7.9	7.1	---
Total	354.4	341	294.3	252.9	284.5	692.7	459	622	834	283.6	244.5	337.2
Mean	11.4	11.4	9.49	8.16	10.2	22.3	15.3	20.1	27.8	9.15	7.89	11.2
Max	19	14	11	9.2	12	65	19	33	54	16	11	23
Min	8.1	10	8.1	7.5	8.5	9.5	12	12	12	7.6	6.8	6.8
Ac-ft	703	676	584	502	564	1,370	910	1,230	1,650	563	485	669

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9.79	9.72	8.84	8.63	10.2	14.6	17.2	19.5	20.2	11.1	9.19	8.84
Max	15.0	13.9	12.6	12.6	25.5	29.9	39.1	41.9	61.5	26.0	17.7	13.6
(WY)	(1998)	(1999)	(1999)	(1999)	(1995)	(1997)	(2006)	(1995)	(1995)	(1997)	(1997)	(1995)
Min	6.76	6.79	6.68	6.49	6.33	7.03	9.36	7.31	8.11	6.07	5.28	5.98
(WY)	(2005)	(2005)	(2004)	(2004)	(1993)	(2005)	(1992)	(1992)	(2000)	(2003)	(2000)	(1992)

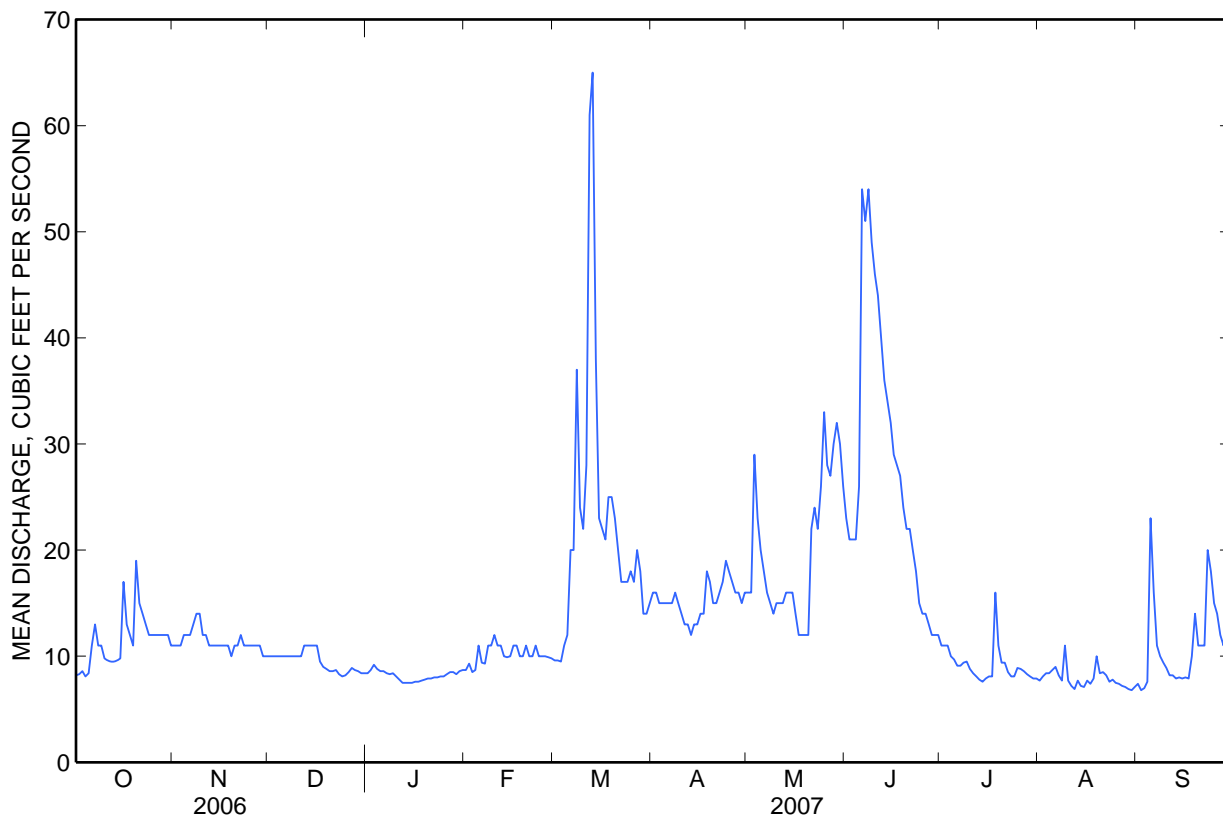
12323240 BLACKTAIL CREEK AT BUTTE, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1989 - 2007	
Annual total	5,483.3		5,000.1			
Annual mean	15.0		13.7		12.3	
Highest annual mean					19.9	1995
Lowest annual mean					7.57	2004
Highest daily mean	90	Apr 6	65	Mar 13	211	Feb 20, 1995
Lowest daily mean	6.2	Feb 18	6.8	Aug 30	4.2	Aug 22, 2000
Annual seven-day minimum	6.3	Feb 17	7.0	Aug 28	4.4	Aug 19, 2000
Maximum peak flow			140	Sep 5	^b 303	Feb 19, 1995
Maximum peak stage			3.35	Sep 5	5.28	Feb 19, 1995
Instantaneous low flow			^a 5.2	Aug 29	4.1	Jul 28, 2004
Annual runoff (ac-ft)	10,880		9,920		8,920	
10 percent exceeds	31		23		21	
50 percent exceeds	10		11		9.6	
90 percent exceeds	7.3		7.9		6.7	

^a Gage height, 0.74 ft.

^b From indirect measurement.



Water-Data Report 2007

12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 45°59'47", long 112°33'45" referenced to North American Datum of 1927, in SW ¼ SE ¼ NW ¼ sec.23, T.3 N., R.8 W., Silver Bow County, MT, Hydrologic Unit 17010201, on right bank at Interstate 90 overpass in Butte, 0.8 mi upstream from Whiskey Gulch, 1.3 mi downstream from Blacktail Creek, and at river mile 20.2.

DRAINAGE AREA.--103 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1983 to current year.

REVISED RECORDS.-- Water Data Report (WDR) MT-92-1: 1984-90, maximum discharge. WDR-MT-98-1: Drainage area. WDR-MT-2000-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,409.47 ft referenced to the National Geodetic Vertical Datum of 1929. October 1983 to Sept. 14, 1997, water-stage recorder 150 ft upstream at elevation 1.40 ft higher. Sept. 15, 1997 to Dec. 3, 1997, no gage in operation due to channel reconstruction during EPA Superfund cleanup operations. Dec. 3, 1997 to Aug. 16, 1999, water-stage recorder 0.8 mi downstream at different elevation. Aug. 16, 1999 to May 10, 2000, water-stage recorder 2.1 mi downstream at different elevation.

REMARKS.--Records are good. Flow is slightly regulated by Silver Bow County sewage treatment plant. U.S. Geological Survey satellite telemeter is located at the station.

12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	15	19	18	16	14	16	24	25	32	18	15	15
2	15	18	17	16	15	16	26	25	30	18	15	13
3	16	18	18	17	14	16	23	44	30	18	15	14
4	15	18	18	16	14	19	24	35	30	17	15	15
5	15	19	18	16	19	21	24	30	38	17	16	35
6	20	19	17	16	16	31	24	28	73	17	19	26
7	23	19	17	15	16	31	24	26	63	17	16	18
8	19	22	17	16	18	46	25	24	64	17	15	17
9	20	21	17	16	17	33	25	24	58	18	17	17
10	18	19	17	16	19	30	24	26	56	17	16	17
11	17	19	18	18	18	35	23	25	54	16	15	17
12	17	18	18	18	18	70	22	24	49	16	15	16
13	17	18	18	17	16	74	21	26	44	16	15	16
14	18	19	18	17	16	47	21	26	42	15	15	15
15	18	18	18	16	17	32	22	25	39	16	16	15
16	28	19	18	16	18	31	23	24	36	16	18	15
17	21	18	18	16	18	30	24	22	36	17	16	14
18	20	18	17	15	17	34	30	20	34	27	17	17
19	20	18	16	14	17	34	27	20	31	20	20	25
20	32	18	16	14	18	33	25	22	29	18	18	19
21	24	19	16	14	17	29	24	37	29	17	17	19
22	22	20	15	14	17	26	25	38	27	16	17	20
23	21	18	15	14	17	26	27	34	25	16	16	33
24	21	18	15	14	17	25	29	38	23	16	16	26
25	20	18	15	14	17	26	28	47	22	16	15	24
26	20	18	15	14	17	26	28	39	21	16	15	22
27	19	19	16	14	17	30	26	38	20	16	15	19
28	19	18	16	14	16	27	26	43	19	16	14	18
29	20	18	16	15	---	23	25	42	19	16	14	24
30	20	18	15	14	---	22	26	38	19	15	13	19
31	19	---	15	14	---	24	---	35	---	15	14	---
Total	609	559	518	476	470	963	745	950	1,092	526	490	580
Mean	19.6	18.6	16.7	15.4	16.8	31.1	24.8	30.6	36.4	17.0	15.8	19.3
Max	32	22	18	18	19	74	30	47	73	27	20	35
Min	15	18	15	14	14	16	21	20	19	15	13	13
Ac-ft	1,210	1,110	1,030	944	932	1,910	1,480	1,880	2,170	1,040	972	1,150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	19.5	19.2	18.0	17.6	19.3	24.6	27.9	29.9	29.3	20.7	19.4	18.7
Max	26.7	25.7	24.0	25.6	38.0	40.7	46.9	53.5	75.2	37.0	28.7	25.9
(WY)	(1984)	(1984)	(1998)	(1984)	(1995)	(1997)	(2006)	(1995)	(1995)	(1995)	(1993)	(1995)
Min	14.7	15.0	14.4	13.4	14.2	15.2	14.9	12.6	15.5	12.4	14.0	14.1
(WY)	(2003)	(2005)	(2005)	(1989)	(2001)	(2005)	(1992)	(1992)	(2000)	(2003)	(2001)	(2000)

12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT—Continued

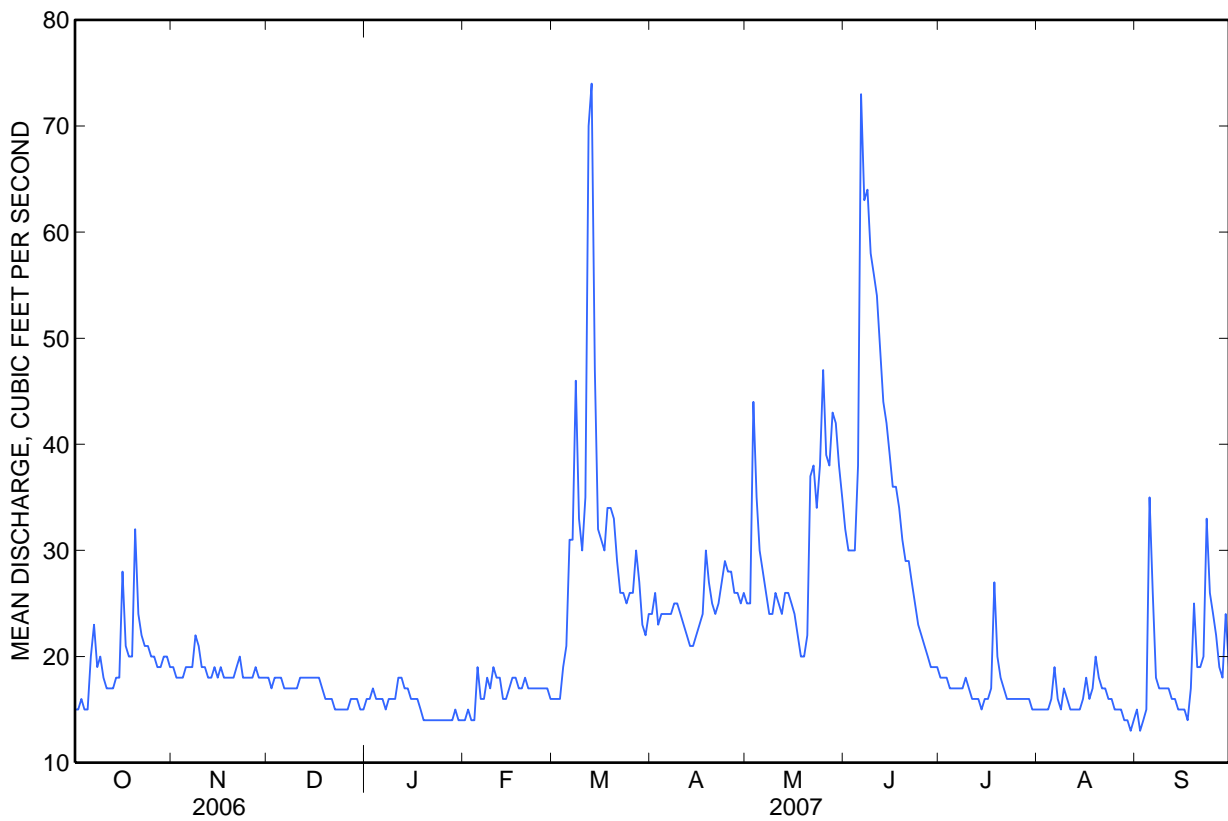
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1984 - 2007	
Annual total	8,305		7,978			
Annual mean	22.8		21.9		22.0	
Highest annual mean					30.8	1995
Lowest annual mean					16.1	2004
Highest daily mean	109	Apr 6	74	Mar 13	258	Feb 20, 1995
Lowest daily mean	13	Aug 4	13	Aug 30	8.0	May 8, 1992
Annual seven-day minimum	14	Jul 31	14	Aug 28	11	May 2, 1992
Maximum peak flow			124	Sep 5	^b 447	Jul 30, 1998
Maximum peak stage			2.64	Sep 5	^c 8.11	Jul 30, 1998
Instantaneous low flow			^a 10	Aug 27	6.4	Aug 27, 1996
Annual runoff (ac-ft)	16,470		15,820		15,940	
10 percent exceeds	39		33		32	
50 percent exceeds	18		18		19	
90 percent exceeds	14		15		15	

^a Gage height, 1.49 ft.

^b From culvert computation.

^c Site and datum then in use.



12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to August 1995, December 1996 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)
Nov													
13...	1045	19	7.4	513	4.5	4.5	180	50.3	12.2	3.6	4.5	.12	.22
Feb													
26...	1030	19	7.6	542	7.0	5.0	160	44.4	12.4	3.0	4.1	.16	.26
Mar													
26...	1110	28	7.7	433	5.5	5.5	140	38.7	9.42	3.7	4.9	.11	.14
May													
10...	0850	25	7.7	423	14.5	11.0	130	37.8	9.03	5.1	6.3	.12	.20
Jun													
05...	0925	33	7.6	373	17.5	14.0	120	35.4	8.19	6.8	8.3	.20	.21
19...	0825	33	7.7	366	12.5	10.5	120	34.6	8.37	6.6	8.2	.08	.14
Jul													
24...	0815	15	7.5	564	21.5	17.0	160	47.2	11.4	4.8	5.5	.15	.15
Aug													
27...	1505	15	7.7	575	24.5	17.5	170	49.5	11.8	4.8	5.4	.07	.12

12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

Date	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)	Suspd. 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)
	Nov 13...	8.9	18.7	35	347	.15	1.99	145	160	46.3	58	83	7
Feb 26...	13.0	24.5	35	337	.27	2.30	122	139	60.7	75	83	9	.46
Mar 26...	12.2	19.3	148	453	.26	1.52	109	118	36.0	47	89	6	.45
May 10...	12.4	22.1	110	528	.33	3.47	108	139	41.8	59.3	94	10	.68
Jun 05...	12.7	19.7	161	600	.35	2.53	86.3	114	36.0	45.5	88	8	.71
Jun 19...	11.3	16.7	169	543	.27	1.73	79.6	97.1	30.9	41.5	90	7	.62
Jul 24...	9.5	13.3	29	120	.24	.66	58.9	70.9	50.4	51.6	87	2	.08
Aug 27...	8.5	10.5	17	89	.18	.71	32.9	49.8	36.4	38.3	76	3	.12

Water-Data Report 2007

12323600 SILVER BOW CREEK AT OPPORTUNITY, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°06'28", long 112°48'17" referenced to North American Datum of 1927, in SE ¼ SW ¼ SE ¼ sec.11, T.4 N., R.10 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on left bank 200 ft downstream from Stuart Street bridge, 0.5 mi east of Opportunity, and 1.0 mi upstream from Mill Creek.

DRAINAGE AREA.--363 mi². Prior to water year 2001, drainage area published as 284 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1988 to current year. Prior to October 1991, seasonal records only.

REVISED RECORDS.-- Water Data Report MT-2001-01: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,912.37 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 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.

12323600 SILVER BOW CREEK AT OPPORTUNITY, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	23	e25	e25	e25	e21	35	52	64	90	36	20	16
2	23	e27	e23	e30	e22	48	54	65	82	33	18	15
3	23	34	e23	e35	e25	48	49	95	78	33	17	14
4	25	35	e26	e32	e40	45	48	91	77	31	17	15
5	25	34	e30	e30	e60	45	50	78	82	30	18	18
6	31	35	e30	e28	e75	61	50	70	140	30	22	38
7	36	39	e30	e28	e70	85	51	64	185	29	19	21
8	31	53	e30	e33	e65	109	50	59	166	30	19	23
9	36	43	e30	e35	e65	79	52	59	144	27	18	21
10	30	38	e30	e25	e65	61	51	66	136	25	20	20
11	29	36	e33	e18	e65	60	48	70	140	25	17	20
12	29	34	e35	e15	e62	98	46	68	126	23	16	20
13	29	34	e36	e18	60	172	46	70	110	22	16	20
14	29	34	e33	e20	56	143	45	72	103	21	16	21
15	29	36	e30	e20	56	72	46	66	94	22	17	21
16	37	33	e22	e20	56	62	47	63	87	21	16	21
17	41	32	e20	e20	52	67	47	60	89	22	21	21
18	34	32	e21	e22	57	73	60	58	87	47	18	22
19	33	33	e23	e24	50	74	57	57	78	28	19	30
20	48	32	e25	e26	49	69	54	59	68	25	20	28
21	43	33	e25	e25	53	61	51	80	63	22	18	26
22	39	35	e27	e27	47	53	52	97	57	22	18	23
23	37	32	e27	e30	45	51	61	94	51	22	17	38
24	37	32	e27	e27	41	53	63	94	49	25	16	43
25	36	e30	e33	e25	47	57	63	120	46	26	15	35
26	35	e25	e33	e25	37	59	65	108	41	25	15	32
27	34	e25	e31	e23	41	60	60	99	40	24	15	30
28	34	e20	e25	e23	41	63	61	120	37	24	15	27
29	34	e22	e22	e23	---	50	64	123	35	23	15	32
30	34	e22	e23	e23	---	49	64	114	36	23	14	32
31	e25	---	e24	e23	---	50	---	104	---	21	14	---
Total	1,009	975	852	778	1,423	2,112	1,607	2,507	2,617	817	536	743
Mean	32.5	32.5	27.5	25.1	50.8	68.1	53.6	80.9	87.2	26.4	17.3	24.8
Max	48	53	36	35	75	172	65	123	185	47	22	43
Min	23	20	20	15	21	35	45	57	35	21	14	14
Ac-ft	2,000	1,930	1,690	1,540	2,820	4,190	3,190	4,970	5,190	1,620	1,060	1,470

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	35.4	35.0	32.0	34.5	47.2	53.1	64.5	93.1	91.7	42.0	27.4	30.3
Max	55.8	49.5	49.2	68.6	184	86.6	120	261	281	107	69.5	59.8
(WY)	(1998)	(1996)	(1998)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1995)	(1993)	(1993)
Min	21.5	23.0	21.9	22.2	21.9	27.5	37.1	31.3	23.6	16.7	14.5	18.2
(WY)	(2004)	(2004)	(2005)	(2001)	(2001)	(2005)	(2005)	(1992)	(2000)	(2003)	(2000)	(2003)

12323600 SILVER BOW CREEK AT OPPORTUNITY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1988 - 2007	
Annual total	16,991		15,976			
Annual mean	46.6		43.8		49.7	
Highest annual mean					99.0	1997
Lowest annual mean					26.9	2004
Highest daily mean	205	Apr 6	185	Jun 7	^d 1,300	Feb 11, 1996
Lowest daily mean	13	Aug 12	14	Aug 30	11	Aug 2, 2003
Annual seven-day minimum	13	Aug 19	15	Aug 25	12	Jul 18, 2003
Maximum peak flow			^a 205	Jun 7	^d 1,300	Feb 11, 1996
Maximum peak stage			^b 4.52	Dec 19	^b 6.91	Feb 11, 1996
Instantaneous low flow			^c 10	Aug 2	^e 9.1	Aug 20, 2004
Annual runoff (ac-ft)	33,700		31,690		36,010	
10 percent exceeds	109		78		93	
50 percent exceeds	32		34		37	
90 percent exceeds	18		20		21	

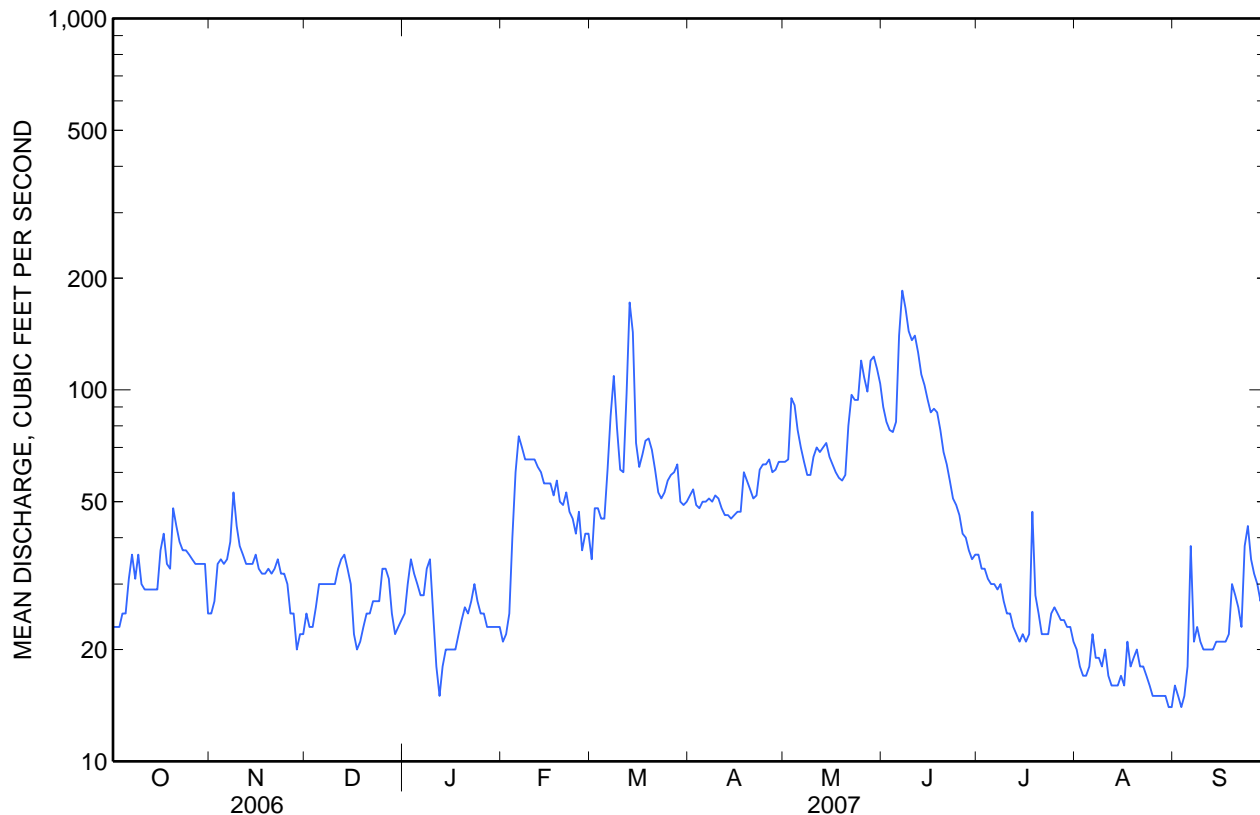
^a Gage height, 3.88 ft.

^b Backwater from ice.

^c Gage height, 1.95 ft.

^d Estimated daily discharge during a period of ice effect.

^e Gage height, 2.05 ft.



12323600 SILVER BOW CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to August 1995, December 1996 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: March 1993 to September 1995.

REMARKS. --Several values for trace elements on Aug. 28 failed to meet quality-assurance criteria and were deleted. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 563 mg/L, July 13, 1995; minimum daily mean, 3 mg/L, Sep. 16, 1993; Feb. 3-7, July 22, 1994.

SEDIMENT LOAD: Maximum daily, 495 tons, June 6, 1995; minimum daily, 0.19 ton, Feb. 4-7, 1994.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)
Nov													
14...	0800	34	8.3	499	-1.0	.5	180	54.7	11.5	8.0	10.6	.55	.96
Feb													
26...	1505	32	8.3	522	2.5	1.5	170	49.1	12.1	8.0	10.1	.77	.94
Mar													
27...	1120	59	8.3	414	3.0	5.0	140	42.3	9.04	9.1	13.8	.56	1.49
May													
09...	1105	59	8.5	391	19.5	11.0	150	44.1	8.65	9.5	12.4	.24	.60
Jun													
05...	1425	80	8.3	361	17.0	14.5	130	39.4	7.70	10.8	14.6	.22	.69
19...	0935	81	8.3	352	17.0	11.0	130	37.9	7.99	11.3	15.2	.24	.65
Jul													
24...	0935	25	8.5	528	22.0	19.5	190	55.3	11.8	18.5	19.5	.27	.70
Aug													
28...	0720	15	8.1	619	2.0	10.0	220	63.4	14.1	13.1	12.2	--	.57

12323600 SILVER BOW CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

Date	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover- able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover- able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover- able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mangan- ese, water, unfltrd recover- able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover- able, µg/L (01092)	Suspd. 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)
	Nov 14...	18.9	65.4	20	552	.25	10.7	216	268	214	274	92	16
Feb 26...	25.5	61.4	16	420	.27	8.60	264	334	194	251	74	13	1.1
Mar 27...	24.2	63.7	38	650	.37	14.2	260	284	142	217	79	17	2.7
May 09...	18.6	59.5	39	618	.33	13.1	126	223	49.4	136	86	20	3.2
Jun 05...	17.3	72.5	44	827	.58	16.9	115	223	47.5	139	84	23	5.0
Jun 19...	21.8	68.7	71	757	.70	14.9	104	169	67.2	142	85	21	4.6
Jul 24...	18.9	65.7	22	456	.51	12.9	87.4	182	35.8	120	81	16	1.1
Aug 28...	--	31.1	14	--	.36	5.66	121	165	--	110	84	6	.24



Water-Data Report 2007

12323670 MILL CREEK NEAR ANACONDA, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°04'59", long 112°54'58" referenced to North American Datum of 1927, in NW ¼ NE ¼ SW ¼ sec.24, T.4 N., R.11 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on right bank 500 ft downstream from private road bridge, 0.1 mi downstream from Cabbage Gulch, 1.0 mi downstream from Silver Creek, 2.8 mi southeast of Anaconda, and at river mile 6.7.

DRAINAGE AREA.--34.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2004 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,470 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. No regulation or diversion occurs upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	11	e11	e12	e10	e7.5	e9.0	19	77	109	46	18	12
2	11	e12	e11	11	e8.0	e8.5	19	89	124	43	18	11
3	12	14	e11	11	9.0	e8.5	18	114	132	42	17	10
4	12	13	e12	11	8.7	9.3	18	96	134	40	17	11
5	12	14	e14	e10	10	9.8	18	83	157	40	17	13
6	13	14	13	e9.5	10	11	18	75	150	37	18	12
7	15	21	13	e9.5	9.8	12	18	70	115	37	17	11
8	14	32	13	e10	10	12	19	72	100	35	17	10
9	15	23	13	10	9.9	11	21	77	95	32	16	11
10	14	20	13	10	9.6	11	21	95	111	31	16	11
11	14	20	12	e8.0	9.7	12	20	114	159	29	16	10
12	14	18	12	e7.0	9.8	18	20	123	126	28	15	9.5
13	13	19	13	e8.5	9.7	21	20	133	113	27	15	9.7
14	13	18	13	e10	9.4	18	20	123	107	28	15	10
15	13	21	e12	e10	9.7	16	21	110	100	29	14	9.6
16	14	21	e10	e11	9.5	16	21	107	90	26	14	9.2
17	14	17	e9.0	e12	9.6	18	22	113	94	27	16	9.4
18	13	16	e9.5	e13	9.6	21	29	119	79	34	15	10
19	13	16	e10	e11	9.5	22	26	123	72	26	15	11
20	18	16	e10	e9.0	9.5	22	25	130	73	24	15	11
21	16	17	e10	9.1	9.3	21	26	133	75	23	15	10
22	14	18	e11	9.2	9.3	20	28	113	72	22	14	11
23	14	16	11	9.2	9.3	19	30	99	70	21	14	18
24	14	e16	14	9.1	e8.5	20	32	93	67	21	13	16
25	14	e14	12	9.1	e9.0	22	36	94	62	27	13	13
26	13	e12	11	9.1	e8.5	22	38	87	55	24	12	12
27	13	e12	11	9.2	e8.5	23	38	92	51	22	12	11
28	13	e9.0	11	e8.5	e8.5	21	44	123	50	21	12	11
29	13	e10	e9.0	e8.5	---	20	57	112	49	19	11	12
30	13	e10	e10	e8.0	---	19	70	103	48	19	11	11
31	e10	---	e10	e8.0	---	19	---	102	---	18	11	---
Total	415	490.0	355.5	298.5	259.4	512.1	812	3,194	2,839	898	459	336.4
Mean	13.4	16.3	11.5	9.63	9.26	16.5	27.1	103	94.6	29.0	14.8	11.2
Max	18	32	14	13	10	23	70	133	159	46	18	18
Min	10	9.0	9.0	7.0	7.5	8.5	18	70	48	18	11	9.2
Ac-ft	823	972	705	592	515	1,020	1,610	6,340	5,630	1,780	910	667

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	13.7	13.3	10.5	9.41	8.40	11.5	26.7	102	100	34.0	14.1	11.6
Max	14.9	16.3	11.5	9.63	9.26	16.5	37.4	105	115	42.3	14.8	11.8
(WY)	(2005)	(2007)	(2007)	(2007)	(2007)	(2007)	(2006)	(2006)	(2005)	(2005)	(2007)	(2005)
Min	12.8	11.7	10.0	9.27	7.76	8.22	15.6	98.8	90.5	29.0	12.6	11.2
(WY)	(2006)	(2005)	(2006)	(2005)	(2005)	(2005)	(2005)	(2005)	(2006)	(2007)	(2006)	(2007)

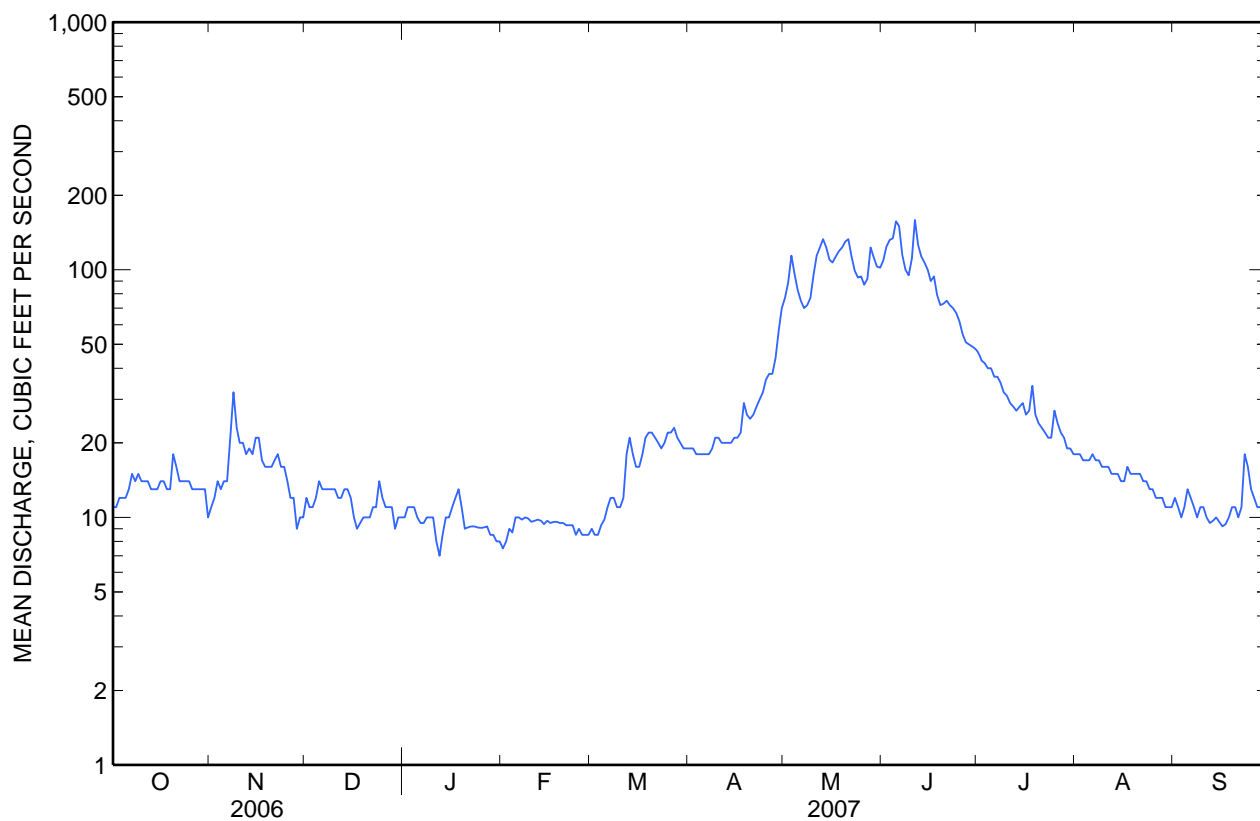
12323670 MILL CREEK NEAR ANACONDA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 2005 - 2007	
Annual total	10,858.2		10,868.9			
Annual mean	29.7		29.8		29.7	
Highest annual mean					30.1	2005
Lowest annual mean					29.2	2006
Highest daily mean	196	May 20	159	Jun 11	196	May 20, 2006
Lowest daily mean	5.5	Feb 17	7.0	Jan 12	5.5	Feb 17, 2006
Annual seven-day minimum	6.7	Feb 13	8.2	Jan 28	6.7	Feb 13, 2006
Maximum peak flow			184	Jun 11	^a 204	May 20, 2006
Maximum peak stage			3.51	Jun 11	^b 3.67	Dec 24, 2004
Annual runoff (ac-ft)	21,540		21,560		21,520	
10 percent exceeds	77		94		90	
50 percent exceeds	13		15		13	
90 percent exceeds	8.7		9.4		8.6	

^a Gage height, 3.60 ft.

^b Backwater from ice.



Water-Data Report 2007

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 2004 to current year.

PERIOD OF DAILY RECORD.--

TURBIDITY: Seasonal records, June 2006 to current year.

INSTRUMENTATION.--Turbidity monitor since June 2006.

REMARKS.--Daily turbidity records are rated good to excellent except for 43 days that are rated fair to poor. Missing daily turbidity values for Apr. 8, 14-16, June 13, 15-16, 18, and Sept. 2-6 were deleted due to sensor fouling or malfunction. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

TURBIDITY (seasonal records): Maximum, 24 formazin nephelometric units (FNU), May 3, 2007; minimum, 0.5 FNU, several days in 2006 and 2007.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: During seasonal operation, maximum, 24 formazin nephelometric units (FNU), May 3; minimum, 0.5 FNU, several days in October, May 17, and July 26.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	Turbdty white light, 90+/-30 corrctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat un f µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)
Nov												
13...	1400	19	<2.0	8.3	144	6.0	2.5	68	18.9	5.03	11.7	12.6
Feb												
26...	1200	9.1	2.6	8.3	191	-1.0	1.0	85	22.5	6.99	9.5	10.2
Mar												
26...	1350	21	<2.0	8.1	140	8.0	5.5	62	17.1	4.71	15.0	16.6
May												
09...	1505	70	<2.0	8.0	97	21.0	12.0	38	11.0	2.65	17.8	19.1
Jun												
04...	1650	122	<2.0	7.9	77	27.0	14.5	29	8.69	1.88	17.0	18.5
18...	1345	75	<2.0	7.8	91	20.0	10.0	37	10.7	2.50	17.2	18.8
Jul												
23...	1320	21	<2.0	8.0	150	29.0	17.0	68	18.8	5.21	30.3	29.8
Aug												
27...	1125	12	<2.0	8.3	186	15.5	11.5	83	22.4	6.62	23.6	23.6

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium water, flt'd, µg/L (01025)	Cadmium water, unflt'd µg/L (01027)	Copper, water, flt'd, µg/L (01040)	Copper, water, unflt'd recovery, µg/L (01042)	Iron, water, flt'd, µg/L (01046)	Iron, water, unflt'd recovery, µg/L (01045)	Lead, water, flt'd, µg/L (01049)	Lead, water, unflt'd recovery, µg/L (01051)	Mangan- ese, water, flt'd, µg/L (01056)	Mangan- ese, water, unflt'd recovery, µg/L (01055)	Zinc, water, flt'd, µg/L (01090)	Zinc, water, unflt'd recovery, µg/L (01092)
Feb 26...	E.03	.04	.79	1.4	36	89	<.12	.19	6.9	8.8	1.0	E1
Mar 26...	.05	.05	2.2	3.5	46	163	E.11	.56	5.5	10.8	.91	2
May 09...	E.03	.07	3.0	4.7	36	166	.16	.78	3.6	11.5	1.9	3.2
Jun 04...	--	.09	2.3	5.2	29	204	E.11	1.05	3.6	11.0	1.3	3.4
Jun 18...	.04	.07	1.8	3.4	35	124	E.07	.59	4.3	9.4	.97	2.4
Jul 23...	.07	.08	2.1	5.3	125	203	.22	.72	7.1	15.6	.95	2.2
Aug 27...	E.03	.06	1.3	2.0	77	149	.14	.45	7.8	13.6	1.7	2.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

Date	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Nov 13...	64	2	.10
Feb 26...	70	1	.02
Mar 26...	75	3	.17
May 09...	60	5	.95
Jun 04...	49	7	2.3
Jun 18...	64	4	.81
Jul 23...	76	3	.17
Aug 27...	71	2	.06

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	2.0	0.5	1.0	3.0	1.0	1.5						
2	1.5	0.5	1.0	3.0	1.0	1.5						
3	1.5	0.5	1.0	2.5	1.0	1.5						
4	2.0	1.0	1.0	3.0	1.0	1.5						
5	2.0	1.0	1.5	2.5	1.0	1.5						
6	2.0	1.0	1.5	3.0	1.0	1.5						
7	3.0	1.5	2.0	12.0	1.5	4.5						
8	3.0	1.0	1.5	12.0	2.0	4.0						
9	2.0	1.0	1.0	3.5	1.5	2.0						
10	2.0	1.0	1.0	4.0	1.5	2.5						
11	3.5	1.0	1.0	4.5	1.5	2.5						
12	2.5	0.5	1.0	3.5	2.0	3.0						
13	1.5	1.0	1.0	5.0	3.0	4.0						
14	1.5	1.0	1.0	7.0	4.0	5.0						
15	2.0	1.0	1.5	6.0	2.5	4.5						
16	3.0	1.5	2.0	5.0	3.0	4.0						
17	4.5	1.0	2.0	5.5	3.0	4.0						
18	3.5	1.0	1.0	6.0	3.5	4.0						
19	2.0	1.0	1.0	7.0	3.5	5.0						
20	5.5	1.0	2.5	9.0	3.0	5.0						
21	2.0	1.0	1.5									
22	1.5	1.0	1.0									
23	1.5	1.0	1.0									
24	1.5	0.5	1.0									
25	1.5	0.5	1.0									
26	1.5	0.5	1.0									
27	1.0	0.5	0.5									
28	1.5	0.5	1.0									
29	3.5	0.5	1.0									
30	3.5	1.0	1.5									
31	3.5	1.0	2.0									
Month	5.5	0.5	1.5									

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1							5.5	1.5	2.0	18.0	7.5	11.0
2							7.5	1.5	2.5	14.0	7.0	9.5
3							6.0	1.5	3.0	24.0	5.5	11.0
4							6.5	1.5	3.0	8.5	3.5	5.5
5							7.0	1.5	3.0	7.5	3.0	4.5
6							6.0	1.5	3.5	7.0	3.0	4.0
7							7.0	2.0	3.5	6.0	3.0	4.0
8							---	---	---	5.5	2.0	4.0
9							---	---	#2.5	6.0	2.5	4.0
10							4.0	2.0	3.0	8.0	3.5	4.5
11							8.0	1.5	4.0	8.0	4.0	5.5
12							8.5	2.0	5.5	10.0	4.0	6.5
13							4.5	1.5	2.5	9.5	4.0	6.0
14				---	---	#2.5	---	---	---	6.0	3.5	4.0
15				4.0	1.5	3.0	---	---	---	4.5	3.0	3.5
16				5.0	2.0	2.5	---	---	---	4.0	1.0	2.5
17				5.5	2.0	3.0	8.5	3.5	6.0	2.5	0.5	1.5
18				6.0	2.5	4.0	9.5	4.5	7.0	---	---	#2.0
19				6.5	2.0	3.5	10.0	3.5	7.0	---	---	#1.5
20				6.0	2.0	3.5	10.0	3.0	6.5	4.0	1.0	2.0
21				4.5	2.0	3.5	9.5	4.0	6.0	4.0	1.0	2.0
22				5.0	2.0	3.0	10.0	4.0	6.5	2.0	1.0	1.5
23				8.0	1.5	3.0	10.0	4.5	7.5	---	---	#1.5
24				8.5	1.5	3.0	10.0	5.0	8.0	2.5	1.0	1.5
25				9.0	1.5	3.5	11.0	5.0	8.5	3.0	1.0	1.5
26				4.5	2.0	2.5	10.0	5.5	8.0	---	---	#1.5
27				6.0	2.0	3.0	10.0	5.0	8.0	---	---	#1.5
28				5.5	1.5	2.0	17.0	7.0	9.5	---	---	#2.0
29				6.5	1.5	2.5	20.0	8.5	13.0	2.5	1.5	2.0
30				7.5	1.0	2.0	18.0	7.0	11.0	---	---	#2.0
31				6.5	1.5	2.5	---	---	---	---	---	#2.0
Month				---	---	---	---	---	---	---	---	3.5

Value computed from partial day with greater than 50 percent of day recorded.

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	---	---	#2.0	3.0	1.5	2.0	---	---	#2.0	7.0	2.0	4.5
2	---	---	#2.5	2.5	1.5	2.0	3.5	1.0	2.0	---	---	---
3	---	---	#3.0	---	---	#2.0	3.5	1.0	2.0	---	---	---
4	---	---	#3.0	2.5	1.5	2.0	4.0	1.0	2.0	---	---	---
5	8.0	2.5	5.0	3.0	1.0	2.0	3.0	1.0	2.0	---	---	---
6	5.5	2.5	4.0	3.0	1.0	2.0	3.0	1.0	2.0	---	---	---
7	4.5	1.5	3.5	3.0	1.0	2.0	3.0	1.0	2.0	---	---	#2.5
8	4.5	1.5	3.5	---	---	#2.0	---	---	#2.0	3.5	2.5	2.5
9	6.5	1.5	4.5	2.5	1.0	1.5	3.5	1.5	2.5	3.0	2.0	2.5
10	10.0	3.5	5.5	2.5	1.0	1.5	4.0	2.5	3.0	2.5	1.5	2.0
11	14.0	4.0	7.5	---	---	#1.5	4.0	2.5	3.0	2.5	1.5	2.0
12	8.0	2.5	4.5	2.5	1.0	1.5	3.5	2.0	2.5	2.5	1.5	2.0
13	---	---	---	2.5	1.0	1.5	3.5	2.5	3.0	3.0	2.0	2.0
14	10.0	1.0	4.5	3.5	1.0	2.0	3.5	2.5	3.0	4.0	2.0	2.5
15	---	---	---	---	---	#2.0	3.0	2.0	2.5	4.0	2.0	2.5
16	---	---	---	4.0	1.0	1.5	3.0	2.0	2.5	5.5	2.0	3.0
17	12.0	1.0	5.0	6.0	1.0	2.0	3.0	2.0	2.0	4.0	2.0	2.5
18	---	---	---	9.5	1.5	3.5	2.5	1.5	2.0	3.0	2.0	2.5
19	7.0	1.5	2.5	3.0	1.0	1.5	3.0	2.0	2.0	3.5	2.5	3.0
20	3.5	1.5	2.5	2.5	1.0	1.5	2.5	1.5	2.0	3.5	3.0	3.0
21	3.5	2.0	2.5	3.5	1.0	1.5	3.0	1.5	2.0	4.5	3.0	3.5
22	3.0	2.0	2.5	3.5	1.0	1.5	3.5	1.5	2.0	6.5	3.5	4.0
23	---	---	#2.5	3.5	1.0	1.5	2.5	1.5	2.0	8.0	4.5	6.0
24	---	---	#2.0	3.5	1.0	2.0	2.5	1.5	2.0	5.5	1.5	3.0
25	---	---	#2.0	4.0	1.5	2.5	2.5	1.5	1.5	3.0	1.5	2.0
26	---	---	#2.0	3.5	0.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5
27	3.0	1.5	2.0	2.0	1.0	1.5	2.5	1.5	2.0	2.5	1.5	1.5
28	3.5	2.0	2.5	3.0	1.0	1.5	3.0	1.5	2.0	2.0	1.5	1.5
29	3.0	1.5	2.0	3.5	1.0	1.5	4.0	1.5	2.5	2.5	1.5	2.0
30	---	---	#2.0	3.5	1.0	2.0	---	---	#2.5	2.5	1.5	2.0
31	---	---	---	4.0	1.0	2.0	---	---	#2.0	---	---	---
Month	---	---	---	---	---	2.0	---	---	2.0	---	---	---

Value computed from partial day with greater than 50 percent of day recorded.



Water-Data Report 2007

12323700 MILL CREEK AT OPPORTUNITY, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°06'52", long 112°49'16" referenced to North American Datum of 1927, in SE ¼ SE ¼ NE ¼ sec.10, T.4 N., R.10 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on right bank at Opportunity, 1.0 mi upstream from Mill-Willow Bypass, and at river mile 1.0.

DRAINAGE AREA.--43.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2003 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,940 ft, referenced to the National Geodetic Vertical Datum of 1929. Apr. 1, 2003 to July 18, 2006, water-stage recorder at site 400 ft downstream at different datum.

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

12323700 MILL CREEK AT OPPORTUNITY, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.4	e2.1	e4.0	e5.0	e3.0	e4.5	5.6	35	55	8.5	2.4	0.66
2	1.4	e3.0	e3.0	e8.0	e3.5	e4.0	5.5	38	61	7.9	2.2	0.64
3	1.2	e5.0	e3.0	e7.0	e5.0	e4.5	4.8	66	73	6.7	1.9	0.53
4	1.3	6.1	e4.0	e6.0	e7.0	e6.0	5.1	59	83	6.5	1.8	0.57
5	1.5	5.9	4.7	e5.0	e9.0	7.0	4.8	47	103	6.4	1.8	0.79
6	1.9	5.7	5.1	e4.5	11	7.4	4.3	39	111	6.5	1.9	1.6
7	2.7	7.2	5.3	e4.5	10	7.9	4.1	33	88	6.8	1.7	1.5
8	2.7	17	5.7	e6.5	9.3	7.5	4.2	32	75	6.8	1.5	1.5
9	3.0	15	6.1	e9.0	9.5	6.6	4.5	34	66	6.3	1.3	1.7
10	2.8	14	6.8	e4.0	8.4	6.6	4.5	40	71	6.1	1.2	1.7
11	2.9	13	6.5	e2.0	7.4	7.3	4.3	51	118	5.6	1.1	1.3
12	2.6	12	6.5	e1.0	7.4	10	4.2	56	91	4.7	1.1	1.1
13	2.5	13	7.2	e2.0	7.1	13	4.0	66	80	4.3	1.1	1.1
14	2.5	13	e7.0	e3.0	6.5	12	3.9	64	76	4.1	1.1	1.2
15	2.8	10	e6.0	e3.0	6.0	9.9	4.1	57	64	5.2	1.0	1.3
16	4.2	14	e4.0	e3.5	5.7	9.1	3.8	54	46	5.2	1.1	1.1
17	4.4	11	e3.0	e4.0	5.3	9.6	4.1	56	49	5.7	1.2	0.96
18	3.9	11	e4.0	e5.0	5.4	11	8.3	60	40	12	1.2	0.68
19	5.5	10	e5.0	e7.0	5.3	11	13	61	31	10	1.4	0.71
20	7.5	10	e6.0	e7.5	5.5	12	13	65	30	8.9	1.5	0.70
21	6.8	11	e6.0	e6.0	5.5	11	13	75	29	8.0	1.5	0.53
22	5.9	12	e6.0	e7.0	5.6	9.0	12	63	27	6.5	1.5	0.56
23	5.7	11	e6.0	e8.0	5.5	8.0	14	54	25	6.3	1.4	1.9
24	5.8	7.4	e7.0	e7.0	e5.0	6.6	14	51	23	6.1	1.3	3.1
25	5.6	e5.0	e8.0	e5.5	e6.0	6.8	15	51	22	6.8	1.2	2.7
26	5.4	e4.0	e7.5	e5.5	e5.0	6.0	16	45	20	6.3	0.93	2.4
27	6.0	e4.0	e7.0	e4.0	e4.0	6.3	16	47	18	5.6	0.86	2.0
28	5.9	e2.0	e5.0	e4.5	e4.0	6.3	17	64	14	5.0	0.84	1.4
29	6.0	e3.0	e4.0	e4.0	---	5.4	25	58	11	4.7	0.77	1.7
30	5.9	e3.0	e4.5	e4.0	---	5.4	32	54	9.0	4.1	0.70	1.9
31	e2.0	---	e4.5	e4.0	---	5.5	---	53	---	2.9	0.67	---
Total	119.7	260.4	168.4	157.0	177.9	243.2	284.1	1,628	1,609.0	196.5	41.17	39.53
Mean	3.86	8.68	5.43	5.06	6.35	7.85	9.47	52.5	53.6	6.34	1.33	1.32
Max	7.5	17	8.0	9.0	11	13	32	75	118	12	2.4	3.1
Min	1.2	2.0	3.0	1.0	3.0	4.0	3.8	32	9.0	2.9	0.67	0.53
Ac-ft	237	517	334	311	353	482	564	3,230	3,190	390	82	78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.49	3.84	2.72	2.82	3.29	3.45	8.84	47.8	62.4	11.4	1.70	1.35
Max	3.86	8.68	5.43	5.06	6.35	7.85	16.2	61.7	85.7	22.4	2.27	1.58
(WY)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2006)	(2006)	(2003)	(2005)	(2003)	(2005)
Min	0.97	1.00	1.46	1.31	1.53	0.57	0.54	9.44	31.8	6.34	1.33	1.07
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2004)	(2004)	(2007)	(2007)	(2006)

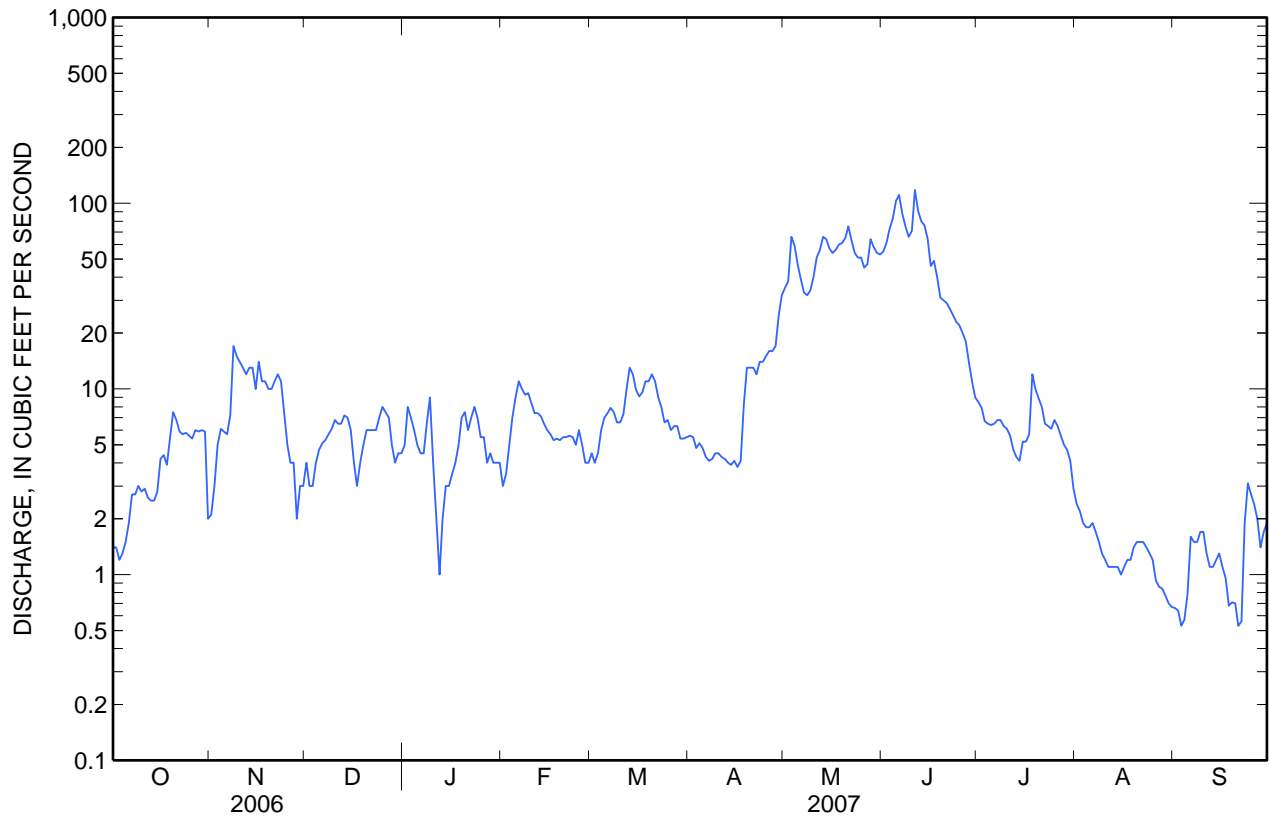
12323700 MILL CREEK AT OPPORTUNITY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006	Water Year 2007	Water Years 2003 - 2007	
Annual total	5,396.10	4,924.90		
Annual mean	14.8	13.5	11.9	
Highest annual mean			14.7	2005
Lowest annual mean			5.44	2004
Highest daily mean	140 May 21	118 Jun 11	260 Jun 1, 2003	
Lowest daily mean	0.60 Sep 6	0.53 Sep 3	0.38 Apr 6, 2005	
Annual seven-day minimum	0.69 Sep 6	0.65 Aug 29	0.39 Apr 5, 2005	
Maximum peak flow		142 Jun 11	284 Jun 1, 2003	
Maximum peak stage		3.04 Jun 11	3.34 Jun 1, 2003	
Instantaneous low flow		^a 0.36 Sep 3	^b 0.34 Apr 6, 2005	
Annual runoff (ac-ft)	10,700	9,770	8,650	
10 percent exceeds	30	50	36	
50 percent exceeds	4.0	5.9	2.7	
90 percent exceeds	1.4	1.3	0.96	

^a Gage height, 1.53 ft.

^b Gage height, 0.88 ft, site and datum then in use.



12323700 MILL CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2003 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

[Remark codes: E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, μ g/L (01000)	Arsenic water, unfltrd, μ g/L (01002)	Cadmium water, fltrd, μ g/L (01025)	Cadmium water, unfltrd, μ g/L (01027)
Nov													
13...	1630	12	8.1	164	4.5	2.5	73	20.6	5.36	20.6	21.0	.06	.11
Feb													
26...	1340	E5.0	8.2	217	.0	.5	94	25.4	7.42	14.0	14.6	.05	.07
Mar													
26...	1620	5.5	8.1	161	12.5	7.5	69	19.0	5.11	17.9	19.8	E.02	.07
May													
09...	1035	35	8.0	107	21.5	9.0	42	11.9	2.93	22.9	25.0	.06	.12
Jun													
05...	1140	103	7.8	75	20.0	10.5	30	8.65	1.93	20.3	29.5	.13	.32
18...	1530	40	8.0	99	19.0	11.5	41	11.7	2.75	23.1	25.2	.07	.12
Jul													
23...	1530	6.3	8.1	168	37.5	20.0	71	19.6	5.37	55.1	53.5	.07	.09
Aug													
27...	1340	.83	8.0	199	21.5	15.0	84	23.4	6.29	26.4	27.8	.05	.07

12323700 MILL CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm percent (70331)	mg/L (80154)	tons/d (80155)
Nov													
13...	1.9	2.8	74	129	.12	.26	5.6	8.0	4.2	5	71	2	.06
Feb													
26...	1.1	1.7	28	68	<.12	.13	2.2	3.5	2.4	2	86	1	E.01
Mar													
26...	2.5	3.3	30	95	E.07	.26	4.1	5.8	2.2	3	67	2	.03
May													
09...	4.0	6.6	34	212	.16	1.14	3.1	14.0	2.8	5.7	67	6	.57
Jun													
05...	3.9	17.4	36	959	.12	4.54	5.1	49.2	3.4	15.9	47	49	14
18...	2.6	6.3	42	233	.16	1.12	4.8	13.6	2.1	5.1	60	8	.86
Jul													
23...	2.6	3.5	94	155	.20	.42	5.7	9.3	1.3	E1.9	82	1	.02
Aug													
27...	1.6	2.2	42	115	<.12	.30	9.3	12.5	1.6	2.2	75	2	<.01

Water-Data Report 2007

12323710 WILLOW CREEK NEAR ANACONDA, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°03'53", long 112°53'34" referenced to North American Datum of 1927, in SE ¼ SE ¼ SW ¼ sec.30, T.4 N., R.10 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on left bank 1.2 mi downstream from Long Canyon Creek, 4.5 mi southeast of Anaconda, and at river mile 6.5.

DRAINAGE AREA.--13.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2005 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,310 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for February 6 to March 14, which are fair, and those for estimated daily discharges, which are poor. No regulation or diversion occurs upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.3	e1.0	e2.0	e1.6	e0.80	1.0	4.3	18	24	6.6	2.5	1.3
2	1.3	e1.5	e1.8	e1.7	e1.0	0.93	4.2	19	23	6.3	2.5	1.3
3	1.4	1.9	e1.7	e1.8	e1.2	0.98	e4.0	22	21	6.0	2.3	1.2
4	1.4	1.9	1.8	1.8	1.4	1.1	4.0	20	20	5.7	2.3	1.3
5	1.6	2.0	1.9	1.7	e2.6	1.1	4.2	18	20	5.4	2.3	1.5
6	1.9	2.2	1.9	1.7	1.7	1.3	4.3	17	20	5.2	2.5	1.4
7	2.2	3.9	1.9	1.7	1.4	1.5	4.3	16	18	5.1	2.2	1.3
8	1.8	4.6	1.9	1.7	1.4	1.5	4.6	15	17	5.0	2.1	1.3
9	2.1	2.8	1.9	1.7	1.3	1.5	5.1	15	16	4.7	2.0	1.3
10	2.0	2.3	1.9	1.7	1.2	1.5	5.0	16	16	4.5	1.9	1.3
11	2.0	2.3	1.8	e1.0	1.2	2.0	4.7	16	16	4.3	1.8	1.2
12	2.0	1.8	1.9	e0.50	1.2	3.6	4.5	16	14	4.0	1.8	1.1
13	2.0	2.0	2.2	e0.70	1.2	4.7	4.5	16	14	3.8	1.7	1.2
14	1.9	1.9	2.0	e1.0	1.2	3.9	4.7	16	13	3.9	1.7	1.2
15	1.9	1.7	e2.0	e1.0	1.1	e3.5	5.2	15	12	3.8	1.6	1.2
16	2.4	2.5	e1.2	e2.5	1.1	3.1	5.2	14	12	3.6	1.8	1.1
17	2.1	1.9	e1.0	e2.0	1.1	3.9	5.7	13	12	3.6	2.1	1.2
18	1.9	1.8	e1.2	e3.0	1.1	4.9	7.0	13	11	5.4	2.1	1.3
19	2.0	1.8	e1.5	e2.0	1.1	4.9	6.4	13	11	3.6	2.2	1.6
20	3.3	1.9	e1.7	e1.5	1.1	4.9	6.1	13	10	3.4	2.0	1.5
21	2.3	2.1	e1.7	1.5	1.0	4.5	6.2	16	9.9	3.3	1.9	1.3
22	2.0	2.5	e2.2	1.5	1.1	4.0	6.7	16	9.3	3.1	1.8	1.6
23	1.9	2.0	e2.0	1.5	1.1	4.1	8.3	16	8.9	3.1	1.8	3.3
24	1.9	2.3	2.0	1.4	1.0	4.4	9.7	18	8.6	3.2	1.7	2.5
25	1.8	2.0	1.9	1.4	1.1	5.2	11	21	8.3	3.5	1.6	2.0
26	1.7	e1.5	2.0	1.4	1.0	5.4	13	21	8.1	3.1	1.6	1.7
27	1.6	e1.6	1.9	1.4	1.0	5.2	12	22	7.7	3.0	1.6	1.4
28	1.6	e1.0	1.8	e1.0	1.0	5.0	14	26	7.3	2.7	1.6	1.3
29	1.7	e1.3	1.7	e0.90	---	e4.0	15	27	7.1	2.6	1.4	1.5
30	1.3	e1.5	e1.6	e0.90	---	e4.2	17	27	6.9	2.6	1.3	1.5
31	1.2	---	e1.5	e0.90	---	4.3	---	26	---	2.5	1.3	---
Total	57.5	61.5	55.5	46.10	33.70	102.11	210.9	557	402.1	126.6	59.0	43.9
Mean	1.85	2.05	1.79	1.49	1.20	3.29	7.03	18.0	13.4	4.08	1.90	1.46
Max	3.3	4.6	2.2	3.0	2.6	5.4	17	27	24	6.6	2.5	3.3
Min	1.2	1.0	1.0	0.50	0.80	0.93	4.0	13	6.9	2.5	1.3	1.1
Ac-ft	114	122	110	91	67	203	418	1,100	798	251	117	87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.70	1.76	1.55	1.40	1.24	2.42	7.45	22.9	12.7	4.08	1.78	1.45
Max	1.85	2.05	1.79	1.49	1.27	3.29	11.8	30.8	15.6	4.55	1.94	1.53
(WY)	(2007)	(2007)	(2007)	(2007)	(2006)	(2007)	(2006)	(2005)	(2005)	(2005)	(2005)	(2005)
Min	1.55	1.46	1.30	1.32	1.20	1.55	3.50	18.0	9.05	3.61	1.51	1.35
(WY)	(2006)	(2006)	(2006)	(2006)	(2007)	(2006)	(2005)	(2007)	(2006)	(2006)	(2006)	(2006)

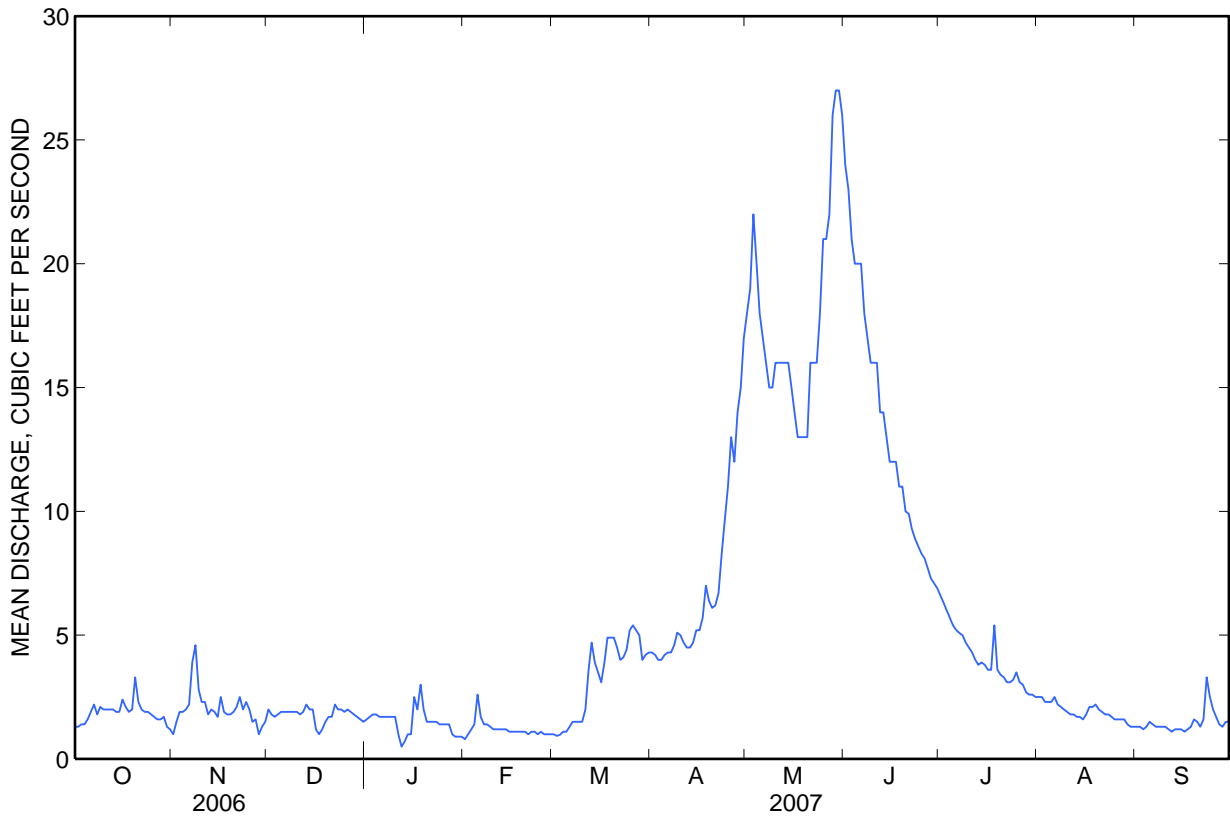
12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006	Water Year 2007	Water Years 2005 - 2007
Annual total	1,742.40	1,755.91	
Annual mean	4.77	4.81	4.73
Highest annual mean			4.81 2007
Lowest annual mean			4.66 2006
Highest daily mean	30 May 19	27 May 29	68 May 11, 2005
Lowest daily mean	0.96 Sep 13	0.50 Jan 12	0.50 Jan 12, 2007
Annual seven-day minimum	1.0 Sep 7	0.96 Jan 28	0.96 Jan 28, 2007
Maximum peak flow		^a 30 May 28	95 May 10, 2005
Maximum peak stage		^b 2.11 Jan 16	2.86 May 10, 2005
Annual runoff (ac-ft)	3,460	3,480	3,430
10 percent exceeds	15	15	15
50 percent exceeds	1.9	2.0	1.8
90 percent exceeds	1.2	1.2	1.2

^a Gage height, 2.04 ft.

^b Result of backwater from ice.



12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--December 2004 to current year.

PERIOD OF DAILY RECORD.--

TURBIDITY: Seasonal records, June 2006 to current year (no winter records).

INSTRUMENTATION.--Turbidity monitor installed June 2006.

REMARKS.--Daily turbidity records are rated good to excellent for 172 days and fair to poor for 41 days. Missing daily turbidity values for Oct. 20-23, Nov. 9-13, Mar. 19-Apr. 3, Apr. 13, 14, 25, and May 4, 29-31 are due to equipment problems or excessive fouling by sand and gravel encasing the sensor due to removal of an upstream beaver dam. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--

TURBIDITY: Seasonal records, maximum, 100 formazin nephelometric units (FNU), Sept. 23, 2007; minimum, <0.5 FNU, July 21, 22 and July 25-Aug. 8, 2007.

EXTREMES FOR PERIOD OF DAILY RECORD.--

TURBIDITY: During seasonal operation, maximum, 100 formazin nephelometric units (FNU), Sept. 23; minimum, <0.5 FNU, many days July 21, 22 and July 25-Aug. 8.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

[Remark codes: <, less than.]

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered, μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, mg/L fltrd, (00915)	Magnesium, water, mg/L fltrd, (00925)	Arsenic, water, μ g/L fltrd, (01000)	Arsenic, water, μ g/L unfltrd (01002)
Nov												
13...	1230	2.2	<2.0	7.6	110	6.5	0.5	41	14.0	1.55	11.8	11.8
Mar												
26...	1245	5.5	5.7	7.6	99	6.5	2.0	37	12.4	1.38	13.6	14.7
May												
09...	1605	15	7.6	7.7	81	22.5	12.0	27	9.29	1.03	14.0	14.6
Jun												
04...	1520	19	5.1	7.8	88	27.0	13.0	31	10.7	1.12	14.2	14.6
18...	1250	11	2.7	7.8	100	21.5	9.5	35	11.9	1.32	12.3	13.3
Jul												
23...	1230	3.3	<2.0	7.8	109	31.0	15.5	39	13.3	1.44	16.9	16.2
Aug												
27...	1045	1.9	<2.0	7.8	111	14.5	9.0	38	12.8	1.41	15.5	15.3

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium water, flt'd, µg/L (01025)	Cadmium water, unflt'd µg/L (01027)	Copper, water, flt'd, µg/L (01040)	Copper, water, unflt'd recovery, µg/L (01042)	Iron, water, flt'd, µg/L (01046)	Iron, water, unflt'd recovery, µg/L (01045)	Lead, water, flt'd, µg/L (01049)	Lead, water, unflt'd recovery, µg/L (01051)	Mangan- ese, water, flt'd, µg/L (01056)	Mangan- ese, water, unflt'd recovery, µg/L (01055)	Zinc, water, flt'd, µg/L (01090)	Zinc, water, unflt'd recovery, µg/L (01092)
Mar 26...	E.03	.04	2.3	3.2	86	302	.16	.57	14.9	22.8	1.8	2
May 09...	E.03	.08	2.2	4.3	64	573	.17	1.36	11.2	31.6	1.2	4.5
Jun 04...	E.03	.06	1.9	3.5	63	344	.13	.83	10.6	20.0	.96	2.7
18...	E.03	.04	1.3	2.4	69	206	E.07	.38	14.7	21.4	.81	E1.7
Jul 23...	--	.04	1.2	1.5	54	111	E.07	.22	11.9	19.1	.75	E1.1
Aug 27...	E.02	.02	.96	E1.0	51	106	E.07	.21	13.2	18.1	.65	E1.3

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

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

Date	Suspd. 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)
Mar 26...	80	6	.09
May 09...	49	31	1.3
Jun 04...	56	13	.67
18...	80	5	.15
Jul 23...	94	1	.01
Aug 27...	74	2	.01

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
 [<, less than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	2.5	1.5	1.5	7.0	1.5	4.0						
2	2.5	1.0	1.5	6.0	2.0	3.5						
3	3.0	1.0	1.5	6.0	1.5	3.5						
4	3.5	1.5	2.0	7.0	1.5	3.5						
5	3.0	1.0	1.5	6.5	2.0	3.5						
6	8.5	1.5	3.0	5.5	2.0	2.5						
7	3.5	1.5	2.0	---	---	4.5						
8	2.5	1.5	2.0	---	---	---						
9	3.5	1.5	2.0	---	---	---						
10	3.0	1.5	2.0	---	---	---						
11	2.5	2.0	2.0	---	---	---						
12	3.0	1.5	2.0	---	---	---						
13	2.5	1.5	2.0	---	---	---						
14	3.0	1.5	2.0	2.0	1.0	1.5						
15	3.0	1.5	2.0	2.5	1.0	1.5						
16	5.0	2.0	2.5	3.0	1.0	2.0						
17	5.0	1.5	3.0	3.5	1.0	1.5						
18	5.0	1.5	2.5	4.0	1.0	2.0						
19	5.5	1.5	2.5	4.0	1.0	1.5						
20	---	---	---	3.5	1.0	1.5						
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	2.0									
25	3.5	1.0	1.5									
26	3.5	1.0	1.5									
27	5.0	1.5	2.0									
28	4.0	1.5	2.0									
29	5.0	1.5	3.0									
30	5.5	1.5	3.0									
31	5.5	1.5	3.0									
Month	---	---	---									

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

[<, less than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1							---	---	---	---	---	---
2							---	---	---	---	---	---
3							---	---	---	---	---	---
4							7.5	3.0	4.0	---	---	---
5							4.5	3.0	3.0	17	12	14
6							4.0	2.5	3.0	17	12	13
7							6.5	3.0	3.0	18	12	13
8							7.0	2.5	3.5	14	12	12
9							6.5	3.0	4.0	24	12	15
10							7.0	3.5	4.0	---	---	---
11							8.5	3.5	5.5	---	---	---
12							10	3.5	6.0	---	---	---
13							---	---	---	---	---	---
14				---	---	4.5	---	---	---	---	---	---
15				10	4.0	5.5	11	4.5	7.0	---	---	---
16				5.0	3.5	4.0	17	3.5	6.0	---	---	---
17				13	3.5	5.0	18	6.5	10	7.5	3.5	4.5
18				9.5	5.0	6.0	11	6.5	10	7.5	3.5	4.5
19				---	---	---	11	4.5	7.0	5.5	3.5	4.0
20				---	---	---	11	4.5	6.5	7.5	3.5	4.5
21				---	---	---	14	4.5	6.5	8.0	4.0	5.5
22				---	---	---	19	6.0	11	6.0	4.0	4.5
23				---	---	---	19	7.0	12	8.5	3.5	4.5
24				---	---	---	38	1.5	17	11	5.0	6.5
25				---	---	---	---	---	---	16	8.0	9.5
26				---	---	---	---	---	---	12	8.5	9.5
27				---	---	---	---	---	---	18	8.5	10
28				---	---	---	---	---	---	40	10	17
29				---	---	---	---	---	---	---	---	---
30				---	---	---	---	---	---	---	---	---
31				---	---	---	---	---	---	---	---	---
Month				---	---	---	---	---	---	---	---	---

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
 [<, less than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	11	6.5	8.5	4.0	2.0	2.5	2.5	<0.5	0.5	3.0	1.0	1.5
2	12	6.0	8.0	5.0	2.0	3.0	1.5	<0.5	0.5	2.0	1.0	1.5
3	13	6.0	7.5	4.5	2.5	3.0	2.0	<0.5	0.5	2.0	1.0	1.5
4	11	6.0	7.0	4.0	2.0	3.0	1.0	<0.5	0.5	2.0	1.5	1.5
5	10	5.0	6.5	4.0	2.0	2.5	2.0	<0.5	0.5	2.5	1.5	1.5
6	10	4.5	6.0	4.0	2.0	2.5	2.0	<0.5	0.5	3.0	1.5	2.0
7	10	4.5	5.5	4.0	2.0	2.5	3.0	<0.5	0.5	3.5	0.5	1.5
8	10	4.5	6.0	4.5	1.5	2.0	3.0	<0.5	0.5	3.0	1.0	1.5
9	7.0	4.0	5.0	5.5	1.5	2.0	3.0	0.5	1.5	4.5	1.0	2.5
10	8.5	3.5	5.5	3.0	1.0	2.0	7.0	2.0	3.5	8.5	1.5	4.5
11	9.0	3.5	5.0	3.0	1.0	1.5	6.0	2.0	3.5	9.0	1.0	4.5
12	7.5	3.5	4.5	2.5	1.0	1.5	5.5	1.5	3.0	7.5	0.5	3.0
13	7.0	3.5	4.5	2.0	1.0	1.5	3.0	1.5	2.0	2.0	0.5	1.0
14	7.0	3.5	4.5	3.5	1.0	1.5	4.0	1.5	2.0	2.0	0.5	1.0
15	5.5	3.5	4.5	2.5	1.0	1.5	3.5	1.5	2.0	2.0	0.5	1.0
16	6.5	3.5	4.5	3.5	1.0	1.5	4.5	1.5	2.5	2.0	0.5	1.0
17	7.0	3.5	4.5	5.0	1.0	1.5	4.0	1.5	2.5	1.5	0.5	1.0
18	6.5	3.5	4.0	27	1.0	5.0	4.0	1.5	2.0	1.5	1.0	1.0
19	6.0	3.0	4.0	3.0	0.5	1.0	4.5	1.5	2.5	3.0	1.0	1.5
20	8.0	3.0	4.5	3.0	0.5	1.0	20	2.0	4.0	2.0	1.0	1.0
21	7.5	3.0	4.0	2.5	<0.5	1.0	4.5	1.5	2.5	2.0	0.5	1.0
22	7.0	3.0	4.0	2.0	<0.5	1.0	3.0	1.5	2.0	11	1.0	1.5
23	5.5	2.5	3.5	2.0	0.5	1.0	3.5	1.5	2.0	100	2.0	10
24	5.5	2.5	3.5	2.0	0.5	1.0	4.0	1.5	2.0	9.0	2.0	4.5
25	8.5	2.5	3.5	2.0	<0.5	1.0	3.0	1.5	2.0	4.5	1.5	2.5
26	5.0	2.5	3.0	1.5	<0.5	0.5	3.5	1.5	2.0	3.5	1.5	2.0
27	5.0	2.0	3.0	2.0	<0.5	0.5	3.5	1.5	2.0	4.5	1.5	2.0
28	4.5	2.0	3.0	2.0	<0.5	0.5	3.0	1.5	2.0	4.0	1.5	2.0
29	6.0	2.0	3.0	1.5	<0.5	0.5	4.0	1.5	2.0	4.0	1.5	2.0
30	5.0	2.0	3.0	1.0	<0.5	0.5	3.5	1.5	2.0	4.0	1.0	2.0
31	---	---	---	1.5	<0.5	0.5	3.5	1.5	1.5	---	---	---
Month	13	2.0	4.8	27	<0.5	1.6	20	<0.5	1.8	100	0.5	2.2

Water-Data Report 2007

12323720 WILLOW CREEK AT OPPORTUNITY, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°06'22", long 112°48'41" referenced to North American Datum of 1927, in NW ¼ NE ¼ NW ¼ sec.14, T.4 N., R.10 W., Deer Lodge County, MT, Hydrologic Unit 17010201, 1,300 ft upstream from Stuart Street culverts, at Opportunity, 1.2 mi upstream from Mill-Willow Bypass, and at river mile 1.2.

DRAINAGE AREA.--30.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2003 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,930 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. Flow is not regulated, however minor diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is installed at station.

12323720 WILLOW CREEK AT OPPORTUNITY, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7.0	5.6	5.4	4.6	4.1	4.3	6.8	18	29	16	6.2	6.1
2	6.8	5.7	5.4	4.8	4.0	4.2	7.0	19	28	16	6.1	5.8
3	6.8	7.1	5.4	5.6	3.8	4.2	6.4	30	26	18	6.6	5.6
4	7.0	7.3	5.5	4.9	3.7	4.7	6.4	23	24	17	6.6	5.6
5	6.9	6.7	5.7	4.6	5.9	6.7	6.7	20	27	16	6.5	6.2
6	7.6	6.6	5.6	4.8	6.6	8.7	6.5	18	46	16	6.9	6.2
7	8.2	6.9	5.5	4.7	6.0	8.8	6.8	17	35	16	6.8	6.1
8	7.9	9.6	5.6	4.7	5.9	7.6	6.7	16	26	17	6.5	5.9
9	8.4	8.2	5.7	4.8	5.8	5.4	6.8	16	23	15	6.4	6.2
10	7.9	7.3	5.6	4.8	5.6	4.9	6.7	17	23	14	6.3	6.3
11	7.7	7.1	5.7	e4.0	5.4	5.0	6.5	18	33	13	6.2	6.3
12	7.4	6.5	6.0	e3.5	5.0	6.0	6.5	19	23	12	5.9	6.0
13	7.6	6.5	6.6	e3.8	4.9	5.5	6.3	20	19	11	5.8	6.0
14	7.7	6.6	6.7	e3.9	4.9	4.9	5.5	21	19	11	6.0	6.2
15	7.7	6.0	7.2	e4.0	5.2	4.6	5.9	19	17	11	6.0	6.3
16	9.0	7.2	6.3	e4.1	5.5	5.0	5.5	18	16	11	6.0	6.2
17	9.6	6.5	5.1	e4.2	5.5	5.8	5.3	18	21	11	6.5	6.0
18	9.0	6.2	4.8	4.2	5.8	6.8	9.1	17	22	18	6.5	6.3
19	7.9	6.0	4.6	4.2	5.6	8.4	9.4	18	19	12	6.3	6.6
20	9.7	6.6	4.5	4.3	5.3	8.5	12	20	18	9.6	6.1	6.8
21	9.7	6.5	4.5	4.3	5.1	8.2	12	39	19	8.6	5.8	6.8
22	8.8	7.4	4.5	4.4	5.1	7.3	9.7	44	19	8.0	5.6	6.7
23	8.1	6.5	4.5	4.5	5.2	7.1	9.9	35	18	7.5	5.8	9.4
24	7.7	5.8	4.6	4.6	4.8	7.1	9.2	27	18	7.5	6.1	9.5
25	7.6	5.9	4.8	4.5	4.7	6.4	10	36	17	9.2	5.7	7.5
26	7.0	6.0	5.0	4.5	4.6	6.7	12	29	16	8.6	5.7	6.9
27	6.8	5.8	5.3	4.4	4.5	7.2	12	28	15	8.1	5.8	6.6
28	6.6	5.8	5.0	e4.4	4.5	7.5	12	47	14	7.5	6.0	6.7
29	6.4	5.5	4.8	4.3	---	6.8	13	40	15	6.9	5.9	7.1
30	6.3	5.5	4.8	4.3	---	6.6	16	34	15	6.7	5.8	7.3
31	5.9	---	4.6	4.2	---	6.6	---	31	---	6.5	5.9	---
Total	238.7	196.9	165.3	136.9	143.0	197.5	254.6	772	660	365.7	190.3	197.2
Mean	7.70	6.56	5.33	4.42	5.11	6.37	8.49	24.9	22.0	11.8	6.14	6.57
Max	9.7	9.6	7.2	5.6	6.6	8.8	16	47	46	18	6.9	9.5
Min	5.9	5.5	4.5	3.5	3.7	4.2	5.3	16	14	6.5	5.6	5.6
Ac-ft	473	391	328	272	284	392	505	1,530	1,310	725	377	391

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.06	6.04	5.20	4.57	4.84	5.62	8.92	23.9	20.5	8.86	6.03	6.74
Max	7.75	6.56	5.65	4.99	5.19	6.37	14.5	30.2	26.9	11.8	6.72	7.43
(WY)	(2005)	(2007)	(2005)	(2005)	(2006)	(2007)	(2003)	(2003)	(2005)	(2007)	(2004)	(2004)
Min	6.19	5.33	4.62	4.18	4.32	4.71	5.37	13.4	17.6	6.68	4.90	6.11
(WY)	(2004)	(2004)	(2006)	(2004)	(2004)	(2005)	(2005)	(2004)	(2006)	(2003)	(2006)	(2006)

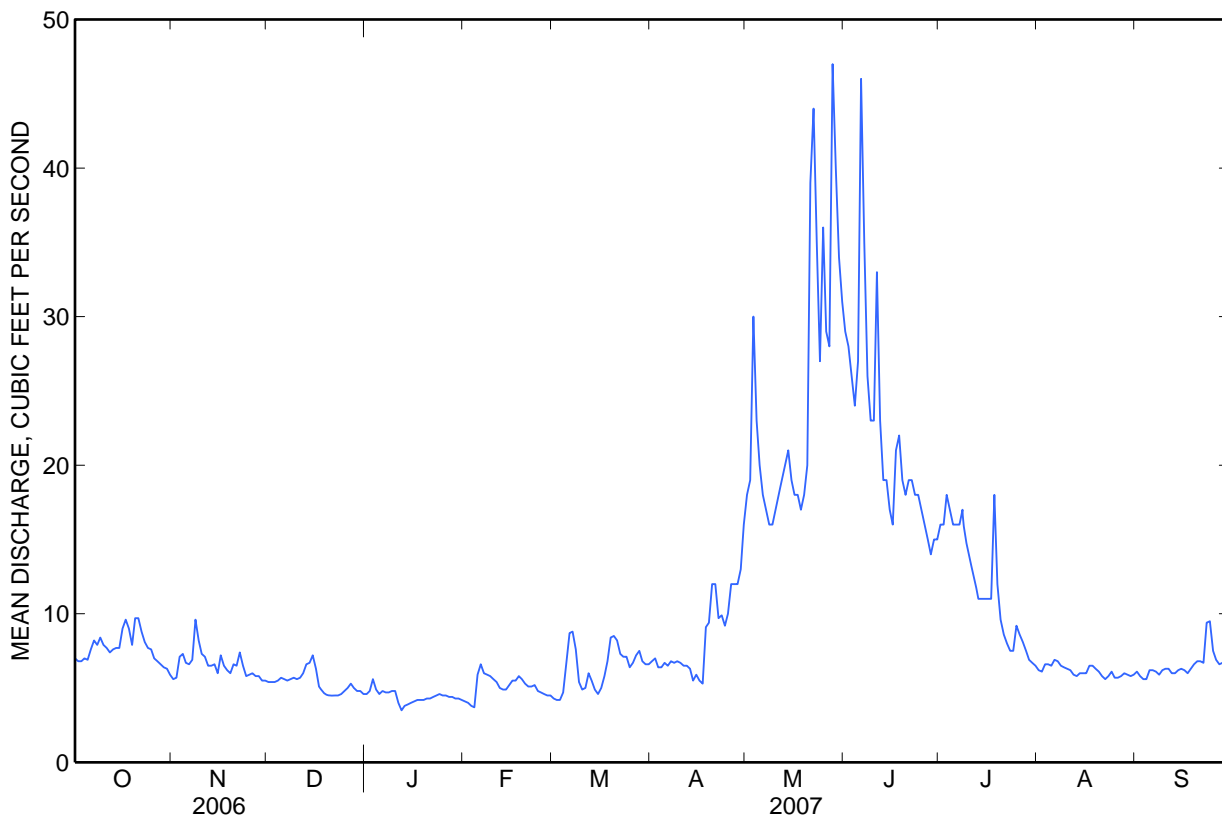
12323720 WILLOW CREEK AT OPPORTUNITY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 2003 - 2007	
Annual total	3,143.4		3,518.1			
Annual mean	8.61		9.64		8.88	
Highest annual mean					9.87	2005
Lowest annual mean					7.61	2004
Highest daily mean	63	Jun 10	47	May 28	63	Jun 10, 2006
Lowest daily mean	4.3	Jan 5	3.5	Jan 12	3.5	Jan 12, 2007
Annual seven-day minimum	4.5	Jan 3	3.9	Jan 11	3.9	Jan 11, 2007
Maximum peak flow			67	May 28	95	Jun 10, 2006
Maximum peak stage			4.96	May 28	6.19	Jun 10, 2006
Instantaneous low flow			^a 3.4	Jan 5	^b 3.0	Jan 28, 2006
Annual runoff (ac-ft)	6,230		6,980		6,430	
10 percent exceeds	15		19		18	
50 percent exceeds	6.2		6.6		6.2	
90 percent exceeds	4.6		4.6		4.6	

^a Gage height, 3.77 ft.

^b Gage height, 3.85 ft.



12323720 WILLOW CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2003 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered, μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, μ g/L (01000)	Arsenic water, unfltrd, μ g/L (01002)	Cadmium water, fltrd, μ g/L (01025)	Cadmium water, unfltrd, μ g/L (01027)
Nov													
13...	1700	6.2	8.1	311	3.0	5.0	140	39.8	9.28	17.4	20.9	<.04	.15
Feb													
26...	1415	4.7	8.2	322	2.0	3.0	130	37.0	9.42	11.6	13.5	E.02	.07
Mar													
26...	1650	6.8	8.4	266	11.5	10.0	110	32.6	7.28	24.1	27.4	E.02	.07
May													
09...	1145	17	8.0	222	22.0	12.5	91	27.3	5.51	54.2	56.8	E.03	.13
Jun													
05...	1220	25	7.9	214	17.0	14.5	90	27.1	5.37	62.4	64.8	.07	.15
18...	1600	22	8.0	259	19.0	14.5	110	33.1	7.44	46.6	48.0	.04	.09
Jul													
23...	1600	7.4	8.4	306	37.5	20.5	140	39.6	9.12	44.1	45.3	.04	.05
Aug													
27...	1405	5.9	8.5	310	20.5	16.0	130	38.7	9.31	22.0	21.5	E.02	.03

12323720 WILLOW CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm percent (70331)	mg/L (80154)	tons/d (80155)
Nov													
13...	1.3	13.5	18	482	.16	5.10	60.4	73.9	3.0	19	92	19	.32
Feb													
26...	1.1	6.0	29	231	.15	1.94	63.9	72.2	3.7	10	92	5	.06
Mar													
26...	3.0	6.6	43	242	.23	1.63	48.9	56.0	2.7	7	86	7	.13
May													
09...	9.1	19.4	70	400	.37	3.38	34.3	53.3	6.5	18.3	77	19	.87
Jun													
05...	8.8	17.3	96	394	.40	2.72	27.5	44.3	6.0	15.5	77	13	.88
18...	5.0	9.0	49	204	.20	1.55	16.5	25.3	3.5	10.2	65	7	.42
Jul													
23...	3.0	4.9	23	156	.12	1.12	10.7	23.5	.98	3.9	90	4	.08
Aug													
27...	2.2	3.1	8	71	E.06	.64	6.4	11.7	.84	2.6	79	3	.05



Water-Data Report 2007

12323750 SILVER BOW CREEK AT WARM SPRINGS, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°10'46", long 112°46'50" referenced to North American Datum of 1927, in SW ¼ SE ¼ SW ¼ sec.18, T.5 N., R.9 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on left bank 1.0 mi upstream from confluence with Warm Springs Creek, 1.1 mi upstream from county highway bridge, and 0.5 mi east of Warm Springs.

DRAINAGE AREA.--473 mi². Site used prior to May 24, 1994, had an area of 483 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1972 to September 1979, April 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,800.31 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to May 24, 1994, gage located at sites 0.8 mi downstream at different elevation.

REMARKS.--Records are good except those for estimated daily discharges and those for October to November and July to September, which are fair. Flow is regulated by dam on tailing ponds about 0.2 mi upstream from gage. Diversions for irrigation include about 4,650 acres upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12323750 SILVER BOW CREEK AT WARM SPRINGS, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	41	e48	e45	e50	e45	52	67	81	168	70	27	24
2	40	50	e40	54	e47	49	75	109	169	67	28	23
3	40	52	e40	53	52	50	77	201	175	54	28	22
4	41	56	e50	53	53	53	72	201	194	35	26	21
5	40	56	69	52	54	54	72	172	238	35	25	23
6	41	67	90	47	55	59	86	157	286	34	26	24
7	44	72	93	51	55	64	101	140	265	32	26	24
8	45	72	93	54	59	56	96	136	231	33	24	25
9	47	73	91	53	59	51	88	149	238	31	22	26
10	49	81	86	51	62	55	82	154	231	31	21	27
11	50	79	92	40	63	61	96	160	295	31	21	27
12	49	76	91	e25	66	68	112	177	258	30	20	25
13	57	74	91	e28	65	62	107	181	229	29	18	23
14	61	63	96	e32	65	61	95	173	211	28	19	25
15	58	55	93	e35	62	52	85	162	190	29	19	26
16	60	52	e70	37	59	50	80	154	164	30	22	26
17	62	46	e60	37	58	49	79	e167	167	30	24	26
18	58	41	e64	37	58	47	137	170	160	41	24	27
19	57	43	e68	36	57	52	148	168	153	37	25	26
20	63	45	e70	37	56	56	77	162	142	34	27	29
21	67	47	e70	39	55	49	53	188	140	35	27	30
22	65	52	78	41	56	44	49	197	140	36	25	31
23	64	51	75	44	58	41	51	168	125	34	25	43
24	65	e52	70	45	57	41	54	128	106	35	25	71
25	64	e45	68	48	54	43	59	142	85	41	27	74
26	64	e40	66	50	53	44	63	130	82	42	27	58
27	65	e40	57	50	52	51	68	138	82	39	26	52
28	63	e35	53	50	53	60	64	175	81	37	26	47
29	61	e40	e48	50	---	64	65	176	72	35	25	46
30	60	e40	e50	50	---	66	75	174	71	32	25	48
31	e45	---	e52	e50	---	66	---	174	---	29	25	---
Total	1,686	1,643	2,179	1,379	1,588	1,670	2,433	4,964	5,148	1,136	755	999
Mean	54.4	54.8	70.3	44.5	56.7	53.9	81.1	160	172	36.6	24.4	33.3
Max	67	81	96	54	66	68	148	201	295	70	28	74
Min	40	35	40	25	45	41	49	81	71	28	18	21
Ac-ft	3,340	3,260	4,320	2,740	3,150	3,310	4,830	9,850	10,210	2,250	1,500	1,980

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	65.3	71.8	67.5	69.6	73.9	97.8	121	226	250	104	59.8	56.3
Max	193	161	156	152	130	207	281	586	770	356	201	137
(WY)	(1976)	(1976)	(1976)	(1974)	(1996)	(1976)	(1976)	(1976)	(1975)	(1975)	(1975)	(1975)
Min	23.3	31.7	30.9	33.9	36.4	35.7	34.5	62.9	57.2	28.8	16.8	20.1
(WY)	(2004)	(2001)	(2002)	(2005)	(2005)	(2005)	(2005)	(2004)	(2000)	(2000)	(2000)	(2000)

* During periods of operation (March 1972 to September 1979, April 1993 to current year).

12323750 SILVER BOW CREEK AT WARM SPRINGS, MT—Continued

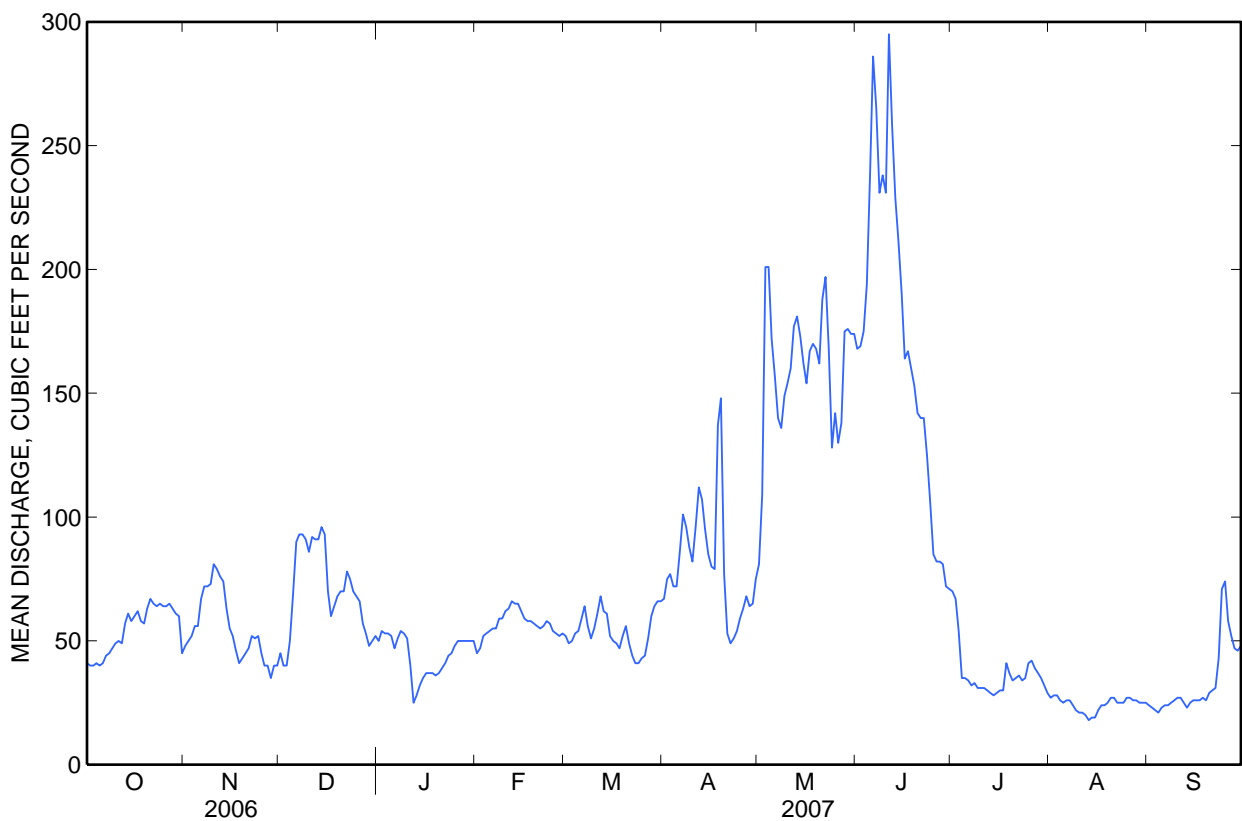
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1972 - 2007*	
Annual total	26,327		25,580			
Annual mean	72.1		70.1		104	
Highest annual mean					228	1975
Lowest annual mean					40.9	2004
Highest daily mean	269	May 21	295	Jun 11	1,220	Jun 20, 1975
Lowest daily mean	22	Aug 30	18	Aug 13	15	Sep 12, 1973
Annual seven-day minimum	24	Aug 25	20	Aug 9	16	Aug 4, 2000
Maximum peak flow			330	Jun 6	^a 1,320	Jun 20, 1975
Maximum peak stage			3.06	Jun 6	^b 8.64	Jan 16, 1974
Instantaneous low flow					15	Sep 12, 1973
Annual runoff (ac-ft)	52,220		50,740		75,360	
10 percent exceeds	162		160		207	
50 percent exceeds	50		54		71	
90 percent exceeds	29		26		31	

* During periods of operation (March 1972 to September 1979, April 1993 to current year).

^a Gage height, 7.47 ft, site and datum then in use.

^b Backwater from ice, site and datum then in use.



12323750 SILVER BOW CREEK AT WARM SPRINGS, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April 1993 to September 1995.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 429 mg/L, Mar. 15, 1994; minimum daily mean, 1 mg/L, several days in October 1995.

SEDIMENT LOAD: Maximum daily, 302 tons, June 6, 1995; minimum daily, 0.12 ton, several days in August 1995.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

[Remark codes: E, estimated.]

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)
Nov													
14...	0920	64	8.4	530	2.0	1.0	230	66.3	15.2	12.4	16.8	.04	.27
Feb													
26...	1550	54	8.6	605	-0.5	3.0	240	69.1	16.6	12.6	14.6	.11	.17
Mar													
27...	1220	50	8.5	557	2.5	7.0	240	69.5	15.2	10.1	13.0	E.03	.08
May													
09...	0930	150	8.3	451	19.0	13.5	180	51.5	11.9	20.7	23.4	E.03	.10
Jun													
05...	1535	249	9.2	333	15.0	13.5	130	38.0	8.54	26.7	30.1	.05	.16
19...	1010	155	9.2	460	21.5	13.0	190	56.0	11.9	29.4	30.5	.04	.10
Jul													
24...	1030	33	9.0	503	25.0	20.0	210	61.5	13.7	36.4	37.1	.04	.06
Aug													
28...	0815	25	8.6	598	10.5	12.5	250	73.0	16.5	33.6	34.8	E.02	.03

12323750 SILVER BOW CREEK AT WARM SPRINGS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Manganese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm (70331)	mg/L (80154)	tons/d (80155)
Nov 14...	1.7	14.6	12	427	E.09	3.24	96.1	147	3.6	29	96	7	1.2
Feb 26...	4.1	8.7	9	218	<.12	1.11	205	242	7.5	17	85	5	.73
Mar 27...	2.1	6.2	8	230	<.12	1.48	176	239	3.6	11	90	5	.68
May 09...	3.1	6.9	20	263	.13	1.33	180	224	3.6	10.9	87	7	2.8
Jun 05...	5.2	12.6	24	449	.12	2.23	37.0	94.4	1.2	12.2	86	13	8.7
Jun 19...	5.3	8.6	17	144	E.11	.75	98.4	127	3.0	6.3	86	4	1.7
Jul 24...	3.0	4.5	8	101	<.12	.55	28.4	85.6	.98	3.1	76	3	.27
Aug 28...	2.0	2.4	E6	56	<.12	.28	32.5	55.5	1.1	2.1	67	2	.14



Water-Data Report 2007

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°08'01", long 112°54'48" referenced to North American Datum of 1927, in SW ¼ NW ¼ NE ¼ sec.1, T.4 N., R.11 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on left bank 0.3 mi downstream from Arbiter Bridge on private road, 1.0 mi upstream from Dutchman Creek, 1.2 mi northeast of Anaconda, and at river mile 9.5.

DRAINAGE AREA.--157 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,150 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Flow is somewhat regulated by Storm King Lake. Minor diversions occur upstream from station for irrigation and municipal use. U.S. Geological Survey satellite telemeter is located at the station. Several observations of water temperature and specific conductance were made during the year.

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	53	e35	46	42	e35	48	39	137	219	139	78	62
2	51	e40	e37	44	e40	45	39	158	236	133	78	60
3	51	e50	e37	60	e45	45	35	189	253	128	77	59
4	56	54	39	55	48	51	39	162	266	123	76	60
5	54	53	43	53	54	51	39	143	349	120	75	72
6	58	54	44	52	52	55	40	127	380	116	79	66
7	59	64	46	50	51	53	39	118	326	116	76	62
8	56	94	46	54	52	52	40	123	295	114	74	62
9	57	80	46	55	51	48	43	136	281	108	72	63
10	55	73	45	54	50	48	42	157	311	105	73	63
11	56	71	48	e35	49	52	40	191	415	103	72	62
12	55	67	52	e20	51	69	39	206	379	98	70	61
13	54	66	58	e22	47	67	40	227	348	97	68	61
14	53	66	60	e24	49	46	41	209	328	96	68	61
15	53	63	63	e25	49	40	43	180	305	97	67	61
16	58	67	e45	e25	50	40	42	179	283	94	66	60
17	58	62	e30	e25	49	43	43	194	275	98	70	60
18	55	65	e32	e28	50	44	54	204	242	104	72	61
19	56	62	e34	e35	50	42	54	224	217	95	69	65
20	77	64	e35	37	51	41	61	233	214	93	67	66
21	68	64	36	38	50	38	64	248	219	89	67	64
22	61	66	37	40	51	36	60	212	214	87	67	63
23	59	64	35	44	52	36	59	186	203	84	67	80
24	58	59	36	48	49	38	52	175	194	85	66	76
25	59	e55	38	50	51	41	53	173	182	99	64	71
26	56	e45	43	51	50	43	57	163	169	91	63	69
27	55	e45	47	49	48	46	56	176	159	88	62	67
28	54	e35	47	49	50	42	61	243	155	87	62	67
29	54	e40	e38	e45	---	37	77	216	150	82	61	68
30	53	e40	e40	e45	---	38	116	200	145	82	60	67
31	e40	---	42	e43	---	40	---	203	---	81	60	---
Total	1,742	1,763	1,325	1,297	1,374	1,415	1,507	5,692	7,712	3,132	2,146	1,939
Mean	56.2	58.8	42.7	41.8	49.1	45.6	50.2	184	257	101	69.2	64.6
Max	77	94	63	60	54	69	116	248	415	139	79	80
Min	40	35	30	20	35	36	35	118	145	81	60	59
Ac-ft	3,460	3,500	2,630	2,570	2,730	2,810	2,990	11,290	15,300	6,210	4,260	3,850

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	70.0	58.2	46.1	45.3	45.2	46.0	52.3	122	197	106	79.2	74.9
Max	113	99.5	78.6	71.0	68.0	67.3	66.5	184	266	196	99.0	95.1
(WY)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(2007)	(2003)	(1998)	(1999)	(1999)
Min	42.1	30.8	27.9	28.9	29.9	27.8	30.9	70.0	93.0	65.2	63.2	60.5
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2002)	(2000)	(2000)	(2000)	(2006)

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

SUMMARY STATISTICS

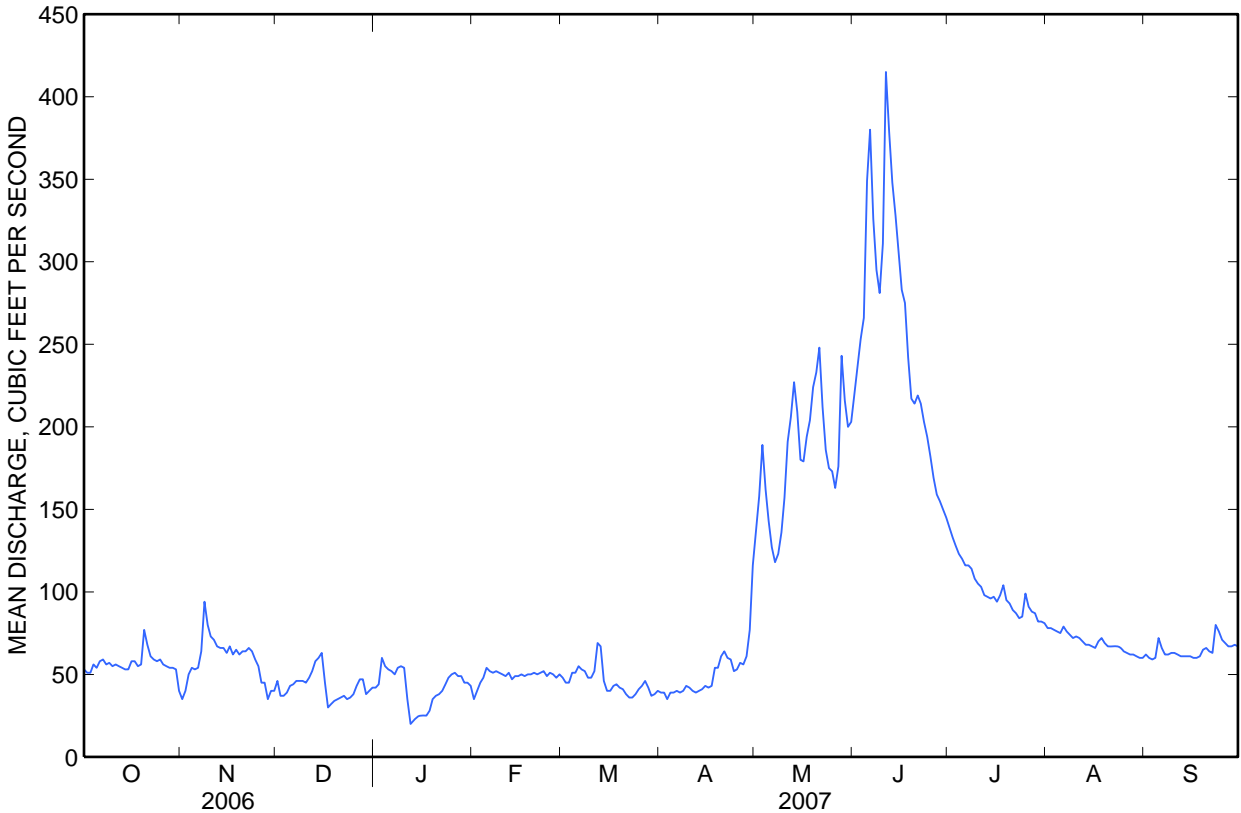
	Calendar Year 2006		Water Year 2007		Water Years 1998 - 2007	
Annual total	25,670		31,044			
Annual mean	70.3		85.1		78.6	
Highest annual mean					112	1998
Lowest annual mean					61.5	2004
Highest daily mean	359	May 20	415	Jun 11	598	May 31, 2003
Lowest daily mean	13	Feb 18	20	Jan 12	13	Feb 18, 2006
Annual seven-day minimum	25	Feb 14	24	Jan 12	18	Jan 3, 2004
Maximum peak flow			^a 448	Jun 11	^c 675	May 31, 2003
Maximum peak stage			^b 4.20	Jan 17	^b 4.89	Dec 26, 1998
Instantaneous low flow					^d 10	Jan 6, 2004
Annual runoff (ac-ft)	50,920		61,580		56,960	
10 percent exceeds	139		194		136	
50 percent exceeds	57		60		62	
90 percent exceeds	32		39		36	

^a Gage height, 3.87 ft.

^b Backwater from ice.

^c Gage height, 4.17 ft.

^d Gage height, 1.79 ft, result of freezeup.



12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--October 2005 to current year.

PERIOD OF DAILY RECORD.--

TURBIDITY: Seasonal records, May 2006 to current year.

INSTRUMENTATION.--Turbidity monitor installed May 2006.

REMARKS.--Daily turbidity records are rated good to excellent except for 67 days that are rated fair to poor. Turbidity data for September 2 and 3 were deleted due to erroneous values. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

TURBIDITY: Seasonal records, maximum, 59 formazin nephelometric units (FNU), July 17, 2007; minimum, <0.5 FNU, several days in September 2007.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: During seasonal operation, maximum, 59 formazin nephelometric units (FNU), July 17; minimum, <0.5 FNU several days in September.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	Turbdy white light, det ang 90+/-30 corrctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unfl- trd µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)
Nov 13...	1545	65	<2.0	8.7	247	4.0	4.5	120	37.0	7.79	1.9	2.0
Mar 26...	1515	41	<2.0	8.7	264	10.5	8.0	130	38.6	8.47	2.4	2.7
May 09...	1310	145	<2.0	8.4	182	24.5	8.5	84	25.6	4.83	2.0	2.3
Jun 12...	1020	391	2.3	8.1	140	17.5	7.0	66	20.5	3.64	2.7	3.2
Jul 23...	1400	85	2.3	8.5	230	33.0	14.0	110	32.3	6.83	2.8	3.0
Aug 27...	1240	62	<2.0	8.5	255	20.5	10.5	120	36.3	7.84	2.6	2.6

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium water, flt'd, µg/L (01025)	Cadmium water, unflt'd µg/L (01027)	Copper, water, flt'd, µg/L (01040)	Copper, water, unflt'd recovery, µg/L (01042)	Iron, water, flt'd, µg/L (01046)	Iron, water, unflt'd recovery, µg/L (01045)	Lead, water, flt'd, µg/L (01049)	Lead, water, unflt'd recovery, µg/L (01051)	Mangan- ese, water, flt'd, µg/L (01056)	Mangan- ese, water, unflt'd recovery, µg/L (01055)	Zinc, water, flt'd, µg/L (01090)	Zinc, water, unflt'd recovery, µg/L (01092)
Mar 26...	E.02	.02	.86	2.1	<6	75	<.12	.26	.8	3.3	E.54	E2
May 09...	<.04	.04	1.1	3.3	7	125	<.12	.47	.9	5.1	1.2	2.7
Jun 12...	<.04	.05	1.4	4.7	13	237	<.12	.62	2.1	11.3	1.3	5.5
Jul 23...	E.02	.07	.87	2.1	13	79	<.12	.28	1.1	4.1	1.4	2.7
Aug 27...	E.02	.03	.62	E1.1	E5	67	<.12	.23	.8	4.3	E.48	E1.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

Date	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Nov 13...	67	2	.35
Mar 26...	71	4	.44
May 09...	57	6	2.3
Jun 12...	51	17	18
Jul 23...	61	4	.92
Aug 27...	67	3	.50

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

[<, less than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	3.0	2.0	2.0	4.0	2.0	3.0	5.0	3.0	3.0			
2	3.0	2.0	2.0	3.0	2.0	2.5	4.0	3.0	3.0			
3	2.0	2.0	2.0	43	2.0	5.5	3.0	2.0	2.5			
4	5.5	2.0	2.0	3.0	2.0	2.5	4.0	3.0	3.0			
5	3.0	2.0	2.0	6.0	2.0	2.5	4.0	3.0	3.0			
6	6.5	2.0	2.0	4.0	2.0	2.5	4.0	3.0	3.0			
7	3.5	2.0	2.0	5.0	2.0	3.0	5.0	3.0	3.0			
8	2.5	1.5	2.0	8.0	3.0	5.0	3.0	3.0	3.0			
9	2.5	1.5	2.0	4.0	2.0	3.0	4.0	3.0	3.0			
10	2.5	1.5	2.0	3.0	2.0	3.0	4.0	3.0	3.0			
11	3.5	1.5	1.5	5.0	2.0	2.5	4.0	3.0	3.0			
12	2.5	1.5	2.0	3.0	2.0	2.5	---	---	3.0			
13	2.5	1.5	1.5	5.0	2.0	2.5						
14	2.5	1.5	1.5	4.0	2.0	3.0						
15	1.5	1.5	1.5	4.0	2.0	3.0						
16	4.0	1.5	2.0	3.0	2.0	2.5						
17	3.0	1.5	2.0	3.0	2.0	2.0						
18	2.5	1.5	1.5	3.0	2.0	2.0						
19	2.5	1.5	1.5	3.0	2.0	2.0						
20	39	1.5	6.0	3.0	2.0	2.0						
21	3.5	1.5	2.0	7.0	2.0	2.5						
22	2.0	1.5	2.0	5.0	2.0	3.0						
23	2.0	1.5	2.0	3.0	2.0	3.0						
24	2.5	2.0	2.0	3.0	2.0	3.0						
25	3.0	2.0	2.0	3.0	2.0	3.0						
26	3.0	2.0	2.0	3.0	3.0	3.0						
27	3.0	2.0	2.0	4.0	3.0	3.0						
28	2.0	2.0	2.0	5.0	2.0	2.5						
29	3.0	2.0	2.0	4.0	2.0	2.5						
30	3.0	2.0	2.0	11	2.0	3.0						
31	5.0	2.0	3.0	---	---	---						
Month	39	1.5	2.0	43	2.0	3.0						

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
 WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
 [<, less than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1										21	6.0	10
2										16	7.0	10
3										55	7.0	16
4							4.0	3.0	3.0	12	4.0	5.5
5							4.0	2.0	3.0	6.0	3.0	4.0
6							4.0	3.0	3.0	4.0	3.0	3.5
7							4.0	3.0	3.0	5.0	3.0	3.0
8							4.0	3.0	3.0	4.0	3.0	3.0
9							4.0	3.0	3.5	5.0	3.0	3.5
10							4.0	3.0	3.0	7.5	3.0	4.5
11							4.0	3.0	3.0	10	5.0	7.0
12							4.0	2.0	3.0	10	5.0	7.5
13							4.0	3.0	3.0	15	5.0	9.0
14							4.0	3.0	3.0	7.5	4.0	5.5
15							4.0	3.0	3.0	6.5	3.0	4.0
16							4.0	3.0	3.0	5.0	3.0	3.5
17							14	2.0	3.5	5.0	3.0	4.0
18							16	4.0	7.5	5.0	3.0	4.0
19							5.0	3.0	3.5	11	4.0	5.5
20							7.0	3.0	4.0	10	4.0	5.5
21							28	3.0	7.0	18	5.0	7.0
22							9.0	3.0	3.5	7.0	3.0	4.0
23							5.0	2.0	3.5	11	3.0	3.5
24							7.0	3.0	3.5	7.5	3.0	3.5
25							5.0	3.0	3.5	7.5	2.0	3.5
26							5.0	3.0	3.5	4.0	2.0	2.5
27							5.0	3.0	3.5	8.5	2.0	3.5
28							5.0	3.0	4.0	8.5	3.0	5.0
29							9.0	4.0	6.0	4.0	2.0	3.0
30							23	7.0	13	5.5	2.0	2.5
31							---	---	---	3.0	2.0	2.5
Month							---	---	---	55	2.0	5.0

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

[<, less than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	6.5	3.0	3.5	3.5	1.0	2.0	3.0	2.0	2.5	---	---	2.5
2	4.5	3.0	3.5	---	---	2.5	3.0	2.0	2.5	---	---	---
3	5.5	3.0	4.0	5.0	2.0	3.5	3.0	2.0	2.5	---	---	---
4	22	2.5	5.0	4.0	2.0	3.0	3.0	2.0	2.5	---	---	2.5
5	29	7.0	14	4.0	2.0	3.0	8.5	3.0	3.5	7.5	1.5	3.0
6	14	6.0	8.5	4.0	2.0	3.0	4.5	2.5	3.5	2.5	1.5	2.0
7	7.0	4.0	5.0	4.0	2.0	3.0	5.5	3.5	4.0	2.0	0.5	1.0
8	6.0	3.0	3.5	5.0	2.0	3.0	6.5	4.5	5.5	0.5	0.5	0.5
9	5.0	3.0	3.5	4.0	2.0	3.0	6.5	2.0	3.5	0.5	0.5	0.5
10	10	3.0	5.0	4.0	2.0	3.0	2.5	2.0	2.0	0.5	0.5	0.5
11	24	8.5	13	4.0	2.0	3.0	2.5	2.0	2.0	0.5	0.5	0.5
12	39	4.0	7.5	4.0	2.0	3.0	2.5	2.0	2.0	0.5	0.5	0.5
13	9.5	3.0	4.5	3.0	2.0	2.5	3.5	2.0	2.0	0.5	0.5	0.5
14	8.5	3.0	4.0	4.0	2.0	2.5	2.5	2.0	2.0	1.5	<0.5	0.5
15	4.5	3.0	3.5	6.0	2.0	3.0	2.5	2.0	2.0	1.0	<0.5	0.5
16	5.5	3.0	3.5	4.0	2.0	2.5	7.0	2.0	2.0	1.5	<0.5	0.5
17	7.5	3.5	5.0	59	2.0	7.0	2.5	2.0	2.0	1.0	0.5	0.5
18	14	4.5	8.5	35	2.0	5.0	11	2.0	2.5	1.5	0.5	0.5
19	43	7.5	20	5.0	2.0	2.5	5.5	2.0	2.0	1.5	0.5	1.0
20	33	5.5	11	5.0	2.0	2.5	2.5	2.0	2.0	1.0	<0.5	0.5
21	47	6.5	12	5.0	2.0	2.5	2.5	2.0	2.0	1.0	<0.5	0.5
22	25	7.0	14	4.0	2.0	2.5	2.5	2.0	2.0	1.0	0.5	0.5
23	33	2.5	7.5	4.0	2.0	2.5	3.5	1.5	2.0	37	1.0	5.0
24	4.5	2.5	2.5	4.5	2.0	2.5	2.5	1.5	2.0	2.0	0.5	1.0
25	12	2.5	3.0	8.5	3.0	3.5	2.5	1.5	1.5	1.5	0.5	1.0
26	3.5	2.5	2.5	4.0	2.0	2.5	2.5	1.5	1.5	1.5	0.5	0.5
27	2.5	2.5	2.5	4.0	2.0	3.0	2.5	1.5	1.5	2.5	0.5	1.0
28	4.5	2.5	2.5	4.0	2.0	2.5	1.5	1.5	1.5	1.0	0.5	1.0
29	3.5	1.0	2.5	4.5	2.0	2.5	1.5	1.5	1.5	1.5	0.5	1.0
30	3.5	1.0	2.0	4.5	2.0	2.5	2.5	1.5	1.5	1.0	0.5	1.0
31	---	---	---	3.0	2.0	2.5	---	---	3.0	---	---	---
Month	47	1.0	6.0	---	---	3.0	---	---	2.5	---	---	---

Water-Data Report 2007

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°10'49", long 112°47'06" referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.18, T.5 N., R.9 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on right bank at I-90 frontage road bridge 0.2 mi southeast of Warm Springs post office, and at river mile 0.9.

DRAINAGE AREA.--163 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1983 to current year. October 1983 to June 26, 2002 at site 200 ft upstream at different datum.

GAGE.--Water-stage recorder. Elevation of gage is 4,810 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 occur upstream from station. A U.S. Geological Survey satellite telemeter is located at the station.

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	31	e26	e35	e29	e20	e38	28	88	161	89	44	35
2	30	e28	e28	e35	e22	e38	28	98	175	84	44	35
3	29	e30	e28	e41	e30	e40	24	127	186	81	43	36
4	32	40	e33	e40	e40	41	27	115	196	78	46	33
5	32	39	e35	e32	e48	42	28	101	239	76	44	47
6	33	37	e37	e30	47	44	28	92	258	70	46	43
7	35	41	37	e35	44	44	27	85	219	70	44	39
8	34	60	37	e38	44	41	27	86	202	70	44	36
9	35	56	37	e37	44	36	29	93	190	65	41	38
10	34	51	36	e25	42	35	30	103	204	63	41	38
11	34	49	36	e15	42	37	28	128	261	61	40	35
12	33	47	37	e10	44	46	28	140	247	59	38	34
13	33	46	41	e11	41	53	28	157	229	56	38	35
14	33	46	44	e12	43	38	28	154	217	56	37	35
15	33	e38	e35	e13	43	33	30	130	208	56	38	35
16	37	e40	e25	e14	43	32	30	125	196	54	36	34
17	39	e37	e20	e14	42	34	30	128	192	56	40	33
18	37	e30	e21	e14	43	36	40	127	173	69	44	34
19	37	e32	e22	e15	42	35	38	143	154	59	43	37
20	51	e35	e24	e16	43	34	42	153	148	59	43	39
21	47	43	e26	e15	42	33	46	171	154	54	43	37
22	42	46	e28	e17	42	32	43	153	149	53	40	37
23	40	44	e26	e20	43	32	43	130	141	51	40	56
24	40	e40	e30	e25	41	30	38	120	136	54	40	56
25	40	e35	e33	e30	43	32	38	122	125	65	39	50
26	38	e30	e35	e35	42	34	41	111	112	61	37	48
27	38	e30	39	e30	40	34	40	117	102	58	37	46
28	38	e25	e35	e28	e40	32	42	176	89	55	36	46
29	38	e30	e27	e25	---	27	50	166	89	51	30	49
30	e35	e30	e28	e25	---	28	73	151	93	50	30	48
31	e25	---	e30	e25	---	29	---	150	---	47	31	---
Total	1,113	1,161	985	751	1,140	1,120	1,052	3,940	5,245	1,930	1,237	1,204
Mean	35.9	38.7	31.8	24.2	40.7	36.1	35.1	127	175	62.3	39.9	40.1
Max	51	60	44	41	48	53	73	176	261	89	46	56
Min	25	25	20	10	20	27	24	85	89	47	30	33
Ac-ft	2,210	2,300	1,950	1,490	2,260	2,220	2,090	7,810	10,400	3,830	2,450	2,390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	42.6	42.4	32.6	34.4	34.8	34.5	40.7	83.4	137	54.6	27.1	33.2
Max	95.2	84.5	77.8	82.1	63.0	53.5	62.8	196	362	170	125	81.6
(WY)	(1998)	(1998)	(1985)	(1985)	(1986)	(1998)	(1986)	(1997)	(1997)	(1997)	(1997)	(1997)
Min	10.6	13.1	5.89	4.21	4.54	18.0	13.3	19.3	7.05	0.42	0.46	2.61
(WY)	(1988)	(1993)	(1993)	(1993)	(1993)	(2005)	(1991)	(1992)	(1992)	(1985)	(1988)	(1988)

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

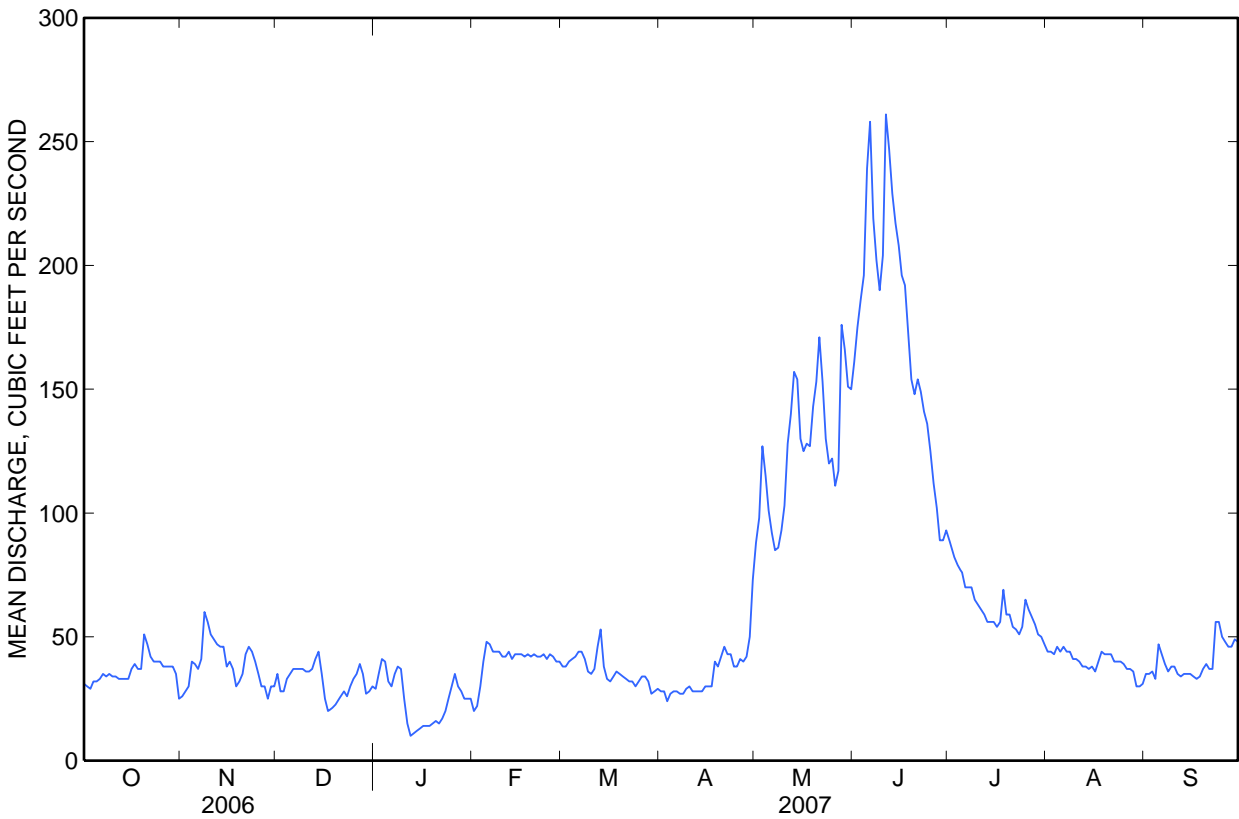
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1984 - 2007	
Annual total	17,396.0		20,878			
Annual mean	47.7		57.2		49.8	
Highest annual mean					108	1997
Lowest annual mean					16.6	1992
Highest daily mean	227	May 21	261	Jun 11	475	Jun 6, 1997
Lowest daily mean	5.0	Feb 17	10	Jan 12	0.00	Aug 4, 1988
Annual seven-day minimum	8.1	Feb 16	13	Jan 12	0.05	Aug 3, 1988
Maximum peak flow			^a 274	Jun 11	^c 494	Jun 5, 1997
Maximum peak stage			^b 5.27	Feb 4	5.70	Feb 2, 1986
Instantaneous low flow					0.00	Aug 4, 1988
Annual runoff (ac-ft)	34,500		41,410		36,060	
10 percent exceeds	90		130		97	
50 percent exceeds	37		40		37	
90 percent exceeds	26		28		9.0	

^a Gage height, 4.54 ft.

^b Backwater from ice.

^c Gage height, 4.55 ft, site and datum then in use.



12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--March 1993 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 2000 to current year.

INSTRUMENTATION.--Temperature recorder installed July 6, 2000.

REMARKS.--Daily water temperature records are rated good to excellent. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 23.5°C, July 21, 29, 2000, July 14, 2002; minimum 0.0°C, many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 21.0°C, July 13 and 19; minimum 0.0°C, many days October to March.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)
Nov 14...	0900	46	8.4	321	2.0	2.0	160	49.6	9.22	3.3	3.7	<.04	.06
Mar 27...	1200	34	8.5	358	3.5	5.5	180	54.7	10.2	4.2	4.5	<.04	.05
May 09...	0905	99	8.2	243	19.0	8.5	110	35.1	6.45	4.1	6.1	E.03	.10
Jun 12...	1130	250	8.0	166	21.5	9.0	77	23.9	4.20	5.1	7.2	E.02	.09
Jul 24...	1010	52	8.2	291	24.5	14.5	140	41.6	8.01	5.6	5.7	.05	.05
Aug 28...	0755	39	8.1	329	10.0	9.5	150	46.8	9.13	4.4	4.9	E.03	.05

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	percent <.063mm (70331)	mg/L (80154)	tons/d (80155)
Nov 14...	1.6	5.9	12	76	<.12	.34	158	194	3.0	3	61	4	.50
Mar 27...	2.0	5.9	9	75	<.12	.37	150	174	.90	3	68	4	.37
May 09...	2.7	23.0	10	357	<.12	2.09	72.9	201	1.2	8.9	65	20	5.3
Jun 12...	3.7	21.3	15	381	<.12	1.88	44.9	113	5.1	9.1	68	20	14
Jul 24...	1.8	4.7	11	63	<.12	.31	78.7	108	.73	E1.7	71	3	.42
Aug 28...	1.8	6.2	11	80	<.12	.43	100	155	1.0	2.3	59	3	.32

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	11.5	7.5	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10.5	7.0	8.5	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
3	12.5	8.5	10.0	4.5	1.5	3.0	0.0	0.0	0.0	2.5	0.0	1.5
4	10.5	7.0	9.0	6.5	4.0	5.0	0.0	0.0	0.0	2.0	0.0	1.5
5	12.0	7.5	10.0	6.5	4.5	5.5	0.5	0.0	0.0	0.0	0.0	0.0
6	12.5	10.0	11.0	8.5	5.5	7.0	1.5	0.0	0.5	0.0	0.0	0.0
7	11.0	8.5	10.0	10.5	8.5	9.5	2.0	0.5	1.0	0.0	0.0	0.0
8	9.5	6.0	7.5	9.0	4.5	7.0	2.5	1.0	1.5	0.0	0.0	0.0
9	7.0	5.0	6.0	4.5	2.5	3.5	2.5	1.5	2.0	2.5	0.0	1.5
10	7.0	3.0	5.0	3.5	1.5	2.5	2.5	1.0	1.5	2.0	0.0	1.5
11	9.0	4.5	6.5	4.0	2.5	3.0	3.0	2.0	2.5	0.0	0.0	0.0
12	9.5	4.5	6.5	3.0	1.0	2.0	3.5	2.0	2.5	0.0	0.0	0.0
13	9.5	5.0	7.0	3.5	1.5	2.0	3.0	2.0	2.5	0.0	0.0	0.0
14	10.0	5.5	7.5	3.0	1.5	2.5	3.0	1.0	2.0	0.0	0.0	0.0
15	7.5	6.5	7.0	3.0	0.5	1.5	3.0	0.0	2.0	0.0	0.0	0.0
16	7.0	5.0	6.5	5.0	2.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
17	5.5	3.5	4.5	3.0	0.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0
18	6.0	2.5	4.5	3.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
19	7.0	5.0	6.0	3.5	1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0
20	6.5	4.5	6.0	5.5	3.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
21	5.0	3.5	4.0	6.0	4.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
22	6.5	2.5	4.0	4.5	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
23	7.0	2.5	4.5	2.5	0.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0
24	6.0	3.0	4.5	2.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
25	6.0	4.0	5.0	2.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
26	5.5	2.5	4.0	1.5	0.0	1.0	2.0	0.0	1.0	0.0	0.0	0.0
27	7.0	3.5	5.0	1.5	0.0	1.0	3.0	2.0	2.5	0.0	0.0	0.0
28	7.0	3.5	5.0	0.0	0.0	0.0	2.5	0.5	1.5	0.0	0.0	0.0
29	7.5	4.0	5.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
30	4.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.5	0.0	0.0	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
Month	12.5	0.0	6.0	10.5	0.0	2.5	3.5	0.0	0.5	2.5	0.0	0.0

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	0.0	0.0	0.0	2.5	0.0	0.5	8.0	5.0	6.5	13.0	7.5	10.5
2	0.0	0.0	0.0	1.5	0.0	0.0	8.0	3.5	5.5	11.5	9.0	10.5
3	0.0	0.0	0.0	2.0	0.0	0.5	9.0	2.0	5.0	10.0	4.5	7.0
4	0.0	0.0	0.0	6.0	1.0	3.0	7.0	3.5	5.0	8.0	2.5	5.0
5	4.5	0.0	2.5	6.0	2.0	4.0	11.0	5.0	7.5	9.5	3.5	6.0
6	4.5	2.5	3.5	8.0	3.0	5.5	10.0	5.0	7.0	12.0	4.0	8.0
7	4.0	2.0	3.0	8.0	3.0	5.5	11.5	5.0	7.5	13.0	6.0	9.5
8	5.0	3.0	4.0	7.5	4.0	5.5	12.5	4.5	8.0	15.0	7.5	11.0
9	4.5	3.0	3.5	6.5	3.0	4.5	10.0	6.0	7.5	14.0	8.0	11.0
10	4.0	2.0	3.0	7.5	3.5	5.0	6.5	3.5	5.0	13.0	9.0	11.0
11	4.5	2.5	3.5	7.5	3.5	5.5	8.0	2.0	4.5	12.5	7.5	10.0
12	3.5	1.0	2.0	10.0	5.0	7.0	7.0	2.5	5.0	12.5	7.5	10.5
13	2.5	0.0	1.0	8.5	4.0	6.0	11.0	2.5	6.0	11.0	7.5	9.0
14	3.5	1.0	2.0	8.0	3.5	5.5	12.0	4.5	8.0	11.0	5.0	8.0
15	4.0	2.0	3.0	6.5	2.0	4.0	10.0	7.0	8.5	12.5	6.0	9.0
16	4.5	2.0	3.0	8.0	4.0	6.0	12.5	4.0	8.0	13.5	7.5	10.5
17	5.0	1.0	2.5	11.0	4.5	7.0	11.5	7.0	9.0	12.5	7.5	10.5
18	3.5	1.0	2.5	11.5	6.0	8.0	8.5	3.0	5.0	12.0	7.5	10.0
19	3.5	0.5	2.0	10.0	4.0	7.0	9.0	4.0	6.0	12.5	8.0	10.0
20	3.5	1.0	2.0	8.5	5.0	6.5	10.0	2.5	6.0	10.0	8.0	9.0
21	3.5	0.5	2.0	8.0	3.0	5.0	11.0	3.0	6.5	8.5	4.0	6.5
22	4.0	1.5	3.0	7.0	3.0	5.0	10.5	5.5	8.0	6.0	2.5	4.5
23	4.0	2.0	3.0	11.0	4.5	7.5	12.5	7.0	9.0	9.0	4.5	6.5
24	2.5	0.0	1.0	11.0	4.5	7.5	13.0	6.5	10.0	9.0	5.5	7.0
25	3.5	0.5	2.0	9.0	6.0	7.5	11.5	6.5	9.0	12.0	6.0	8.5
26	2.5	1.0	1.5	8.5	3.5	6.0	12.0	6.5	9.0	13.0	6.5	9.5
27	1.5	0.0	0.5	6.5	4.0	5.5	14.0	6.5	10.0	11.5	8.5	10.0
28	1.5	0.0	0.5	6.0	3.0	4.5	14.5	7.5	11.0	9.5	6.0	8.0
29	---	---	---	8.0	1.0	4.0	14.5	8.5	11.5	11.0	5.5	8.0
30	---	---	---	9.0	2.0	5.0	13.5	9.0	11.0	12.5	6.0	9.0
31	---	---	---	9.5	4.0	6.5	---	---	---	13.5	7.5	10.5
Month	5.0	0.0	2.0	11.5	0.0	5.0	14.5	2.0	7.5	15.0	2.5	9.0

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

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

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

Water-Data Report 2007

12323800 CLARK FORK NEAR GALEN, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°12'30", long 112°45'59" referenced to North American Datum of 1927, in NE ¼ NE ¼ NE ¼ sec.7, T.5 N., R.9 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on right bank at upstream side of bridge on county road, 2.6 mi downstream from Silver Bow Creek and Warm Springs Creek, 2 mi south of Galen, and at river mile 482.7.

DRAINAGE AREA.--651 mi². Area at site used prior to Oct. 1, 1994 was 793 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,749.24 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Some regulation occurs by Storm and Silver Lakes and settling ponds on Silver Bow Creek near Warm Springs. Numerous diversions occur upstream from station. A U.S. Geological Survey satellite telemeter is located at the station.

12323800 CLARK FORK NEAR GALEN, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	71	e78	e80	e78	e75	97	99	169	325	173	67	54
2	70	e80	e70	e90	e80	93	107	200	333	166	67	55
3	67	85	e70	106	e85	93	108	319	349	148	68	54
4	63	89	e90	98	95	96	102	322	370	118	69	51
5	68	90	e120	93	109	99	102	276	455	117	68	65
6	72	99	128	e80	103	105	115	249	543	108	70	63
7	79	109	122	85	99	114	133	225	478	104	68	59
8	78	123	124	103	101	103	128	223	427	104	66	54
9	78	123	122	102	103	90	121	242	425	97	64	58
10	80	126	116	e75	104	95	117	255	430	93	62	59
11	81	122	122	e50	104	103	127	287	558	90	60	56
12	82	118	122	e40	112	120	144	319	525	87	58	54
13	91	114	129	e45	112	123	141	343	470	79	56	51
14	93	101	138	e47	115	105	128	335	443	77	57	54
15	95	92	137	e50	112	88	117	295	410	79	57	55
16	103	91	e100	e50	107	85	113	277	372	78	58	55
17	105	82	e80	e50	106	85	110	293	375	81	65	55
18	92	77	e84	e50	106	86	175	296	357	110	68	58
19	91	78	e86	e50	104	91	193	309	331	95	69	60
20	109	83	87	49	103	95	128	313	313	90	68	65
21	111	83	89	53	101	86	103	359	321	85	68	65
22	106	92	96	62	101	78	95	361	318	84	63	66
23	107	89	97	76	104	75	97	306	293	79	62	94
24	103	e90	96	86	101	73	94	248	267	81	61	119
25	101	e80	99	88	101	76	97	263	233	100	62	116
26	99	e70	106	91	101	80	105	241	214	97	60	104
27	98	e70	96	e85	94	88	109	253	204	92	59	96
28	97	e65	91	e80	96	95	106	345	187	86	59	90
29	94	e70	e75	e80	---	95	114	347	172	80	52	92
30	91	e70	e76	e80	---	97	145	328	176	78	51	94
31	e75	---	e80	e80	---	100	---	329	---	73	51	---
Total	2,750	2,739	3,128	2,252	2,834	2,909	3,573	8,927	10,674	3,029	1,933	2,071
Mean	88.7	91.3	101	72.6	101	93.8	119	288	356	97.7	62.4	69.0
Max	111	126	138	106	115	123	193	361	558	173	70	119
Min	63	65	70	40	75	73	94	169	172	73	51	51
Ac-ft	5,450	5,430	6,200	4,470	5,620	5,770	7,090	17,710	21,170	6,010	3,830	4,110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2007, BY WATER YEAR (WY)

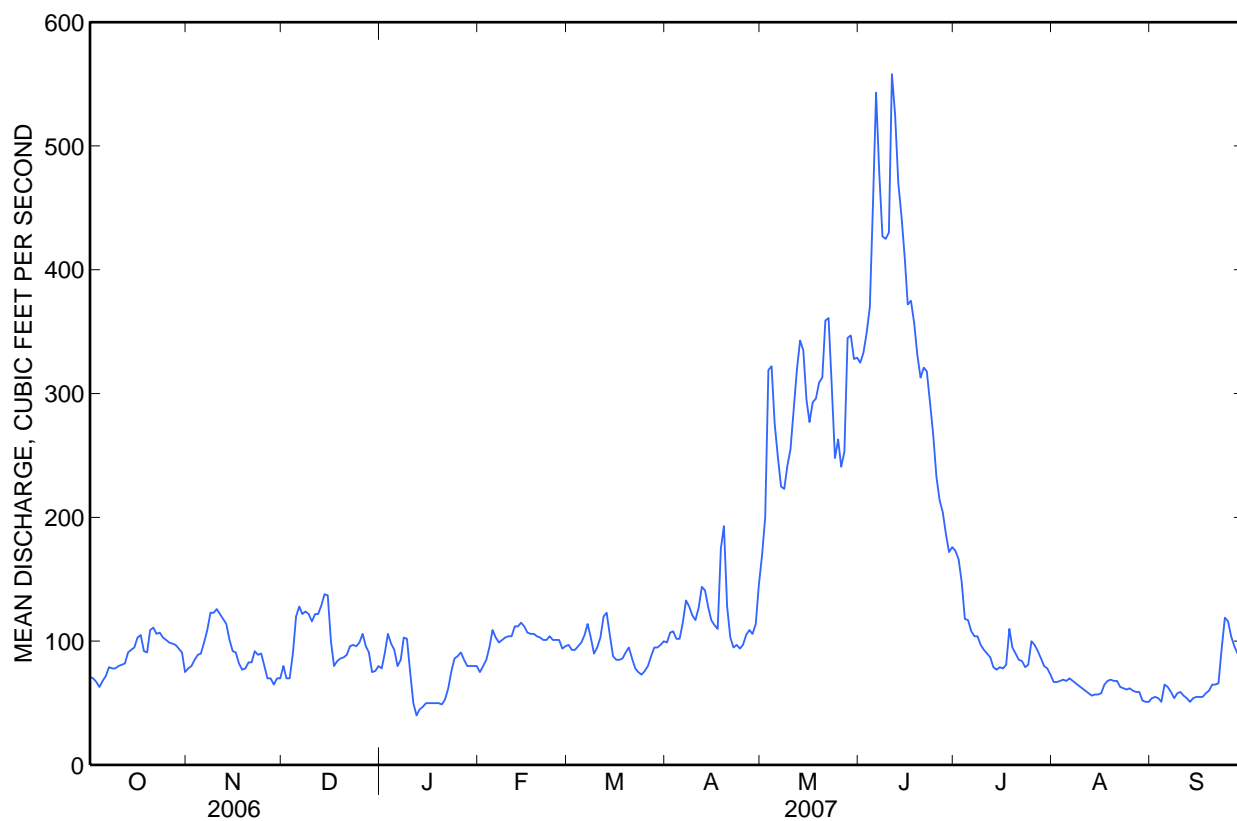
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	87.7	93.3	82.0	82.2	89.5	108	133	250	342	131	68.2	69.9
Max	170	159	132	169	174	167	257	668	974	381	233	184
(WY)	(1998)	(1998)	(1998)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1997)	(1997)	(1993)
Min	40.6	50.7	40.7	42.5	43.5	54.2	55.4	68.6	51.1	21.4	10.2	20.3
(WY)	(1989)	(1993)	(1993)	(1993)	(1993)	(2005)	(2005)	(1992)	(1992)	(1988)	(1988)	(1988)

12323800 CLARK FORK NEAR GALEN, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1988 - 2007	
Annual total	43,323		46,819			
Annual mean	119		128		129	
Highest annual mean					288	1997
Lowest annual mean					59.6	1992
Highest daily mean	508	May 21	558	Jun 11	1,210	Jun 7, 1997
Lowest daily mean	35	Feb 17	40	Jan 12	9.7	Aug 11, 1988
Annual seven-day minimum	41	Feb 17	47	Jan 11	9.8	Aug 15, 1988
Maximum peak flow			605	Jun 6	1,240	Jun 7, 1997
Maximum peak stage			3.63	Jun 6	5.07	Jun 7, 1997
Instantaneous low flow					^a 9.0	Aug 9, 1988
Annual runoff (ac-ft)	85,930		92,870		93,490	
10 percent exceeds	228		300		271	
50 percent exceeds	83		95		88	
90 percent exceeds	56		59		45	

^a Gage height, 1.39 ft.



12323800 CLARK FORK NEAR GALEN, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971-74, 1988 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1991 to September 1998, October 2000 to September 2002.

REMARKS.--Sampling conducted since 1988 as part of EPA Superfund program. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.5°C, June 23, 1991; minimum, 0.0°C, on many days during winter period.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

[Remark codes: E, estimated.]

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)
Nov													
14...	1045	101	8.6	447	5.0	2.0	200	60.0	13.1	8.2	11.2	E.02	.17
Feb													
27...	1120	81	8.5	514	-4.0	1.0	210	62.0	14.1	8.7	10.8	.07	.17
Mar													
27...	1340	87	8.4	480	3.5	6.0	210	63.1	13.2	7.5	9.7	E.02	.08
May													
08...	1315	225	8.4	377	23.5	12.0	150	46.1	9.56	14.4	16.8	E.03	.08
Jun													
05...	1720	492	8.8	243	19.0	13.0	99	29.8	6.07	17.1	23.6	E.02	.23
19...	1125	341	8.9	338	22.0	12.0	140	41.9	8.59	17.4	18.8	E.03	.10
Jul													
24...	1155	79	8.6	383	25.5	18.0	170	50.1	10.3	16.2	17.0	.04	.05
Aug													
28...	0935	60	8.4	435	12.5	11.0	200	58.2	12.2	16.5	16.9	E.03	.06

12323800 CLARK FORK NEAR GALEN, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water,		Iron, water,		Lead, water,		Mangan-ese, water,		Zinc, water,		Suspnd.	Sus-pended	Sus-pended
	Copper, water, fltrd, µg/L (01040)	unfltrd recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	unfltrd recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	unfltrd recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	unfltrd recover-able, µg/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
Nov													
14...	1.7	10.9	9	256	<.12	1.86	109	149	2.9	16	90	4	1.1
Feb													
27...	3.3	19.2	E6	327	<.12	2.07	178	273	5.3	21	72	12	2.6
Mar													
27...	2.7	9.3	10	199	<.12	1.25	151	207	3.7	10	83	5	1.2
May													
08...	3.7	14.6	15	290	E.07	1.83	95.9	174	3.0	13.0	74	11	6.7
Jun													
05...	5.7	56.4	21	968	E.10	6.79	52.9	258	1.2	29.2	68	48	64
19...	4.1	13.4	16	229	E.07	1.30	66.5	113	1.2	8.5	75	8	7.4
Jul													
24...	3.1	5.8	7	64	<.12	.41	34.4	67.8	1.4	2.7	77	2	.43
Aug													
28...	2.7	10.3	7	300	<.12	1.13	37.6	110	1.3	9.9	78	2	.32



Water-Data Report 2007

12323840 LOST CREEK NEAR ANACONDA, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°09'43", long 112°53'30" referenced to North American Datum of 1927, in SE ¼ NE ¼ NE ¼ sec.30, T.5 N., R.10 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on left bank 400 ft upstream from Montana Secondary Highway 273, 700 ft upstream from Gardiner Ditch, 5.2 mi upstream from Dutchman Creek, 2.7 mi northeast of Anaconda, and at river mile 10.2.

DRAINAGE AREA.--26.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2004 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,100 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records 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.

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.1	e3.1	3.8	e3.5	e3.0	e2.0	3.8	9.0	11	3.0	1.0	6.0
2	1.1	4.7	e3.0	4.6	e3.5	e2.0	3.9	11	11	2.7	0.94	5.8
3	0.72	6.1	e3.0	4.4	3.9	e2.5	3.5	14	13	2.5	1.4	4.0
4	0.73	5.8	5.0	4.3	4.1	e3.0	3.9	7.1	13	1.8	2.5	3.9
5	1.3	5.5	5.2	e4.0	4.6	3.4	3.9	5.1	17	1.6	1.8	4.2
6	2.7	5.5	4.9	e3.5	3.9	3.6	3.8	4.7	21	1.4	3.0	3.4
7	2.4	7.4	4.8	4.3	3.6	3.8	3.7	5.0	19	1.7	2.5	2.5
8	2.2	9.9	4.7	4.3	3.8	3.6	3.8	4.7	18	2.0	2.2	1.5
9	2.5	6.5	4.6	4.2	3.5	3.4	4.0	5.0	15	1.9	2.1	0.99
10	2.7	6.0	4.4	4.2	3.3	3.4	3.9	4.3	16	1.7	3.3	0.13
11	5.0	5.8	4.3	e1.5	3.2	3.5	3.8	4.3	19	1.0	6.6	0.11
12	4.9	5.5	4.2	e1.0	3.2	4.7	3.7	5.8	15	1.5	7.9	0.00
13	4.8	5.5	4.3	e2.0	3.1	5.5	3.8	6.2	14	1.5	6.2	0.05
14	4.7	5.6	4.1	3.4	3.1	4.4	3.8	6.7	13	1.7	6.2	0.25
15	4.6	5.4	4.2	3.5	3.0	3.9	4.2	5.2	11	0.85	6.1	0.14
16	5.3	5.7	e3.0	3.5	3.0	3.9	4.2	4.5	10	0.64	6.1	0.02
17	5.1	5.3	e2.0	3.6	3.0	4.2	4.2	4.4	11	0.55	6.5	0.08
18	4.9	5.3	e2.5	3.7	3.0	4.4	5.5	5.2	10	0.60	6.7	0.07
19	5.1	5.2	3.3	3.9	3.0	4.2	4.8	7.8	11	0.25	6.6	0.02
20	7.0	5.3	4.0	4.2	3.0	4.2	4.5	7.4	9.9	0.30	6.6	0.00
21	5.8	5.2	4.3	4.3	3.0	3.9	4.8	11	7.4	0.23	6.5	0.02
22	5.3	5.3	4.6	4.2	3.1	3.6	4.8	11	5.3	0.28	6.4	0.02
23	5.4	5.1	4.4	4.2	3.1	3.6	5.2	8.9	5.0	0.41	6.3	0.36
24	5.3	4.9	4.5	4.2	e2.5	3.6	5.0	8.6	4.5	2.0	6.3	0.25
25	5.2	5.0	4.5	4.1	e3.0	3.8	5.1	9.0	3.6	0.59	6.2	0.09
26	4.9	4.7	4.5	4.0	3.2	4.0	4.7	8.0	3.2	1.9	6.3	0.02
27	4.9	5.3	4.4	3.9	e2.5	4.4	4.6	8.5	3.0	1.5	6.5	0.01
28	4.9	e2.0	4.2	3.8	e2.0	4.0	5.0	14	2.9	1.2	6.4	0.00
29	5.0	e2.5	e3.0	3.9	---	3.6	5.9	12	3.2	0.80	6.3	0.25
30	e4.0	e3.0	e3.5	3.9	---	3.8	7.6	12	2.7	0.98	6.3	0.70
31	e3.0	---	e3.5	3.9	---	4.0	---	12	---	0.82	6.2	---
Total	122.55	158.1	124.7	116.0	90.2	115.9	133.4	242.4	318.7	39.90	155.94	34.88
Mean	3.95	5.27	4.02	3.74	3.22	3.74	4.45	7.82	10.6	1.29	5.03	1.16
Max	7.0	9.9	5.2	4.6	4.6	5.5	7.6	14	21	3.0	7.9	6.0
Min	0.72	2.0	2.0	1.0	2.0	2.0	3.5	4.3	2.7	0.23	0.94	0.00
Ac-ft	243	314	247	230	179	230	265	481	632	79	309	69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3.41	4.81	4.05	3.74	3.20	3.34	4.27	7.91	12.5	2.99	4.50	0.55
Max	3.95	5.27	4.19	3.79	3.39	3.74	4.89	7.97	18.4	4.68	7.52	1.16
(WY)	(2007)	(2007)	(2005)	(2006)	(2005)	(2007)	(2006)	(2006)	(2005)	(2005)	(2005)	(2007)
Min	2.43	4.35	3.93	3.69	2.98	2.99	3.48	7.82	8.49	1.29	0.94	0.06
(WY)	(2005)	(2005)	(2006)	(2005)	(2006)	(2005)	(2005)	(2007)	(2006)	(2007)	(2006)	(2006)

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

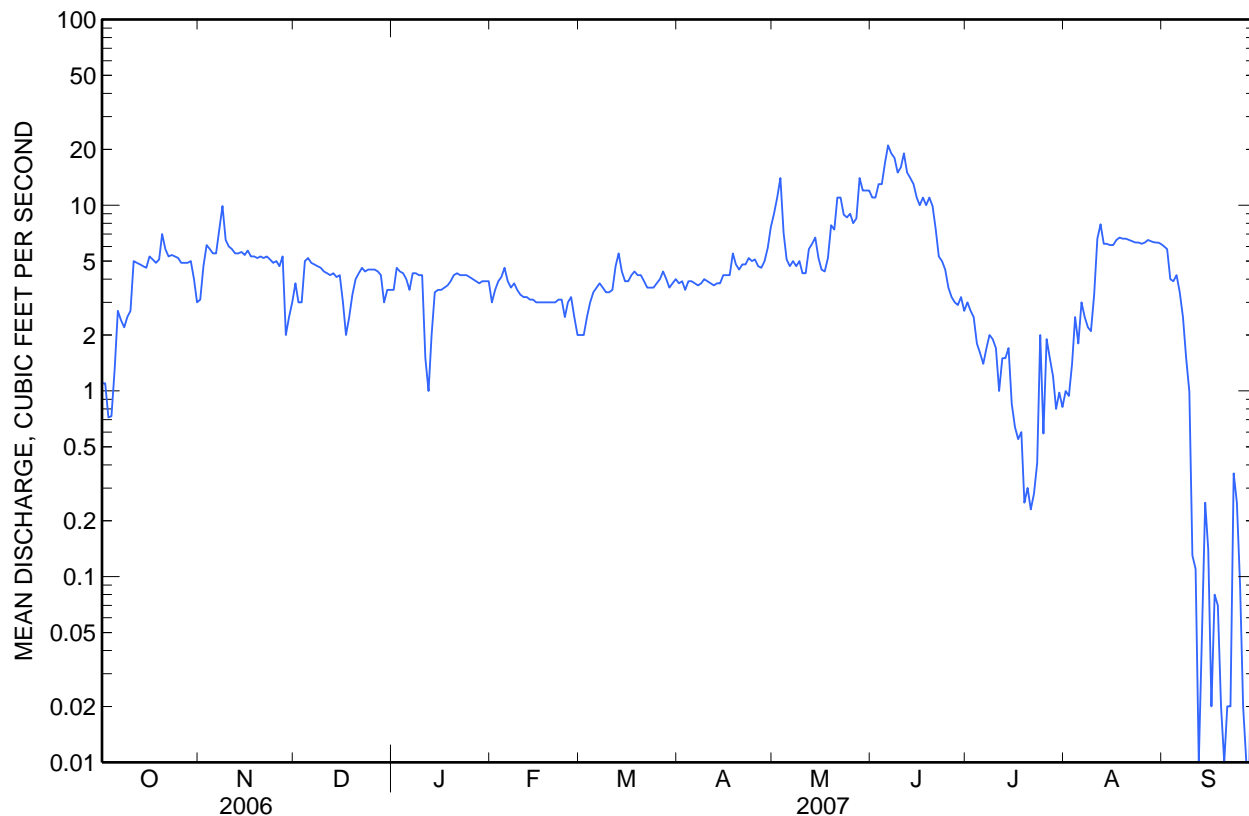
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 2005 - 2007	
Annual total	1,480.94		1,652.67			
Annual mean	4.06		4.53		4.61	
Highest annual mean					5.29	2005
Lowest annual mean					4.00	2006
Highest daily mean	22	Jun 10	21	Jun 6	28	Jun 6, 2005
Lowest daily mean	0.00	Aug 21	0.00	Sep 12	0.00	Aug 21, 2006
Annual seven-day minimum	0.00	Aug 26	0.03	Sep 16	0.00	Aug 26, 2006
Maximum peak flow			^a 22 Jun 6		^c 32 Jun 6, 2005	
Maximum peak stage			^b 3.81 Jan 11		^b 4.47 Feb 17, 2006	
Annual runoff (ac-ft)	2,940		3,280		3,340	
10 percent exceeds	7.8		7.8		9.3	
50 percent exceeds	3.9		4.1		3.8	
90 percent exceeds	0.10		0.96		0.50	

^a Gage height, 3.29 ft.

^b Result of backwater from ice.

^c Gage height, 3.66 ft.



12323840 LOST CREEK NEAR ANACONDA, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--December 2004 to current year.

PERIOD OF DAILY RECORD.--

TURBIDITY: Seasonal records, May 2006 to current year.

INSTRUMENTATION.--Turbidity monitor installed in May 2006.

REMARKS.--Daily turbidity records are rated good to excellent for 184 days and fair to poor for 44 days during the seasonal period of operation (October 2006 to November 2006 and March 2007 to September 2007). Missing daily turbidity data for Oct 23-24 and June 22-26 are due to equipment problems and missing values for Sept. 11-13, 16, 20-22, and 27-28 are due to no flow or insufficient depth to submerge sensor. Days where only mean turbidity values are provided indicate a partial day of record (a maximum or minimum value could not be determined due to multiple missing unit values). Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

TURBIDITY (seasonal records): Maximum, 67 formazin nephelometric units (FNU), May 28, 2007; minimum, <0.5 FNU, July 1, 28, and 31, 2007.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: During seasonal operation, maximum, 67 formazin nephelometric units (FNU), May 28; minimum, <0.5 FNU, July 1, 28, and 31.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

[Remark codes: <, less than.]

Date	Time	Instan- taneous dis- charge, cfs (00061)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)
Nov												
13...	1500	5.7	<2.0	8.4	222	5.5	3.0	110	32.5	6.45	3.5	3.7
Feb												
26...	1240	3.2	<2.0	8.4	218	1.5	1.5	100	30.0	6.54	2.8	2.6
Mar												
26...	1420	4.1	<2.0	8.4	213	9.0	6.0	100	31.3	6.44	2.9	3.2
May												
09...	1410	5.2	4.3	8.3	200	24.0	11.5	92	28.0	5.43	5.1	5.7
Jun												
04...	1720	12	<2.0	8.2	187	25.0	15.0	86	26.8	4.72	10.8	10.8
18...	1425	9.6	<2.0	8.2	197	21.0	11.5	91	27.8	5.18	10.2	10.7
Jul												
23...	1455	.37	<2.0	8.2	244	34.0	17.0	110	34.6	6.44	12.1	11.7
Aug												
27...	1155	6.8	<2.0	8.3	232	18.5	10.5	110	32.8	6.69	4.1	4.4

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium water, flt'd, µg/L (01025)	Cadmium water, unflt'd µg/L (01027)	Copper, water, flt'd, µg/L (01040)	Copper, water, unflt'd recover- able, µg/L (01042)	Iron, water, flt'd, µg/L (01046)	Iron, water, unflt'd recover- able, µg/L (01045)	Lead, water, flt'd, µg/L (01049)	Lead, water, unflt'd recover- able, µg/L (01051)	Mangan- ese, water, flt'd, µg/L (01056)	Mangan- ese, water, unflt'd recover- able, µg/L (01055)	Zinc, water, flt'd, µg/L (01090)	Zinc, water, unflt'd recover- able, µg/L (01092)
Nov												
13...	<.04	.04	1.4	4.1	10	87	<.12	.37	1.0	3.1	2.2	3
Feb												
26...	E.03	.03	1.2	2.1	E4	30	<.12	.13	.4	1.3	1.0	E1
Mar												
26...	.05	.03	1.6	3.2	E6	60	<.12	.26	.9	2.6	1.3	E2
May												
09...	E.03	.07	2.6	7.6	14	199	<.12	1.55	1.1	6.5	1.1	3.7
Jun												
04...	--	.06	3.3	8.3	11	192	<.12	.75	1.3	5.8	1.3	3.9
18...	E.02	.05	2.6	6.0	8	116	<.12	.59	1.2	4.6	1.1	3.0
Jul												
23...	.06	.07	3.1	6.0	6	109	<.12	.54	1.5	7.0	1.2	3.0
Aug												
27...	<.04	.04	1.1	2.2	11	62	<.12	.28	.7	3.6	.62	E1.8

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

[Remark codes: <, less than.]

Date	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Nov			
13...	65	3	.05
Feb			
26...	62	1	.01
Mar			
26...	64	4	.04
May			
09...	58	9	.13
Jun			
04...	51	12	.39
18...	36	9	.23
Jul			
23...	54	1	<.01
Aug			
27...	56	4	.07

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

[<, actual value is known to be less than value shown]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	2.0	0.5	1.0	2.5	1.0	1.5						
2	2.5	0.5	1.0	3.5	1.0	1.5						
3	5.0	0.5	1.0	3.0	1.5	2.0						
4	1.0	0.5	1.0	3.0	1.5	1.5						
5	8.0	0.5	1.5	3.0	1.0	1.5						
6	5.0	1.0	1.5	3.0	1.0	1.5						
7	1.5	0.5	1.0	4.5	1.5	2.5						
8	1.5	0.5	1.0	15	2.0	6.0						
9	2.5	1.0	1.0	3.0	1.5	2.0						
10	12	1.0	2.0	3.5	1.5	1.5						
11	3.5	1.0	2.0	3.0	1.5	1.5						
12	3.0	1.0	1.5	3.5	1.5	1.5						
13	2.5	1.0	1.0	3.0	1.5	1.5						
14	3.0	1.0	1.0	3.5	1.5	2.0						
15	3.5	1.0	1.0	5.5	1.5	2.5						
16	9.0	1.0	2.0	4.5	1.5	2.0						
17	3.0	1.0	1.0	4.0	1.5	2.0						
18	3.0	1.0	1.0	3.5	1.5	2.0						
19	19	1.0	2.5	4.0	1.5	2.0						
20	19	1.5	4.0	4.5	1.5	2.0						
21	8.0	1.0	2.0									
22	2.5	1.0	1.0									
23	---	---	---									
24	---	---	---									
25	5.5	1.0	1.5									
26	5.0	1.0	1.5									
27	4.0	1.0	1.5									
28	3.0	1.0	1.5									
29	4.0	1.0	1.5									
30	2.5	1.0	1.5									
31	2.5	1.0	1.5									
Month	---	---	---									

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

[<, actual value is known to be less than value shown]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1							2.5	1.0	1.5	26	6.0	10
2							3.0	1.0	1.5	28	7.0	14
3							4.5	1.0	2.0	49	8.0	21
4							3.5	1.0	2.0	32	3.0	7.0
5							3.0	1.0	1.5	3.5	2.0	2.5
6							2.5	1.0	1.5	5.5	2.0	3.0
7							2.5	1.0	1.5	8.0	1.5	2.5
8							2.5	1.0	1.5	5.5	1.0	2.5
9							2.5	1.0	1.5	32	1.5	6.5
10							2.5	1.0	1.5	15	3.5	7.0
11							2.5	1.0	1.5	9.5	3.0	5.5
12							3.5	1.5	2.0	16	2.5	6.0
13							3.0	1.5	2.0	8.5	3.5	5.0
14							2.5	1.0	2.0	8.0	3.0	5.0
15							3.5	2.0	2.5	6.0	2.0	3.5
16							3.5	1.5	2.5	7.0	3.0	4.0
17							3.5	1.5	2.0	6.0	3.0	4.0
18							9.5	3.0	6.5	16	3.0	5.5
19							18	3.0	6.5	12	4.5	6.5
20							8.5	2.0	3.5	8.0	4.0	5.5
21							5.5	2.0	3.0	22	5.5	9.5
22				2.5	1.0	1.5	4.0	1.5	2.5	11	5.5	7.0
23				2.0	1.0	1.5	9.0	2.0	3.0	8.0	3.5	4.5
24				3.0	1.0	1.5	5.0	2.5	3.0	28	3.5	5.5
25				2.5	1.0	1.5	18	2.5	3.5	19	3.5	5.5
26				2.5	1.0	2.0	4.0	2.0	2.5	6.5	3.0	4.0
27				4.5	1.5	2.5	11	2.0	3.0	12	3.5	5.0
28				3.0	1.0	2.0	23	3.0	5.5	67	5.0	15
29				7.0	1.5	2.5	24	4.0	7.5	7.0	4.0	5.0
30				4.5	1.5	2.0	18	5.0	11	10	3.5	5.0
31				3.5	1.0	1.5	---	---	---	8.5	3.5	5.0
Month				---	---	---	24	1.0	3.0	67	1.0	6.5

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

[<, actual value is known to be less than value shown]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	9.5	3.5	4.5	5.0	<0.5	1.5	2.5	0.5	1.0	4.0	2.5	3.0
2	9.0	3.0	4.5	5.0	0.5	2.0	1.5	0.5	1.0	4.0	2.0	3.0
3	8.5	3.5	5.0	8.5	0.5	2.0	21	0.5	2.0	11	2.0	3.0
4	8.5	3.5	5.0	3.5	1.0	2.0	3.0	1.0	1.5	5.0	2.0	2.5
5	16	6.0	9.0	2.5	0.5	1.5	7.0	0.5	1.5	5.5	2.5	3.0
6	16	7.0	11	2.5	0.5	1.5	4.0	1.5	2.0	5.0	2.0	2.5
7	7.5	4.0	5.5	6.0	1.0	1.5	3.0	1.5	2.0	3.0	1.5	2.0
8	8.0	3.5	5.0	2.0	0.5	1.5	2.0	1.0	1.5	3.5	1.5	2.0
9	6.5	3.0	4.0	2.0	0.5	1.5	20	1.0	2.0	3.5	1.5	2.0
10	20	3.0	5.5	2.5	0.5	1.5	4.5	2.0	3.0	---	---	#2.0
11	10	3.5	6.0	5.5	0.5	1.5	64	2.5	8.5	---	---	---
12	8.5	3.5	4.5	5.5	0.5	1.5	7.0	3.5	5.0	---	---	---
13	6.5	3.0	4.0	4.5	0.5	1.5	4.5	3.0	3.5	---	---	---
14	6.0	3.0	4.0	6.0	1.0	2.0	4.0	2.5	3.0	3.0	1.5	2.5
15	7.0	3.0	4.0	2.5	1.0	1.5	4.5	2.5	3.0	---	---	#2.0
16	7.5	3.0	4.0	1.5	1.0	1.5	4.5	2.5	3.0	---	---	---
17	9.0	3.0	3.5	8.5	1.0	2.0	4.5	2.5	3.5	---	---	#2.5
18	10	2.5	4.0	48	0.5	4.5	4.5	2.5	3.5	---	---	#2.5
19	8.5	3.0	4.0	2.5	1.0	1.5	4.0	2.5	3.0	---	---	#2.0
20	7.5	3.0	4.0	2.5	0.5	1.5	4.0	2.5	3.0	---	---	---
21	9.5	3.0	4.0	3.0	1.0	2.0	4.0	2.5	3.0	---	---	---
22	---	---	---	6.5	1.0	2.0	12	2.5	3.5	---	---	---
23	---	---	---	7.0	0.5	1.5	4.0	2.5	3.0	---	---	#6.0
24	---	---	---	7.0	1.0	2.5	7.5	2.5	3.0	3.0	2.0	2.5
25	---	---	---	4.0	0.5	1.0	4.0	2.5	3.0	2.5	2.0	2.5
26	---	---	---	4.0	0.5	1.5	4.5	2.5	3.0	---	---	#2.0
27	10	1.0	2.0	2.0	0.5	1.0	4.5	2.5	3.0	---	---	---
28	3.0	0.5	1.5	2.0	<0.5	1.0	4.0	2.5	3.0	---	---	---
29	3.0	0.5	1.5	6.0	0.5	1.0	4.0	2.5	3.0	3.0	2.5	2.5
30	6.5	1.0	2.0	2.0	0.5	1.0	4.0	2.5	3.0	4.5	2.5	3.0
31	---	---	---	1.5	<0.5	0.5	6.5	2.5	3.0	---	---	---
Month	---	---	---	48	<0.5	1.6	64	<0.5	2.9	---	---	---

Value computed from partial day with greater than 50 percent of day recorded



Water-Data Report 2007

12323850 LOST CREEK NEAR GALEN, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°13'07", long 112°46'23" referenced to North American Datum of 1927, in NW ¼ SW ¼ SE ¼ sec.6, T.5 N., R.9 W., Deer Lodge County, MT, Hydrologic Unit 17010201, on left bank 40 ft upstream from frontage road bridge, 1.2 mi south of Galen, and at river mile 1.8.

DRAINAGE AREA.--60.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2003 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,750 ft, referenced to the National Geodetic Vertical Datum of 1929.

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

12323850 LOST CREEK NEAR GALEN, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	14	e38	e35	e35	e30	e36	41	34	10	1.5	1.6	5.4
2	16	e40	e30	e40	e35	e35	42	35	6.3	1.5	1.6	5.1
3	16	e42	e30	45	e40	e35	41	59	4.3	1.5	1.6	4.9
4	16	45	e32	44	e45	38	40	55	1.9	1.5	1.6	5.0
5	16	45	e34	e42	47	39	41	41	2.2	1.5	1.7	5.7
6	17	44	e36	e40	46	41	40	36	7.6	1.4	1.8	7.4
7	18	44	38	e40	44	44	41	33	30	1.4	1.7	9.6
8	17	46	40	e45	45	44	41	31	25	1.5	1.7	9.6
9	21	45	43	44	46	41	40	26	18	1.4	1.7	9.9
10	24	43	42	e40	44	41	40	21	16	1.4	1.8	10
11	25	42	42	e25	44	42	39	21	27	1.4	1.8	10
12	31	41	43	e20	44	45	39	21	20	1.4	1.7	10
13	32	41	44	e22	42	46	38	21	13	1.4	1.8	10
14	31	41	44	e25	42	43	38	21	11	1.4	1.8	11
15	31	41	47	e25	42	41	39	20	9.9	1.5	1.8	11
16	33	42	e35	e27	44	41	38	19	9.1	1.4	1.8	11
17	37	40	e25	e30	43	42	37	18	9.8	1.5	1.9	11
18	46	41	e27	e35	43	42	48	20	9.2	2.1	1.9	11
19	42	41	e30	e45	41	42	54	15	8.8	1.7	2.0	12
20	52	41	e35	e50	41	42	61	8.8	8.4	1.6	2.0	16
21	51	42	e35	e40	41	41	58	13	8.5	1.6	2.0	17
22	48	46	e40	e45	41	41	50	24	7.3	1.5	1.9	17
23	44	44	e40	41	42	40	48	40	1.9	1.5	1.9	24
24	44	42	42	41	e39	37	42	30	1.7	1.6	1.9	25
25	48	40	43	41	39	38	38	29	1.6	1.8	1.9	21
26	47	40	44	41	38	39	36	22	1.5	1.7	1.8	20
27	45	40	46	e35	38	41	35	17	1.5	1.6	1.8	30
28	41	e25	45	e37	e35	45	33	30	1.5	1.6	1.8	32
29	41	e30	e30	e35	---	44	33	34	1.5	1.6	1.8	34
30	40	e30	e31	e35	---	42	33	21	1.5	1.6	2.3	35
31	e35	---	e32	e35	---	41	---	16	---	1.6	4.0	---
Total	1,019	1,222	1,160	1,145	1,161	1,269	1,244	831.8	276.0	47.7	58.4	440.6
Mean	32.9	40.7	37.4	36.9	41.5	40.9	41.5	26.8	9.20	1.54	1.88	14.7
Max	52	46	47	50	47	46	61	59	30	2.1	4.0	35
Min	14	25	25	20	30	35	33	8.8	1.5	1.4	1.6	4.9
Ac-ft	2,020	2,420	2,300	2,270	2,300	2,520	2,470	1,650	547	95	116	874

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2007, BY WATER YEAR (WY)

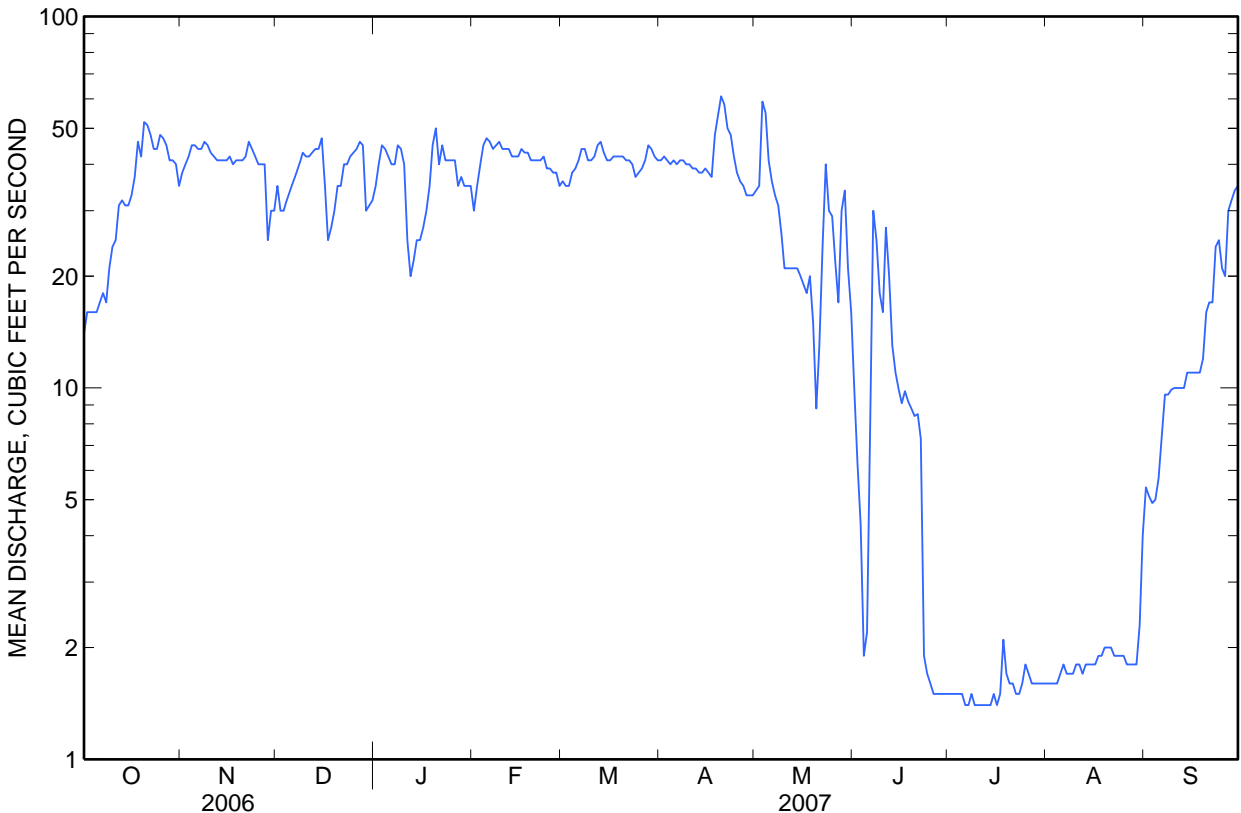
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	30.3	41.6	41.4	40.4	40.5	42.0	36.1	15.7	5.49	3.01	2.91	14.2
Max	35.0	46.5	44.8	41.9	42.4	46.3	41.8	26.8	9.20	6.06	3.80	18.6
(WY)	(2006)	(2004)	(2004)	(2006)	(2004)	(2004)	(2006)	(2007)	(2007)	(2005)	(2005)	(2004)
Min	24.9	37.6	37.4	36.9	38.9	39.7	26.8	2.58	1.53	1.54	1.88	9.01
(WY)	(2005)	(2005)	(2007)	(2007)	(2005)	(2005)	(2004)	(2004)	(2004)	(2007)	(2007)	(2006)

12323850 LOST CREEK NEAR GALEN, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 2003 - 2007	
Annual total	9,361.9		9,874.5			
Annual mean	25.6		27.1		26.1	
Highest annual mean					27.1 2007	
Lowest annual mean					25.3 2004	
Highest daily mean	100	Apr 6	61	Apr 20	100	Apr 6, 2006
Lowest daily mean	1.6	Jul 18	1.4	Jul 6	1.4	Jul 30, 2003
Annual seven-day minimum	1.6	Jul 17	1.4	Jul 6	1.4	Jul 6, 2007
Maximum peak flow			^a 69	May 3	^d 117	Apr 6, 2006
Maximum peak stage			^b 3.59	Jan 12	^b 5.34	Jan 5, 2004
Instantaneous low flow			^c 1.2	Jul 5	^e 1.2	Jul 22, 2003
Annual runoff (ac-ft)	18,570		19,590		18,890	
10 percent exceeds	44		44		44	
50 percent exceeds	33		34		34	
90 percent exceeds	1.9		1.6		1.7	

- ^a Gage height, 2.20 ft.
- ^b Backwater from ice.
- ^c Gage height, 1.19 ft.
- ^d Gage height, 2.53 ft.
- ^e Gage height, 1.16 ft.



12323850 LOST CREEK NEAR GALEN, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2003 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic, water, fltrd, μ g/L (01000)	Arsenic, water, unfltrd, μ g/L (01002)	Cadmium, water, fltrd, μ g/L (01025)	Cadmium, water, unfltrd, μ g/L (01027)
Nov													
14...	1015	42	8.4	628	4.0	2.0	310	91.8	20.7	11.5	12.1	E.02	.05
Feb													
27...	1050	40	8.3	615	-5.0	0.0	290	84.6	19.1	8.1	9.6	E.03	.09
Mar													
27...	1315	42	8.3	641	3.0	6.0	320	94.8	20.8	13.0	14.2	E.02	.06
May													
08...	1245	32	8.5	608	23.5	13.5	290	82.5	19.3	15.3	15.9	E.03	.04
Jun													
05...	1640	2.4	8.2	673	20.5	16.5	260	69.9	21.8	18.8	21.3	--	.04
19...	1055	9.4	8.4	700	20.0	12.5	320	93.1	21.8	11.3	11.5	<.04	.03
Jul													
24...	1135	1.7	8.3	604	27.5	19.5	220	56.0	19.1	9.5	10.0	.04	.04
Aug													
28...	0910	2.0	8.2	629	15.5	10.0	240	61.7	20.7	6.0	6.1	E.03	.03

12323850 LOST CREEK NEAR GALEN, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm (70331)	(80154)	(80155)
Nov 14...	1.4	4.0	7	71	<.12	.23	5.5	8.3	2.1	4	51	37	4.2
Feb 27...	.99	9.5	E5	293	<.12	1.06	13.5	29.0	2.8	8	67	30	3.2
Mar 27...	2.2	6.3	14	126	<.12	.44	21.7	26.1	2.2	5	70	6	.68
May 08...	2.3	5.5	10	114	<.12	.38	13.0	19.1	1.1	2.6	59	21	1.8
Jun 05...	2.5	4.8	36	167	--	.18	39.4	42.8	.87	E1.5	56	29	.19
Jun 19...	1.3	3.4	12	68	<.12	.19	9.7	13.6	E.59	E1.4	38	12	.30
Jul 24...	1.7	2.9	8	47	<.12	.13	7.3	11.6	.71	<2.0	71	3	.01
Aug 28...	1.3	1.6	8	23	<.12	E.06	6.1	6.8	E.58	<2.0	67	5	.03

Water-Data Report 2007

12324200 CLARK FORK AT DEER LODGE, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°23'52", long 112°44'31" referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.33, T.8 N., R.9 W., Powell County, MT, Hydrologic Unit 17010201, on left bank 35 ft upstream from Milwaukee Avenue Bridge in Deer Lodge, 0.05 mi upstream from Taylor Creek, 0.24 mi downstream from Tin Cup Joe Creek, and at river mile 461.2.

DRAINAGE AREA.--995 mi². Area at site used prior to Oct. 1, 1994, 1,005 mi². Area used October 1994 to September 2000, 916 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,502.24 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except for estimated daily discharges, which are poor. Diversions occur upstream from station for irrigation of about 31,000 acres. Some regulation is imposed by settling ponds on Silver Bow Creek near Warm Springs. U.S. Geological Survey satellite telemeter is located at the station.

12324200 CLARK FORK AT DEER LODGE, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	146	e180	e170	e180	e140	204	203	250	405	193	53	69
2	145	e190	e160	198	e150	190	208	273	390	189	51	75
3	145	208	e160	223	e170	194	214	441	394	181	54	67
4	140	227	e180	210	184	207	204	495	417	146	56	69
5	147	217	199	196	209	213	205	403	528	131	59	84
6	150	216	e200	e170	227	228	205	352	798	120	63	92
7	158	228	e200	e170	215	242	226	312	974	110	66	84
8	164	250	e210	209	215	241	221	293	747	113	65	77
9	165	263	e210	208	215	214	216	303	651	105	63	79
10	170	247	e210	205	214	209	209	309	623	94	64	81
11	173	250	231	e130	209	215	209	349	791	91	67	84
12	176	242	232	e80	215	243	223	382	800	82	85	82
13	178	239	237	e100	210	270	226	400	649	71	76	79
14	186	226	249	e110	215	235	216	406	590	64	50	85
15	187	218	261	e110	214	208	209	367	546	63	57	84
16	200	217	e200	e120	215	200	206	314	477	64	57	83
17	220	210	e160	e130	212	200	199	317	471	67	62	81
18	212	200	e160	e140	215	200	271	311	454	83	71	86
19	206	201	e170	e150	210	200	341	312	408	87	76	86
20	230	209	e180	154	207	201	314	324	348	69	83	97
21	254	211	e180	e140	206	196	247	389	349	64	87	108
22	236	220	e180	159	206	187	226	540	336	64	80	111
23	227	221	e180	173	213	186	221	562	319	60	73	141
24	223	203	e190	185	202	181	211	430	293	58	70	181
25	223	e190	203	e200	205	183	205	410	270	66	75	189
26	216	e170	216	e200	204	189	213	373	233	81	73	181
27	211	e180	223	e160	198	200	209	341	223	76	72	176
28	205	e150	209	e160	198	210	202	464	209	75	69	173
29	203	e160	e180	e160	---	207	202	570	195	71	65	175
30	201	e160	e160	e160	---	203	222	482	196	62	61	180
31	e170	---	e160	e160	---	204	---	436	---	60	61	---
Total	5,867	6,303	6,060	5,050	5,693	6,460	6,683	11,910	14,084	2,860	2,064	3,239
Mean	189	210	195	163	203	208	223	384	469	92.3	66.6	108
Max	254	263	261	223	227	270	341	570	974	193	87	189
Min	140	150	160	80	140	181	199	250	195	58	50	67
Ac-ft	11,640	12,500	12,020	10,020	11,290	12,810	13,260	23,620	27,940	5,670	4,090	6,420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	230	243	217	216	237	256	272	377	475	202	99.5	165
Max	421	384	353	342	481	387	422	971	1,450	593	337	315
(WY)	(1983)	(1981)	(1981)	(1983)	(1982)	(1979)	(1982)	(1981)	(1997)	(1982)	(1997)	(1993)
Min	115	156	122	140	137	147	144	80.2	57.8	29.9	27.8	57.8
(WY)	(1989)	(1989)	(1993)	(1992)	(1989)	(2005)	(2005)	(1992)	(1992)	(1985)	(1988)	(1988)

12324200 CLARK FORK AT DEER LODGE, MT—Continued

SUMMARY STATISTICS

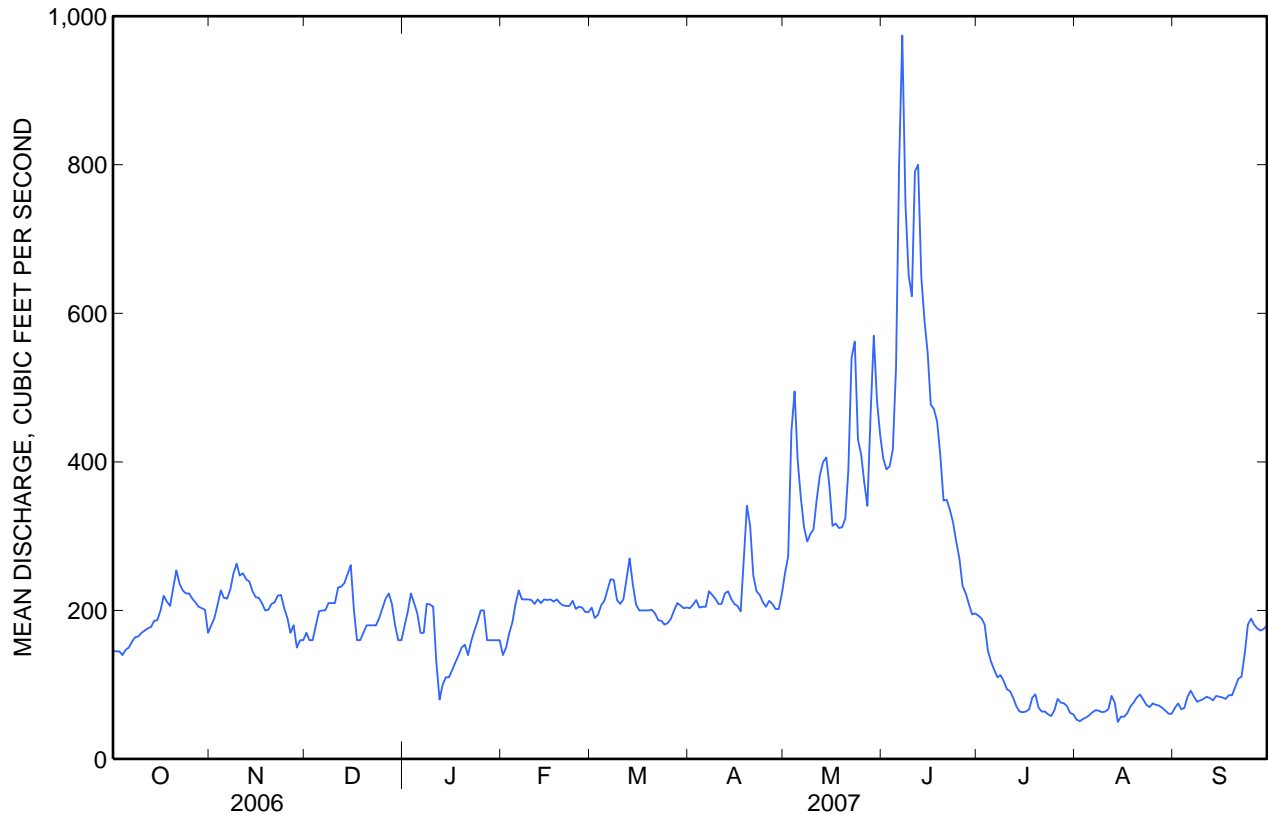
	Calendar Year 2006		Water Year 2007		Water Years 1979 - 2007	
Annual total	70,295		76,273			
Annual mean	193		209		249	
Highest annual mean					465	1997
Lowest annual mean					130	1992
Highest daily mean	578	Jun 11	974	Jun 7	2,390	May 23, 1981
Lowest daily mean	35	Jul 26	50	Aug 14	22	Aug 18, 1988
Annual seven-day minimum	38	Aug 10	56	Jul 30	23	Aug 9, 1991
Maximum peak flow			1,130	Jun 7	^b 2,500	May 23, 1981
Maximum peak stage			4.18	Jun 7	^c 5.92	Nov 1, 1991
Instantaneous low flow			^a 46	Aug 14	^d 21	Aug 6, 1991
Annual runoff (ac-ft)	139,400		151,300		180,300	
10 percent exceeds	319		358		399	
50 percent exceeds	190		200		210	
90 percent exceeds	52		71		87	

^a Gage height, 2.23 ft.

^b Gage height, 5.35 ft.

^c Backwater from ice.

^d Gage height, 2.19 ft.



12324200 CLARK FORK AT DEER LODGE, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1963, 1969-71, 1979-83, 1985 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1978 to September 1983, October 1991 to September 1998, seasonal records for May 2001 to September 2002.

SUSPENDED-SEDIMENT DISCHARGE: March 1985 through August 1986, April 1987 to March 2003, August 2003 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE : Maximum, 24.5°C, July 26, 1998, July 11-14, 2002; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 835 mg/L, Feb. 8, 1996; minimum daily mean, 1 mg/L, Aug. 19, 2002 and July 1-2 and 24, 2007.

SEDIMENT LOAD: Maximum daily, 2,840 tons, Feb. 24, 1986; minimum daily, 0.16 ton, July 24, 2007.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 217 mg/L, May 3; minimum daily mean, 1 mg/L, July 1-2 and 24.

SEDIMENT LOAD: Maximum daily, 431 tons, June 6; minimum daily, 0.16 ton, July 24.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)
Nov													
14...	1200	224	8.5	503	3.0	2.5	230	68.8	15.3	9.8	12.0	.04	.15
Feb													
27...	1240	208	8.4	504	3.5	0.0	220	63.5	14.1	8.1	10.5	.06	.17
Mar													
27...	1450	204	8.3	505	3.5	6.5	220	67.1	13.9	9.8	13.5	.07	.15
May													
08...	1130	286	8.2	442	21.0	12.5	190	56.0	12.2	15.1	21.0	.05	.27
Jun													
04...	1030	414	8.2	307	21.0	15.5	130	37.9	7.54	16.8	21.0	.07	.18
18...	1105	459	8.3	350	19.5	13.0	140	42.2	8.62	16.1	20.6	.10	.20
Jul													
23...	1100	61	8.4	462	33.0	19.5	190	56.9	11.8	17.5	17.2	--	.06
Aug													
27...	0845	73	8.1	500	11.5	12.0	210	63.9	13.2	13.5	13.9	.04	.05

12324200 CLARK FORK AT DEER LODGE, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm (70331)	mg/L (80154)	tons/d (80155)
Nov 14...	4.0	16.7	8	270	<.12	1.82	45.1	70.7	7.0	20	86	8	4.8
Feb 27...	3.8	24.7	E6	420	<.12	2.80	72.0	117	7.2	29	76	19	11
Mar 27...	5.2	29.9	11	459	E.10	3.68	74.8	143	7.0	30	83	18	9.9
May 08...	6.8	53.7	16	814	E.11	6.83	29.0	183	6.1	45.0	76	34	26
Jun 04...	7.7	41.9	16	628	E.08	4.97	22.8	130	4.6	31.4	81	23	26
Jun 18...	8.1	39.5	16	553	E.10	4.69	32.6	119	5.0	28.9	71	23	29
Jul 23...	7.7	11.6	6	50	<.12	.47	16.9	31.7	3.5	6.4	75	2	.33
Aug 27...	6.3	10.7	7	57	<.12	.53	11.6	29.1	5.9	8.4	73	3	.59

12324200 CLARK FORK AT DEER LODGE, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment
	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)
	October		November		December		January		February		March	
1	14	5.5	19	9.2	26	12	24	12	24	9.1	26	14
2	15	5.9	17	8.7	29	13	24	13	24	9.7	27	14
3	16	6.3	13	7.3	27	12	23	14	24	11	24	13
4	17	6.4	11	6.7	24	12	22	12	24	12	25	14
5	17	6.7	11	6.4	22	12	24	13	29	16	25	14
6	14	5.7	9	5.2	19	10	26	12	50	31	32	20
7	10	4.3	7	4.3	18	9.7	27	12	65	38	19	12
8	9	4.0	9	6.1	21	12	24	14	64	37	26	17
9	9	4.0	13	9.2	24	14	21	12	58	34	36	21
10	10	4.6	13	8.7	25	14	18	10	52	30	38	21
11	10	4.7	12	8.1	25	16	15	5.3	46	26	22	13
12	10	4.8	10	6.5	25	16	14	3.0	40	23	15	9.8
13	11	5.3	9	5.8	24	15	16	4.3	36	20	13	9.5
14	11	5.5	8	4.9	24	16	17	5.0	35	20	17	11
15	10	5.0	11	6.5	24	17	17	5.0	35	20	18	10
16	10	5.4	19	11	24	13	19	6.2	34	20	18	9.7
17	9	5.3	20	11	24	10	20	7.0	32	18	18	9.7
18	8	4.6	20	11	24	10	22	8.3	30	17	16	8.6
19	8	4.4	20	11	22	10	24	9.7	28	16	19	10
20	7	4.3	20	11	21	10	25	10	26	15	17	9.2
21	6	4.1	20	11	19	9.2	26	9.8	24	13	16	8.5
22	6	3.8	23	14	18	8.7	26	11	23	13	16	8.1
23	6	3.7	28	17	17	8.3	27	13	22	13	16	8.0
24	7	4.2	30	16	16	8.2	26	13	21	11	17	8.3
25	9	5.4	28	14	16	8.8	24	13	21	12	20	9.9
26	10	5.8	25	11	16	9.3	24	13	20	11	20	10
27	12	6.8	22	11	15	9.0	24	10	20	11	19	10
28	14	7.7	19	7.7	15	8.5	24	10	23	12	24	14
29	16	8.8	18	7.8	20	9.7	24	10	---	---	27	15
30	18	9.8	21	9.1	25	11	24	10	---	---	27	15
31	19	8.7	---	---	25	11	24	10	---	---	24	13
Total	---	171.5	---	277.2	---	355.4	---	310.6	---	518.8	---	380.3

12324200 CLARK FORK AT DEER LODGE, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean		Mean		Mean		Mean		Mean		Mean	
	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)
	April		May		June		July		August		September	
1	22	12	34	23	20	22	1	0.52	3	0.43	5	0.93
2	25	14	43	32	21	22	1	0.51	3	0.41	7	1.4
3	28	16	217	258	50	53	2	0.98	3	0.44	8	1.4
4	23	13	153	204	31	35	2	0.79	3	0.45	8	1.5
5	21	12	63	69	125	178	3	1.1	3	0.48	9	2.0
6	23	13	43	41	200	431	4	1.3	3	0.51	10	2.5
7	25	15	38	32	142	373	4	1.2	4	0.71	10	2.3
8	21	13	36	28	48	97	5	1.5	6	1.1	10	2.1
9	22	13	40	33	98	172	5	1.4	7	1.2	10	2.1
10	26	15	45	38	98	165	6	1.5	6	1.0	9	2.0
11	28	16	46	43	68	145	7	1.7	5	0.90	9	2.0
12	28	17	55	57	60	130	8	1.8	4	0.92	8	1.8
13	25	15	49	53	41	72	8	1.5	3	0.62	8	1.7
14	21	12	42	46	36	57	8	1.4	3	0.41	8	1.8
15	17	9.6	31	31	31	46	7	1.2	4	0.62	8	1.8
16	17	9.5	26	22	28	36	6	1.0	5	0.77	9	2.0
17	17	9.1	28	24	26	33	6	1.1	6	1.0	9	2.0
18	64	47	25	21	20	25	5	1.1	6	1.2	10	2.3
19	110	101	27	23	15	17	5	1.2	7	1.4	8	1.9
20	57	48	24	21	12	11	4	0.75	7	1.6	5	1.3
21	28	19	44	46	12	11	4	0.69	8	1.9	4	1.2
22	21	13	84	122	8	7.3	3	0.52	8	1.7	6	1.8
23	22	13	84	127	6	5.2	2	0.32	9	1.8	6	2.3
24	19	11	32	37	16	13	1	0.16	10	1.9	7	3.4
25	17	9.4	28	31	18	13	2	0.36	10	2.0	8	4.1
26	18	10	22	22	13	8.2	6	1.3	6	1.2	8	3.9
27	17	9.6	19	17	6	3.6	6	1.2	3	0.58	8	3.8
28	15	8.2	42	53	6	3.4	5	1.0	5	0.93	7	3.3
29	17	9.3	49	75	2	1.1	5	0.96	12	2.1	7	3.3
30	22	13	34	44	2	1.1	4	0.67	9	1.5	6	2.9
31	---	---	25	29	---	---	4	0.65	5	0.82	---	---
Total	---	535.7	---	1,702	---	2,186.9	---	31.38	---	32.60	---	66.83



Water-Data Report 2007

12324590 LITTLE BLACKFOOT RIVER NEAR GARRISON, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°31'11", long 112°47'33" referenced to North American Datum of 1927, in NE ¼ NW ¼ SE ¼ sec.24, T.9 N., R.10 W., Powell County, MT, Hydrologic Unit 17010201, on right bank 20 ft upstream from bridge on frontage road, 0.7 mi southeast of Garrison, and at river mile 0.5.

DRAINAGE AREA.--407 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1972 to current year, seasonal records only for water year 2007.

GAGE.--Water-stage recorder. Elevation of gage is 4,343.97 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1992, at site 3.5 mi upstream at different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. A few minor irrigation holding reservoirs are located in the upper reaches of the drainage. Diversions for irrigation include about 11,000 acres upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several observations of water temperature and specific conductance were made during the year.

12324590 LITTLE BLACKFOOT RIVER NEAR GARRISON, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	36						170	322	542	121	47	19	
2	38						164	332	493	116	44	19	
3	45						150	453	443	95	42	19	
4	43						144	485	401	87	41	20	
5	42						152	404	407	89	41	19	
6	48						146	366	581	96	40	20	
7	48						138	357	788	100	31	22	
8	55						135	309	611	98	32	23	
9	74						141	286	538	99	31	25	
10	74						145	280	511	106	31	23	
11	73						139	296	559	103	32	22	
12	68						134	283	476	96	31	25	
13	66						130	284	415	90	31	25	
14	77						128	285	387	86	30	21	
15	74						116	270	347	85	20	23	
16	82						131	247	333	85	21	24	
17	83						131	227	341	84	23	27	
18	78						187	212	322	91	27	31	
19	84						202	204	292	87	27	37	
20	105						198	206	268	85	35	39	
21	108						206	252	253	84	37	38	
22	99						211	370	231	84	36	38	
23	89						211	435	208	83	29	71	
24	87						210	457	195	80	28	83	
25	85						216	507	181	83	27	68	
26	81						239	465	166	70	23	56	
27	78						229	441	150	65	23	55	
28	73						229	584	136	51	22	52	
29	73						258	635	119	51	20	49	
30	76						291	639	122	51	19	53	
31	79						---	590	---	50	18	---	
Total	2,221							5,281	11,483	10,816	2,651	939	1,046
Mean	71.6							176	370	361	85.5	30.3	34.9
Max	108							291	639	788	121	47	83
Min	36							116	204	119	50	18	19
Ac-ft	4,410							10,470	22,780	21,450	5,260	1,860	2,070

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	70.8	70.0	62.7	61.6	81.5	119	224	475	381	129	58.3	54.7
Max	129	122	199	135	262	271	486	1,460	1,803	410	191	184
(WY)	(1976)	(1976)	(1976)	(1976)	(1996)	(1986)	(1976)	(1981)	(1975)	(1975)	(1975)	(1993)
Min	35.4	39.8	32.9	36.3	36.4	55.4	88.8	76.9	60.1	23.6	11.9	19.9
(WY)	(1974)	(1988)	(1993)	(1993)	(1989)	(1975)	(1973)	(1992)	(1992)	(1973)	(1977)	(1977)

* Seasonal records only for water year 2007.

12324590 LITTLE BLACKFOOT RIVER NEAR GARRISON, MT—Continued

SUMMARY STATISTICS

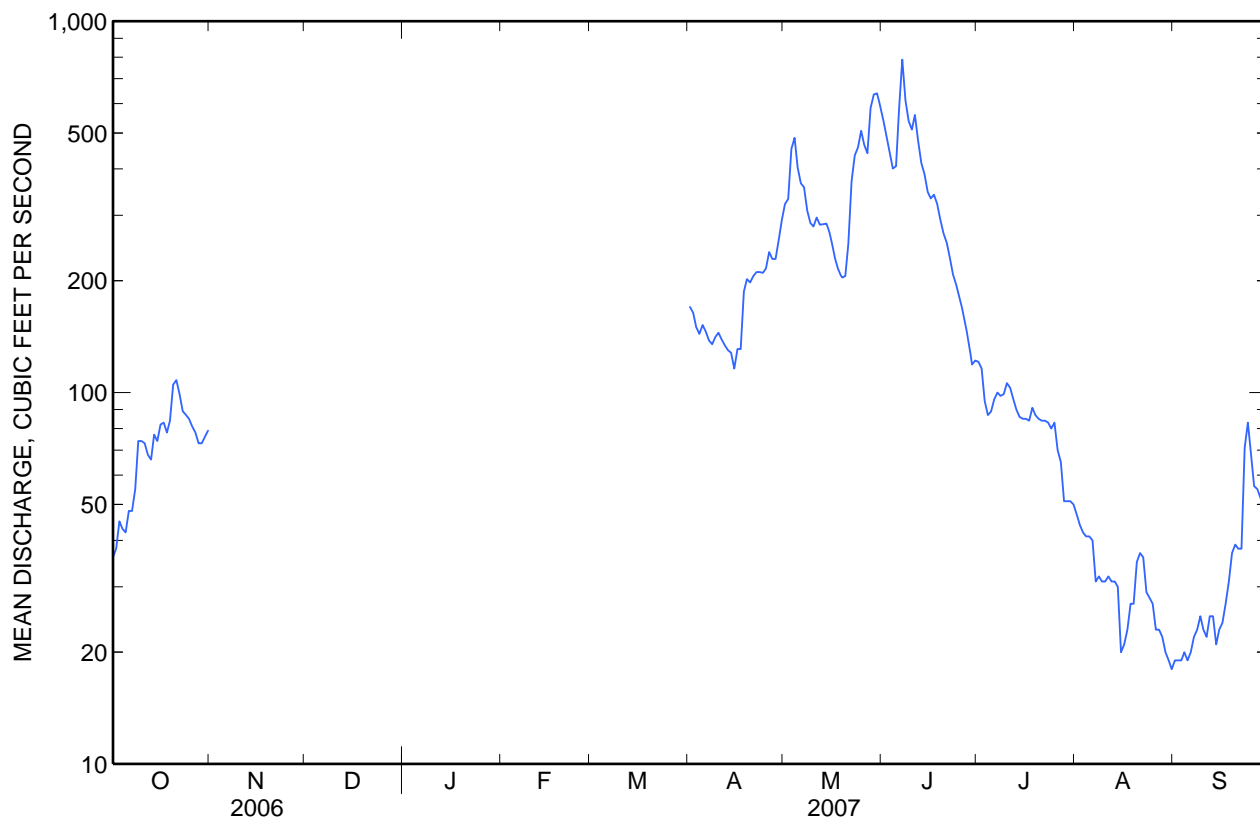
	2007 Season		Water Years 1972 - 2007*	
Annual mean			150	
Highest annual mean			322	1975
Lowest annual mean			58.4	1973
Highest daily mean	788	Jun 7	6,280	May 22, 1981
Lowest daily mean	18	Aug 30	6.5	Aug 23, 1977
Annual seven-day minimum			6.7	Aug 22, 1977
Maximum peak flow	901	Jun 7	8,650	May 21, 1981
Maximum peak stage	3.81	Jun 7	^b 8.79	May 21, 1981
Instantaneous low flow	^a 18	Aug 30	^c 6.0	Aug 24, 1977
Annual runoff (ac-ft)			108,500	
10 percent exceeds			365	
50 percent exceeds			74	
90 percent exceeds			38	

* Seasonal records only for water year 2007.

^a Gage height, 0.77 ft.

^b Site and datum then in use.

^c Gage height, 2.94 ft, site and datum then in use.



Water-Data Report 2007

12324680 CLARK FORK AT GOLDCREEK, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°35'26", long 112°55'40" referenced to North American Datum of 1927, in SE ¼ NW ¼ SW ¼ sec.25, T.10 N., R.11 W., Powell County, MT, Hydrologic Unit 17010201, on right bank at county road bridge, 0.4 mi north of the town of Goldcreek, 1.1 mi downstream from Gold Creek, and at river mile 434.7.

DRAINAGE AREA.--1,760 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 4,172.80 ft, referenced to the National Geodetic Vertical Datum of 1929. June 13 to Oct. 21, 1982, nonrecording gage at site 350 ft downstream at same elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Some regulation is imposed by settlingponds on Silver Bow Creek near Warm Springs. Diversion for irrigation includes about 40,100 acres upstream from station. U.S.Geological Survey satellite telemeter is located at the station.

12324680 CLARK FORK AT GOLDCREEK, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	230	313	297	e270	e300	332	476	694	1,350	400	160	134
2	230	331	e300	341	e279	312	475	735	1,280	388	156	145
3	240	345	e310	383	e260	318	465	983	1,200	349	155	144
4	241	373	330	384	339	348	450	1,190	1,190	332	153	137
5	242	382	340	339	404	401	459	985	1,300	296	148	157
6	266	382	352	308	482	509	448	859	1,860	295	154	164
7	264	390	387	309	424	596	455	788	2,410	283	154	167
8	272	432	390	332	408	682	460	725	1,940	276	152	161
9	300	453	419	336	429	553	460	714	1,720	273	152	157
10	305	433	420	334	428	557	449	730	1,610	261	156	163
11	307	424	388	e250	398	642	438	790	1,810	259	155	166
12	304	412	393	e120	365	1,160	447	824	1,830	244	171	170
13	306	400	392	e140	e320	1,240	452	885	1,550	230	179	167
14	322	390	389	e160	345	727	442	950	1,380	218	157	163
15	323	363	405	e201	345	534	415	902	1,240	211	139	156
16	362	362	378	e231	373	486	427	821	1,120	211	138	157
17	380	355	e300	e251	391	481	422	770	1,090	213	140	158
18	364	341	e260	e260	386	544	532	766	1,050	223	155	166
19	364	335	e250	e280	353	518	642	784	938	241	157	174
20	418	343	e260	e353	364	515	639	824	807	224	177	182
21	460	351	e280	369	356	478	587	961	762	216	185	191
22	430	368	345	377	339	447	560	1,300	738	219	186	196
23	404	367	e340	362	355	435	546	1,490	689	213	168	254
24	394	337	367	355	333	440	541	1,380	639	202	159	316
25	386	350	367	358	332	455	537	1,320	586	215	155	316
26	375	337	362	359	332	475	572	1,240	530	212	147	310
27	366	339	375	340	324	492	563	1,150	484	208	141	301
28	354	297	357	326	325	505	549	1,460	446	193	138	296
29	343	e250	e310	322	---	483	569	1,720	410	190	136	294
30	348	262	e270	322	---	471	639	1,590	399	184	132	300
31	325	---	e280	339	---	477	---	1,460	---	176	133	---
Total	10,225	10,817	10,613	9,411	10,089	16,613	15,116	31,790	34,358	7,655	4,788	5,962
Mean	330	361	342	304	360	536	504	1,025	1,145	247	154	199
Max	460	453	420	384	482	1,240	642	1,720	2,410	400	186	316
Min	230	250	250	120	260	312	415	694	399	176	132	134
Ac-ft	20,280	21,460	21,050	18,670	20,010	32,950	29,980	63,060	68,150	15,180	9,500	11,830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	385	393	346	343	404	483	592	1,013	1,097	457	222	290
Max	699	651	622	596	860	721	918	2,914	3,002	1,196	646	707
(WY)	(1983)	(1981)	(1981)	(1984)	(1996)	(1978)	(1996)	(1981)	(1980)	(1982)	(1993)	(1993)
Min	198	244	193	199	208	287	334	198	138	85.7	67.5	99.8
(WY)	(1989)	(1989)	(1993)	(1988)	(1989)	(2005)	(2005)	(1992)	(1992)	(1985)	(2000)	(1988)

12324680 CLARK FORK AT GOLDCREEK, MT—Continued

SUMMARY STATISTICS

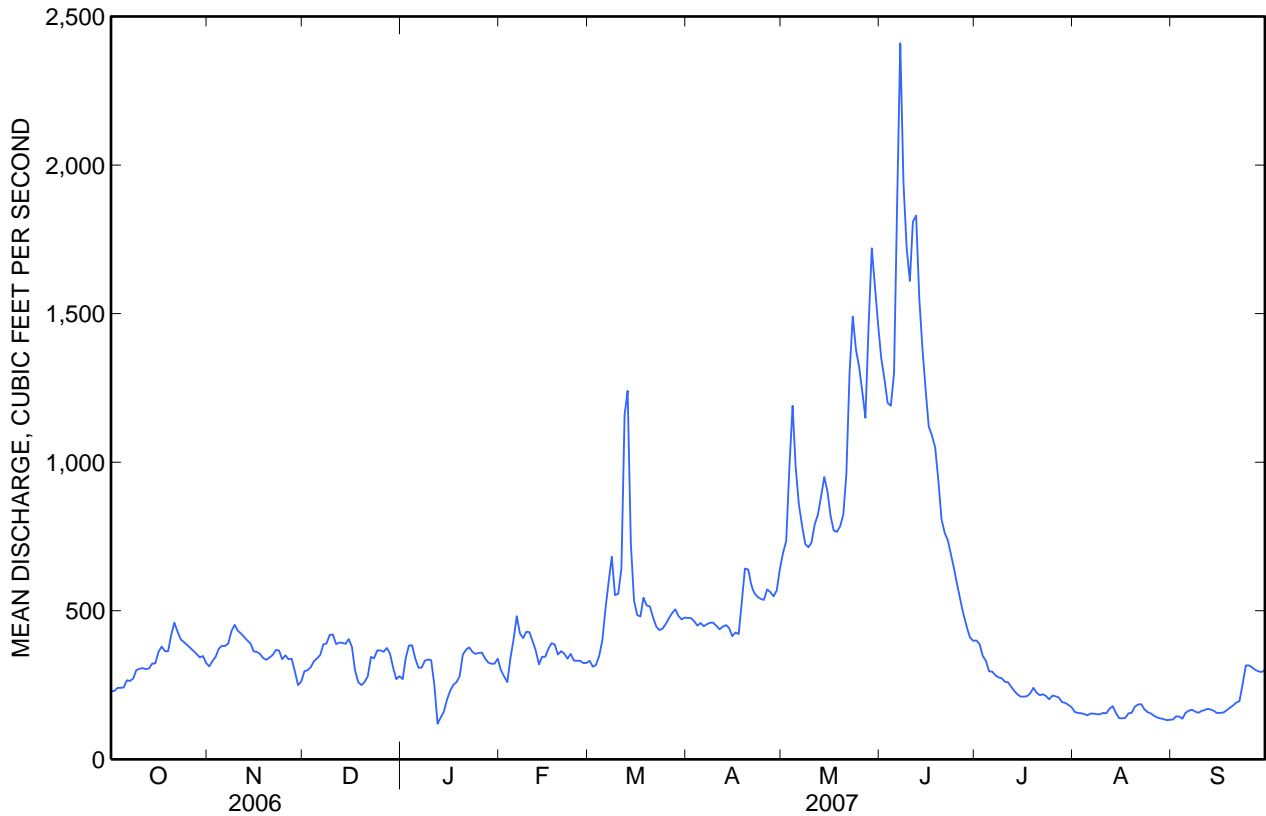
	Calendar Year 2006		Water Year 2007		Water Years 1978 - 2007	
Annual total	149,646		167,437			
Annual mean	410		459		502	
Highest annual mean					860	1981
Lowest annual mean					243	1992
Highest daily mean	1,780	Jun 11	2,410	Jun 7	9,100	May 23, 1981
Lowest daily mean	85	Aug 14	120	Jan 12	55	Sep 4, 1988
Annual seven-day minimum	90	Aug 11	137	Aug 27	58	Sep 3, 1988
Maximum peak flow			2,610	Jun 7	^b 12,000	May 22, 1981
Maximum peak stage			7.04	Jun 7	^c 12.50	Jan 2, 1997
Instantaneous low flow			^a 77	Jan 12	^d 54	Sep 3, 1988
Annual runoff (ac-ft)	296,800		332,100		363,500	
10 percent exceeds	832		916		903	
50 percent exceeds	340		355		367	
90 percent exceeds	121		160		186	

^a Gage height, 3.79 ft, may have been less during period of ice-affected stage-discharge relation.

^b From rating curve extended above 6,500 ft³/s on basis of contracted-opening measurement of peak flow; gage height, 11.17 ft, from floodmark.

^c Backwater from ice.

^d Gage height, 3.73 ft.



12324680 CLARK FORK AT GOLDCREEK, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--March 1993 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1991 to September 1998.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.5°C, July 26, 1995; minimum, 0.0°C on many days during winter period.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd, µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd, µg/L (01027)
Nov													
14...	1400	390	8.9	433	5.0	3.0	200	60.4	13.0	9.1	9.9	.04	.09
Feb													
27...	1415	317	8.8	460	-1.0	.0	200	57.7	13.1	7.5	8.7	.05	.11
Mar													
27...	1600	501	8.6	374	2.5	5.5	170	51.0	10.5	7.2	9.1	<.04	.11
May													
08...	0930	725	8.3	347	14.5	10.0	150	43.2	9.36	9.8	13.8	E.03	.20
Jun													
06...	0720	1,730	8.1	268	10.0	12.0	110	32.5	7.01	11.9	20.8	.04	.32
19...	1305	944	8.5	327	23.0	14.5	140	40.6	8.53	11.2	13.8	E.03	.12
Jul													
24...	1325	202	8.6	384	29.5	20.0	160	49.1	10.3	10.7	10.9	.04	.04
Aug													
28...	1055	140	8.5	436	16.5	14.5	190	54.5	12.1	10.9	10.9	E.03	.04

12324680 CLARK FORK AT GOLDCREEK, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm (70331)	mg/L (80154)	tons/d (80155)
Nov 14...	3.6	12.5	E6	170	<.12	1.20	15.3	46.8	2.2	12	89	7	7.4
Feb 27...	3.5	16.5	E5	254	<.12	1.70	37.6	72.7	4.2	19	79	12	10
Mar 27...	3.9	19.0	10	384	E.06	2.73	24.7	73.9	2.7	19	85	16	22
May 08...	4.9	38.3	25	726	E.09	5.09	10.8	135	4.1	35.9	74	37	72
Jun 06...	10.0	79.4	30	1,580	.14	10.8	12.9	177	5.2	62.1	64	92	430
Jun 19...	6.0	24.5	14	404	E.06	2.76	17.9	71.5	2.7	20.0	78	16	41
Jul 24...	3.9	5.4	E3	34	<.12	.16	5.8	17.6	1.1	2.3	70	1	.55
Aug 28...	4.2	5.9	E4	42	<.12	.26	8.1	34.4	1.7	3.6	66	2	.76

Water-Data Report 2007

12325500 FLINT CREEK NEAR SOUTHERN CROSS, MTPend Oreille Basin
Flint-Rock Subbasin

LOCATION.--Lat 46°13'59", long 113°17'56" referenced to North American Datum of 1927, in SE ¼ NW ¼ sec.36, T.6 N., R.14 W., Granite County, MT, Hydrologic Unit 17010202, on right wing wall of weir, 0.5 mi downstream from power plant, 2.0 mi downstream from Georgetown Dam, 3.5 mi northwest of Southern Cross, 6.8 mi south of Philipsburg, and at river mile 36.8.

DRAINAGE AREA.--52.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1940 to September 1998, August 2000 to current year (seasonal records only).

REVISED RECORDS.-- Water Supply Paper (WSP) 1216: 1942, maximum discharge. WSP 1246: Drainage area.

GAGE.--Water-stage recorder and sharp-crested, contracted, rectangular weir. Elevation of gage is 5,630 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to June 3, 1982, nonrecording gage at same site and elevation. Prior to Nov. 27, 1973, gage at same site and elevation 0.20 ft higher.

REMARKS.--Seasonal records are good. Flow regulated by Georgetown Lake (station number 12325000). Flow may be augmented by interbasin diversion from Silver Lake to Georgetown Lake or reduced by pumping from Georgetown Lake to Silver Lake. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the water year.

Water-Data Report 2007

12325500 FLINT CREEK NEAR SOUTHERN CROSS, MT—Continued

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

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				14	29	154	31	29	29	29		
2				14	29	142	31	29	28	29		
3				14	29	89	31	29	28	29		
4				14	39	56	29	29	28	29		
5				14	51	57	29	29	29	29		
6				14	52	81	29	29	29	29		
7				14	53	137	29	29	29	29		
8				14	53	160	29	29	29	29		
9				14	53	162	29	29	28	29		
10				14	53	163	29	29	28	29		
11				14	53	164	29	29	28	29		
12				14	53	161	29	29	28	29		
13				14	53	155	29	29	29	29		
14				14	52	152	29	29	29	29		
15				14	51	149	29	29	28	29		
16				14	50	148	29	29	29	29		
17				14	50	145	29	29	29	30		
18				14	50	142	29	29	29	33		
19				14	50	133	29	29	29	36		
20				14	44	91	29	29	29	35		
21				19	43	91	29	29	29	35		
22				26	77	91	29	29	29	35		
23				27	114	87	29	29	30	35		
24				28	132	80	29	29	29	35		
25				29	134	80	29	29	29	35		
26				29	149	73	29	29	29	35		
27				29	158	52	29	29	29	35		
28				29	162	52	29	29	29	35		
29				29	161	48	29	29	29	35		
30				29	159	35	29	29	29	35		
31				---	157	---	29	29	---	35		
Total					554	2,393	3,330	905	899	863	983	
Mean					18.5	77.2	111	29.2	29.0	28.8	31.7	
Max					29	162	164	31	29	30	36	
Min					14	29	35	29	29	28	29	
Ac-ft					1,100	4,750	6,610	1,800	1,780	1,710	1,950	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2007, BY WATER YEAR (WY)*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	18.5	19.9	22.1	25.0	33.1	57.5	45.5	33.3	30.9	25.1	21.5	19.8
Max	37.5	53.8	80.4	121	106	142	131	78.5	74.3	59.2	62.2	50.0
(WY)	(1996)	(1968)	(1943)	(1948)	(1976)	(1948)	(1975)	(1975)	(1993)	(1984)	(1984)	(1976)
Min	2.86	3.37	4.10	1.62	7.75	25.9	26.4	21.7	13.0	3.90	3.86	2.66
(WY)	(1975)	(1975)	(1975)	(1941)	(1962)	(1955)	(1988)	(1952)	(2000)	(1974)	(1974)	(1975)

* During periods of operation (October 1940 to September 1998; seasonal records beginning August 2000).

12325500 FLINT CREEK NEAR SOUTHERN CROSS, MT—Continued

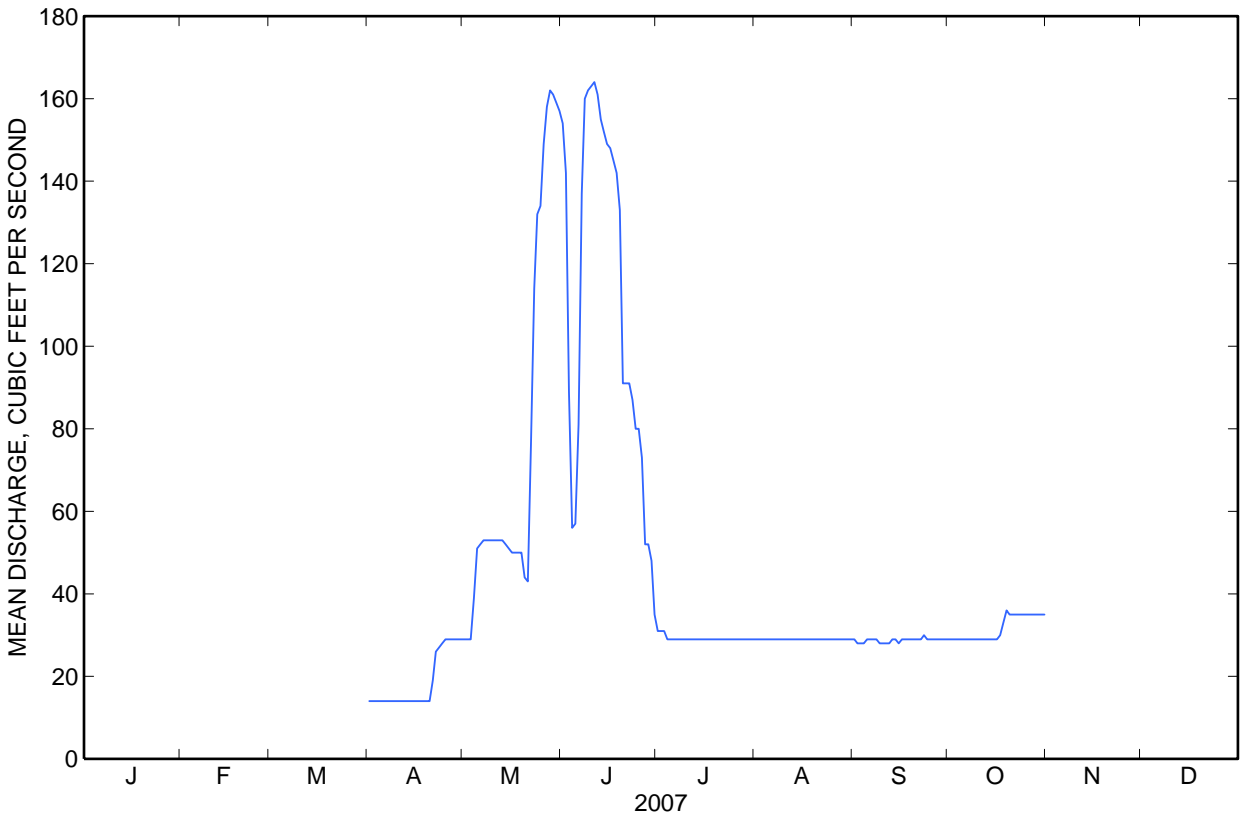
	For 2007 Season		Water Years 1941 - 1998		Seasons 2000 - 2007*	
Annual mean			29.5			
Highest annual mean			57.9	1976		
Lowest annual mean			13.2	1962		
Highest daily mean	164	Jun 11	172	Jun 19, 1980	164	Jun 11, 2007
Lowest daily mean	14	Apr 1	0.00	Nov 30, 1966 ^a	3.8	Oct 19, 2006
Annual seven-day minimum			1.4	Mar 8, 1941		
Maximum peak flow	168	Jun 10	^b 174	Jun 13, 1942	168	Jun 10, 2007
Maximum peak stage	2.51	Jun 10	^c 2.60	Jun 19, 1980	2.51	Jun 10, 2007
Instantaneous low flow			0.00	Nov 30, 1966		
Annual runoff (ac-ft)			21,370			
10 percent exceeds			50			
50 percent exceeds			28			
90 percent exceeds			6.8			

* During periods of operation (October 1940 to September 1998; seasonal records beginning August 2000).

^a Partial days of no flow in several years.

^b Gage height, 1.86 ft.

^c Maximum observed.



Water-Data Report 2007

12329500 FLINT CREEK AT MAXVILLE, MT

Pend Oreille Basin
Flint-Rock Subbasin

LOCATION.--Lat 46°27'50", long 113°14'20" referenced to North American Datum of 1927, in NE ¼ SW ¼ NW ¼ sec.9, T.8 N., R.13 W., Granite County, MT, Hydrologic Unit 17010202, on right bank 0.4 mi west of Maxville and 1.0 mi upstream from Boulder Creek.

DRAINAGE AREA.--208 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1941 to current year (no winter records in water year 2007). April 1939 to September 1941 at site 0.5 mi upstream; records not equivalent owing to diversions.

REVISED RECORDS.-- Water Supply Paper 1216: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,828.38 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. Some regulation occurs by Georgetown Lake. Diversions for irrigation of about 8,200 acres occur upstream from station. During irrigation season, flow is supplemented by water from East Fork Rock Creek which is diverted in sec.5, T.4 N., R.14 W., 500 ft below Rock Creek Dam, through a canal into Trout Creek, thence into Flint Creek. 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.

12329500 FLINT CREEK AT MAXVILLE, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	64						e75	143	267	81	103	69	
2	63						74	143	265	70	105	69	
3	64						68	209	261	73	106	70	
4	64						69	183	239	61	100	70	
5	66						69	153	273	60	103	92	
6	78						69	138	356	65	108	74	
7	71						67	134	560	74	103	68	
8	69						67	136	426	82	97	68	
9	73						70	142	377	84	96	71	
10	80						71	161	369	84	99	72	
11	81						68	173	461	84	96	63	
12	78						67	169	462	90	97	53	
13	78						65	177	384	95	96	51	
14	77						64	157	361	96	92	51	
15	78						73	143	331	106	91	50	
16	81						77	126	310	111	92	51	
17	83						74	122	313	113	93	52	
18	75						99	118	288	108	94	60	
19	70						98	130	248	104	92	81	
20	91						89	123	218	103	85	84	
21	88						98	163	184	103	84	72	
22	78						107	190	171	103	81	64	
23	71						115	216	163	99	80	113	
24	68						114	271	154	104	82	112	
25	67						114	281	143	121	77	91	
26	64						123	244	136	110	75	88	
27	62						116	255	124	113	72	86	
28	60						115	313	107	106	74	85	
29	59						125	333	92	102	74	89	
30	59						136	289	87	105	65	86	
31	57						---	269	---	108	67	---	
Total	2,217							2,636	5,804	8,130	2,918	2,779	2,205
Mean	71.5							87.9	187	271	94.1	89.6	73.5
Max	91							136	333	560	121	108	113
Min	57							64	118	87	60	65	50
Ac-ft	4,400							5,230	11,510	16,130	5,790	5,510	4,370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 – 2006 AND SEASON 2007

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	83.1	71.2	59.5	53.6	61.0	75.2	104	136	187	125	106	90.7
Max	148	121	120	88.1	141	186	310	353	455	324	217	151
(WY)	(1976)	(1984)	(1976)	(1976)	(1996)	(1943)	(1948)	(1976)	(1948)	(1975)	(1975)	(1993)
Min	50.2	41.3	27.7	26.6	27.3	33.5	48.6	50.9	70.7	48.1	30.1	33.6
(WY)	(1992)	(1993)	(1993)	(1993)	(1993)	(1955)	(1961)	(2002)	(1987)	(1973)	(1992)	(1992)

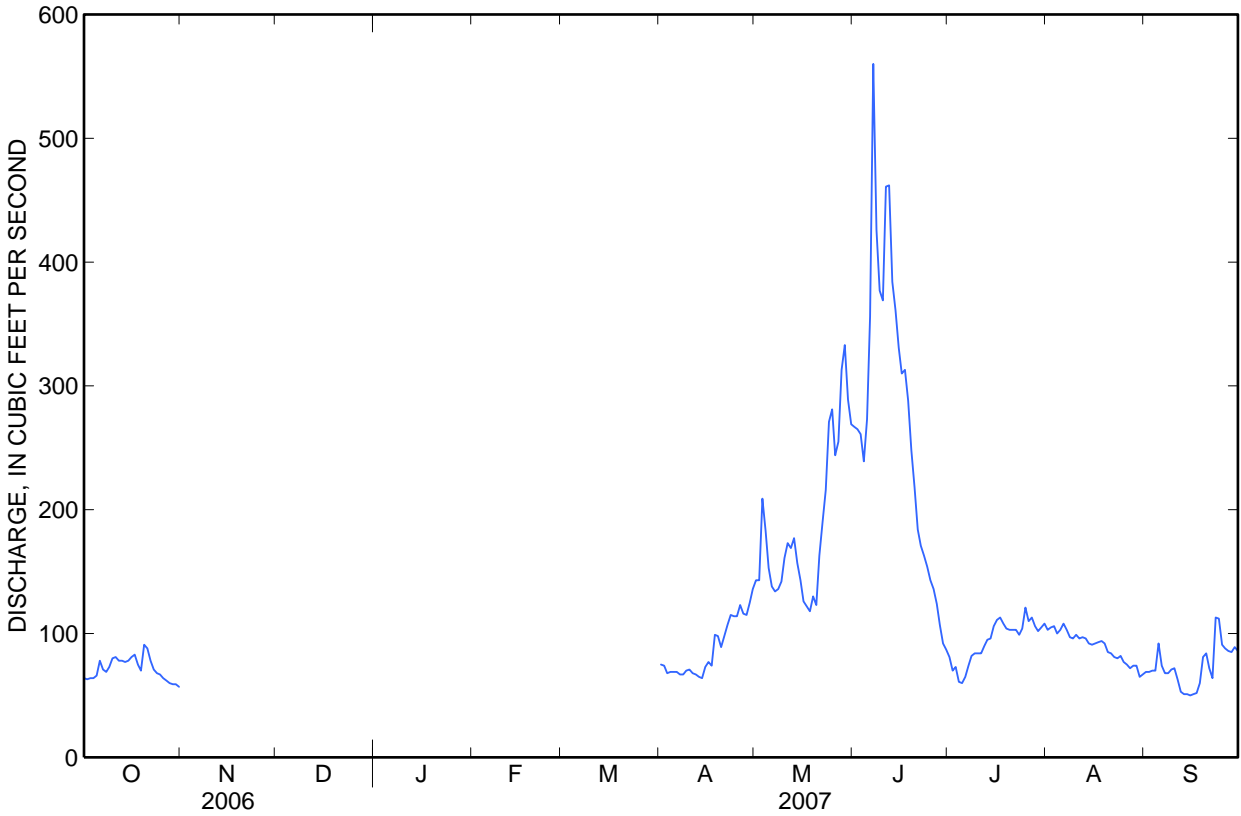
12329500 FLINT CREEK AT MAXVILLE, MT—Continued

SUMMARY STATISTICS

	Season 2007		Water Years 1942 - 2006	
Annual mean			96.0	
Highest annual mean			165	1976
Lowest annual mean			53.2	1992
Highest daily mean	560	Jun 7	933	Mar 29, 1943
Lowest daily mean	50	Sep 15	15	Feb 25, 1962
Annual seven-day minimum			19	Dec 31, 1957
Maximum peak flow	620	Jun 7	^a 1,680	Mar 28, 1943
Maximum peak stage	4.94	Jun 7	^b 8.08	Feb 4, 1963
Instantaneous low flow			15	Feb 25, 1962
Annual runoff (ac-ft)			69,560	
10 percent exceeds			164	
50 percent exceeds			79	
90 percent exceeds			43	

^a Gage height, 6.79 ft.

^b Backwater from ice.





Water-Data Report 2007

12330000 BOULDER CREEK AT MAXVILLE, MT

Pend Oreille Basin
Flint-Rock Subbasin

LOCATION.--Lat 46°28'20", long 113°13'59" referenced to North American Datum of 1927, in SE ¼ NE ¼ SW ¼ sec.4, T.8 N., R.13 W., Granite County, MT, Hydrologic Unit 17010202, on right bank 0.2 mi upstream from mouth and 0.7 mi north of Maxville.

DRAINAGE AREA.--71.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1939 to current year (no winter records in water year 2007). Monthly discharge only for some periods, published in Water Supply Paper 1316.

GAGE.--Water-stage recorder. Elevation of gage is 4,750 ft, referenced to the National Geodetic Vertical Datum of 1929. Apr. 15, 1939, to July 7, 1941, nonrecording gage was located at a site 75 ft upstream at a different elevation. July 8-20, 1941, nonrecording gage was located at a site 175 ft upstream at an elevation 1.03 ft higher.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Diversions occur upstream for irrigation of about 240 acres near 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.

12330000 BOULDER CREEK AT MAXVILLE, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	15					e26	25	99	184	67	22	11
2	13					e23	24	125	188	64	21	12
3	15					e24	23	158	197	59	20	12
4	15					e23	24	120	204	52	19	13
5	16					19	24	96	310	49	19	16
6	19					17	24	83	343	47	21	16
7	15					17	24	77	278	44	20	15
8	11					17	24	86	274	42	19	13
9	12					17	26	107	268	40	18	9.3
10	13					16	25	161	301	39	18	7.7
11	15					17	25	198	346	38	17	7.6
12	16					18	24	207	278	36	17	8.1
13	16					21	24	216	242	35	17	8.8
14	16					22	23	189	223	35	15	6.8
15	16					21	22	161	204	34	13	6.5
16	20					20	22	164	189	34	13	6.5
17	20					21	23	186	181	34	14	6.7
18	19					23	25	195	160	32	14	6.9
19	18					24	24	205	133	29	13	7.5
20	26					25	24	203	121	28	13	15
21	23					24	24	236	113	28	13	20
22	21					23	23	184	104	27	13	20
23	20					23	23	155	96	26	12	29
24	20					24	25	145	90	27	12	28
25	20					25	28	136	84	35	12	25
26	19					27	32	134	78	29	12	26
27	19					27	32	162	73	28	11	26
28	20					26	40	231	74	27	11	24
29	20					25	56	194	75	25	11	24
30	19					25	82	178	70	25	11	24
31	e20					25	---	179	---	24	11	---
Total	547					685	844	4,970	5,481	1,139	472	451.4
Mean	17.6					22.1	28.1	160	183	36.7	15.2	15.0
Max	26					27	82	236	346	67	22	29
Min	11					16	22	77	70	24	11	6.5
Ac-ft	1,080					1,360	1,670	9,860	10,870	2,260	936	895

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2006 AND SEASON 2007

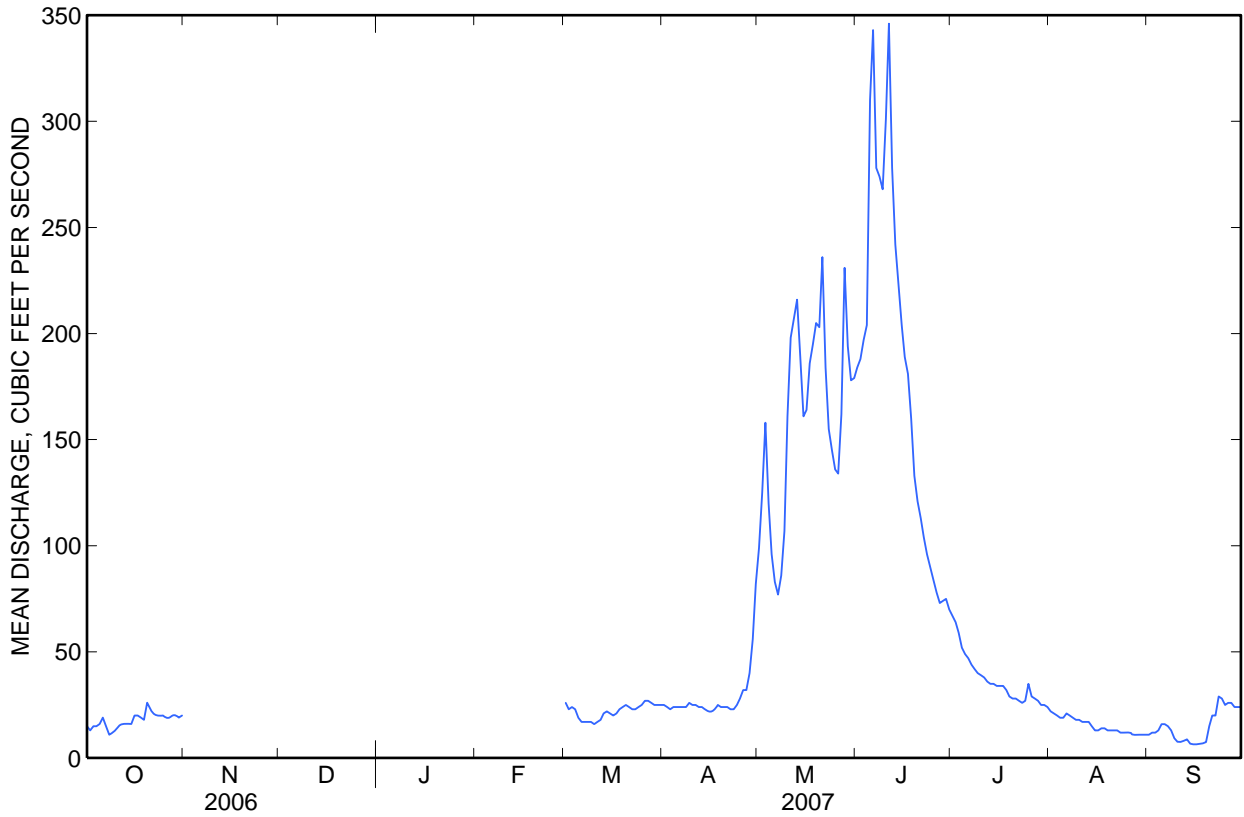
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	22.5	23.1	20.5	18.4	18.2	18.4	28.5	115	173	57.4	20.4	17.6
Max	51.1	44.8	39.0	32.4	30.5	28.6	56.3	261	376	244	68.4	54.1
(WY)	(1960)	(1976)	(1976)	(1976)	(1951)	(1976)	(1943)	(1976)	(1975)	(1975)	(1975)	(1965)
Min	3.59	11.8	11.0	8.49	10.0	12.3	10.4	54.7	35.0	12.6	8.14	6.59
(WY)	(1988)	(1988)	(1988)	(1988)	(1941)	(1993)	(1991)	(1977)	(1992)	(1988)	(1988)	(1991)

12330000 BOULDER CREEK AT MAXVILLE, MT—Continued

SUMMARY STATISTICS

	Season 2007		Water Years 1940 - 2006	
Annual mean			44.4	
Highest annual mean			82.2	1976
Lowest annual mean			20.4	1992
Highest daily mean	346	Jun 11	1,140	Jun 19, 1975
Lowest daily mean	6.5	Sep 15	2.8	Oct 13, 1991
Annual seven-day minimum			3.4	Oct 8, 1987
Maximum peak flow	381	Jun 11	1,460	Jun 19, 1975
Maximum peak stage	3.22	Jun 11	4.55	Jun 19, 1975
Instantaneous low flow			^a 2.8	Oct 13, 1991
Annual runoff (ac-ft)			32,160	
10 percent exceeds			108	
50 percent exceeds			21	
90 percent exceeds			12	

^a Result of upstream diversion.



Water-Data Report 2007

12331500 FLINT CREEK NEAR DRUMMOND, MT

Pend Oreille Basin
Flint-Rock Subbasin

LOCATION.--Lat 46°37'44", long 113°09'02" referenced to North American Datum of 1927, in NE ¼ NW ¼ NE ¼ sec.18, T.10 N., R.12 W., Granite County, MT, Hydrologic Unit 17010202, on left bank 10 ft downstream from county bridge, 2.0 mi upstream from mouth, and 2.7 mi south of Drummond.

DRAINAGE AREA.--490 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1990 to April 2003, August 2003 to September 2004, October 2006 to September 2007.

GAGE.--Water-stage recorder. Elevation of gage is 4,017.27 ft, referenced to the National Geodetic Vertical Datum of 1929. June 1948 to September 1949 at same site with different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Some regulation by Georgetown Lake (station number 12325000). Diversions for irrigation include about 25,000 acres of which 1,000 acres are downstream from station. During irrigation season, flow is supplemented by water from East Fork Rock Creek which is diverted in sec.5, T.4 N., R.14 W., 500 ft below Rock Creek Dam, through a canal into Trout Creek, thence into Flint Creek. U.S. Geological Survey satellite telemeter is located at the station.

12331500 FLINT CREEK NEAR DRUMMOND, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	83	e110	e65	e52	e43	e90	115	241	341	82	e24	21
2	80	e115	e55	e62	e48	e85	115	255	331	75	e25	21
3	88	120	e60	e60	e55	e90	e111	393	335	68	e27	22
4	102	119	e65	e54	e65	91	e108	397	316	61	e26	23
5	106	121	e70	e47	e85	114	e92	326	479	58	e24	27
6	129	121	e65	e43	e120	157	e96	286	701	55	e27	29
7	116	136	e65	e46	e100	208	e93	259	869	53	e24	28
8	109	189	e60	e50	e95	199	97	249	776	53	e18	29
9	120	162	e60	e58	e90	159	102	252	666	48	16	30
10	131	140	e60	e56	e85	127	109	314	674	41	15	28
11	144	131	e60	e45	e90	131	107	363	806	37	14	29
12	142	121	e65	e36	e85	271	108	380	804	34	14	27
13	137	120	e75	e38	e80	345	107	415	680	35	14	26
14	136	120	e70	e42	e85	172	108	372	624	39	16	24
15	137	112	e60	e43	e90	121	112	298	570	42	18	24
16	161	126	e50	e45	e110	113	119	233	503	50	18	24
17	171	115	e45	e45	e100	120	118	221	502	51	20	28
18	154	112	e47	e47	e90	126	170	200	455	48	22	31
19	146	108	e50	e47	86	121	168	210	362	39	23	39
20	196	114	e50	e48	84	127	149	198	305	38	23	48
21	207	114	e52	e46	87	123	159	267	257	29	22	46
22	171	127	e54	e50	87	114	166	363	221	29	21	46
23	151	118	e52	e60	89	115	169	339	192	25	21	124
24	145	105	e54	e65	84	115	166	e410	175	27	20	168
25	142	e90	e66	e58	87	118	172	e390	162	49	21	137
26	138	e80	e68	e52	87	114	184	e370	151	35	21	125
27	136	e70	e62	e50	e79	120	162	e350	132	35	20	119
28	133	e60	e52	e50	e79	136	166	e410	106	e31	21	114
29	131	e65	e46	e48	---	114	190	e485	94	e30	22	115
30	129	e70	e48	e48	---	115	221	425	86	e28	22	115
31	111	---	e46	e46	---	e119	---	366	---	e26	21	---
Total	4,182	3,411	1,797	1,537	2,365	4,270	4,059	10,037	12,675	1,351	640	1,667
Mean	135	114	58.0	49.6	84.5	138	135	324	422	43.6	20.6	55.6
Max	207	189	75	65	120	345	221	485	869	82	27	168
Min	80	60	45	36	43	85	92	198	86	25	14	21
Ac-ft	8,290	6,770	3,560	3,050	4,690	8,470	8,050	19,910	25,140	2,680	1,270	3,310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	126	121	94.9	93.7	111	135	153	152	227	111	40.5	69.6
Max	186	165	144	156	232	256	326	459	627	412	167	196
(WY)	(1996)	(1999)	(1999)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1998)	(1993)	(1993)
Min	81.2	91.4	58.0	49.6	56.9	79.5	86.8	14.1	14.9	12.8	6.66	18.0
(WY)	(1993)	(1993)	(2007)	(2007)	(1993)	(1991)	(2001)	(1992)	(1992)	(2000)	(1991)	(2001)

* During periods of operation (August 1990 to April 2003, August 2003 to September 2004, October 2006 to September 2007).

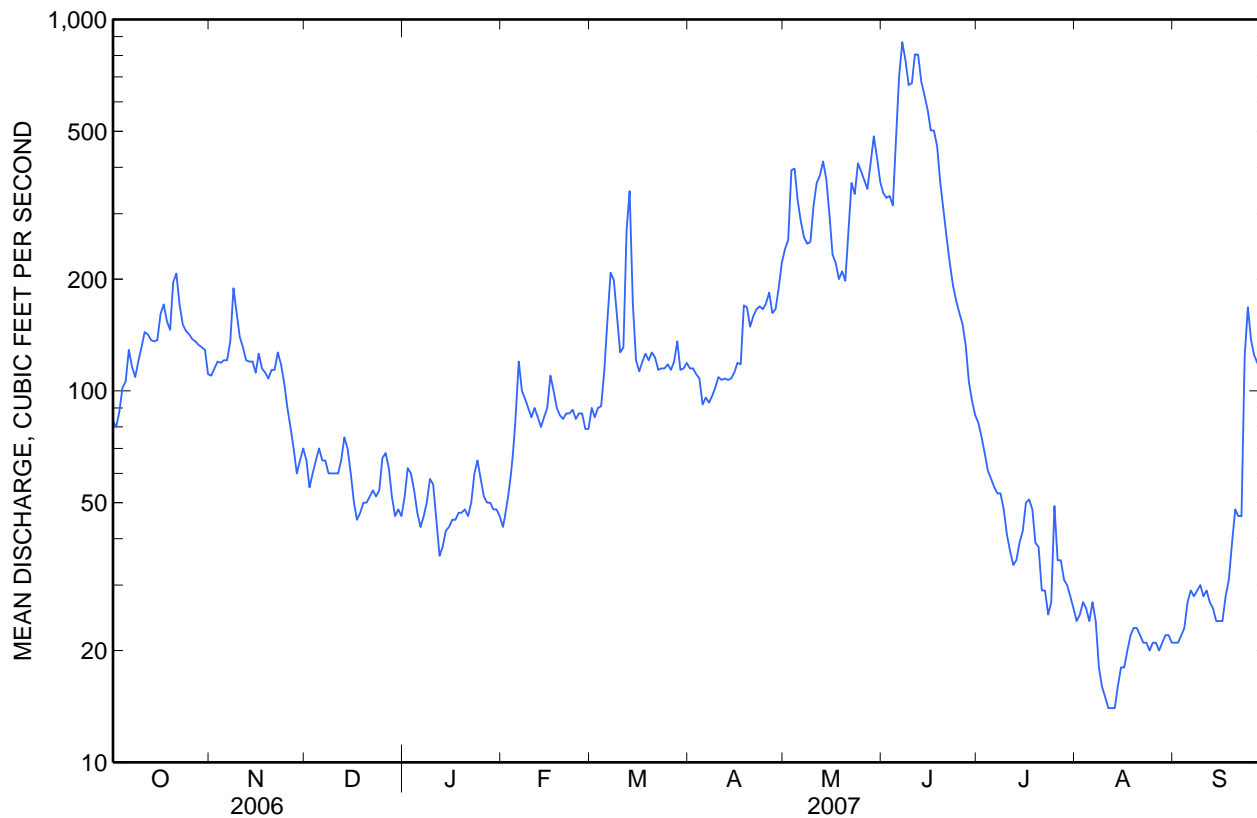
12331500 FLINT CREEK NEAR DRUMMOND, MT—Continued

SUMMARY STATISTICS

	Water Year 2007		Water Years 1991 - 2007*	
Annual total	47,991			
Annual mean	131		119	
Highest annual mean			234	1997
Lowest annual mean			60.2	1992
Highest daily mean	869	Jun 7	998	Jun 27, 1998
Lowest daily mean	14	Aug 11	0.59	May 6, 1992
Annual seven-day minimum	15	Aug 8	1.8	Aug 9, 1992
Maximum peak flow	915	Jun 6	^a 1,100	Feb 8, 1996
Maximum peak stage	4.48	Jun 6	6.99	Feb 9, 1996
Annual runoff (ac-ft)	95,190		86,380	
10 percent exceeds	320		212	
50 percent exceeds	91		100	
90 percent exceeds	26		22	

* During periods of operation (August 1990 to April 2003, August 2003 to September 2004, October 2006 to September 2007).

^a About, estimated based on upstream measurement.





Water-Data Report 2007

12331800 CLARK FORK NEAR DRUMMOND, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°42'44", long 113°19'48" referenced to North American Datum of 1927, in NE ¼ SW ¼ NW ¼ sec.14, T.11 N., R.14 W., Granite County, MT, Hydrologic Unit 17010201, on right bank 50 ft upstream from country road bridge, 0.3 mi north of Bearmouth, 4.5 mi east of Bearmouth Chalet, 9.0 mi northwest of Drummond, and at river mile 403.9.

DRAINAGE AREA.--2,501 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,790 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. Some regulation occurs by settling ponds on Silver Bow Creek near Anaconda and Georgetown Lake (station number 12325000) on Flint Creek. Diversions for irrigation include about 88,000 acres upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1981 recorded a discharge of about 16,000 ft³/s, from measurements made upstream at Clark Fork at Drummond (12331600) and at downstream site, Clark Fork at Clinton (12331900).

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	397	450	442	383	405	471	661	905	1,700	550	265	234
2	391	464	444	415	365	439	656	969	1,590	540	264	235
3	398	535	428	608	348	439	646	1,180	1,510	525	261	244
4	414	544	441	587	392	481	635	1,570	1,440	498	255	241
5	421	565	495	503	489	564	635	1,400	1,630	462	245	264
6	456	569	465	437	598	661	630	1,230	2,230	443	248	261
7	457	570	501	414	641	827	624	1,120	3,120	433	248	261
8	445	631	488	464	612	911	634	1,030	2,910	397	239	262
9	469	656	510	475	690	839	634	999	2,460	396	234	263
10	487	628	514	479	759	748	632	1,020	2,330	378	223	265
11	500	608	554	356	704	774	616	1,100	2,560	367	220	267
12	494	597	542	e130	638	1,040	614	1,150	2,700	357	219	268
13	493	580	549	e100	554	1,770	617	1,190	2,320	343	232	265
14	498	570	557	e140	538	1,080	609	1,250	2,080	341	235	262
15	506	547	581	e180	545	797	589	1,200	1,900	338	222	257
16	543	550	548	e210	691	700	598	1,080	1,710	345	212	256
17	599	544	455	e240	657	680	591	981	1,650	349	224	261
18	568	527	422	277	647	720	675	938	1,590	351	235	268
19	560	516	393	324	571	722	807	927	1,420	336	235	289
20	621	524	395	401	530	706	837	937	1,230	334	243	309
21	683	538	395	403	554	681	804	1,030	1,100	314	260	313
22	656	561	436	408	517	642	773	1,360	1,030	311	262	314
23	612	562	430	440	530	628	758	1,640	947	301	250	411
24	592	536	472	444	508	625	760	1,760	882	292	240	550
25	580	534	465	443	496	630	750	1,690	819	340	240	550
26	567	495	506	440	497	654	791	1,620	754	328	237	534
27	552	525	517	422	474	683	788	1,490	700	322	227	519
28	541	473	521	389	453	717	753	1,730	632	317	230	512
29	528	430	448	382	---	690	773	2,140	595	311	226	509
30	532	409	410	371	---	658	843	2,040	563	290	231	516
31	481	---	413	401	---	658	---	1,840	---	282	232	---
Total	16,041	16,238	14,737	11,666	15,403	22,635	20,733	40,516	48,102	11,491	7,394	9,960
Mean	517	541	475	376	550	730	691	1,307	1,603	371	239	332
Max	683	656	581	608	759	1,770	843	2,140	3,120	550	265	550
Min	391	409	393	100	348	439	589	905	563	282	212	234
Ac-ft	31,820	32,210	29,230	23,140	30,550	44,900	41,120	80,360	95,410	22,790	14,670	19,760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2007, BY WATER YEAR (WY)

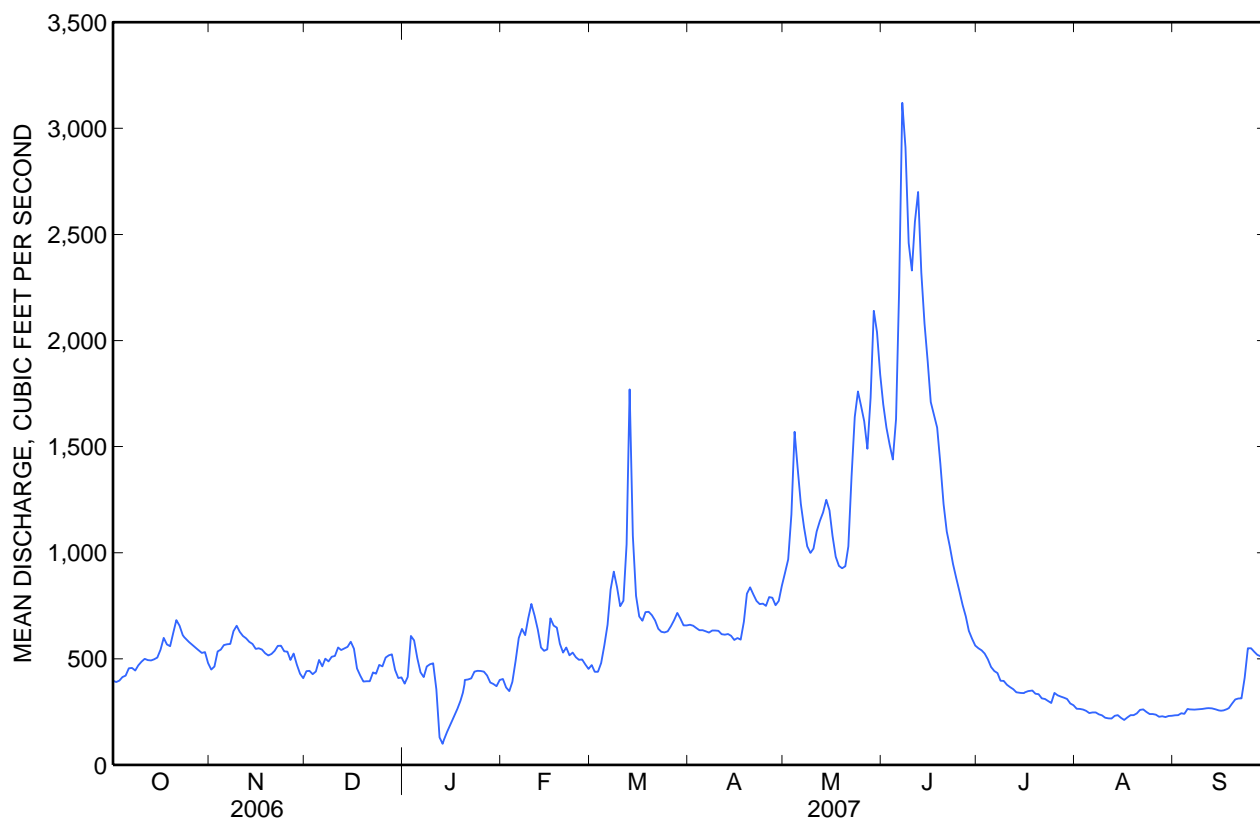
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	570	573	495	490	576	678	779	1,134	1,449	647	335	413
Max	859	810	640	754	1,377	1,048	1,356	2,557	3,560	1,731	895	1,007
(WY)	(1998)	(1998)	(1998)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1998)	(1993)	(1993)
Min	411	448	366	376	375	415	464	298	297	160	112	201
(WY)	(2003)	(2001)	(2001)	(2007)	(2001)	(2005)	(2005)	(2000)	(2000)	(2000)	(2000)	(1994)

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1993 - 2007	
Annual total	206,576		234,916			
Annual mean	566		644		671	
Highest annual mean					1,192	1997
Lowest annual mean					400	2000
Highest daily mean	2,560	Jun 11	3,120	Jun 7	8,430	Feb 9, 1996
Lowest daily mean	145	Feb 18	100	Jan 13	77	Jul 31, 2000
Annual seven-day minimum	160	Aug 10	182	Jan 12	83	Jul 29, 2000
Maximum peak flow			3,360	Jun 7	9,800	Feb 9, 1996
Maximum peak stage			6.89	Jun 7	10.03	Feb 9, 1996
Instantaneous low flow					^a 75	Jul 30, 2000
Annual runoff (ac-ft)	409,700		466,000		486,100	
10 percent exceeds	1,090		1,190		1,180	
50 percent exceeds	487		528		530	
90 percent exceeds	180		256		264	

^a Gage height, 2.03 ft.



12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

[Remark codes: E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, μ g/L (01000)	Arsenic water, unfltrd, μ g/L (01002)	Cadmium water, fltrd, μ g/L (01025)	Cadmium water, unfltrd, μ g/L (01027)
Nov													
14...	1500	573	8.7	459	5.0	5.0	220	62.7	14.8	8.4	9.2	E.02	.08
Feb													
27...	1525	460	8.4	478	4.0	3.0	210	59.4	14.5	7.4	8.5	.06	.12
Mar													
28...	0850	720	8.3	401	2.5	5.5	180	53.5	12.1	6.9	10.0	E.03	.14
May													
08...	0815	1,030	8.2	356	11.0	11.5	150	44.0	10.8	9.7	14.6	.04	.22
Jun													
07...	1140	3,160	8.2	293	15.5	9.0	120	34.8	8.26	18.0	41.3	.07	1.02
19...	1425	1,410	8.3	352	23.0	15.5	150	44.7	10.1	12.6	16.3	.05	.20
Jul													
24...	1440	298	8.6	463	33.0	21.0	210	57.5	15.2	11.5	11.6	E.03	.05
Aug													
28...	1215	232	8.4	573	21.5	16.5	250	71.4	18.0	11.1	11.3	E.03	.07

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Copper, water, unfltrd		Iron, water, unfltrd		Lead, water, unfltrd		Mangan-ese, water, unfltrd		Zinc, water, unfltrd		Suspnd. sedi-ment, sieve diametr	Sus-pended sedi-ment concen-tration	Sus-pended sedi-ment dis-charge,
	Copper, water, fltrd, µg/L (01040)	recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	recover-able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	recover-able, µg/L (01092)	<.063mm percent (70331)	mg/L (80154)	tons/d (80155)
Nov													
14...	2.9	9.7	E4	188	<.12	1.32	11.0	44.4	2.6	12	79	12	19
Feb													
27...	3.3	14.3	E4	276	E.06	1.84	27.6	64.4	5.6	20	80	13	16
Mar													
28...	3.5	20.0	10	532	E.07	3.80	18.0	91.3	4.0	30	74	27	52
May													
08...	4.8	38.2	11	913	E.11	7.15	7.8	156	4.0	47.6	72	54	150
Jun													
07...	16.0	170	54	4,450	.58	31.0	30.9	507	9.5	200	59	315	2,690
19...	6.1	26.2	39	657	.13	5.24	27.5	111	4.2	32.8	67	37	141
Jul													
24...	3.9	5.5	<6	26	<.12	.18	3.3	13.5	.95	2.9	71	7	5.6
Aug													
28...	3.1	5.9	<6	81	<.12	.67	11.7	53.6	2.1	7.4	82	9	5.6



Water-Data Report 2007

12332000 MIDDLE FORK ROCK CREEK NEAR PHILIPSBURG, MT

Pend Oreille Basin
Flint-Rock Subbasin

LOCATION.--Lat 46°11'05", long 113°30'06" referenced to North American Datum of 1927, in SW ¼ NW ¼ SE ¼ sec.17, T.5 N., R.15 W., Granite County, MT, Hydrologic Unit 17010202, on left bank 40 ft downstream from bridge on county highway, 1.2 mi upstream from East Fork, 3.4 mi upstream from West Fork, and 15 mi southwest of Philipsburg.

DRAINAGE AREA.--123 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1937 to current year (no winter records in water year 2007). Monthly discharges only January to March 1938, published in Wate Supply Paper 1316.

GAGE.--Water-stage recorder. Elevation of gage is 5,444.08 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Oct. 25, 1990, gage located at several sites 0.8 to 1.0 mi downstream. See WSP 1736 or 1933 for history of changes prior to Oct. 1, 1955.

REMARKS.--Records are good. A few 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.

12332000 MIDDLE FORK ROCK CREEK NEAR PHILIPSBURG, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	37						54	288	399	169	59	37
2	36						55	368	416	161	58	36
3	36						50	473	437	153	57	35
4	36						53	392	465	146	55	35
5	40						52	338	523	140	54	56
6	45						55	291	624	134	57	46
7	43						56	270	541	130	53	41
8	41						57	279	484	125	51	39
9	41						61	319	454	119	50	39
10	40						61	402	476	114	50	39
11	39						59	499	661	109	48	37
12	38						57	571	554	104	46	37
13	37						57	641	492	101	45	36
14	37						58	593	453	96	44	36
15	36						65	508	421	93	43	36
16	41						65	498	397	93	43	35
17	43						68	523	389	94	45	35
18	40						79	558	347	95	44	37
19	39						73	582	314	85	42	41
20	48						70	593	293	82	42	39
21	47						71	630	281	77	45	37
22	42						74	504	268	74	43	36
23	41						84	438	257	73	42	70
24	40						88	412	244	72	41	65
25	40						92	400	227	89	39	52
26	38						98	378	212	75	38	47
27	38						99	399	198	75	38	44
28	36						114	488	188	68	37	43
29	36						154	428	183	65	37	43
30	37						228	398	176	64	36	42
31	e37						---	388	---	62	36	---
Total	1,225						2,307	13,849	11,374	3,137	1,418	1,251
Mean	39.5						76.9	447	379	101	45.7	41.7
Max	48						228	641	661	169	59	70
Min	36						50	270	176	62	36	35
Ac-ft	2,430						4,580	27,470	22,560	6,220	2,810	2,480
Cfsm	0.32						0.63	3.63	3.08	0.82	0.37	0.34
In.	0.37						0.70	4.19	3.44	0.95	0.43	0.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 – 2006 AND SEASON 2007*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	48.9	42.5	36.2	32.1	32.5	36.2	74.5	335	471	173	69.0	51.3
Max	201	104	64.1	60.9	60.3	71.2	190	650	914	496	141	98.5
(WY)	(1947)	(1947)	(1947)	(1976)	(1996)	(1986)	(1943)	(1947)	(1972)	(1975)	(1975)	(1946)
Min	26.9	25.7	23.6	22.0	16.4	22.7	28.1	137	141	48.7	25.8	30.4
(WY)	(1988)	(1980)	(1946)	(1977)	(2005)	(1955)	(1975)	(1953)	(1992)	(1940)	(1940)	(1987)

* Seasonal records only for 2007.

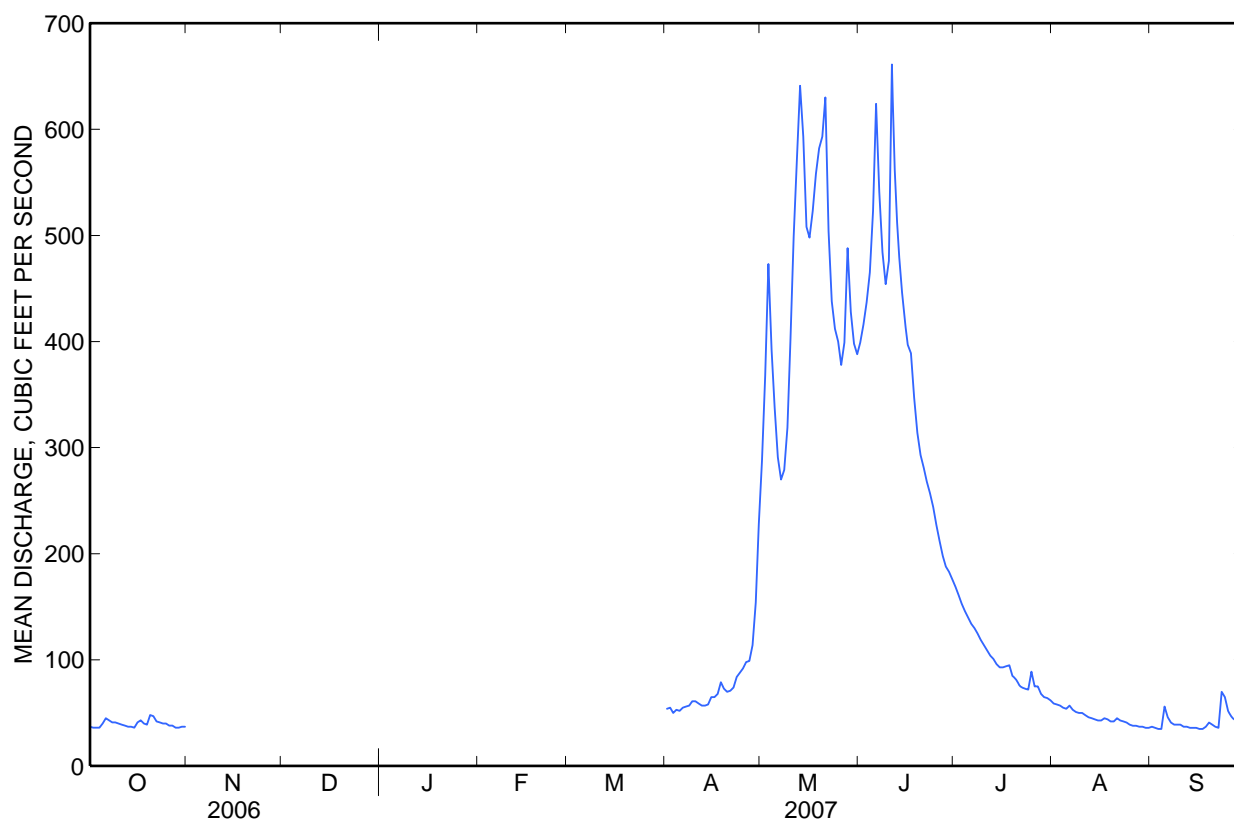
12332000 MIDDLE FORK ROCK CREEK NEAR PHILIPSBURG, MT—Continued

SUMMARY STATISTICS

	Season 2007*		Water Years 1938 - 2006	
Annual mean			117	
Highest annual mean			183	1997
Lowest annual mean			62.3	1940
Highest daily mean	661	Jun 11	1,480	Jun 16, 1974
Lowest daily mean	35	Sep 3	5.3	Feb 9, 1953
Annual seven-day minimum			10	Feb 14, 2005
Maximum peak flow	731	Jun 11	1,680	Jun 16, 1974
Maximum peak stage	3.32	Jun 11	^a 5.58	Jun 16, 1974
Instantaneous low flow			5.3	Feb 9, 1953
Annual runoff (ac-ft)			84,880	
Annual runoff (cfsm)			0.953	
Annual runoff (inches)			12.94	
10 percent exceeds			318	
50 percent exceeds			47	
90 percent exceeds			28	

* Seasonal records only for 2007.

^a Site and datum then in use.





Water-Data Report 2007

12334510 ROCK CREEK NEAR CLINTON, MT

Pend Oreille Basin
Flint-Rock Subbasin

LOCATION.--Lat 46°43'21", long 113°40'56" referenced to North American Datum of 1927, in NW ¼ NE ¼ SW ¼ sec.12, T.11 N., R.17 W., Missoula County, MT, Hydrologic Unit 17010202, on left bank 100 ft downstream from private road bridge, 0.2 mi upstream from mouth, and 3.7 mi southeast of Clinton.

DRAINAGE AREA.--885 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 3,519.46 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Some regulation occurs by East Fork Rock Creek Reservoir (station number 12332500). During irrigation season water is diverted from East Fork Rock Creek in sec.5, T.4 N., R.14 W., 500 ft below Rock Creek Dam, through a canal into Trout Creek, thence into Flint Creek. Diversions occur for irrigation of about 16,100 acres. U.S. Geological Survey satellite telemeter is located at the station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1972 reached a stage of 8.52 ft, from floodmark, discharge, 6,500 ft³/s; local residents report flood of 1927 reached a stage of about 9.5 ft.

12334510 ROCK CREEK NEAR CLINTON, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	191	136	e180	e130	143	143	366	1,430	1,160	572	279	183
2	189	158	e170	174	134	142	358	1,580	1,160	556	270	178
3	187	196	e170	244	125	135	336	1,950	1,190	540	265	172
4	185	205	e180	201	144	152	325	1,900	1,260	518	255	165
5	186	214	e200	179	176	167	327	1,550	1,400	499	247	178
6	196	216	194	168	187	186	332	1,310	1,680	487	237	211
7	201	239	179	152	194	229	347	1,190	2,000	483	230	200
8	195	562	175	167	186	259	366	1,170	1,770	473	223	186
9	194	601	181	174	192	246	410	1,250	1,630	453	221	181
10	190	397	183	181	198	228	445	1,460	1,580	452	220	176
11	189	333	203	e100	190	229	414	1,800	1,900	447	213	172
12	185	304	211	e70	193	345	394	2,010	1,930	434	212	168
13	182	277	211	e50	191	560	375	2,230	1,680	420	204	164
14	179	276	208	e55	175	449	368	2,230	1,530	402	211	163
15	178	250	223	e60	174	355	387	1,930	1,370	398	199	165
16	189	266	206	e70	184	323	412	1,750	1,270	404	201	166
17	197	263	e150	e80	185	333	418	1,720	1,210	411	206	168
18	199	240	e100	e100	176	378	509	1,760	1,130	451	205	175
19	197	237	e110	131	177	406	522	1,760	1,040	431	203	192
20	250	239	e120	188	174	424	472	1,730	926	393	206	210
21	278	246	e140	222	167	407	452	1,780	853	374	212	213
22	248	265	e150	212	165	372	445	1,770	800	355	211	207
23	223	253	e160	221	173	356	468	1,580	747	337	207	254
24	213	234	e170	208	158	356	514	1,480	723	331	204	348
25	210	240	e190	187	151	380	555	1,420	697	337	200	332
26	206	220	e220	160	162	435	634	1,310	663	351	196	297
27	197	215	231	139	147	450	662	1,280	636	335	195	271
28	195	206	210	127	134	450	707	1,460	607	324	192	259
29	192	e150	157	117	---	399	890	1,450	594	309	186	257
30	195	e160	129	133	---	365	1,190	1,290	584	299	178	247
31	171	---	e120	138	---	363	---	1,200	---	289	177	---
Total	6,187	7,798	5,431	4,538	4,755	10,022	14,400	49,730	35,720	12,865	6,665	6,258
Mean	200	260	175	146	170	323	480	1,604	1,191	415	215	209
Max	278	601	231	244	198	560	1,190	2,230	2,000	572	279	348
Min	171	136	100	50	125	135	325	1,170	584	289	177	163
Ac-ft	12,270	15,470	10,770	9,000	9,430	19,880	28,560	98,640	70,850	25,520	13,220	12,410
Cfs/m	0.23	0.29	0.20	0.17	0.19	0.37	0.54	1.81	1.35	0.47	0.24	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	247	224	193	182	188	244	504	1,459	1,642	647	300	256
Max	474	430	460	329	426	428	1,022	3,676	3,755	1,908	635	389
(WY)	(1976)	(1976)	(1976)	(1976)	(1996)	(1986)	(1996)	(1976)	(1975)	(1975)	(1975)	(1975)
Min	157	149	119	106	109	158	236	544	407	267	156	148
(WY)	(1988)	(1988)	(1989)	(1988)	(1993)	(2002)	(1975)	(1977)	(1992)	(1985)	(1988)	(1992)

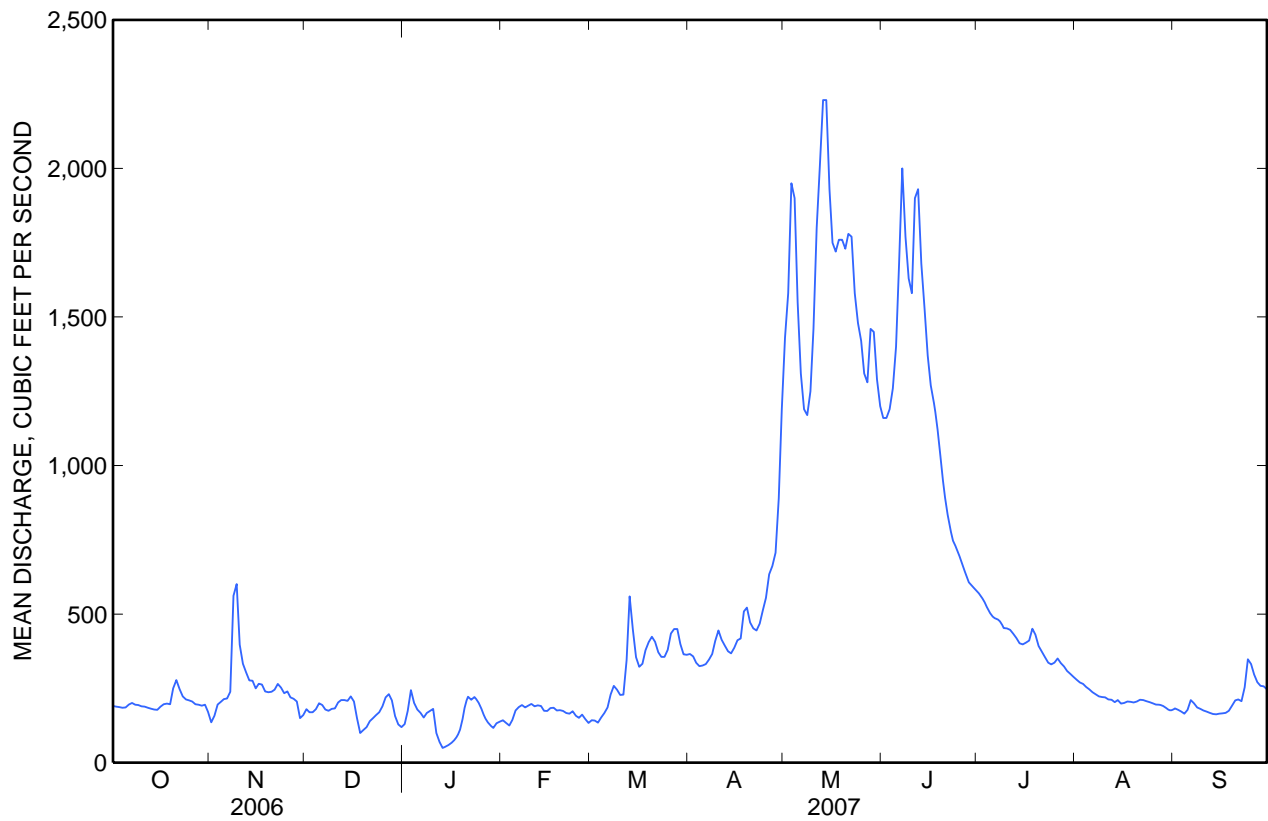
12334510 ROCK CREEK NEAR CLINTON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1973 - 2007	
Annual total	164,904		164,369			
Annual mean	452		450		508	
Highest annual mean					966	1976
Lowest annual mean					258	1992
Highest daily mean	3,510	May 20	2,230	May 13	5,480	May 18, 1997
Lowest daily mean	40	Feb 18	50	Jan 13	38	Dec 22, 1998
Annual seven-day minimum	106	Feb 15	69	Jan 11	65	Jan 3, 1974
Maximum peak flow			2,390	May 13	^a 5,530	May 18, 1997
Maximum peak stage			6.23	May 13	8.05	Jun 9, 1997
Instantaneous low flow					^b 37	Dec 23, 1998
Annual runoff (ac-ft)	327,100		326,000		367,900	
Annual runoff (cfsm)	0.510		0.509		0.574	
10 percent exceeds	1,150		1,300		1,210	
50 percent exceeds	206		230		259	
90 percent exceeds	159		152		151	

^a Gage height, 7.81 ft.

^b Gage height, 2.56 ft, may have been less during period of ice effect.



12334510 ROCK CREEK NEAR CLINTON, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1979-83, 1985 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: September 1979 to September 1983, April 1995 to September 2002, October 2004 to current year.

REMARKS.--Water temperature records are rated good from April 1 to July 6 and fair from July 7 to Sept. 30. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--WATER TEMPERATURE : Maximum, 23.0°C, Aug. 1, 2000; minimum, 0.0°C, on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 22.5°C, several days in July; minimum for seasonal period April through September, 3.0°C, Apr. 3.

**TEMPERATURE, WATER, DEGREES CELSIUS
APRIL 2007 TO SEPTEMBER 2007**

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

12334510 ROCK CREEK NEAR CLINTON, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
APRIL 2007 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean
	August			September		
1	20.5	16.0	18.0	18.0	14.0	15.5
2	20.0	16.0	18.0	18.5	14.0	16.5
3	20.5	16.0	18.0	18.0	14.5	16.5
4	19.0	15.5	17.5	17.0	14.5	16.0
5	17.5	14.5	16.0	18.0	15.0	16.5
6	17.5	13.5	15.5	17.0	14.5	16.0
7	17.5	14.0	15.5	16.5	12.5	14.5
8	18.5	14.0	16.0	15.5	12.5	14.0
9	18.0	14.0	16.0	14.5	10.5	12.5
10	18.5	15.0	16.5	14.5	10.0	12.0
11	17.5	13.0	15.5	15.0	11.0	13.0
12	17.0	14.0	15.5	15.0	11.5	13.0
13	17.0	13.5	15.5	14.5	11.0	12.5
14	17.0	13.5	15.0	14.5	10.5	12.5
15	17.0	13.0	15.0	15.0	11.5	13.0
16	16.0	13.5	15.0	14.5	12.0	13.0
17	18.0	13.5	15.5	13.5	11.5	12.0
18	18.5	14.5	16.5	12.0	9.5	11.0
19	16.5	14.0	15.0	11.0	10.0	10.5
20	14.5	13.0	14.0	11.0	9.0	10.0
21	15.5	12.5	14.0	12.5	9.5	10.5
22	17.0	12.0	14.0	11.5	9.0	10.5
23	15.5	12.5	14.0	11.0	10.0	10.5
24	16.5	12.0	14.0	10.5	9.0	10.0
25	17.0	12.5	14.5	11.0	8.0	9.5
26	17.5	13.0	15.0	12.5	9.0	10.5
27	16.5	13.0	14.5	12.0	9.0	10.5
28	16.5	12.5	14.5	11.0	9.0	10.0
29	17.0	12.5	14.5	10.5	8.5	10.0
30	16.0	13.0	14.5	9.5	6.5	8.0
31	15.5	13.5	14.5	---	---	---
Month	20.5	12.0	15.5	18.5	6.5	12.5

Water-Data Report 2007

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°49'34", long 113°48'48" referenced to North American Datum of 1927, in SW ¼ NW ¼ SW ¼ sec.1, T.12 N., R.18 W., Missoula County, MT, Hydrologic Unit 17010201, on left bank 0.8 mi southeast of Turah, 4 mi southeast of Bonner, and at river mile 370.2.

DRAINAGE AREA.--3,641 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1985 to current year. Water-discharge records for the period March 1985 to September 1985 are available in files at the USGS Water Science Center located in Helena, Montana.

GAGE.--Water-stage recorder. Elevation of gage is 3,320 ft, referenced to the National Geodetic Vertical Datum of 1929 from topographic map. Prior to May 9, 1986, non-recording gage at same site at elevation 2.00 ft higher.

REMARKS.--Records are good except those for estimated discharges, which are poor. Some regulation occurs by settling ponds on Silver Bow Creek near Anaconda and by Georgetown Lake (station number 12325000) on Flint Creek. Diversions for irrigation include about 100,000 acres upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	621	692	e750	e600	e600	669	1,100	2,110	3,190	e1,470	608	453
2	624	700	e769	e700	e540	658	1,070	2,280	3,070	e1,320	592	442
3	634	794	729	883	e520	640	1,060	2,780	3,020	e1,170	579	443
4	642	820	714	897	590	677	1,030	3,300	3,060	1,110	560	443
5	653	862	767	828	664	762	1,030	3,030	3,210	1,060	548	461
6	674	871	761	735	747	867	1,030	2,740	3,750	1,010	538	510
7	703	903	762	672	848	1,060	1,040	2,520	4,780	986	540	501
8	687	1,140	775	731	833	1,150	1,060	2,410	5,070	952	526	491
9	701	1,290	e780	768	880	1,140	1,100	2,450	4,710	913	510	492
10	720	1,110	e800	e740	982	1,030	1,130	2,620	4,440	902	495	489
11	734	1,030	843	e560	951	1,030	1,100	2,940	4,880	878	480	487
12	735	990	843	e250	911	1,300	1,080	3,120	5,260	858	469	484
13	730	949	849	e177	832	1,910	1,060	3,270	5,040	835	467	477
14	730	940	858	e211	781	1,610	1,040	3,390	4,560	811	473	475
15	747	901	888	e250	781	1,280	1,040	3,300	4,220	797	456	478
16	773	895	e860	e280	861	1,120	1,060	3,100	3,930	791	444	474
17	838	906	e720	e320	910	1,090	1,070	2,990	3,800	805	449	479
18	832	865	e620	e410	886	1,130	1,180	2,940	3,680	840	457	495
19	824	852	e600	e500	842	1,200	1,350	2,930	3,430	821	460	526
20	902	850	e640	e620	793	1,190	1,340	2,920	3,110	781	471	566
21	993	871	e660	e660	791	1,170	1,300	3,050	2,830	751	499	580
22	985	900	e740	689	765	1,100	1,270	3,350	2,650	724	509	574
23	925	905	e720	704	766	1,070	1,270	3,440	2,500	701	500	677
24	887	880	e760	692	745	1,050	1,310	3,410	2,370	687	483	869
25	869	866	798	676	713	1,070	1,340	3,340	2,280	693	472	880
26	855	837	837	659	726	1,130	1,420	3,240	2,160	733	465	847
27	835	814	853	e620	701	1,180	1,480	3,040	2,000	708	457	825
28	825	815	857	e560	666	1,220	1,480	3,230	1,890	694	448	808
29	817	766	e740	e540	---	1,170	1,620	3,620	1,800	675	439	805
30	812	e730	e640	e540	---	1,100	1,870	3,570	1,620	645	427	798
31	772	---	e620	e580	---	1,090	---	3,380	---	622	434	---
Total	24,079	26,744	23,553	18,052	21,625	33,863	36,330	93,810	102,310	26,743	15,255	17,329
Mean	777	891	760	582	772	1,092	1,211	3,026	3,410	863	492	578
Max	993	1,290	888	897	982	1,910	1,870	3,620	5,260	1,470	608	880
Min	621	692	600	177	520	640	1,030	2,110	1,620	622	427	442
Ac-ft	47,760	53,050	46,720	35,810	42,890	67,170	72,060	186,100	202,900	53,040	30,260	34,370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2007, BY WATER YEAR (WY)

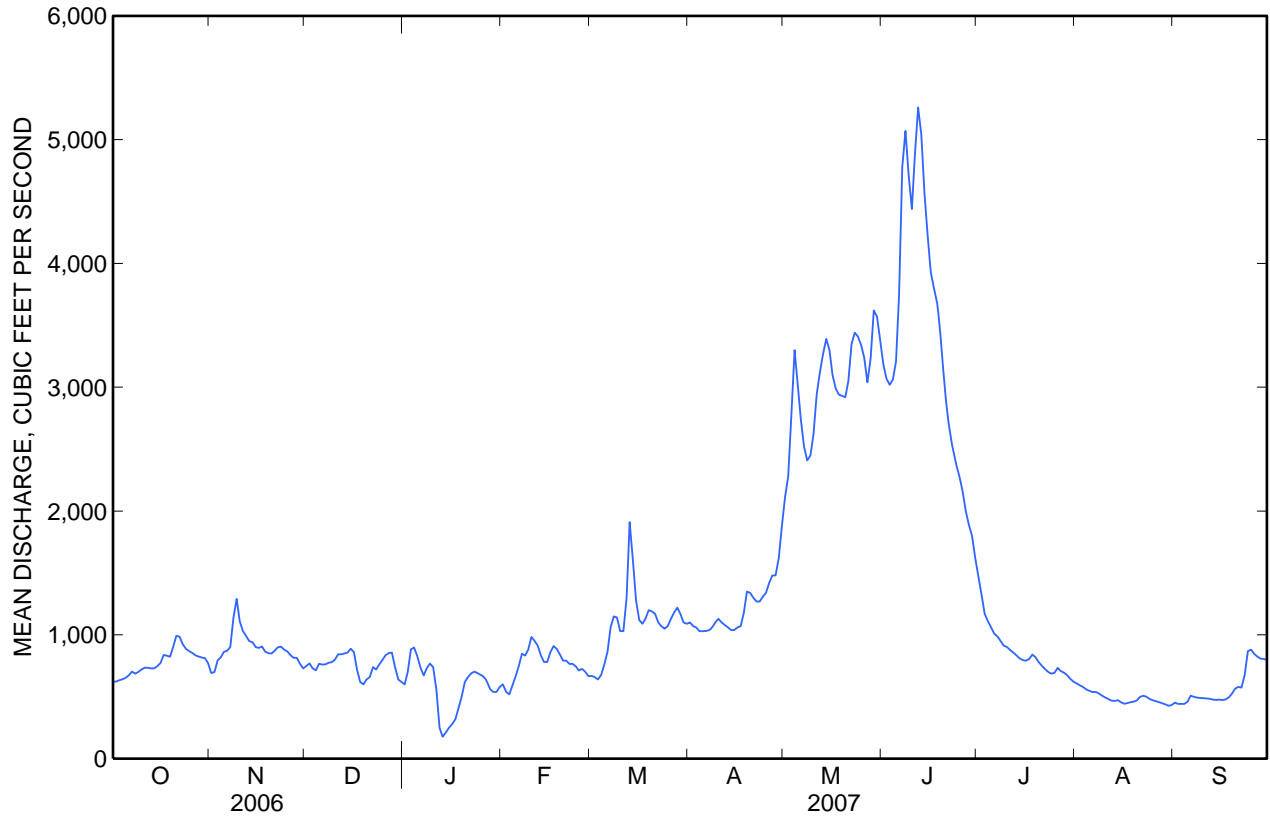
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	833	828	719	699	817	1,019	1,464	2,532	2,818	1,189	605	667
Max	1,287	1,173	1,233	1,149	2,124	1,664	3,072	6,345	7,090	2,920	1,423	1,423
(WY)	(1998)	(1998)	(1996)	(1997)	(1996)	(1986)	(1996)	(1997)	(1997)	(1998)	(1993)	(1993)
Min	592	616	492	474	472	662	828	915	639	485	271	357
(WY)	(1993)	(1993)	(1993)	(1993)	(1989)	(2005)	(1991)	(1992)	(1992)	(2000)	(2000)	(1988)

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1986 - 2007	
Annual total	403,135		439,693			
Annual mean	1,104		1,205		1,182	
Highest annual mean					2,219	1997
Lowest annual mean					686	1992
Highest daily mean	4,560	May 20	5,260	Jun 12	9,530	Jun 2, 1997
Lowest daily mean	230	Feb 19	177	Jan 13	177	Jan 13, 2007
Annual seven-day minimum	375	Aug 11	271	Jan 12	224	Aug 15, 1992
Maximum peak flow			5,510	Jun 13	12,400	Feb 9, 1996
Maximum peak stage			6.88	Jun 13	^a 10.87	Dec 17, 2005
Annual runoff (ac-ft)	799,600		872,100		856,600	
10 percent exceeds	2,350		3,030		2,370	
50 percent exceeds	798		837		827	
90 percent exceeds	405		486		500	

^a Backwater from ice.



12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1985 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1991 to September 1998.

SUSPENDED-SEDIMENT DISCHARGE: March 1985 to March 2003, August 2003 to current year.

REMARKS. --Eleven supplemental samples were collected this year as part of an expanded sampling program for the lower Clark Fork basin. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.0°C, Aug. 17, 1992; minimum, 0.0°C, on many days during winter.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,140 mg/L, Feb. 25, 1986; minimum daily mean, 1 mg/L, Sep. 12, 1987.

SEDIMENT LOAD: Maximum daily, 24,400 tons, Feb. 25, 1986; minimum daily 0.96 tons, Jan. 13, 2007.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 395 mg/L, Mar. 13; minimum daily mean, 2 mg/L, Dec. 20-24, Jan 13-14, Jan. 17-19, and July 13.

SEDIMENT LOAD: Maximum daily, 2,040 tons, Mar. 13; minimum daily, 0.96 tons, Jan. 13.

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Total nitrogen, water, unfltrd by analysis, mg/L (62855)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic water, fltrd, μ g/L (01000)	Arsenic water, unfltrd μ g/L (01002)
Oct													
17*...	1100	840	8.5	401	7.0	7.0	190	54.0	13.2	.32	.041	6.7	7.9
Nov													
14...	1630	944	8.7	355	4.0	4.0	170	46.8	11.8	--	--	5.6	6.0
Feb													
27...	1640	697	8.8	396	4.5	3.0	170	49.2	12.6	--	--	5.6	6.2
Mar													
28...	1100	1,240	8.4	291	6.5	5.5	130	36.4	9.19	--	--	4.4	5.8
Apr													
09*...	1130	1,080	8.1	322	10.0	8.0	140	40.2	10.3	.37	.043	5.5	6.4
23*...	1030	1,240	8.3	331	14.5	9.5	150	42.6	11.1	.45	.059	6.6	8.1
May													
03*...	1100	2,700	8.1	168	5.0	8.0	76	21.4	5.46	.68	.129	4.4	8.1
07...	1445	2,530	8.3	218	20.5	11.0	94	26.5	6.78	--	--	5.2	7.3
14*...	1100	3,340	8.1	166	14.0	10.0	72	20.4	5.11	.37	.059	4.7	6.8
22*...	1100	3,360	8.0	174	11.5	7.0	75	21.4	5.33	.29	.051	4.2	5.9
31*...	1230	3,360	8.2	222	21.5	13.0	98	27.6	6.92	.36	.066	7.4	10.3
Jun													
06*...	1100	3,670	8.2	197	7.5	11.5	85	24.4	5.95	.42	.076	6.8	10.5
07...	1455	4,980	8.2	214	15.0	10.0	92	26.0	6.61	--	--	10.3	19.6
12*...	1030	5,390	8.0	219	15.0	12.5	96	27.2	6.87	.41	.092	9.5	13.2
19*...	1230	3,390	8.3	249	22.0	13.0	110	31.1	7.70	.26	.046	7.7	9.0
20...	0900	3,080	8.2	257	15.5	14.0	110	31.6	7.84	--	--	7.4	9.2
26*...	1030	2,180	8.4	278	15.0	12.0	130	36.0	9.34	.19	.026	7.2	7.1
Jul													
24...	1605	690	8.8	285	34.5	21.5	120	32.8	9.88	--	--	5.6	5.7
Aug													
28...	1330	451	8.6	367	25.5	15.5	160	43.9	12.2	--	--	6.0	6.2

* Sample collected as part of supplemental sampling program.

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium water, flt'd, µg/L (01025)	Cadmium water, unflt'd µg/L (01027)	Copper, water, flt'd, µg/L (01040)	Copper, water, unflt'd recover- able, µg/L (01042)	Iron, water, flt'd, µg/L (01046)	Iron, water, unflt'd recover- able, µg/L (01045)	Lead, water, flt'd, µg/L (01049)	Lead, water, unflt'd recover- able, µg/L (01051)	Mangan- ese, water, flt'd, µg/L (01056)	Mangan- ese, water, unflt'd recover- able, µg/L (01055)	Zinc, water, flt'd, µg/L (01090)	Zinc, water, unflt'd recover- able, µg/L (01092)
17*...	<.04	.14	2.0	13.6	E5	296	<.12	2.31	2.9	84.1	2.6	26
Nov												
14...	E.02	.05	2.3	5.8	E5	114	E.07	.74	3.4	23.3	2.3	8
Feb												
27...	.04	.08	2.6	9.0	11	145	<.12	1.03	6.3	30.3	1.9	11
Mar												
28...	.04	.09	2.9	12.3	13	327	E.06	1.92	6.9	50.0	4.5	18
Apr												
09*...	E.02	.08	3.3	12.6	10	287	E.08	2.03	6.2	55.2	3.1	18.6
23*...	E.02	.12	7.8	18.4	13	472	E.08	3.28	5.9	75.5	2.8	24.8
May												
03*...	E.02	.24	3.6	30.7	26	1,340	.18	6.50	11.0	151	4.0	52.5
07...	E.03	.13	3.7	21.5	29	563	.12	3.74	7.2	79.1	2.9	27.8
14*...	E.02	.11	3.2	18.3	20	585	E.07	3.57	6.3	74.6	3.1	26.0
22*...	E.02	.11	2.8	16.7	19	505	E.06	2.74	5.5	70.0	3.0	21.3
31*...	E.02	.15	4.7	25.3	15	696	<.12	4.38	7.4	90.3	3.3	32.4
Jun												
06*...	E.02	.19	3.8	26.6	21	832	<.12	5.38	6.2	118	3.5	48.5
07...	.04	.52	12.7	78.5	48	2,460	.37	14.9	17.7	283	6.8	113
12*...	E.02	.20	6.2	34.8	19	1,110	E.07	6.08	9.5	130	4.8	47.5
19*...	E.02	.10	3.9	15.6	13	381	<.12	2.38	12.4	60.1	3.9	21.2
20...	E.03	.10	3.5	15.5	40	399	E.11	2.60	11.8	57.9	2.8	20.1
26*...	<.04	.05	3.2	6.9	12	142	<.12	.77	9.3	20.1	2.7	8.9
Jul												
24...	E.02	.03	2.2	3.4	E4	44	<.12	.19	3.6	13.0	1.4	3.3
Aug												
28...	<.04	.06	2.0	2.7	E3	42	<.12	.30	4.3	16.5	.94	3.6

* Sample collected as part of supplemental sampling program.

Water-Data Report 2007

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

Date	Suspd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct			
17*...	89	18	41
Nov			
14...	86	6	15
Feb			
27...	85	7	13
Mar			
28...	75	18	60
Apr			
09*...	81	17	50
23*...	83	22	74
May			
03*...	62	92	671
07...	69	35	239
14*...	59	45	406
22*...	63	32	290
31*...	73	41	372
Jun			
06*...	64	55	545
07...	65	157	2,110
12*...	61	74	1,080
19*...	71	21	192
20...	73	21	175
26*...	73	5	29
Jul			
24...	73	4	7.5
Aug			
28...	79	4	4.9

* Sample collected as part of supplemental sampling program.

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	October		November		December		January		February		March	
1	15	25	5	9.3	7	14	3	4.9	4	6.5	9	16
2	15	25	5	9.5	6	12	12	23	5	7.3	8	14
3	14	24	5	11	7	14	20	48	6	8.4	7	12
4	15	26	7	15	8	15	14	34	7	11	10	18
5	16	28	10	23	8	17	10	22	8	14	13	27
6	16	29	11	26	7	14	8	16	14	28	29	68
7	16	30	12	29	7	14	8	15	24	55	68	195
8	15	28	19	58	6	13	13	26	21	47	97	301
9	14	26	26	91	6	13	12	25	16	38	84	259
10	14	27	12	36	6	13	6	12	20	53	53	147
11	13	26	10	28	7	16	3	4.5	18	46	48	133
12	13	26	9	24	9	20	3	2.0	16	39	170	597
13	12	24	8	20	10	23	2	0.96	17	38	395	2,040
14	11	22	7	18	10	23	2	1.1	17	36	130	565
15	11	22	6	15	8	19	3	2.0	17	36	50	173
16	15	31	6	14	5	12	3	2.3	41	95	33	100
17	18	41	6	15	4	7.8	2	1.7	58	143	28	82
18	18	40	6	14	4	6.7	2	2.2	46	110	30	92
19	23	51	6	14	3	4.9	2	2.7	35	80	33	107
20	28	68	6	14	2	3.5	4	6.7	24	51	29	93
21	30	80	6	14	2	3.6	7	12	21	45	25	79
22	26	69	6	15	2	4.0	8	15	21	43	19	56
23	19	47	6	15	2	3.9	8	15	21	43	19	55
24	14	34	6	14	2	4.1	8	15	20	40	19	54
25	10	23	5	12	6	13	8	15	17	33	19	55
26	9	21	5	11	13	29	7	12	11	22	18	55
27	8	18	5	11	14	32	6	10	8	15	20	64
28	7	16	6	13	14	32	5	7.6	8	14	18	59
29	7	15	7	14	5	10	3	4.4	---	---	15	47
30	6	13	8	16	3	5.2	3	4.4	---	---	13	39
31	6	13	---	---	3	5.0	3	4.7	---	---	14	41
Total	---	968	---	618.8	---	416.7	---	367.16	---	1,197.2	---	5,643

12334550 CLARK FORK AT TURAH BRIDGE, NEAR BONNER, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	April		May		June		July		August		September	
1	14	42	59	336	31	267	3	12	6	9.8	7	8.6
2	14	40	63	388	27	224	3	11	6	9.6	7	8.4
3	12	34	110	826	28	228	3	9.5	6	9.4	7	8.4
4	12	33	124	1,100	26	215	3	9.0	5	7.6	6	7.2
5	14	39	71	581	30	260	3	8.6	5	7.4	7	8.7
6	14	39	46	340	63	638	3	8.2	5	7.3	8	11
7	15	42	34	231	146	1,880	3	8.0	5	7.3	8	11
8	17	49	32	208	116	1,590	3	7.7	5	7.1	7	9.3
9	20	59	29	192	76	966	3	7.4	5	6.9	6	8.0
10	17	52	31	219	58	695	3	7.3	6	8.0	6	7.9
11	12	36	41	325	75	988	3	7.1	6	7.8	6	7.9
12	12	35	41	345	76	1,080	3	6.9	6	7.6	6	7.8
13	12	34	43	380	51	694	2	4.5	6	7.6	6	7.7
14	14	39	46	421	40	492	3	6.6	6	7.7	6	7.7
15	16	45	34	303	35	399	3	6.5	6	7.4	6	7.7
16	15	43	25	209	36	382	3	6.4	6	7.2	6	7.7
17	17	49	21	170	31	318	3	6.5	6	7.3	6	7.8
18	21	67	20	159	29	288	5	11	6	7.4	6	8.0
19	33	120	17	134	24	222	4	8.9	6	7.5	6	8.5
20	31	112	18	142	22	185	5	11	6	7.6	6	9.2
21	28	98	20	165	18	138	5	10	6	8.1	7	11
22	26	89	32	289	13	93	4	7.8	5	6.9	9	14
23	25	86	41	381	12	81	4	7.6	5	6.8	12	22
24	23	81	40	368	8	51	4	7.4	5	6.5	35	82
25	25	90	34	307	6	37	9	17	5	6.4	27	64
26	27	104	30	262	5	29	8	16	5	6.3	15	34
27	27	108	24	197	4	22	6	11	5	6.2	13	29
28	24	96	29	253	4	20	6	11	5	6.0	11	24
29	31	136	60	586	4	19	6	11	4	4.7	8	17
30	46	232	52	501	3	13	6	10	4	4.6	8	17
31	---	---	42	383	---	---	6	10	4	4.7	---	---
Total	---	2,129	---	10,701	---	12,514	---	282.9	---	222.7	---	482.5



Water-Data Report 2007

12335100 BLACKFOOT RIVER ABOVE NEVADA CREEK, NEAR HELMVILLE, MT

Pend Oreille Basin
Blackfoot Subbasin

LOCATION.--Lat 46°55'09", long 113°00'53" referenced to North American Datum of 1927, in SW ¼ SW ¼ SE ¼ sec.32, T.14 N., R.11 W., Powell County, MT, Hydrologic Unit 17010203, on right bank 40 ft downstream from county road bridge, 1.9 mi south of Browns Lake, 4.2 mi upstream from Nevada Creek, 4.4 mi northwest of Helmville, and at river mile 72.0.

DRAINAGE AREA.--494 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1999 to current year. Water year 2007 seasonal records only. Records equivalent to those published as "12335000 Blackfoot River near Helmville," September 1940 to October 1953 at site 13.5 mi upstream.

GAGE.--Water-stage recorder. Elevation of gage is 4,280 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Seasonal records are good. Numerous diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 5, 1953 reached a discharge of 6,040 ft³/s at 12335000 Blackfoot River near Helmville.

12335100 BLACKFOOT RIVER ABOVE NEVADA CREEK, NEAR HELMVILLE, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	152					e125	373	831	1,050	450	190	151
2	152					e125	366	895	1,060	433	188	149
3	153					e130	354	1,070	1,060	414	185	147
4	153					127	344	1,310	1,060	395	180	147
5	153					128	341	1,240	1,080	378	177	149
6	155					135	332	1,100	1,180	364	178	148
7	155					157	324	996	1,260	357	178	144
8	154					174	319	934	1,280	352	176	144
9	155					179	319	961	1,220	342	172	146
10	153					181	340	1,030	1,150	329	170	146
11	153					187	336	1,120	1,120	319	167	145
12	152					215	330	1,180	1,050	306	165	144
13	151					265	327	1,270	979	288	162	144
14	151					252	320	1,280	927	282	159	143
15	155					220	319	1,210	871	276	156	142
16	163					206	330	1,120	819	268	154	141
17	166					211	338	1,090	849	271	157	142
18	159					221	378	1,100	835	278	162	144
19	160					236	448	1,150	776	265	167	149
20	173					269	449	1,170	725	258	170	151
21	181					306	447	1,170	691	253	173	150
22	177					302	443	1,190	664	245	171	146
23	170					295	436	1,150	648	239	166	178
24	164					295	441	1,040	627	236	164	184
25	162					310	457	1,020	606	228	152	171
26	159					344	513	1,010	569	223	150	164
27	157					391	548	957	538	219	150	159
28	155					425	576	1,030	511	212	150	158
29	154					410	619	1,100	487	206	147	161
30	159					391	750	1,110	468	201	147	157
31	e150					379	---	1,080	---	196	146	---
Total	4,906					7,591	12,217	33,914	26,160	9,083	5,129	4,544
Mean	158					245	407	1,094	872	293	165	151
Max	181					425	750	1,310	1,280	450	190	184
Min	150					125	319	831	468	196	146	141
Ac-ft	9,730					15,060	24,230	67,270	51,890	18,020	10,170	9,010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	163	156	140	137	128	154	292	772	850	330	177	160
Max	180	180	165	152	151	245	455	1,094	1,457	538	242	199
(WY)	(2005)	(2000)	(2000)	(2000)	(2003)	(2007)	(2006)	(2007)	(2002)	(2002)	(2002)	(2004)
Min	142	139	127	129	107	121	139	433	578	262	152	135
(WY)	(2002)	(2002)	(2006)	(2001)	(2001)	(2002)	(2001)	(2001)	(2000)	(2000)	(2000)	(2001)

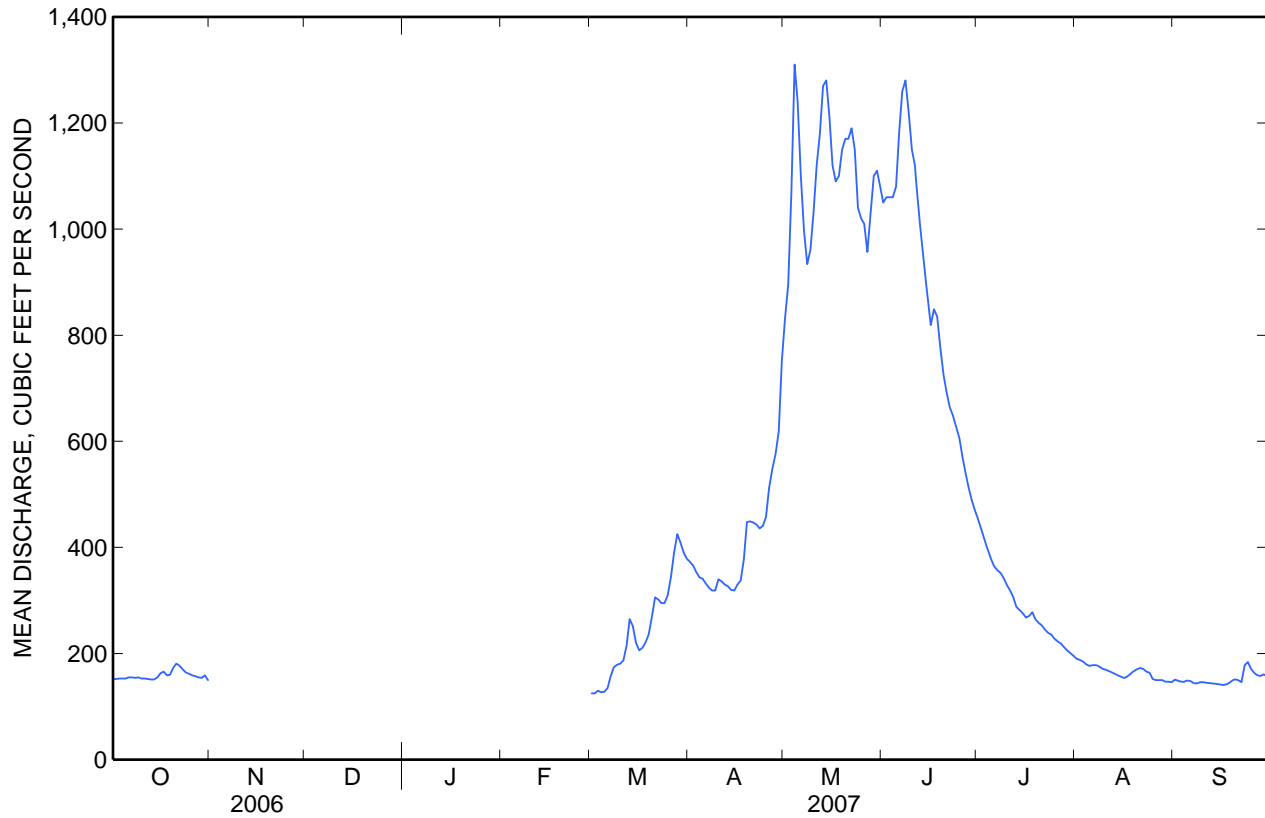
* Seasonal records only for water year 2007.

12335100 BLACKFOOT RIVER ABOVE NEVADA CREEK, NEAR HELMVILLE, MT—Continued

SUMMARY STATISTICS

	2007 Season		Water Years 1972 - 2007*	
Annual mean			283	
Highest annual mean			328	2002
Lowest annual mean			215	2001
Highest daily mean	1,310	May 4	1,820	Jun 18, 2002
Lowest daily mean	125	Mar 1	60	Jan 5, 2005
Annual seven-day minimum			69	Jan 3, 2005
Maximum peak flow	1,390	May 4	1,890	Jun 19, 2002
Maximum peak stage	6.23	May 4	6.91	Jun 19, 2002
Annual runoff (ac-ft)			204,800	
10 percent exceeds			658	
50 percent exceeds			162	
90 percent exceeds			125	

* Seasonal records only for water year 2007.



Water-Data Report 2007

12335500 NEVADA CREEK ABOVE RESERVOIR, NEAR HELMVILLE, MT

Pend Oreille Basin
Blackfoot Subbasin

LOCATION.--Lat 46°46'42", long 112°46'00" referenced to North American Datum of 1927, in SW ¼ NW ¼ SW ¼ sec.20, T.12 N., R.9 W., Powell County, MT, Hydrologic Unit 17010203, on right bank 0.7 mi upstream from Nevada Lake, 1.1 mi downstream from Gallagher Creek, 11 mi southeast of Helmville, and at river mile 34.5.

DRAINAGE AREA.--116 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1939 to current year. Seasonal records only for water year 2007. Prior to October 2001, published as "near Finn."

GAGE.--Water-stage recorder. Elevation of gage is 4,640 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Apr. 30, 1942, nonrecording gage at site 0.1 mi, downstream at different elevation. Apr. 30, 1942 to July 26, 1953, water-stage recorder at site 0.2 mi downstream at different elevation. July 26, 1953, to Nov. 6, 1978, water-stage recorder at site 0.8 mi upstream at different elevation.

REMARKS.--Seasonal records are good. Diversions for irrigation include about 2,900 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.

12335500 NEVADA CREEK ABOVE RESERVOIR, NEAR HELMVILLE, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7.4						28	57	42	15	11	6.5
2	7.6						26	70	39	15	11	6.2
3	7.9						20	187	36	15	11	6.0
4	7.9						21	138	32	13	10	6.1
5	8.3						24	101	41	13	11	7.3
6	11						22	79	82	12	12	7.0
7	12						21	66	107	13	11	6.6
8	12						19	54	64	11	10	6.5
9	13						21	55	58	10	10	6.7
10	13						20	71	58	14	9.1	6.7
11	12						19	80	70	14	8.9	6.5
12	12						17	80	54	15	8.6	6.3
13	12						16	81	47	15	8.3	5.8
14	12						15	77	46	16	7.2	5.8
15	13						16	67	40	15	7.1	5.9
16	17						15	56	37	16	6.8	5.9
17	17						16	47	38	16	6.9	6.1
18	15						33	44	39	16	7.4	6.2
19	16						34	41	34	14	7.5	7.0
20	28						30	40	30	12	7.6	7.0
21	24						27	48	29	12	7.5	7.3
22	21						26	81	28	12	7.2	6.6
23	18						26	66	24	11	6.9	9.7
24	17						27	52	23	12	6.8	8.4
25	16						31	67	22	20	6.6	6.9
26	15						38	50	23	15	6.2	6.6
27	15						36	46	23	14	6.2	6.4
28	14						32	60	19	14	6.3	6.5
29	14						36	55	19	12	6.2	6.9
30	14						48	51	18	12	6.1	6.9
31	e13						---	45	---	12	6.2	---
Total	435.1						760	2,112	1,222	426	254.6	200.3
Mean	14.0						25.3	68.1	40.7	13.7	8.21	6.68
Max	28						48	187	107	20	12	9.7
Min	7.4						15	40	18	10	6.1	5.8
Ac-ft	863						1,510	4,190	2,420	845	505	397

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	13.8	14.5	12.4	11.9	15.6	34.4	65.3	109	87.8	26.8	14.0	10.1
Max	32.2	28.8	47.4	54.5	84.6	114	196	356	429	96.5	40.5	28.2
(WY)	(1960)	(1976)	(1976)	(1984)	(1986)	(1978)	(1952)	(1976)	(1975)	(1955)	(1975)	(1965)
Min	5.52	5.73	3.74	3.83	4.17	7.61	10.0	16.0	11.5	6.19	3.89	3.68
(WY)	(1940)	(1989)	(1993)	(1988)	(1944)	(1962)	(1941)	(1977)	(1992)	(1985)	(1961)	(1940)

12335500 NEVADA CREEK ABOVE RESERVOIR, NEAR HELMVILLE, MT—Continued

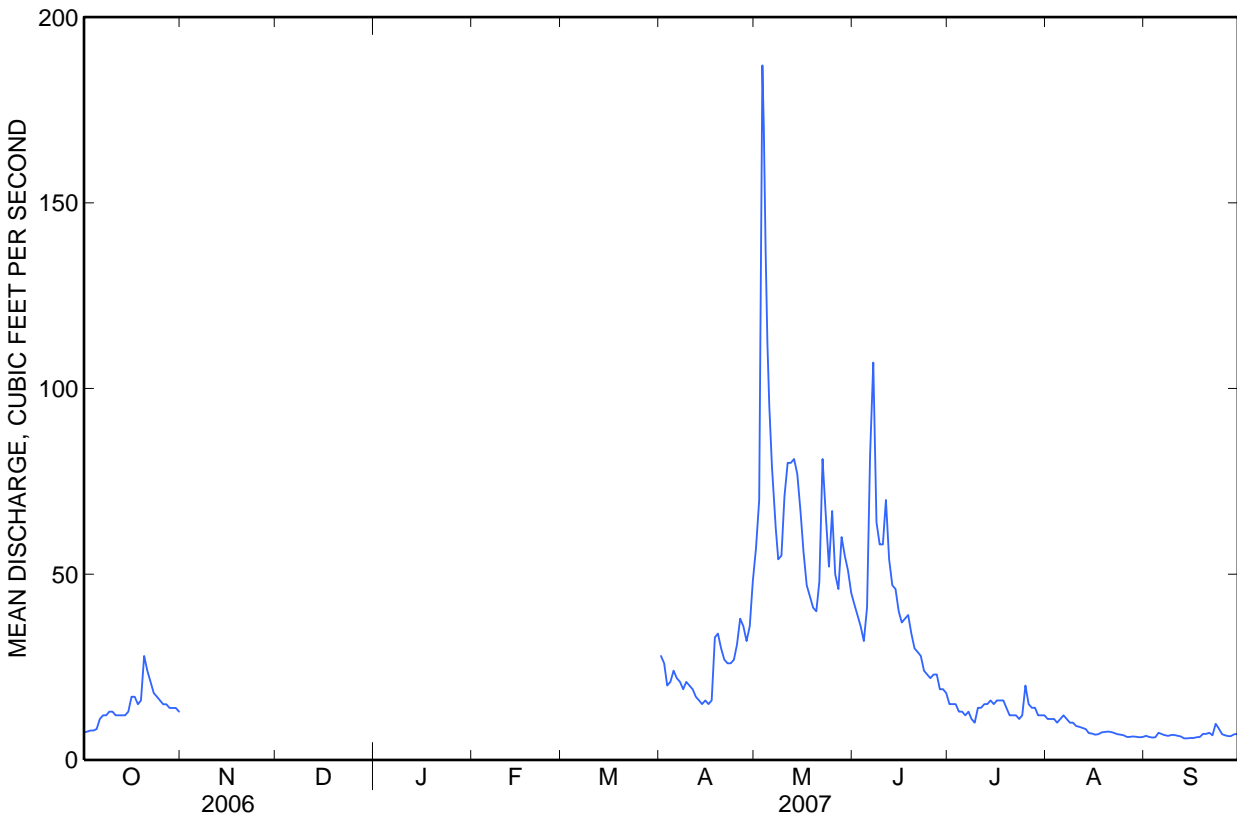
SUMMARY STATISTICS

	2007 Season		Water Years 1939 - 2007	
Annual total				
Annual mean			35.1	
Highest annual mean			77.2	1975
Lowest annual mean			11.8	1988
Highest daily mean	187	May 3	1,240	May 22, 1981
Lowest daily mean	5.8	Sep 13	2.0	Jan 11, 1944
Annual seven-day minimum			2.0	Feb 9, 1944
Maximum peak flow	251	May 3	^a 1,800	Jun 2, 1953
Maximum peak stage	3.11	May 3	^b 7.40	May 29, 1953
Instantaneous low flow			^c 2.0	Aug 20, 1944
Annual runoff (ac-ft)			25,400	
10 percent exceeds			86	
50 percent exceeds			15	
90 percent exceeds			6.5	

^a Gage height, 6.00 ft, site and datum then in use; from rating curve extended above 400 ft³/s on basis of inflow-outflow study of Nevada Lake.

^b Site and datum then in use; backwater from diversion dam.

^c Probably less than 2.0 ft³/s in several years.



Water-Data Report 2007

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT

Pend Oreille Basin
Blackfoot Subbasin

LOCATION.--Lat 46°53'27", long 113°02'16" referenced to North American Datum of 1927, in SW ¼ SW ¼ SW ¼ sec.7, T.13 N., R.11 W., Powell County, MT, Hydrologic Unit 17010203, on left bank 0.5 mi upstream from private road bridge, 3.8 mi southwest of Browns Lake, 4.0 mi northwest of Helmville, and at river mile 0.7.

DRAINAGE AREA.--308 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2001 to current year, seasonal records beginning March 2007.

GAGE.--Water-stage recorder. Elevation of gage is 4,240 ft, referenced to the National Geodetic Vertical Datum of 1929. Oct. 1, 2001 to Oct. 2, 2002, water-stage recorder 0.5 mi downstream at different elevation.

REMARKS.--Seasonal records are good except those for estimated daily discharges, which are poor. Partial regulation occurs by Nevada Lake (station number 12336500). Numerous 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.

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	23					e18	57	49	67	33	22	23	22
2	23					e17	55	50	61	31	24	25	22
3	22					e20	51	89	58	31	22	24	22
4	21					e40	49	186	54	29	20	22	22
5	24					e100	51	199	50	26	22	23	22
6	25					e200	50	177	62	21	20	22	21
7	25					e300	47	139	136	21	17	20	21
8	25					375	47	116	133	24	18	19	21
9	26					287	47	99	98	24	18	20	21
10	24					210	48	85	93	21	17	18	23
11	24					205	47	88	99	21	18	19	27
12	25					236	46	79	92	22	15	19	28
13	24					225	46	72	73	22	14	18	26
14	24					98	44	71	71	21	15	19	24
15	24					62	42	69	64	19	16	22	22
16	26					56	43	65	54	21	18	22	22
17	33					66	43	60	62	31	18	21	22
18	30					72	51	53	74	30	18	19	23
19	27					67	65	50	76	29	17	18	24
20	32					68	66	52	68	26	17	18	25
21	39					65	57	59	61	25	19	18	25
22	38					67	51	99	50	26	18	19	24
23	33					64	47	112	44	27	18	27	24
24	30					56	42	101	38	29	19	41	24
25	30					56	39	138	35	30	20	30	24
26	29					56	45	117	39	34	21	25	24
27	28					58	44	85	42	34	21	23	24
28	27					73	41	94	39	27	21	23	22
29	27					78	39	94	35	24	19	22	22
30	e23					64	43	80	34	22	20	22	24
31	e20					59	---	72	---	21	22	---	23
Total	831					3,418	1,443	2,899	1,962	802	584	661	720
Mean	26.8					110	48.1	93.5	65.4	25.9	18.8	22.0	23.2
Max	39					375	66	199	136	34	24	41	28
Min	20					17	39	49	34	19	14	18	21
Ac-ft	1,650					6,780	2,860	5,750	3,890	1,590	1,160	1,310	1,430

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	24.0	24.7	22.5	23.4	25.5	66.5	72.3	67.8	91.1	32.7	23.5	28.6
Max	29.7	27.8	24.5	28.2	47.8	110	150	135	190	49.0	27.7	37.8
(WY)	(2006)	(2006)	(2003)	(2005)	(2003)	(2007)	(2006)	(2003)	(2005)	(2005)	(2002)	(2005)
Min	19.7	22.8	19.2	15.1	17.8	26.5	24.8	28.7	35.9	24.1	17.8	22.0
(WY)	(2003)	(2004)	(2005)	(2004)	(2004)	(2002)	(2005)	(2004)	(2004)	(2004)	(2004)	(2007)

* Seasonal records only for water year 2007.

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

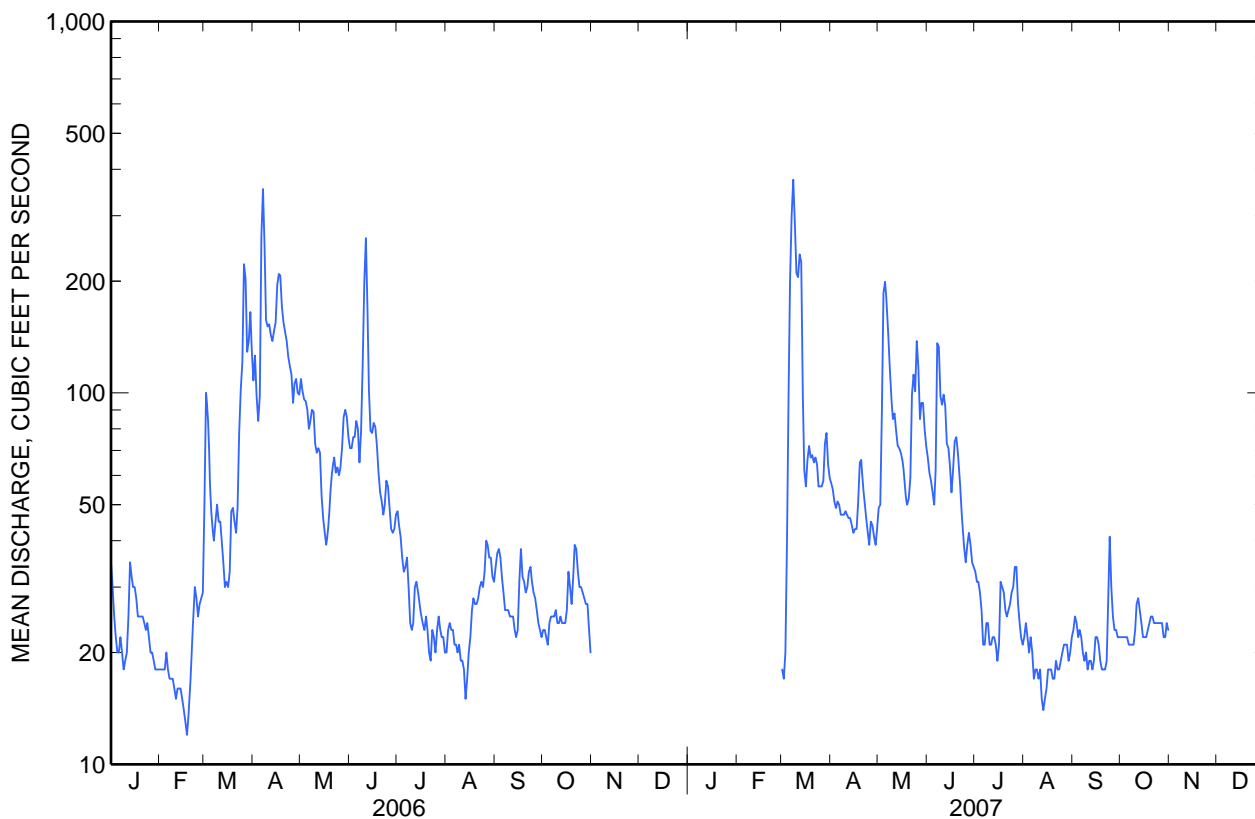
SUMMARY STATISTICS

	2007 Season		Water Years 1972 - 2007*	
Annual mean			41.8	
Highest annual mean			55.7	2003
Lowest annual mean			26.6	2004
Highest daily mean	375	Mar 8	500	Mar 14, 2003
Lowest daily mean	14	Aug 14	6.0	Jan 6, 2004
Annual seven-day minimum			9.6	Jan 5, 2004
Maximum peak flow	^a unknown	Mar 7	^b 500	Mar 14, 2003
Maximum peak stage	^a 5.10	Mar 7	^a 5.86	Feb 2, 2003
Annual runoff (ac-ft)			30,260	
10 percent exceeds			80	
50 percent exceeds			26	
90 percent exceeds			18	

* Seasonal records only for water year 2007.

^a Backwater from ice.

^b Estimated daily discharge during period of ice effect.



12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued**WATER-QUALITY RECORDS**

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 2001 to current year; seasonal records beginning March 2007.

INSTRUMENTATION.--Temperature probe installed Oct. 25, 2001.

REMARKS.--Water temperature records are rated good except those for May 10 to June 20, which are rated poor. All or part of the record for April 30: May 13, 16, 19; and June 14-19 are missing due to equipment malfunction. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.0°C, July 5, 2007; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 28.0°C, July 5; minimum, 0.0°C, many days in March.

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
OCTOBER 2006 TO OCTOBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October 2006			November			December			January 2007		
1	13.5	10.0	12.0	---	---	---	---	---	---	---	---	---
2	12.5	9.5	11.0	---	---	---	---	---	---	---	---	---
3	12.0	9.0	10.5	---	---	---	---	---	---	---	---	---
4	11.5	9.0	10.5	---	---	---	---	---	---	---	---	---
5	13.0	9.0	11.0	---	---	---	---	---	---	---	---	---
6	14.5	11.5	13.0	---	---	---	---	---	---	---	---	---
7	14.0	11.5	12.5	---	---	---	---	---	---	---	---	---
8	11.5	8.5	10.0	---	---	---	---	---	---	---	---	---
9	10.0	7.5	8.5	---	---	---	---	---	---	---	---	---
10	7.5	4.5	6.0	---	---	---	---	---	---	---	---	---
11	8.5	6.0	7.5	---	---	---	---	---	---	---	---	---
12	8.5	5.5	7.5	---	---	---	---	---	---	---	---	---
13	8.5	6.0	7.5	---	---	---	---	---	---	---	---	---
14	8.5	6.0	7.5	---	---	---	---	---	---	---	---	---
15	8.5	6.5	7.0	---	---	---	---	---	---	---	---	---
16	8.0	6.0	6.5	---	---	---	---	---	---	---	---	---
17	6.5	4.5	5.5	---	---	---	---	---	---	---	---	---
18	6.0	4.5	5.5	---	---	---	---	---	---	---	---	---
19	6.5	5.5	6.0	---	---	---	---	---	---	---	---	---
20	8.0	5.5	7.0	---	---	---	---	---	---	---	---	---
21	7.5	5.5	6.5	---	---	---	---	---	---	---	---	---
22	6.0	4.0	5.0	---	---	---	---	---	---	---	---	---
23	5.5	3.0	4.5	---	---	---	---	---	---	---	---	---
24	6.5	2.5	4.5	---	---	---	---	---	---	---	---	---
25	6.5	4.0	5.0	---	---	---	---	---	---	---	---	---
26	4.5	3.0	4.0	---	---	---	---	---	---	---	---	---
27	6.0	3.5	4.5	---	---	---	---	---	---	---	---	---
28	5.5	2.5	4.0	---	---	---	---	---	---	---	---	---
29	5.0	2.5	4.0	---	---	---	---	---	---	---	---	---
30	3.5	0.0	1.0	---	---	---	---	---	---	---	---	---
31	0.5	0.0	0.5	---	---	---	---	---	---	---	---	---
Month	14.5	0.0	7.0	---	---	---	---	---	---	---	---	---

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
OCTOBER 2006 TO OCTOBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February 2007			March			April			May		
1	---	---	---	0.0	0.0	0.0	9.0	4.5	6.5	17.5	10.5	14.0
2	---	---	---	0.5	0.0	0.0	8.0	4.0	6.0	16.0	12.5	14.5
3	---	---	---	0.5	0.0	0.0	7.0	2.0	4.5	13.5	7.5	9.5
4	---	---	---	0.5	0.0	0.0	6.0	2.5	4.5	8.5	5.0	7.0
5	---	---	---	0.0	0.0	0.0	8.5	4.0	6.0	10.5	6.0	8.0
6	---	---	---	0.5	0.0	0.0	8.5	3.0	5.5	12.5	8.0	10.0
7	---	---	---	0.5	0.0	0.5	10.0	3.0	6.0	13.5	9.5	11.5
8	---	---	---	1.5	0.0	0.5	12.0	4.5	8.0	18.0	10.5	13.5
9	---	---	---	1.5	0.0	0.5	11.0	6.5	8.0	18.0	12.5	15.5
10	---	---	---	2.0	0.0	0.5	7.0	3.5	4.5	17.5	13.0	15.0
11	---	---	---	1.5	0.0	1.0	8.0	2.5	5.0	19.0	12.0	16.0
12	---	---	---	3.0	0.5	1.5	8.5	3.0	6.0	18.5	13.5	16.0
13	---	---	---	3.0	1.0	2.0	10.5	3.5	6.5	16.0	13.5	---
14	---	---	---	4.5	1.0	2.5	12.5	6.0	9.0	16.5	10.5	13.5
15	---	---	---	5.0	0.5	2.5	11.0	8.0	9.5	19.0	11.0	15.0
16	---	---	---	5.0	1.5	3.5	12.0	5.5	8.5	---	13.0	---
17	---	---	---	7.5	1.5	4.0	11.5	7.5	9.5	21.0	14.5	18.0
18	---	---	---	6.5	3.0	5.0	9.5	5.5	6.5	21.5	15.0	18.5
19	---	---	---	8.0	1.5	4.5	7.0	4.0	5.5	---	15.5	17.0
20	---	---	---	6.5	2.5	4.5	8.0	3.0	5.5	17.0	13.5	15.0
21	---	---	---	6.0	1.5	4.0	11.5	3.5	7.5	13.5	11.0	12.5
22	---	---	---	4.5	1.5	3.0	11.0	7.0	9.5	11.0	8.5	10.0
23	---	---	---	7.5	3.0	5.0	13.5	8.5	11.0	13.0	8.5	10.5
24	---	---	---	9.5	4.0	6.5	13.5	8.5	11.0	12.0	9.5	11.0
25	---	---	---	9.0	6.0	7.5	12.0	8.0	9.5	14.5	9.0	11.5
26	---	---	---	7.5	3.5	5.5	11.5	7.0	9.0	17.5	11.0	14.0
27	---	---	---	6.5	3.0	4.0	12.5	7.5	10.0	16.0	13.5	15.0
28	---	---	---	7.5	2.0	4.5	16.5	9.0	12.5	15.0	11.5	13.0
29	---	---	---	8.0	2.0	5.0	17.0	10.5	13.5	17.5	11.0	14.0
30	---	---	---	8.0	2.0	5.5	---	11.5	---	19.0	13.0	16.0
31	---	---	---	7.5	3.5	5.5	---	---	---	20.5	14.5	17.5
Month	---	---	---	9.5	0.0	3.0	---	2.0	---	---	5.0	---

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
OCTOBER 2006 TO OCTOBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June 2007			July			August			September		
1	22.5	15.5	18.5	25.0	18.0	21.5	21.5	16.0	19.0	20.0	16.5	18.0
2	23.5	16.0	19.5	24.5	19.0	22.0	22.0	16.5	19.5	20.0	17.0	18.5
3	24.0	16.0	20.0	25.5	18.5	22.0	22.0	16.5	19.5	20.0	17.0	18.5
4	24.5	16.5	20.5	26.5	19.0	22.5	20.0	14.5	17.5	19.5	17.0	18.0
5	20.0	16.0	18.0	28.0	19.5	24.0	19.0	14.5	17.0	19.0	17.0	18.0
6	16.0	11.0	13.5	27.5	21.0	24.5	20.0	14.5	17.5	19.0	16.5	18.0
7	12.5	10.5	11.5	26.0	19.0	22.5	18.5	15.0	17.0	18.0	15.0	16.5
8	14.5	11.0	12.5	24.0	17.0	20.5	19.5	14.0	17.0	17.0	14.5	15.5
9	17.0	12.0	15.0	24.0	17.0	20.0	19.5	15.0	17.5	15.5	12.5	14.5
10	16.5	14.5	15.0	23.5	15.5	19.5	18.5	15.0	16.5	15.5	12.0	14.0
11	16.0	13.0	14.5	24.0	15.5	19.5	18.5	13.0	16.0	16.0	12.5	14.5
12	18.0	13.5	15.5	24.5	16.5	20.5	18.5	14.0	16.5	15.5	13.0	14.5
13	16.5	14.0	15.5	25.5	17.5	21.5	18.5	13.5	16.5	14.5	11.0	12.5
14	---	13.5	---	26.0	18.5	22.0	19.5	14.5	17.0	14.5	11.0	13.0
15	---	---	---	25.0	18.0	21.5	20.0	14.5	17.5	15.0	12.0	14.0
16	---	14.0	---	25.5	18.0	21.5	19.0	15.5	17.5	15.0	10.5	12.5
17	---	---	---	23.0	19.5	21.0	19.0	15.0	17.0	12.5	10.5	11.5
18	---	---	---	24.5	18.0	21.5	18.5	14.5	16.5	12.0	9.5	11.0
19	---	11.5	---	25.0	19.5	22.5	18.0	14.5	16.5	12.0	10.5	11.0
20	21.0	14.0	17.5	25.5	18.5	22.0	16.0	14.0	15.0	10.5	8.5	9.5
21	23.0	16.0	19.0	24.0	18.5	21.5	16.5	13.5	15.0	11.5	8.5	10.0
22	24.0	17.0	20.5	24.5	17.5	21.5	18.5	13.0	16.0	11.5	9.5	10.5
23	24.0	18.5	21.0	23.0	18.5	21.0	18.0	14.5	16.5	11.0	9.5	10.5
24	23.0	18.5	20.5	23.0	19.5	21.0	18.5	14.0	16.5	10.5	8.5	9.5
25	19.5	16.5	18.0	24.5	19.0	21.5	19.0	14.5	17.0	10.0	8.5	9.5
26	20.0	13.5	16.5	24.0	18.5	21.5	18.0	14.5	16.5	11.0	8.5	10.0
27	21.5	15.5	18.0	22.5	18.0	20.5	17.5	13.5	16.0	11.5	9.0	10.5
28	24.0	17.0	20.5	23.5	18.0	20.5	18.0	13.5	16.0	11.5	9.5	10.5
29	23.5	19.0	21.5	23.0	17.0	20.0	18.5	13.5	16.0	10.5	8.5	9.5
30	23.5	18.0	21.0	23.0	18.0	20.5	19.0	14.0	17.0	8.5	6.5	7.5
31	---	---	---	22.0	17.5	20.0	19.0	16.0	17.5	---	---	---
Month	---	---	---	28.0	15.5	21.5	22.0	13.0	17.0	20.0	6.5	13.0

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS OCTOBER 2006 TO OCTOBER 2007			
Day	Max	Min	Mean
October 2007			
1	8.5	7.5	8.0
2	7.5	6.5	7.0
3	9.0	7.0	8.0
4	8.5	6.0	7.5
5	8.5	7.0	7.5
6	7.0	6.5	6.5
7	7.5	5.5	6.5
8	9.5	7.0	8.0
9	10.0	7.5	9.0
10	10.0	8.5	9.0
11	10.0	8.5	9.5
12	9.5	8.0	9.0
13	10.0	8.5	9.0
14	9.5	7.0	8.5
15	9.0	7.0	8.0
16	9.0	7.0	7.5
17	7.0	6.5	6.5
18	6.5	5.5	6.0
19	6.5	6.0	6.5
20	6.0	5.0	5.5
21	6.0	4.5	5.5
22	6.0	4.5	5.5
23	7.5	5.0	6.0
24	7.5	6.0	7.0
25	7.5	6.0	6.5
26	6.0	4.0	5.0
27	5.0	3.0	3.5
28	4.0	2.5	3.5
29	4.0	2.5	3.5
30	5.0	4.0	4.5
31	4.5	2.5	3.5
Month	10.0	2.5	6.7



Water-Data Report 2007

12338300 NORTH FORK BLACKFOOT RIVER ABOVE DRY GULCH, NEAR OVANDO, MT

Pend Oreille Basin
Blackfoot Subbasin

LOCATION.--Lat 46°58'48", long 113°05'25" referenced to North American Datum of 1927, in NW ¼ SW ¼ SW ¼ sec.11, T.14 N., R.12 W., Powell County, MT, Hydrologic Unit 17010203, on right bank 400 ft upstream from county road bridge, 0.9 mi upstream from Dry Gulch, 3.2 mi southeast of Ovando, and at river mile 2.5.

DRAINAGE AREA.--314 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,060 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. Numerous 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 June 8, 1964 reached a discharge of 11,800 ft³/s, from slope-area measurement of peak flow, as determined at North Fork Blackfoot River near Ovando (station 12338000), 9 mi upstream. Flood of about May 22, 1948 reached a discharge of 4,380 ft³/s, from slope-area measurement of peak flow at same site.

12338300 NORTH FORK BLACKFOOT RIVER ABOVE DRY GULCH, NEAR OVANDO, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	150	127	209	146	110	108	374	1,330	977	391	222	166
2	150	126	202	157	108	103	360	1,520	1,030	378	220	163
3	149	129	198	159	107	103	344	2,010	1,100	367	217	161
4	147	132	196	157	108	108	333	1,720	1,100	363	214	158
5	147	137	202	155	112	106	326	1,350	1,170	345	214	158
6	147	144	199	156	116	106	313	1,160	1,160	333	213	157
7	146	446	200	153	119	108	308	1,090	1,110	330	209	156
8	146	1,340	198	152	121	111	317	1,120	957	322	207	156
9	147	785	200	150	121	113	355	1,320	905	316	204	156
10	147	540	200	150	121	113	372	1,590	890	309	203	161
11	146	450	202	135	121	118	359	1,720	896	304	203	164
12	144	387	204	e120	117	147	348	1,760	856	298	201	160
13	144	355	204	e105	116	190	338	1,870	808	292	201	158
14	143	336	201	114	117	213	340	1,630	781	298	197	156
15	143	301	207	115	117	195	369	1,390	737	289	195	154
16	146	304	194	107	118	193	385	1,310	700	283	193	153
17	144	272	176	105	115	191	404	1,360	737	281	192	152
18	144	269	e170	107	112	229	457	1,490	704	282	190	152
19	144	252	172	110	111	256	450	1,580	648	272	188	152
20	147	263	169	116	112	283	428	1,530	601	266	191	152
21	146	267	166	121	110	277	412	1,370	592	260	191	152
22	144	263	164	123	111	279	406	1,200	585	257	188	150
23	143	256	161	124	113	279	423	1,040	569	255	185	159
24	142	249	163	125	108	294	485	967	545	252	179	155
25	140	247	167	123	110	390	581	943	523	247	172	152
26	140	234	164	121	109	484	648	924	496	242	170	149
27	138	239	162	116	106	484	694	927	462	242	168	147
28	137	223	161	111	105	446	783	993	435	236	167	146
29	137	212	158	112	---	399	1,070	980	415	230	165	147
30	137	207	151	109	---	383	1,240	953	409	229	164	147
31	128	---	149	110	---	382	---	949	---	227	164	---
Total	4,453	9,492	5,669	3,964	3,171	7,191	14,022	41,096	22,898	8,996	5,987	4,649
Mean	144	316	183	128	113	232	467	1,326	763	290	193	155
Max	150	1,340	209	159	121	484	1,240	2,010	1,170	391	222	166
Min	128	126	149	105	105	103	308	924	409	227	164	146
Ac-ft	8,830	18,830	11,240	7,860	6,290	14,260	27,810	81,510	45,420	17,840	11,880	9,220

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	154	157	126	108	101	116	370	1,233	1,124	395	214	170
Max	186	316	183	148	154	232	542	1,681	1,940	626	280	197
(WY)	(2005)	(2007)	(2007)	(2005)	(2005)	(2007)	(2004)	(2006)	(1999)	(1999)	(1999)	(1999)
Min	119	114	98.7	88.3	82.3	75.2	121	801	763	265	167	128
(WY)	(2002)	(2002)	(2006)	(2004)	(2001)	(2006)	(2001)	(2001)	(2007)	(2001)	(2001)	(2001)

12338300 NORTH FORK BLACKFOOT RIVER ABOVE DRY GULCH, NEAR OVANDO, MT—Continued

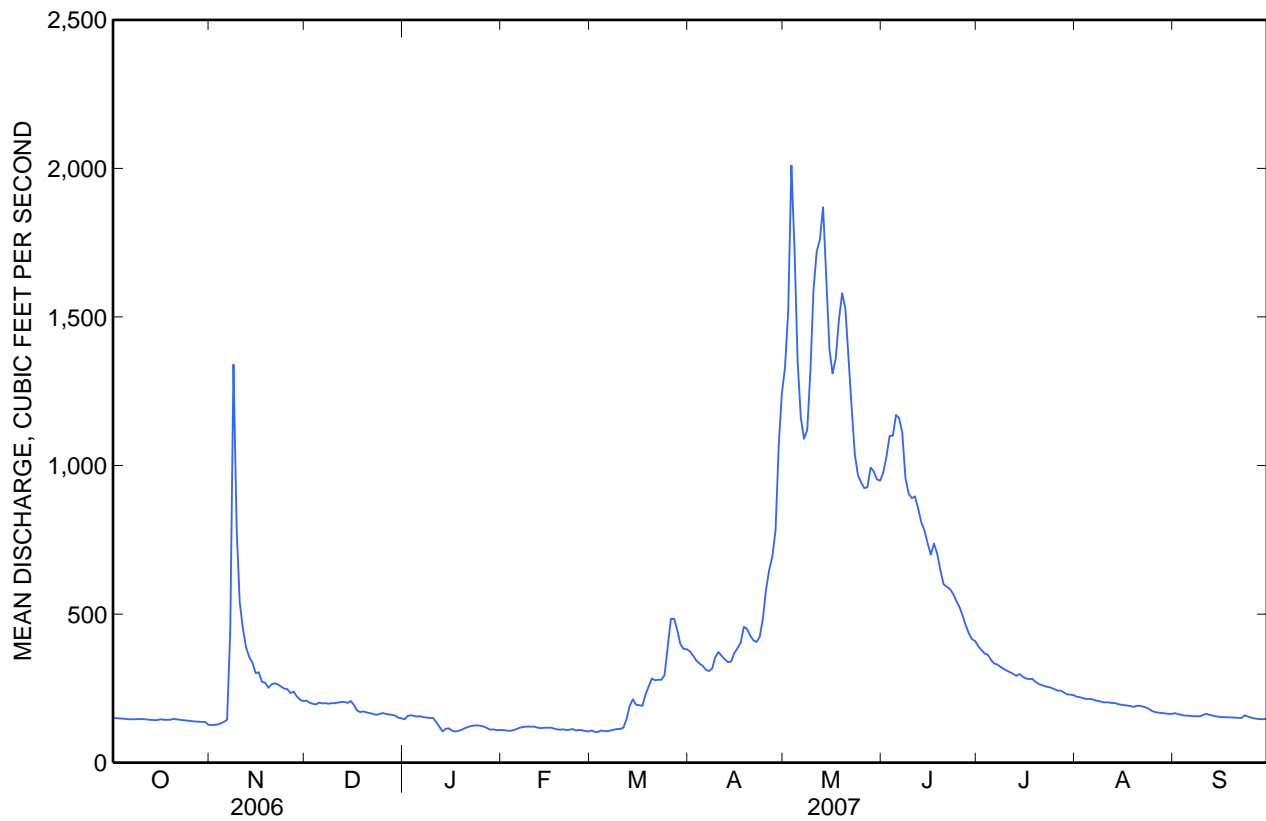
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1998 - 2007	
Annual total	142,683		131,588			
Annual mean	391		361		356	
Highest annual mean					456	1999
Lowest annual mean					242	2001
Highest daily mean	3,090	May 18	2,010	May 3	3,870	May 26, 1999
Lowest daily mean	70	Feb 18	103	Mar 2	70	Feb 18, 2006
Annual seven-day minimum	73	Mar 9	106	Feb 27	73	Mar 9, 2006
Maximum peak flow			2,370	May 3	^b 4,280	May 26, 1999
Maximum peak stage			5.08	May 3	5.92	May 20, 2003
Instantaneous low flow			^a 95	Feb 28	^c 69	Mar 18, 2001
Annual runoff (ac-ft)	283,000		261,000		258,200	
10 percent exceeds	1,150		961		962	
50 percent exceeds	179		200		165	
90 percent exceeds	76		115		91	

^a Gage height, 2.48 ft.

^b Gage height, 5.75 ft.

^c Gage height, 2.35 ft.



Water-Data Report 2007

12340000 BLACKFOOT RIVER NEAR BONNER, MT

Pend Oreille Basin
Blackfoot Subbasin

LOCATION.--Lat 46°53'59", long 113°45'20" referenced to North American Datum of 1927, in SE ¼ SE ¼ NW ¼ sec.9, T.13 N., R.17 W., Missoula County, MT, Hydrologic Unit 17010203, on right bank 5.0 mi downstream from Union Creek, 5.6 mi northeast of Bonner, and at river mile 7.9.

DRAINAGE AREA.--2,290 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July to November 1898, March 1899 to September 1901, May 1903 to January 1905, March to October 1905, October 1939 to current year. Monthly discharge only for some periods, published in (Water Supply Paper) WSP 1316. Published as "at Bonner" 1898-99 and as Big Blackfoot near Bonner 1903-05.

REVISED RECORDS.-- WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,344.76 ft, referenced to the National Geodetic Vertical Datum of 1929. July 7, 1898 to June 30, 1901, and May 15, 1903, to Oct. 31, 1905, nonrecording gage at site 7 mi downstream at different elevation. Oct. 4, 1939, to Sept. 30, 1955, nonrecording gage at site 1.3 mi downstream at elevation 21.82 ft lower.

REMARKS.--Records are excellent except those for estimated daily discharges, which are poor. Flow is slightly regulated by Nevada Creek Reservoir (station number 12336500). Diversions for irrigation of about 20,000 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	472	e420	e700	e400	e500	549	2,120	3,980	3,290	1,300	e615	457
2	472	e440	e730	e500	e480	527	2,060	4,340	3,350	1,230	e600	452
3	472	e480	e740	e660	e430	526	2,000	5,190	3,440	1,210	e580	448
4	472	534	e730	e670	e410	548	1,910	5,610	3,460	1,160	e570	443
5	472	562	e730	665	e480	563	1,850	5,140	3,520	1,110	e560	443
6	472	600	e760	663	e520	602	1,770	4,570	3,640	1,070	e550	449
7	472	762	e710	659	e520	794	1,700	4,160	3,730	1,040	e540	444
8	472	2,480	e690	651	e550	1,060	1,670	3,990	3,590	1,000	e530	439
9	472	2,530	e680	646	e570	1,130	1,710	4,140	3,340	974	e515	441
10	472	2,130	e680	646	e580	1,030	1,800	4,580	3,160	939	525	447
11	472	1,860	e720	e550	e620	1,040	1,810	4,990	3,110	911	528	452
12	472	1,640	756	e400	e600	1,240	1,770	5,220	2,960	888	523	442
13	467	1,470	755	e300	e560	1,710	1,720	5,400	2,770	853	516	430
14	467	1,390	762	e380	e540	1,690	1,680	5,320	2,630	830	505	429
15	468	1,250	773	e450	e550	1,480	1,700	4,890	2,480	827	490	429
16	493	1,190	762	e470	e600	1,430	1,760	4,530	2,330	803	486	432
17	520	1,140	e630	e480	614	1,480	1,800	4,430	2,310	805	489	432
18	509	1,060	e450	e500	625	1,670	1,960	4,550	2,370	815	493	439
19	512	1,010	e350	e520	607	1,880	2,110	4,750	2,240	790	498	454
20	562	988	e360	e570	612	2,010	2,060	4,750	2,080	757	508	460
21	567	1,020	e370	e600	616	2,060	1,990	4,600	1,980	732	519	468
22	565	1,070	e400	e660	592	2,030	1,930	4,390	1,900	711	521	463
23	555	1,050	e530	e630	603	1,990	1,890	4,080	1,830	692	504	516
24	540	1,020	e580	e600	592	1,980	1,950	3,770	1,760	683	493	556
25	529	1,010	e600	e580	584	2,100	2,100	3,630	1,700	677	480	542
26	519	947	e670	e540	580	2,350	2,290	3,490	1,630	662	459	510
27	510	921	686	e500	567	2,500	2,440	3,310	1,550	664	450	492
28	504	e800	674	e480	558	2,550	2,600	3,360	1,480	661	456	481
29	498	e600	e650	e460	---	2,440	3,030	3,450	1,390	644	454	487
30	e490	e530	e560	e500	---	2,310	3,590	3,400	1,340	632	443	478
31	e460	---	e430	e470	---	2,200	---	3,310	---	626	441	---
Total	15,399	32,904	19,618	16,800	15,660	47,469	60,770	135,320	76,360	26,696	15,841	13,855
Mean	497	1,097	633	542	559	1,531	2,026	4,365	2,545	861	511	462
Max	567	2,530	773	670	625	2,550	3,590	5,610	3,730	1,300	615	556
Min	460	420	350	300	410	526	1,670	3,310	1,340	626	441	429
Ac-ft	30,540	65,270	38,910	33,320	31,060	94,150	120,500	268,400	151,500	52,950	31,420	27,480
Cfsm	0.22	0.48	0.28	0.24	0.24	0.67	0.88	1.91	1.11	0.38	0.22	0.20
In.	0.25	0.53	0.32	0.27	0.25	0.77	0.99	2.20	1.24	0.43	0.26	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	649	654	604	554	597	789	2,069	4,865	4,825	1,820	823	665
Max	1,547	1,480	1,555	1,069	1,668	2,351	4,727	9,802	13,610	6,557	1,921	1,250
(WY)	(1960)	(1960)	(1996)	(1976)	(1971)	(1986)	(1943)	(1997)	(1899)	(1899)	(1899)	(1899)
Min	370	369	332	348	359	435	463	1,096	1,158	533	365	363
(WY)	(1988)	(1988)	(1988)	(1988)	(1993)	(1988)	(1905)	(1941)	(1987)	(1977)	(1988)	(1988)

* During periods of operation (1900-01, 1904, 1940 to current year).

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

SUMMARY STATISTICS

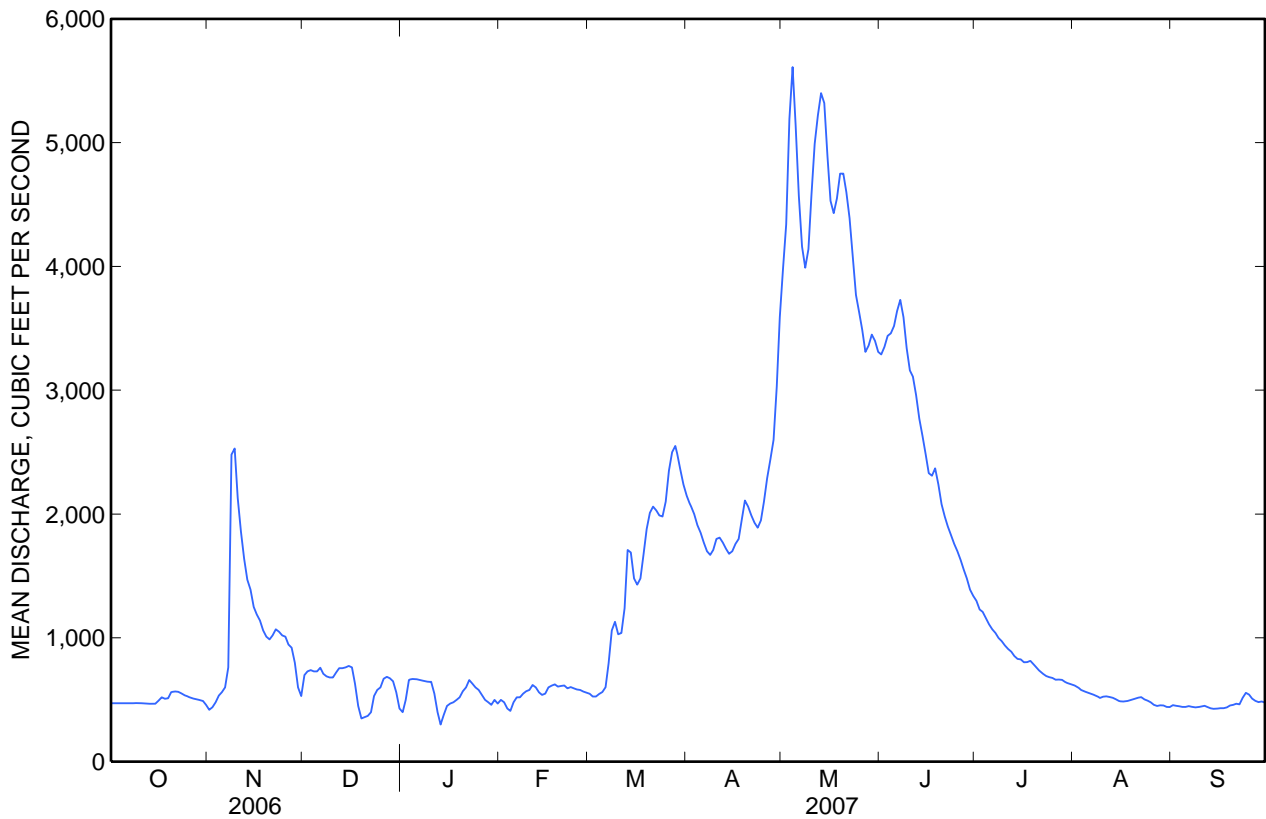
	Calendar Year 2006		Water Year 2007		Water Years 1898 - 2007*	
Annual total	541,253		476,692			
Annual mean	1,483		1,306		1,562	
Highest annual mean					2,480	1976
Lowest annual mean					558	1941
Highest daily mean	8,180	May 20	5,610	May 4	18,000	Jun 10, 1964
Lowest daily mean	279	Feb 18	300	Jan 13	180	Dec 7, 2005
Annual seven-day minimum	391	Feb 14	426	Jan 12	239	Dec 21, 1983
Maximum peak flow			5,730	May 3	^a 19,200	Jun 10, 1964
Maximum peak stage			6.23	May 3	^b 16.00	Feb 9, 1996
Instantaneous low flow					^c 156	Feb 2, 1989
Annual runoff (ac-ft)	1,074,000		945,500		1,131,000	
Annual runoff (cfs)	0.648		0.570		0.682	
Annual runoff (inches)	8.79		7.74		9.27	
10 percent exceeds	4,040		3,350		4,060	
50 percent exceeds	586		670		727	
90 percent exceeds	472		454		450	

* During periods of operation (1900-01, 1904, 1940 to current year).

^a Gage height, 10.89 ft.

^b Backwater from ice.

^c Gage height, 1.20 ft, but may have been less during a period of ice effect.



12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1956-59, 1985 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1955 to September 1959, October 1999 to September 2003, October 2004 to current year (seasonal record beginning 2007 water year).

SUSPENDED-SEDIMENT DISCHARGE: July 1986 to April 1987, June 1988 to September 1995, October 2005 to current year.

REMARKS.--Eleven supplemental samples were collected this year as part of an expanded sampling program for the lower Clark Fork basin. Daily water temperature records are rated excellent. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 23.0°C, July 13-15 and 20, 2007; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 335 mg/L, May 19, 1991; minimum daily mean, 1 mg/L on many days.

SEDIMENT LOAD: Maximum daily, 8,100 tons, May 19, 1991; minimum daily, 0.49 ton, Dec. 7, 2005.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 23.0°C, July 13-15 and 20; minimum during seasonal collection, 6.0°C, May 4.

SEDIMENT CONCENTRATION: Maximum daily mean, 93 mg/L, May 4; minimum daily mean, 1 mg/L on many days October through January and August through September.

SEDIMENT LOAD: Maximum daily, 1,410 tons, May 4; minimum daily, 1.0 ton, Dec. 21.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

[Remark codes: <, less than.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Total nitrogen, water, unfltrd, by analysis, mg/L (62855)	Phosphorus, water, unfltrd, mg/L (00665)	Arsenic, water, fltrd, μ g/L (01000)	Arsenic, water, unfltrd, μ g/L (01002)
Oct													
17*...	1230	517	8.5	266	9.0	7.0	140	35.4	12.3	.17	<.008	1.1	1.3
Nov													
15...	0830	1,260	8.4	202	-1.5	3.0	100	27.2	8.71	--	--	.79	.93
Mar													
28...	1310	2,550	8.4	177	11.0	5.0	88	22.9	7.52	--	--	.78	.93
Apr													
09*...	1300	1,710	8.3	194	9.0	7.5	96	24.6	8.33	.19	.019	.84	.90
23*...	1230	1,880	8.3	201	13.0	9.0	100	26.3	8.76	.20	.022	.91	1.0
May													
03*...	1300	5,340	8.2	149	3.5	8.5	77	20.2	6.55	.43	.083	.74	1.4
07...	1330	4,140	8.3	180	18.0	9.5	88	22.8	7.45	--	--	.87	1.1
14*...	1330	5,320	8.2	158	16.5	9.5	78	20.4	6.61	.20	.036	.89	1.2
22*...	1300	4,380	8.4	165	10.5	8.5	84	21.9	7.09	.17	.023	.78	.98
31*...	1430	3,310	8.5	190	24.0	13.0	94	24.5	8.06	.16	.019	.84	1.0
Jun													
06*...	1300	3,650	8.4	175	--	11.5	87	22.7	7.41	.15	.020	.82	1.0
12*...	1230	2,960	8.3	202	18.5	13.5	100	25.5	8.82	.13	.019	1.0	1.1
12...	1450	2,950	8.5	204	20.0	15.0	99	25.5	8.69	--	--	.98	1.2
19*...	1400	2,240	8.4	214	24.5	13.5	110	27.4	9.43	.13	.015	.96	.99
26*...	1200	1,640	8.6	222	18.5	14.0	120	29.4	10.1	.13	.010	1.1	1.2
Jul													
25...	0725	680	8.3	256	16.0	18.5	120	29.4	11.2	--	--	1.4	1.5
Aug													
28...	1445	461	8.6	265	24.5	16.0	130	31.9	12.3	--	--	1.4	1.3

* Sample collected as part of a supplemental sampling program.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium		Copper,	Copper,	Iron,	Iron,	Lead,	Lead,	Mangan-	Mangan-	Zinc,	Zinc,
	water, flt'd, µg/L (01025)	water, unflt'd µg/L (01027)	water, flt'd, µg/L (01040)	water, recover- able, µg/L (01042)	water, flt'd, µg/L (01046)	water, recover- able, µg/L (01045)	water, flt'd, µg/L (01049)	water, recover- able, µg/L (01051)	ese, water, flt'd, µg/L (01056)	ese, water, recover- able, µg/L (01055)	water, flt'd, µg/L (01090)	water, recover- able, µg/L (01092)
Oct												
17*...	<.04	<.02	.50	1.2	7	30	<.12	<.06	1.0	3.4	E.42	<2
Nov												
15...	<.04	<.02	.46	E1.1	9	58	<.12	E.06	1.0	5.0	.88	E1
Mar												
28...	<.04	E.01	.77	1.6	25	203	<.12	.23	2.6	18.2	.73	E2
Apr												
09*...	<.04	<.02	.72	E.77	12	93	<.12	.11	2.3	10.3	.76	<2.0
23*...	<.04	<.02	.77	E.79	12	141	<.12	.16	2.6	16.2	1.2	E1.1
May												
03*...	<.04	.02	2.0	3.0	15	953	.17	1.30	3.0	70.2	2.5	5.1
07...	E.02	E.01	.71	2.0	14	407	<.12	.59	2.5	31.3	.61	3.0
14*...	<.04	<.02	.89	2.8	9	417	<.12	.61	2.2	29.9	2.0	2.8
22*...	<.04	E.01	.50	E1.1	8	293	<.12	.35	1.8	18.9	.92	E1.9
31*...	<.04	<.02	E.37	1.4	7	196	<.12	.26	2.0	15.1	E.39	E1.9
Jun												
06*...	<.04	E.01	<.40	E1.1	9	241	<.12	.35	1.3	18.6	<.60	2.1
12*...	<.04	E.01	<.40	E1.1	7	200	<.12	.28	2.0	14.8	<.60	E2.0
12...	<.04	E.01	E.26	1.4	8	270	<.12	.32	2.5	16.0	<.60	2.1
19*...	<.04	E.01	<.40	1.3	9	137	<.12	.19	2.0	11.3	.65	E1.4
26*...	<.04	<.02	E.27	E.64	10	78	<.12	.11	2.0	7.7	.87	E1.0
Jul												
25...	E.02	<.02	E.34	<1.2	<6	40	<.12	.07	1.1	7.0	E.44	<2.0
Aug												
28...	<.04	<.02	E.23	<1.2	E3	16	<.12	<.06	1.6	3.4	<.60	<2.0

* Sample collected as part of a supplemental sampling program.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

Date	Suspd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pende d sedi- ment concen- tration mg/L (80154)	Sus- pende d sedi- ment dis- charge, tons/d (80155)
Oct			
17*...	87	1	1.4
Nov			
15...	87	4	14
Mar			
28...	81	12	83
Apr			
09*...	83	5	23
23*...	84	7	36
May			
03*...	83	84	1,210
07...	88	32	358
14*...	83	40	575
22*...	85	18	213
31*...	87	15	134
Jun			
06*...	86	19	187
12*...	91	13	104
12...	91	14	112
19*...	88	7	42
26*...	84	5	22
Jul			
25...	76	3	5.5
Aug			
28...	69	2	2.5

* Sample collected as part of a supplemental sampling program.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
MAY 2007 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	May			June			July			August		
1	10.5	9.5	10.0	14.5	13.0	14.0	20.0	16.0	18.0	20.5	17.0	19.5
2	10.5	10.0	10.5	15.5	13.5	14.5	19.5	17.0	18.0	20.5	17.5	19.5
3	10.5	7.0	8.5	15.5	14.5	15.0	20.5	16.0	18.0	20.5	17.5	19.5
4	7.5	6.0	6.5	16.0	15.0	15.5	21.5	17.0	19.0	20.0	16.5	18.5
5	8.0	6.5	7.0	15.5	13.5	14.5	22.5	17.5	20.0	18.5	16.0	17.5
6	9.5	7.5	8.5	13.5	10.0	11.5	22.5	18.5	20.5	18.5	15.0	17.0
7	10.5	9.0	10.0	11.0	9.0	10.0	22.0	19.5	21.0	18.0	15.5	17.0
8	11.5	10.0	10.5	12.0	9.5	10.5	21.5	18.0	20.0	19.0	15.0	17.0
9	12.5	11.0	11.5	12.5	11.0	12.0	21.5	18.0	19.5	19.0	15.5	17.5
10	12.0	11.0	11.5	13.0	12.5	12.5	21.5	17.5	19.5	19.0	16.5	18.0
11	11.5	10.5	11.0	14.0	12.0	12.5	22.0	17.5	20.0	18.0	14.5	16.5
12	12.0	10.5	11.5	14.5	13.0	13.5	22.5	18.0	20.5	17.5	15.0	16.5
13	12.0	9.5	11.0	14.0	12.5	13.0	23.0	18.5	21.0	18.0	15.0	16.5
14	10.5	9.5	10.0	14.5	12.5	13.5	23.0	19.5	21.5	18.0	14.5	16.5
15	11.0	9.0	10.0	15.0	13.0	14.0	23.0	19.5	21.5	18.5	15.0	17.0
16	12.0	10.5	11.5	16.0	13.5	14.5	22.5	19.5	21.0	18.0	15.5	16.5
17	13.0	11.5	12.5	15.5	12.0	14.0	22.0	20.0	21.0	18.0	15.0	16.5
18	13.5	12.0	12.5	14.0	12.0	12.5	22.5	18.5	20.5	19.0	15.5	17.5
19	13.0	12.0	12.5	14.5	12.0	13.0	22.5	19.5	21.0	17.5	15.5	16.0
20	12.5	10.5	11.5	16.0	13.5	15.0	23.0	19.0	21.0	15.5	14.0	14.5
21	10.5	9.0	10.0	18.5	15.0	16.5	22.5	19.0	21.0	15.5	13.5	14.5
22	9.5	8.5	9.0	19.0	16.5	17.5	22.5	18.5	21.0	16.0	12.5	14.5
23	10.0	8.5	9.0	19.5	17.0	18.0	22.5	19.0	21.0	16.0	13.5	15.0
24	10.0	9.0	9.5	18.5	16.0	17.0	21.5	19.5	20.5	17.0	13.5	15.0
25	11.0	9.5	10.0	16.5	14.5	16.0	22.0	18.5	20.5	17.0	13.5	15.5
26	12.0	10.0	11.0	16.5	13.0	14.5	21.5	18.5	20.0	17.0	14.0	15.5
27	12.0	11.5	11.5	18.0	14.0	16.0	22.0	18.5	20.5	17.0	14.0	15.5
28	12.0	10.5	11.0	20.0	16.0	17.5	22.5	18.5	20.5	16.5	13.0	15.0
29	12.0	10.5	11.0	19.0	17.0	18.0	22.0	18.5	20.5	17.0	13.5	15.5
30	13.0	11.0	12.0	19.5	16.5	18.0	22.0	18.5	20.5	16.5	14.0	15.5
31	14.0	12.0	13.0	---	---	---	21.5	18.5	20.5	16.5	14.5	15.5
Month	14.0	6.0	10.5	20.0	9.0	14.5	23.0	16.0	20.3	20.5	12.5	16.5

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS MAY 2007 TO SEPTEMBER 2007			
Day	Max	Min	Mean
September			
1	18.5	15.5	17.0
2	18.5	15.5	17.0
3	18.5	15.5	17.0
4	17.0	15.5	16.5
5	18.5	15.5	17.0
6	17.5	15.5	16.5
7	16.5	14.0	15.5
8	15.5	13.5	14.5
9	15.0	12.0	13.5
10	14.5	11.5	13.0
11	14.5	11.5	13.0
12	15.0	12.0	13.5
13	14.5	11.5	13.0
14	14.0	11.0	12.5
15	14.0	11.5	13.0
16	14.0	12.0	13.0
17	13.5	12.0	12.5
18	12.0	10.5	11.5
19	11.5	11.0	11.0
20	11.0	9.5	10.5
21	11.5	9.0	10.5
22	11.0	9.0	10.5
23	11.0	10.0	10.5
24	11.5	10.0	10.5
25	10.5	9.0	10.0
26	11.5	8.5	10.0
27	11.5	9.0	10.5
28	11.0	9.5	10.5
29	10.5	9.5	10.0
30	9.5	7.5	8.5
31	---	---	---
Month	18.5	7.5	12.8

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment
	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)
	October		November		December		January		February		March	
1	2	2.5	1	1.1	3	5.7	1	1.1	2	2.7	3	4.4
2	1	1.3	1	1.2	3	5.9	2	2.7	2	2.6	3	4.3
3	1	1.3	2	2.6	3	6.0	2	3.6	3	3.5	3	4.3
4	1	1.3	2	2.9	3	5.9	2	3.6	3	3.3	3	4.4
5	1	1.3	2	3.0	3	5.9	2	3.6	3	3.9	6	9.1
6	1	1.3	4	6.5	3	6.2	1	1.8	3	4.2	11	18
7	2	2.5	16	33	3	5.8	1	1.8	2	2.8	18	39
8	2	2.5	50	335	2	3.7	1	1.8	3	4.5	22	63
9	2	2.5	42	287	2	3.7	1	1.7	4	6.2	26	79
10	2	2.5	14	81	2	3.7	1	1.7	4	6.3	23	64
11	2	2.5	8	40	2	3.9	1	1.5	4	6.7	23	65
12	2	2.5	8	35	3	6.1	2	2.2	4	6.5	33	110
13	1	1.3	5	20	4	8.2	2	1.6	4	6.0	45	208
14	2	2.5	4	15	3	6.2	2	2.1	4	5.8	32	146
15	2	2.5	4	14	3	6.3	2	2.4	6	8.9	16	64
16	2	2.7	3	9.6	3	6.2	2	2.5	7	11	14	54
17	2	2.8	3	9.2	3	5.1	1	1.3	8	13	12	48
18	3	4.1	3	8.6	3	3.6	2	2.7	7	12	13	59
19	4	5.5	3	8.2	2	1.9	2	2.8	6	9.8	15	76
20	4	6.1	3	8.0	2	1.9	2	3.1	6	9.9	15	81
21	4	6.1	3	8.3	1	1.0	2	3.2	5	8.3	13	72
22	3	4.6	3	8.7	1	1.1	2	3.6	5	8.0	10	55
23	3	4.5	3	8.5	1	1.4	2	3.4	4	6.5	9	48
24	2	2.9	2	5.5	2	3.1	2	3.2	4	6.4	10	53
25	2	2.9	2	5.5	2	3.2	2	3.1	4	6.3	10	57
26	1	1.4	2	5.1	1	1.8	2	2.9	3	4.7	12	76
27	2	2.8	2	5.0	1	1.9	2	2.7	3	4.6	16	108
28	2	2.7	3	6.5	1	1.8	2	2.6	3	4.5	15	103
29	3	4.0	3	4.9	1	1.8	2	2.5	---	---	11	72
30	2	2.6	3	4.3	1	1.5	2	2.7	---	---	9	56
31	2	2.5	---	---	1	1.2	2	2.5	---	---	8	48
Total	---	88.5	---	983.2	---	121.7	---	78.0	---	178.9	---	1,948.5

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean		Mean		Mean		Mean		Mean		Mean	
	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)	concentration (mg/L)	Sediment discharge (tons/day)
	April		May		June		July		August		September	
1	8	46	63	677	14	124	5	18	3	5.0	2	2.5
2	7	39	68	797	16	145	5	17	3	4.9	2	2.4
3	5	27	86	1,210	19	176	6	20	2	3.1	2	2.4
4	5	26	93	1,410	19	177	6	19	2	3.1	2	2.4
5	5	25	71	985	19	181	6	18	2	3.0	2	2.4
6	6	29	47	580	20	197	5	14	2	3.0	2	2.4
7	6	28	34	382	22	222	5	14	1	1.5	2	2.4
8	6	27	34	366	22	213	4	11	1	1.4	2	2.4
9	6	28	34	380	22	198	3	7.9	1	1.4	2	2.4
10	7	34	40	495	19	162	3	7.6	1	1.4	2	2.4
11	6	29	44	593	18	151	3	7.4	2	2.9	2	2.4
12	6	29	47	662	17	136	3	7.2	2	2.8	2	2.4
13	6	28	49	714	15	112	3	6.9	2	2.8	1	1.2
14	7	32	42	603	13	92	3	6.7	2	2.7	1	1.2
15	8	37	35	462	11	74	3	6.7	2	2.6	2	2.3
16	8	38	31	379	10	63	3	6.5	2	2.6	2	2.3
17	12	58	27	323	10	62	3	6.5	2	2.6	2	2.3
18	13	69	26	319	9	58	2	4.4	2	2.7	1	1.2
19	15	85	28	359	8	48	2	4.3	2	2.7	1	1.2
20	12	67	29	372	8	45	2	4.1	1	1.4	1	1.2
21	12	64	25	310	8	43	2	4.0	1	1.4	2	2.5
22	10	52	21	249	7	36	2	3.8	1	1.4	2	2.5
23	10	51	22	242	8	40	2	3.7	1	1.4	3	4.2
24	10	53	18	183	7	33	2	3.7	1	1.3	3	4.5
25	13	74	17	167	5	23	2	3.7	1	1.3	2	2.9
26	16	99	17	160	5	22	3	5.4	1	1.2	2	2.8
27	18	119	17	152	8	33	3	5.4	1	1.2	2	2.7
28	22	154	15	136	5	20	3	5.4	2	2.5	2	2.6
29	32	262	16	149	5	19	2	3.5	2	2.5	2	2.6
30	48	465	16	147	5	18	2	3.4	2	2.4	2	2.6
31	---	---	16	143	---	---	2	3.4	2	2.4	---	---
Total	---	2,174	---	14,106	---	2,923	---	252.6	---	72.6	---	71.7



Water-Data Report 2007

12340500 CLARK FORK ABOVE MISSOULA, MT

Pend Oreille Basin
Middle Clark Fork Subbasin

LOCATION.--Lat 46°52'38", long 113°55'53" referenced to North American Datum of 1927, in NW ¼ NW ¼ NW ¼ sec.19, T.13 N., R.18 W., Missoula County, MT, Hydrologic Unit 17010204, on right bank 0.2 mi downstream from county road bridge, 2.8 mi east of Missoula, 2.8 mi downstream from Milltown Dam, 3.0 mi downstream from Blackfoot River, and at river mile 361.6.

DRAINAGE AREA.--5,999 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1929 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1316.

REVISED RECORDS.-- WSP 1042: 1936. WSP 1152: 1942. WSP 1246: 1929-30; 1935, drainage area. WSP 1316: 1932-33.

GAGE.--Water-stage recorder. Elevation of gage is 3,198.30 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 27, 1929, nonrecording gage.

REMARKS.--Records are excellent except those for estimated daily discharges, which are poor. Diurnal fluctuations are caused by powerplant at Milltown. Diversions for irrigation of about 120,000 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1908 reached a discharge of 48,000 ft³/s, provided by The Montana Power Company.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,080	1,130	1,450	e1,000	e1,100	1,180	3,210	6,100	6,220	2,490	1,170	881
2	1,080	1,150	e1,500	e1,200	e1,030	1,160	3,120	6,720	6,150	2,350	1,140	870
3	1,090	1,280	e1,470	e1,600	e950	1,130	3,040	8,060	6,190	2,310	1,130	859
4	1,090	1,300	e1,450	e1,650	e1,000	1,180	2,910	9,130	6,230	2,230	1,100	858
5	1,110	1,360	e1,500	1,590	e1,150	1,270	2,840	8,330	6,450	2,150	1,070	865
6	1,120	1,410	1,530	1,430	1,340	1,400	2,790	7,380	7,150	2,070	1,070	915
7	1,150	1,570	1,470	1,360	1,370	1,790	2,710	6,690	8,220	2,010	1,060	912
8	1,130	3,190	1,460	1,390	1,390	2,170	2,700	6,360	8,250	1,950	1,040	895
9	1,140	3,830	1,460	1,380	1,440	2,330	2,760	6,490	7,520	1,900	1,020	897
10	1,160	3,230	1,480	1,380	1,560	2,100	2,900	7,100	7,070	1,860	993	900
11	1,170	2,840	1,560	e1,100	1,560	2,060	2,880	7,870	7,260	1,810	979	902
12	1,180	2,590	1,560	e650	1,510	2,490	2,810	8,320	7,430	1,770	972	894
13	1,170	2,370	1,570	e450	1,390	3,860	2,740	8,700	6,860	1,700	959	876
14	1,170	2,280	1,600	e600	1,330	3,600	2,680	8,730	6,330	1,640	957	873
15	1,180	2,120	1,650	e700	1,340	2,940	2,700	8,100	5,910	1,610	932	873
16	1,220	2,030	1,640	e750	1,440	2,620	2,780	7,450	5,520	1,580	911	869
17	1,320	2,020	e1,400	e800	1,540	2,600	2,820	7,170	5,330	1,590	916	876
18	1,320	1,890	e1,100	e900	1,510	2,780	3,080	7,240	5,290	1,620	927	892
19	1,310	1,830	e950	e1,030	1,460	3,110	3,470	7,420	4,970	1,590	934	932
20	1,430	1,790	e1,000	e1,200	1,400	3,230	3,420	7,420	4,550	1,510	962	974
21	1,530	1,840	e1,030	e1,270	1,390	3,290	3,300	7,380	4,210	1,450	992	1,010
22	1,540	1,900	e1,150	e1,370	1,350	3,170	3,190	7,500	3,990	1,400	1,010	996
23	1,460	1,900	e1,270	e1,350	1,350	3,080	3,140	7,320	3,780	1,370	986	1,140
24	1,400	1,860	e1,350	e1,300	1,330	3,030	3,250	7,000	3,600	1,340	955	1,370
25	1,370	1,830	e1,400	e1,270	1,280	3,130	3,430	6,760	3,450	1,330	930	1,410
26	1,340	1,760	e1,530	e1,200	1,280	3,450	3,710	6,500	3,250	1,360	903	1,350
27	1,320	1,690	e1,600	e1,130	1,260	3,650	3,910	6,140	3,080	1,330	881	1,290
28	1,290	1,620	e1,600	e1,050	1,210	3,750	4,030	6,320	2,880	1,310	876	1,270
29	1,270	1,340	e1,450	e1,000	---	3,610	4,550	6,850	2,720	1,270	870	1,270
30	1,270	1,260	e1,200	e1,030	---	3,400	5,370	6,750	2,590	1,220	852	1,250
31	1,230	---	e1,050	e1,050	---	3,270	---	6,430	---	1,190	851	---
Total	38,640	58,210	43,430	35,180	37,260	81,830	96,240	225,730	162,450	52,310	30,348	30,169
Mean	1,246	1,940	1,401	1,135	1,331	2,640	3,208	7,282	5,415	1,687	979	1,006
Max	1,540	3,830	1,650	1,650	1,560	3,860	5,370	9,130	8,250	2,490	1,170	1,410
Min	1,080	1,130	950	450	950	1,130	2,680	6,100	2,590	1,190	851	858
Ac-ft	76,640	115,500	86,140	69,780	73,910	162,300	190,900	447,700	322,200	103,800	60,200	59,840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2007, BY WATER YEAR (WY)

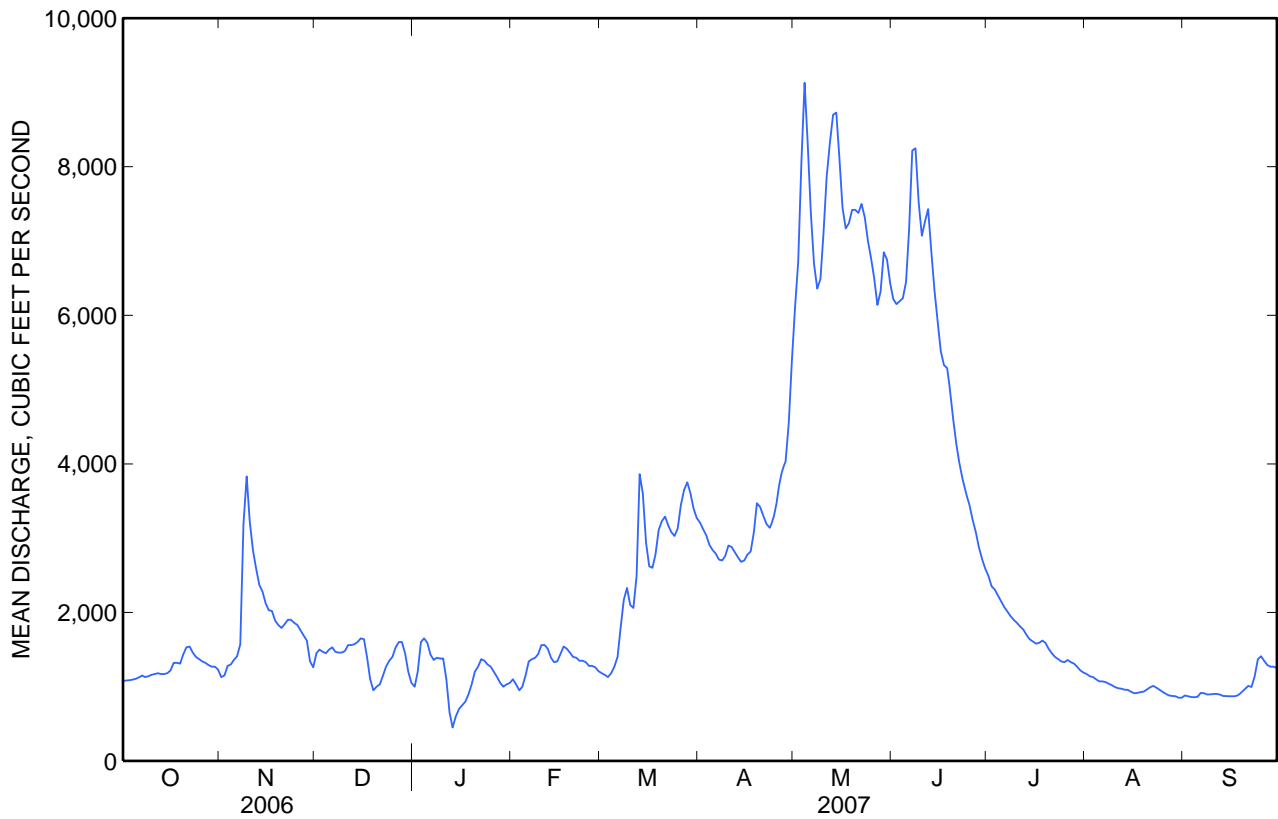
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,545	1,550	1,405	1,318	1,458	1,862	3,714	7,821	8,120	3,097	1,463	1,385
Max	2,987	2,852	3,323	2,546	3,431	4,124	10,080	17,240	19,270	8,759	3,448	2,874
(WY)	(1960)	(1960)	(1976)	(1976)	(1996)	(1986)	(1934)	(1976)	(1975)	(1975)	(1975)	(1965)
Min	854	882	874	606	674	1,037	1,191	2,005	2,122	868	627	653
(WY)	(1936)	(1938)	(1945)	(1937)	(1933)	(1937)	(1941)	(1941)	(1992)	(1931)	(1988)	(1937)

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1929 - 2007	
Annual total	931,182		891,797			
Annual mean	2,551		2,443		2,902	
Highest annual mean					5,071	1976
Lowest annual mean					1,344	1941
Highest daily mean	12,700	May 21	9,130	May 4	30,800	Jun 21, 1975
Lowest daily mean	678	Feb 18	450	Jan 13	340	Sep 27, 1937
Annual seven-day minimum	826	Sep 8	693	Jan 12	446	Jan 7, 1937
Maximum peak flow			9,320	May 4	32,300	Jun 21, 1975
Maximum peak stage			7.06	May 4	13.75	Jun 21, 1975
Instantaneous low flow					^a 115	Oct 25, 1943
Annual runoff (ac-ft)	1,847,000		1,769,000		2,102,000	
10 percent exceeds	6,200		6,390		6,800	
50 percent exceeds	1,400		1,470		1,650	
90 percent exceeds	934		932		1,000	

^a Gage height, 0.64 ft.



12340500 CLARK FORK ABOVE MISSOULA, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1969-71, 1977-83, 1986 to current year. Water years 1969-71 samples collected 3.4 miles downstream from gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1977 to September 1983, February 2002 to September 2002.

TURBIDITY: Apr. 25 to Sept. 30, 2007, discontinued.

SUSPENDED-SEDIMENT DISCHARGE: July 1986 to April 1987, June 1988 to January 1996, March 1996 to March 2003, August 2003 to current year.

REMARKS.--Eleven supplemental samples were collected this year as part of an expanded sampling program for the lower Clark Fork basin.

Missing turbidity data on June 20 and 21, July 6-13, July 31-Aug. 2, Aug. 6-8, Aug. 25-Sept. 3, and Sept. 11 due to excessive fouling of the sensor. Turbidity records are rated good. Daily mean values for partial days are published if more than 50% of the recorded values were present and flow conditions were stable.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 22.5°C, Aug. 7, 8, 1983, July 13-15, 2002; minimum, 0.0°C on many days during winter periods.

TURBIDITY: During period of seasonal collection, maximum, 55 FNU, May 4, 2007; minimum, 1.0 FNU, July 21-24, 2007.

SEDIMENT CONCENTRATION: Maximum daily mean, 592 mg/L, May 18, 1997; minimum daily mean, 1 mg/L, on many days from 1990 to 1994, and 1999 to 2001.

SEDIMENT LOAD: Maximum daily, 42,200 tons, May 18, 1997; minimum daily, 1.6 tons, Dec. 27, 1992.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: During period of seasonal collection, maximum, 55 FNU, May 4; minimum, 1.0 FNU, July 21-24.

SEDIMENT CONCENTRATION: Maximum daily mean, 552 mg/L, Dec. 27; minimum daily mean, 4 mg/L, Jan. 18-19.

SEDIMENT LOAD: Maximum daily, 7,400 tons, May 4; minimum daily, 9.7 tons, Jan. 18.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instan- taneous dis- charge, cfs (00061)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Total nitro- gen, water, unfltrd, by analysis, mg/L (62855)	Phos- phorus, water, unfltrd mg/L (00665)	Arsenic water, fltrd, µg/L (01000)
Oct													
17*...	1400	1,350	--	8.4	349	9.5	7.5	170	45.9	12.7	.33	.056	4.8
Nov													
15...	1000	2,130	3.1	8.3	270	-1.0	2.0	130	35.3	10.2	--	--	3.2
Feb													
28...	0845	1,230	3.2	8.4	320	-4.0	0.5	140	38.2	11.3	--	--	3.8
Mar													
28...	1500	3,760	7.0	8.4	217	12.0	5.5	100	27.1	7.97	--	--	2.3
Apr													
09*...	1500	2,800	--	8.2	247	10.0	8.5	110	31.0	9.00	.27	.035	2.9
23*...	1430	3,010	--	8.3	256	16.0	10.0	120	32.6	9.45	.43	.062	3.6
May													
03*...	1530	8,560	38	8.1	158	5.0	9.0	78	21.0	6.20	.60	.195	2.4
07...	1130	6,540	17	8.2	198	18.0	9.5	89	23.9	7.07	--	--	2.7
14*...	1500	8,890	20	7.9	162	21.0	11.5	77	20.9	6.08	.31	.063	2.6
22*...	1430	7,580	12	8.3	170	19.0	9.0	81	22.0	6.38	.23	.050	2.4
31*...	1630	6,390	--	8.3	206	27.0	15.0	98	26.6	7.60	.28	.059	4.5
Jun													
06*...	1430	7,200	--	8.1	188	6.0	12.0	88	24.1	6.71	.31	.072	4.1
08...	0815	8,370	21	8.2	215	10.0	10.0	98	26.6	7.56	--	--	8.1
12*...	1500	7,620	--	8.2	216	21.0	14.5	99	26.9	7.74	.38	.112	6.7
19*...	1530	5,390	--	8.2	234	29.0	14.5	110	29.4	8.41	.23	.043	5.2
20...	0720	4,440	4.9	8.2	240	14.5	13.5	110	29.7	8.48	--	--	5.1
26*...	1300	4,070	--	8.4	247	24.5	15.0	120	32.4	9.78	.18	.031	4.5
Jul													
25...	0840	1,320	2.4	8.3	272	21.5	20.0	120	31.2	10.5	--	--	3.6
Aug													
29...	0745	873	2.3	8.4	318	9.0	15.0	150	38.5	12.2	--	--	4.1

* Sample collected as part of a supplemental sampling program.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Arsenic	Cadmium	Cadmium	Copper,	Copper,	Iron,	Iron,	Lead,	Lead,	Mangan-	Mangan-	Zinc,	Zinc,
	water, unfltrd µg/L (01002)	water, fltrd, µg/L (01025)	water, unfltrd µg/L (01027)	water, fltrd, µg/L (01040)	water, recover- able, µg/L (01042)	water, fltrd, µg/L (01046)	water, recover- able, µg/L (01045)	water, fltrd, µg/L (01049)	water, recover- able, µg/L (01051)	ese, water, fltrd, µg/L (01056)	ese, water, recover- able, µg/L (01055)	water, fltrd, µg/L (01090)	water, recover- able, µg/L (01092)
Oct													
17*...	7.4	<.04	.27	3.0	27.9	7	674	.12	5.18	15.2	80.7	4.0	60
Nov													
15...	3.6	<.04	.07	1.2	7.9	14	223	<.12	1.09	10.7	24.4	3.0	15
Feb													
28...	4.4	E.03	.13	1.8	12.8	14	182	E.07	1.71	14.7	30.6	3.6	18
Mar													
28...	3.3	E.02	.08	1.6	9.6	22	618	<.12	1.98	8.1	44.7	1.7	22
Apr													
09*...	3.6	<.04	.06	1.7	8.4	14	294	<.12	1.91	9.8	37.7	1.9	15.0
23*...	6.1	<.04	.29	2.2	25.4	15	788	E.07	4.39	14.8	69.8	2.2	54.4
May													
03*...	8.1	<.04	.25	2.0	30.4	32	2,050	E.07	6.53	11.1	143	2.9	52.8
07...	4.8	.05	.13	2.3	20.0	20	798	E.10	3.60	7.2	72.0	2.4	37.8
14*...	4.9	<.04	.21	2.1	22.9	15	793	<.12	3.99	8.1	117	2.5	47.0
22*...	4.0	<.04	.09	1.8	15.4	13	538	<.12	2.47	6.2	53.3	2.4	25.3
31*...	7.0	<.04	.15	2.7	26.5	11	747	<.12	4.05	9.4	71.6	2.4	45.0
Jun													
06*...	7.2	<.04	.20	2.3	29.5	17	994	<.12	5.05	10.4	101	3.2	56.5
08...	16.7	E.03	.57	7.4	86.0	39	2,550	.33	14.1	17.2	233	6.0	140
12*...	12.1	<.04	.46	4.3	58.9	14	1,710	E.08	9.06	17.7	152	3.5	104
19*...	7.0	<.04	.15	2.5	20.7	14	609	<.12	3.14	15.8	64.7	3.3	40.8
20...	7.1	E.02	.21	2.6	23.2	17	682	E.07	6.07	17.6	80.9	2.9	45.5
26*...	5.4	<.04	.11	1.8	13.5	16	361	E.06	1.69	15.4	39.0	2.6	23.1
Jul													
25...	4.0	E.02	.09	1.9	13.9	E5	182	E.08	1.73	9.5	33.0	2.0	16.9
Aug													
29...	4.6	<.04	.10	1.9	11.7	7	244	E.10	1.85	20.7	52.3	2.7	19.8

* Sample collected as part of a supplemental sampling program.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

Date	Sus- s- sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct			
17*...	70	47	171
Nov			
15...	37	18	104
Feb			
28...	65	10	33
Mar			
28...	14	100	1,020
Apr			
09*...	38	32	242
23*...	42	68	553
May			
03*...	28	281	6,490
07...	56	70	1,240
14*...	34	126	3,020
22*...	47	51	1,040
31*...	49	62	1,070
Jun			
06*...	39	93	1,810
08...	44	200	4,520
12*...	39	160	3,290
19*...	29	62	902
20...	43	50	599
26*...	29	40	440
Jul			
25...	81	12	43
Aug			
29...	76	14	33

* Sample collected as part of a supplemental sampling program.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR APRIL 2007 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	April			May			June			July		
1				37.0	25.0	30	17.0	12.0	15	9.5	4.5	6.0
2				34.0	25.0	29	17.0	12.0	14	10.0	4.0	6.5
3				52.0	28.0	37	17.0	12.0	14	---	---	5.5
4				55.0	39.0	44	17.0	12.0	14	9.0	3.5	4.5
5				41.0	26.0	34	19.0	12.0	15	8.5	4.0	5.5
6				28.0	19.0	22	27.0	16.0	19	---	---	---
7				21.0	16.0	18	46.0	26.0	36	---	---	---
8				18.0	14.0	16	47.0	26.0	36	---	---	---
9				17.0	13.0	15	31.0	22.0	27	---	---	---
10				20.0	13.0	16	26.0	18.0	22	---	---	---
11				24.0	17.0	19	30.0	19.0	23	---	---	---
12				24.0	18.0	20	32.0	23.0	28	---	---	---
13				24.0	18.0	21	34.0	21.0	25	---	---	---
14				24.0	18.0	21	35.0	16.0	20	---	---	3.0
15				23.0	15.0	18	23.0	14.0	18	4.0	2.0	3.0
16				17.0	12.0	14	18.0	12.0	16	5.0	1.5	2.5
17				14.0	11.0	12	18.0	12.0	14	5.0	2.0	2.5
18				14.0	10.0	12	15.0	9.0	11	6.5	1.5	3.5
19				14.0	11.0	13	---	---	9.5	8.5	1.5	3.5
20				15.0	11.0	12	---	---	---	3.0	1.5	2.0
21				14.0	11.0	12	---	---	---	3.0	1.0	2.0
22				15.0	11.0	12	---	---	8.5	7.0	1.0	2.0
23				17.0	12.0	14	11.0	7.5	8.5	3.0	1.0	2.0
24				18.0	13.0	15	10.0	6.0	7.5	7.0	1.0	2.0
25	---	---	7.5	16.0	11.0	13	8.5	5.5	7.0	4.0	1.5	2.5
26	11.0	6.5	8.5	15.0	11.0	13	8.5	5.0	6.5	5.5	2.5	3.5
27	13.0	8.5	10	15.0	10.0	12	8.0	5.0	6.0	8.0	3.0	4.5
28	13.0	9.0	11	18.0	9.5	12	8.5	5.5	6.0	6.0	2.5	4.0
29	26.0	11.0	16	25.0	15.0	19	10.0	5.0	6.5	6.5	2.5	4.0
30	38.0	21.0	26	24.0	16.0	18	9.5	5.0	6.0	6.5	2.5	4.0
31	---	---	---	20.0	13.0	16	---	---	---	---	---	---
Month	---	---	---	55	9.5	19	---	---	---	---	---	---

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

**TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT,
780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR APRIL 2007 TO SEPTEMBER 2007**

Day	Max	Min	Mean	Max	Min	Mean
	August			September		
1	---	---	---	---	---	---
2	---	---	---	---	---	---
3	7.5	3.0	4.5	---	---	---
4	7.5	3.0	4.5	---	---	2.5
5	7.5	3.0	4.5	6.0	2.0	3.0
6	---	---	---	5.5	2.5	3.5
7	---	---	---	9.5	2.5	4.5
8	---	---	---	---	---	6.0
9	7.0	3.5	5.0	8.5	2.5	4.0
10	7.0	3.5	5.0	12.0	1.5	5.0
11	7.0	3.0	4.5	---	---	---
12	8.5	3.0	5.0	---	---	3.5
13	9.0	3.0	5.0	8.0	2.5	4.0
14	7.5	2.5	4.0	5.5	2.5	3.5
15	7.0	3.5	5.0	9.0	3.0	4.5
16	7.0	3.0	4.5	9.0	2.5	4.0
17	7.0	3.5	5.0	7.0	2.5	4.0
18	7.0	3.5	5.5	7.0	3.0	4.0
19	7.0	4.0	5.5	9.0	3.0	6.0
20	7.0	3.5	5.0	---	---	5.5
21	8.5	3.5	5.0	6.5	3.5	4.5
22	12.0	4.0	7.0	10.0	3.0	5.5
23	8.0	4.0	5.5	11.0	4.5	6.5
24	---	---	8.0	16.0	7.0	9.0
25	---	---	---	17.0	5.5	9.5
26	---	---	---	12.0	4.5	6.5
27	---	---	---	8.5	3.5	5.5
28	---	---	---	7.5	3.0	4.5
29	---	---	---	7.0	3.0	4.5
30	---	---	---	5.0	2.5	3.5
31	---	---	---	---	---	---
Month	---	---	---	---	---	---

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment
	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)
	October		November		December		January		February		March	
1	50	146	18	55	35	137	169	456	7	21	13	41
2	48	140	18	56	23	93	95	308	7	19	13	41
3	47	138	22	76	19	75	115	497	7	18	13	40
4	48	141	28	98	15	59	161	717	11	30	13	41
5	58	174	36	132	13	53	147	631	84	261	18	62
6	80	242	45	171	13	54	114	440	99	358	34	129
7	95	295	54	229	13	52	83	305	78	289	96	464
8	79	241	140	1,210	14	55	60	225	55	206	158	926
9	70	215	226	2,340	17	67	50	186	52	202	184	1,160
10	64	200	150	1,310	62	248	65	242	44	185	116	658
11	55	174	125	958	63	265	104	309	32	135	80	445
12	48	153	85	594	60	253	151	265	28	114	133	894
13	42	133	65	416	47	199	198	241	28	105	515	5,370
14	41	130	43	265	38	164	177	287	28	101	243	2,360
15	41	131	19	109	31	138	103	195	28	101	102	810
16	39	128	18	99	19	84	36	73	30	117	70	495
17	46	164	18	98	8	30	5	11	57	237	65	456
18	59	210	17	87	8	24	4	9.7	42	171	55	413
19	64	226	17	84	13	33	4	11	41	162	76	638
20	71	274	17	82	18	49	6	19	36	136	107	933
21	75	310	18	89	26	72	9	31	26	98	99	879
22	73	304	17	87	35	109	11	41	23	84	68	582
23	62	244	14	72	44	151	17	62	22	80	55	457
24	53	200	11	55	54	197	22	77	20	72	51	417
25	47	174	10	49	72	272	24	82	16	55	61	516
26	44	159	10	48	488	2,020	19	62	12	41	76	708
27	40	143	12	55	552	2,380	14	43	9	31	106	1,040
28	36	125	14	61	350	1,510	9	26	11	36	106	1,070
29	32	110	44	159	378	1,480	7	19	---	---	75	731
30	28	96	228	776	318	1,030	7	19	---	---	38	349
31	22	73	---	---	240	680	7	20	---	---	40	353
Total	---	5,593	---	9,920	---	12,033	---	5,909.7	---	3,465	---	23,478

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment	Mean	Sediment
	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)	concentration (mg/L)	discharge (tons/day)
	April		May		June		July		August		September	
1	64	555	294	4,840	60	1,010	16	108	12	38	15	36
2	36	303	240	4,350	62	1,030	14	89	12	37	15	35
3	44	361	266	5,790	55	919	12	75	12	37	14	32
4	37	291	300	7,400	53	892	10	60	12	36	14	32
5	47	360	158	3,550	55	958	8	46	12	35	13	30
6	42	316	95	1,890	97	1,870	8	45	12	35	12	30
7	33	241	75	1,350	208	4,620	8	43	12	34	10	25
8	37	270	65	1,120	181	4,030	8	42	12	34	9	22
9	38	283	65	1,140	124	2,520	8	41	12	33	9	22
10	69	540	70	1,340	112	2,140	8	40	12	32	10	24
11	61	474	89	1,890	142	2,780	8	39	13	34	10	24
12	48	364	104	2,340	179	3,590	10	48	13	34	11	27
13	48	355	98	2,300	140	2,590	10	46	14	36	12	28
14	57	412	109	2,570	108	1,850	10	44	14	36	11	26
15	42	306	84	1,840	87	1,390	10	43	14	35	10	24
16	62	465	58	1,170	84	1,250	11	47	14	34	10	23
17	58	442	51	987	79	1,140	11	47	14	35	9	21
18	100	832	51	997	61	871	11	48	14	35	9	22
19	114	1,070	51	1,020	50	671	11	47	14	35	9	23
20	94	868	49	982	51	627	11	45	14	36	11	29
21	120	1,070	42	837	43	489	11	43	15	40	12	33
22	100	861	53	1,070	36	388	11	42	15	41	13	35
23	62	526	61	1,210	38	388	11	41	15	40	19	58
24	62	544	67	1,270	28	272	12	43	14	36	38	141
25	90	833	62	1,130	34	317	12	43	14	35	33	126
26	133	1,330	61	1,070	38	333	14	51	15	37	21	77
27	112	1,180	52	862	28	233	16	57	15	36	18	63
28	134	1,460	50	853	19	148	18	64	15	35	16	55
29	185	2,270	94	1,740	18	132	19	65	15	35	14	48
30	258	3,740	88	1,600	17	119	16	53	15	35	14	47
31	---	---	71	1,230	---	---	13	42	15	34	---	---
Total	---	22,922	---	61,738	---	39,567	---	1,587	---	1,105	---	1,218

Water-Data Report 2007

12342500 WEST FORK BITTERROOT RIVER NEAR CONNER, MT

Pend Oreille Basin
Bitterroot Subbasin

LOCATION.--Lat 45°43'30", long 114°16'50" referenced to North American Datum of 1927, in SE ¼ NE ¼ NW ¼ sec.26, T.1 S., R.22 W., Ravalli County, MT, Hydrologic Unit 17010205, on right bank 0.6 mi downstream from Painted Rocks Lake, 6.4 mi upstream from Nez Perce Creek, 16.1 mi southwest of Conner, and at river mile 19.2.

DRAINAGE AREA.--317 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1941 to current year.

REVISED RECORDS.-- Water Supply Paper 1246: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,581.36 ft, referenced to the National Geodetic Vertical Datum of 1929 (U.S. Forest Service bench mark).

REMARKS.--Records are excellent. Flow is regulated by Painted Rocks Lake (station 12342000). Diversions for irrigation of about 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.

12342500 WEST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	71	60	61	61	61	61	154	252	470	174	218	299
2	71	60	61	61	61	61	154	256	464	168	217	295
3	73	60	61	61	61	61	154	259	459	163	217	295
4	68	60	61	61	61	61	154	610	457	157	217	291
5	61	60	61	61	61	61	154	858	432	151	217	291
6	61	61	61	61	61	61	154	761	440	146	217	287
7	61	61	61	61	61	61	154	676	445	143	243	287
8	62	61	61	61	61	61	155	633	431	139	274	283
9	63	61	61	61	61	61	156	643	406	133	274	282
10	63	61	61	61	61	61	157	743	393	126	274	280
11	59	61	61	61	61	62	157	893	465	122	274	278
12	64	61	61	61	61	62	178	997	445	118	271	275
13	81	61	61	61	61	63	207	1,070	416	116	270	274
14	81	63	61	61	61	64	207	1,070	398	116	270	254
15	81	61	61	61	61	64	207	985	380	117	270	218
16	57	62	61	61	61	64	207	921	364	125	269	217
17	59	62	61	61	61	65	207	888	347	142	269	216
18	60	62	61	61	61	85	207	888	332	134	267	214
19	60	61	61	61	61	125	207	891	314	130	266	214
20	60	61	61	61	61	125	207	884	295	130	266	211
21	60	61	61	61	61	125	207	895	279	156	266	210
22	60	62	61	61	61	127	207	807	234	187	266	207
23	60	63	61	61	61	127	207	720	204	187	263	207
24	60	63	61	61	61	127	207	654	227	187	262	207
25	60	63	61	61	61	128	208	608	223	187	261	205
26	60	62	61	61	61	130	211	560	215	187	259	204
27	60	61	61	61	61	130	211	535	207	187	258	203
28	60	61	61	61	61	132	225	558	199	187	258	200
29	60	61	61	61	---	132	247	531	192	187	257	200
30	61	61	61	61	---	132	249	503	180	202	255	197
31	60	---	61	61	---	146	---	483	---	219	272	---
Total	1,977	1,838	1,891	1,891	1,708	2,825	5,716	22,032	10,313	4,823	7,937	7,301
Mean	63.8	61.3	61.0	61.0	61.0	91.1	191	711	344	156	256	243
Max	81	63	61	61	61	146	249	1,070	470	219	274	299
Min	57	60	61	61	61	61	154	252	180	116	217	197
Ac-ft	3,920	3,650	3,750	3,750	3,390	5,600	11,340	43,700	20,460	9,570	15,740	14,480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	151	109	89.2	82.4	79.0	92.4	200	801	887	262	208	178
Max	484	416	270	243	215	277	719	2,011	1,960	633	439	385
(WY)	(1943)	(1945)	(1960)	(1957)	(1957)	(1952)	(1956)	(1947)	(1964)	(1975)	(1995)	(1973)
Min	52.3	53.3	27.8	21.4	6.80	7.85	8.65	119	118	127	84.5	62.4
(WY)	(1999)	(1988)	(1958)	(1977)	(1944)	(1944)	(1944)	(1977)	(1987)	(1973)	(1945)	(1944)

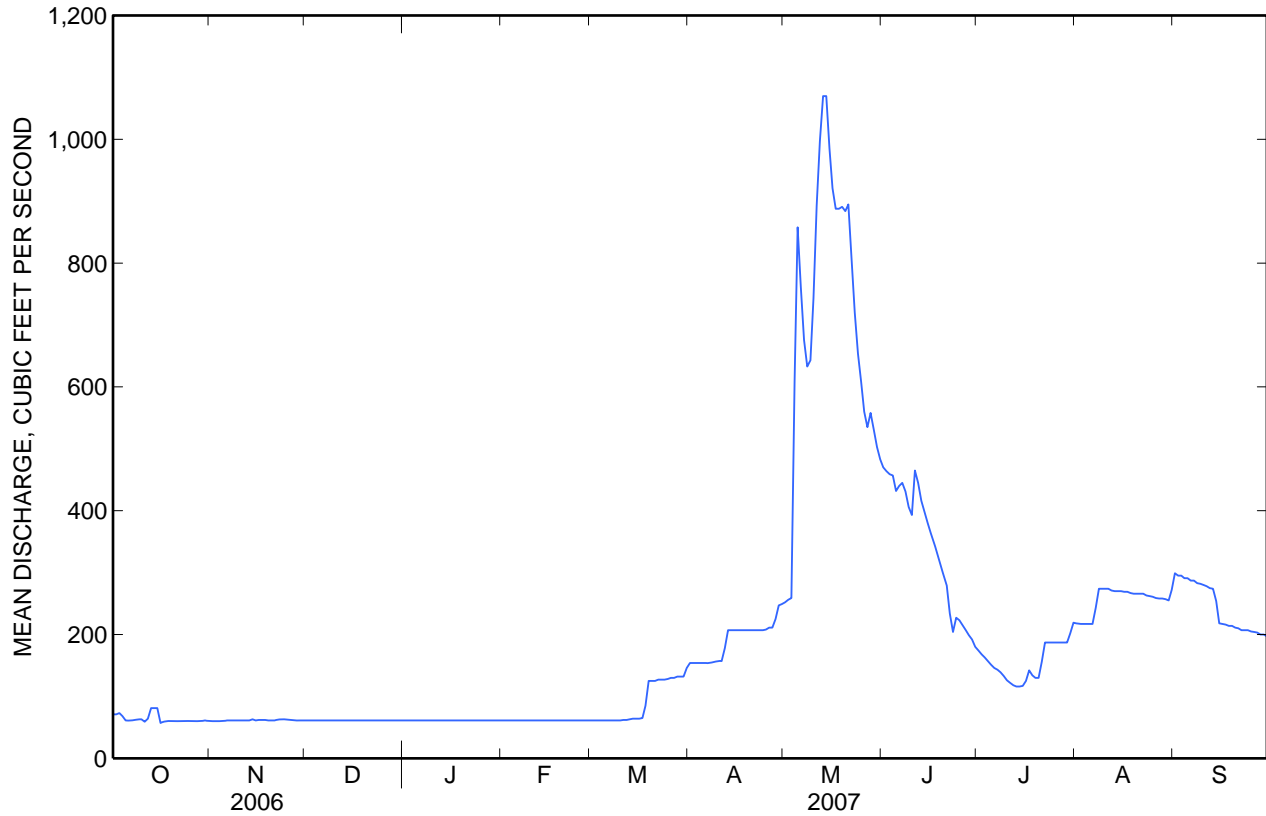
12342500 WEST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1941 - 2007	
Annual total	83,548		70,252			
Annual mean	229		192		263	
Highest annual mean					457	1976
Lowest annual mean					120	1977
Highest daily mean	1,820	May 20	1,070	May 13	3,900	May 9, 1947
Lowest daily mean	57	Oct 16	57	Oct 16	0.60	May 3, 1954 ^a
Annual seven-day minimum	59	Oct 16	59	Oct 16	0.66	May 1, 1954
Maximum peak flow			1,090	May 13	4,060	May 9, 1947
Maximum peak stage			3.36	May 13	6.18	May 9, 1947
Instantaneous low flow					^b 0.20	Nov 25, 1952
Annual runoff (ac-ft)	165,700		139,300		190,800	
10 percent exceeds	682		435		620	
50 percent exceeds	71		128		114	
90 percent exceeds	61		61		58	

^a May 3-7, 1954.

^b Dam shutdown.





Water-Data Report 2007

12343400 EAST FORK BITTERROOT RIVER NEAR CONNER, MT

Pend Oreille Basin
Bitterroot Subbasin

LOCATION.--Lat 45°53'00", long 114°03'53" referenced to North American Datum of 1927, in NE ¼ SW ¼ NE ¼ sec.34, T.2 N., R.20 W., Ravalli County, MT, Hydrologic Unit 17010205, on right bank 10 ft downstream from private bridge, 4.3 mi southwest of Conner, and at river mile 6.1.

DRAINAGE AREA.--381 mi².

GAGE.--None. Elevation of former surface-water gage is 4,191.81 ft, referenced to the National Geodetic Vertical Datum of 1929.

WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 5

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, mg/L (49570)	Total nitrogen, water, unfltrd, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd, mg/L (00665)
Mar 21...	1330	301	7.3	100	8.5	4.0	E.011	.002	.07	.17	.008	.026
May 21...	1115	1,600	7.9	56	3.0	7.0	<.016	E.001	.07	.22	.008	.028
Jun 13...	1215	880	7.8	74	21.0	9.5	<.016	<.002	.06	.15	.010	.028
Aug 09...	1200	87	8.3	113	24.0	14.0	<.016	<.002	.04	.11	.008	.015

Water-Data Report 2007

12343400 EAST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 5

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

Date	Total carbon, suspnd sediment total, mg/L (00694)	Inorganic carbon, suspnd sediment total, mg/L (00688)	Organic carbon, suspnd sediment total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	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)
Mar 21...	.5	<.1	.5	3.4	77	3	2.4
May 21...	1.1	<.1	1.1	--	30	16	69
Jun 13...	.8	<.1	.8	3.5	46	9	21
Aug 09...	.6	<.1	.6	1.7	68	2	.47

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 5

[Remark codes: E, estimated.]

Date	Time	Hard-ness, water, mg/L as CaCO3 (00900)	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 water, fltrd, mg/L (00930)	Alka-linity, wat flt end lab, mg/L as CaCO3 (29801)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
Mar 21...	1330	42	13.5	2.04	1.04	.3	3.94	46	1.61	.15	14.5	3.62
Jun 13...	1215	27	8.87	1.26	.72	.2	2.46	33	.75	E.06	11.9	1.83

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 5

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

Date	Dis-solved solids, sum of consti-tuents mg/L (70301)	Dis-solved solids, tons/ acre-ft (70303)	Dis-solved solids, tons/d (70302)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Chrom-ium, water, fltrd, µg/L (01030)	Chrom-ium, water, unfltrd recover-able, µg/L (01034)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
Mar 21...	68	.09	55.3	.33	.36	E.02	E.02	E.09	<.60	.41	E.8
Jun 13...	48	.06	113	.30	.32	.04	<.02	E.08	<.60	.42	<1.2

12343400 EAST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 5 of 5

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

Date	Lead, water, unfltrd	Lead, water, recover fltrd, -able, µg/L (01049)	Nickel, water, unfltrd	Nickel, water, recover fltrd, -able, µg/L (01065)	Zinc, water, unfltrd	Zinc, water, recover fltrd, -able, µg/L (01090)	Zinc, water, recover fltrd, -able, µg/L (01092)
	Mar 21...	<.12	.23	.21	.30	1.0	E1
Jun 13...	.33	.17	.14	.22	3.8	E1.2	

Water-Data Report 2007

12344000 BITTERROOT RIVER NEAR DARBY, MT

Pend Oreille Basin
Bitterroot Subbasin

LOCATION.--Lat 45°58'20", long 114°08'26" referenced to North American Datum of 1927, in SW ¼ SE ¼ NE ¼ sec.36, T.3 N., R.21 W., Ravalli County, MT, Hydrologic Unit 17010205, on left bank 50 ft upstream from bridge on U.S. Highway 93, 0.3 mi downstream from Chaffin Creek, 4.1 mi southeast of Darby, and at river mile 77.2.

DRAINAGE AREA.--1,049 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1937 to current year. Monthly discharge only for April 1937, published in Water Supply Paper (WSP) 1316.

REVISED RECORDS.-- WSP 1246: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,942.14 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1987, at elevation 1.00 ft higher. Prior to Aug. 2, 1939, nonrecording gage at highway bridge 45 ft upstream at same elevation.

REMARKS.--Records are good except those for estimated daily discharges and those for May to September, which are fair. Some regulation occurs by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 5,000 acres occur upstream from station. Ditch bypassing station irrigates about 500 acres downstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	171	129	300	215	213	233	721	2,700	2,040	713	375	400
2	171	158	291	268	e190	204	705	2,820	2,140	677	372	396
3	176	224	231	320	207	230	657	3,070	2,180	646	368	395
4	176	221	242	303	228	246	655	2,670	2,170	618	363	398
5	181	215	302	255	238	252	645	2,620	2,210	590	358	443
6	203	348	271	240	248	265	689	2,300	2,230	568	365	435
7	206	2,430	263	231	255	287	750	2,080	2,000	557	363	412
8	193	3,080	255	261	275	337	847	2,090	1,870	530	405	402
9	192	1,200	256	248	298	341	988	2,370	1,800	493	404	402
10	190	776	259	245	302	346	971	3,100	1,820	463	403	399
11	188	631	262	189	294	359	900	3,510	2,300	441	397	394
12	183	536	260	e120	304	423	854	3,730	2,040	418	396	388
13	190	490	290	e130	290	741	844	3,980	1,920	399	397	381
14	197	453	296	e140	275	796	831	3,690	1,830	387	396	378
15	197	395	336	e150	272	676	877	3,220	1,750	386	391	334
16	211	442	286	e170	322	616	863	3,110	1,640	386	386	326
17	197	392	175	e180	288	624	906	3,130	1,620	409	390	326
18	196	371	e160	e170	282	753	1,020	3,220	1,440	432	389	332
19	190	343	193	e190	273	891	967	3,340	1,310	385	380	348
20	249	359	229	e180	272	934	916	3,290	1,260	367	385	346
21	252	372	248	e200	263	869	885	3,290	1,240	353	398	342
22	214	407	273	e220	264	785	877	2,740	1,200	392	389	341
23	201	371	250	238	291	749	912	2,400	1,080	390	381	484
24	196	342	248	233	252	759	977	2,210	1,040	393	374	483
25	195	339	262	223	257	833	1,050	2,120	962	405	366	417
26	192	309	296	217	252	923	1,160	2,010	878	384	362	393
27	188	318	296	204	233	920	1,180	2,070	831	377	359	378
28	184	234	272	192	238	861	1,350	2,430	813	369	357	366
29	182	199	225	193	---	769	1,910	2,120	805	367	359	367
30	188	218	202	213	---	732	2,600	1,980	760	364	357	362
31	149	---	213	217	---	735	---	1,990	---	384	359	---
Total	5,998	16,302	7,942	6,555	7,376	18,489	29,507	85,400	47,179	14,043	11,744	11,568
Mean	193	543	256	211	263	596	984	2,755	1,573	453	379	386
Max	252	3,080	336	320	322	934	2,600	3,980	2,300	713	405	484
Min	149	129	160	120	190	204	645	1,980	760	353	357	326
Ac-ft	11,900	32,340	15,750	13,000	14,630	36,670	58,530	169,400	93,580	27,850	23,290	22,950

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	349	314	277	249	268	356	971	2,861	2,992	955	411	349
Max	1,020	788	765	421	791	1,011	2,530	5,995	6,235	2,608	751	634
(WY)	(1947)	(1947)	(1947)	(1947)	(1996)	(1972)	(1943)	(1947)	(1964)	(1975)	(1975)	(1941)
Min	143	144	138	125	125	139	306	1,110	678	210	141	129
(WY)	(1938)	(1988)	(1988)	(1988)	(1941)	(1944)	(1937)	(1977)	(1987)	(1940)	(1940)	(1937)

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

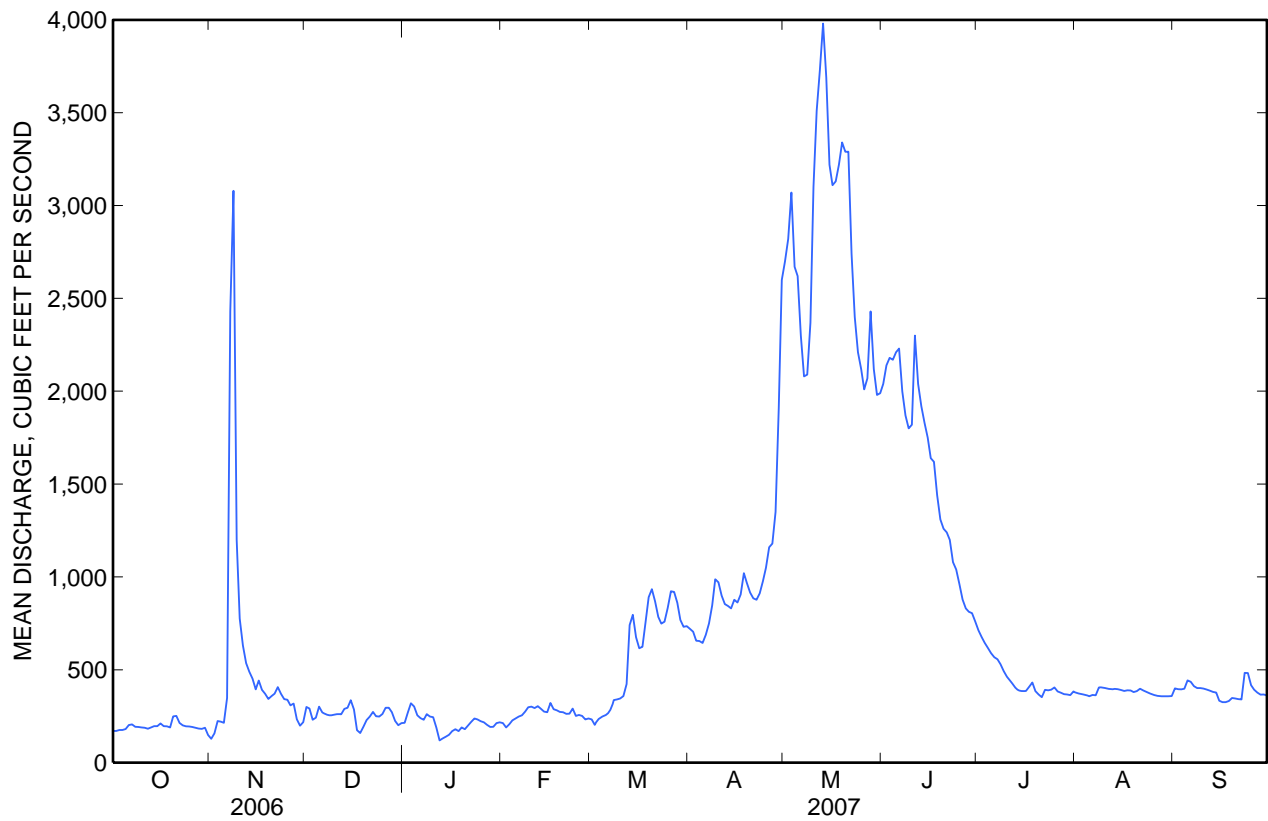
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1937 - 2007	
Annual total	309,049		262,103			
Annual mean	847		718		869	
Highest annual mean					1,423	1976
Lowest annual mean					454	1987
Highest daily mean	7,370	May 20	3,980	May 13	11,000	May 9, 1947
Lowest daily mean	110	Feb 18	120	Jan 12	80	Feb 9, 1939
Annual seven-day minimum	168	Feb 15	151	Jan 12	98	Jan 1, 1988
Maximum peak flow			4,410	Nov 8	^b 11,500	May 9, 1947
Maximum peak stage			5.60	Nov 8	8.45	May 31, 2003
Instantaneous low flow			^a 95	Nov 1	^c 71	Feb 9, 1939
Annual runoff (ac-ft)	613,000		519,900		629,500	
10 percent exceeds	2,470		2,070		2,330	
50 percent exceeds	331		378		366	
90 percent exceeds	196		194		195	

^a Gage height, 0.76 ft.

^b Gage height, 8.18 ft, datum then in use.

^c Observed.



12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1997-98, October 2000 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Seasonal records 2001-2003; full-year records for water years 2004-2006.

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

EXTREMES FOR PERIOD OF DAILY RECORD. --

WATER TEMPERATURE: Maximum, 24.5°C, Aug. 8, 2001; minimum, 0.0°C during winter periods.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Nitrate +		Partic- ulate nitro- gen, susp, water, mg/L (49570)	Total nitro- gen, water, unfltrd, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Total phos- phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)
							nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)					
Mar 21...	1500	885	7.6	65	10.5	5.5	.023	.003	.02	.16	E.006	.019	.4
May 21...	1230	3,360	7.7	42	8.5	7.0	<.016	<.002	.04	.24	E.005	.019	.5
Jun 13...	1430	1,900	7.6	49	21.5	11.0	<.016	<.002	.04	.14	.007	.015	.6
Aug 09...	1315	411	7.7	67	25.5	15.5	E.008	<.002	.03	.10	.006	.009	.4

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

[Remark codes: <, less than.]

Date	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	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)
May 21...	<.1	.5	--	34	14	127
Jun 13...	<.1	.6	2.7	54	7	36
Aug 09...	<.1	.4	2.0	60	1	1.1

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 5

[Remark codes: E, estimated.]

Date	Time	Hard- ness, water, mg/L as CaCO ₃ (00900)	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, water, fltrd, mg/L (00930)	Alka- linity, wat flt fxd end lab, mg/L as CaCO ₃ (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
Mar 21...	1500	22	7.18	1.06	.61	.2	2.40	30	.83	.19	12.0	2.54
Jun 13...	1430	20	6.58	.948	.61	.2	2.10	25	.50	E.08	10.0	1.41

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 5

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

Date	Dis- solved solids, sum of consti- tuents mg/L (70301)	Dis- solved solids, tons/ acre-ft (70303)	Dis- solved solids, tons/d (70302)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Chrom- ium, water, fltrd, µg/L (01030)	Chrom- ium, water, unfltrd recover- able, µg/L (01034)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover- able, µg/L (01042)
Mar 21...	45	.06	107	.17	.26	.04	E.01	<.12	<.60	.90	E1.0
Jun 13...	37	.05	189	.22	.26	E.02	<.02	.12	<.60	.78	E1.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 5 of 5

[Remark codes: E, estimated.]

Date	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover- able, µg/L (01051)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover- able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover- able, µg/L (01092)
Mar 21...	E.09	.23	.14	.22	1.4	E1
Jun 13...	E.11	.14	.10	E.12	.60	E1.2



Water-Data Report 2007

12350250 BITTERROOT RIVER AT BELL CROSSING, NEAR VICTOR, MT

Pend Oreille Basin
Bitterroot Subbasin

LOCATION.--Lat 46°26'36", long 114°07'22" referenced to North American Datum of 1927, in NW ¼ NW ¼ NE ¼ sec.20, T.8 N., R.20 W., Ravalli County, MT, Hydrologic Unit 17010205, on right bank 20 ft downstream from highway bridge at Bell Crossing, 1.5 mi northeast of Victor, 2.0 mi upstream from Big Creek, and at river mile 38.3.

DRAINAGE AREA.--1,963 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1987 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 3,330 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Seasonal records are fair. Some regulation occurs by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 80,000 acres occur upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

12350250 BITTERROOT RIVER AT BELL CROSSING, NEAR VICTOR, MT—Continued

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

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1							3,110	174	229			
2							2,200	180	247			
3							1,360	178	241			
4							981	178	235			
5							762	187	250			
6							640	198	273			
7							507	193	256			
8							424	197	245			
9							490	217	246			
10							400	223	245			
11							343	217	246			
12							324	223	242			
13							274	225	235			
14							235	223	261			
15							210	222	273			
16							214	218	246			
17							224	235	268			
18							266	235	323			
19							239	224	360			
20							206	224	368			
21							191	235	378			
22							186	235	393			
23							190	226	574			
24							197	213	690			
25							200	201	583			
26							209	190	528			
27							203	186	506			
28							187	188	490			
29							167	198	497			
30							174	200	483			
31							171	206	---			
Total							15,484	6,449	10,411			
Mean							499	208	347			
Max							3,110	235	690			
Min							167	174	229			
Ac-ft							30,710	12,790	20,650			

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1987 - 2007

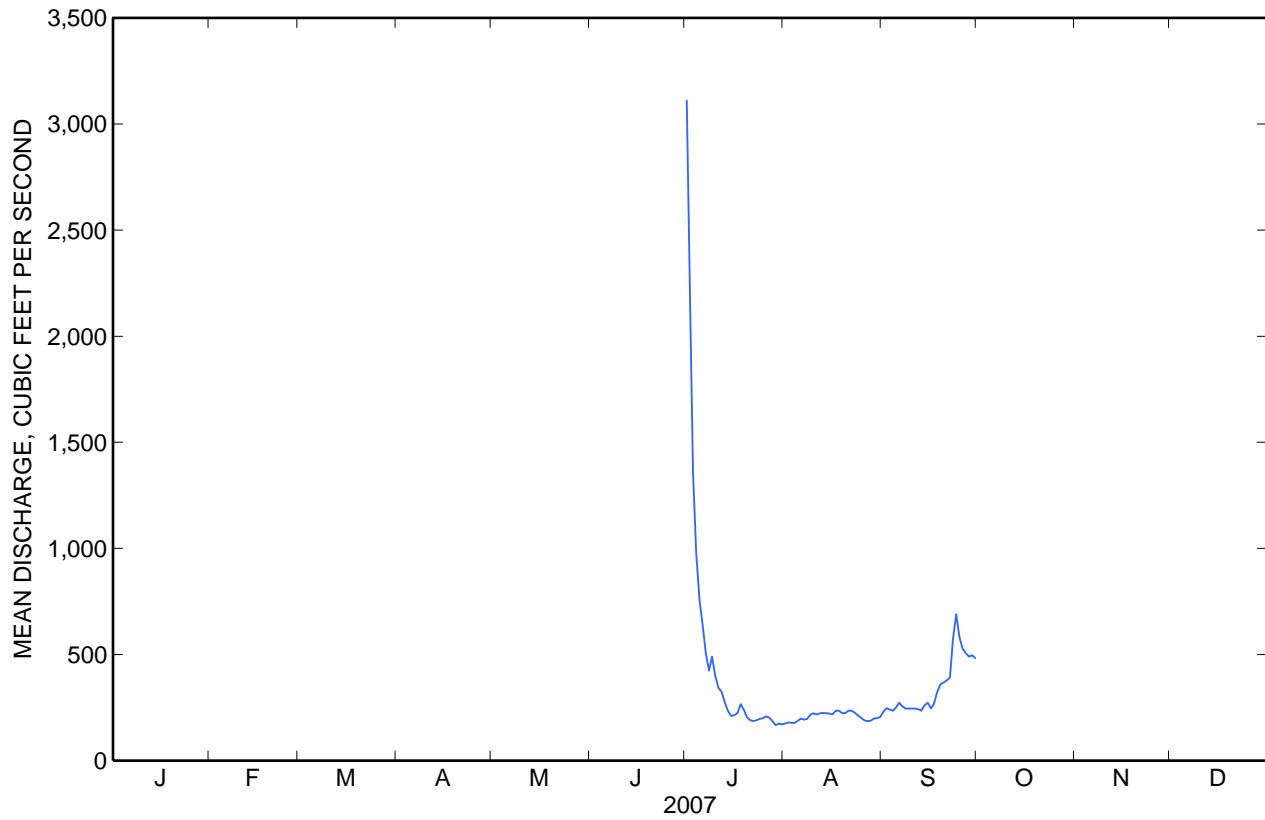
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean				1,713	3,769	5,158	1,109	368	393			
Max				3,052	5,177	11,060	2,665	670	890			
(WY)				(1990)	(2003)	(1996)	(1996)	(1993)	(2004)			
Min				747	3,092	1,372	207	95.8	145			
(WY)				(1991)	(1987)	(1987)	(1987)	(1988)	(1987)			

12350250 BITTERROOT RIVER AT BELL CROSSING, NEAR VICTOR, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1987 - 2007	
Highest daily mean	3,110	Jul 1	17,500	Jun 9, 1996
Lowest daily mean	167	Jul 29	63	Jul 16, 1987
Maximum peak flow			^a 18,700	Jun 9, 1996
Maximum peak stage			10.82	May 31, 2003
Instantaneous low flow			60	Jul 16, 1987

^a Gage height, 10.07 ft.



Water-Data Report 2007

12351200 BITTERROOT RIVER NEAR FLORENCE, MT

Pend Oreille Basin
Bitterroot Subbasin

LOCATION.--Lat 46°38'00", long 114°03'00" referenced to North American Datum of 1927, in SW ¼ SE ¼ SE ¼ sec.12, T.10 N., R.20 W., Ravalli County, MT, Hydrologic Unit 17010205, on right bank 85 ft upstream from bridge on State Secondary Highway 203, 1.3 mi east of Florence, 240 ft upstream from Eightmile Creek, and at river mile 22.7.

DRAINAGE AREA.--2,354 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1957 to December 1965, October 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,200 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1966, nonrecording gage at different datum.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Some regulation occurs by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 105,000 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	548	533	1,050	696	619	673	1,930	5,870	4,780	1,420	397	466
2	541	507	1,080	765	581	635	1,880	6,220	5,250	1,310	402	481
3	541	559	972	837	633	619	1,790	7,010	5,660	1,220	409	477
4	544	633	918	894	624	672	1,750	6,380	5,970	1,140	403	479
5	550	667	978	839	652	674	1,740	5,370	6,350	1,070	410	482
6	566	897	985	773	710	686	1,740	4,730	6,390	1,010	428	506
7	576	5,200	932	755	719	714	1,820	4,160	5,910	953	424	512
8	573	11,400	903	767	730	755	1,960	3,960	5,080	881	421	487
9	562	6,620	884	779	787	812	2,250	4,430	4,600	814	425	482
10	554	3,680	880	779	829	831	2,500	5,840	4,610	726	440	480
11	552	2,800	875	e670	802	845	2,350	7,260	5,480	618	435	485
12	547	2,370	882	e570	824	948	2,230	7,590	5,420	573	439	483
13	541	2,080	930	e530	817	1,790	2,100	8,150	4,890	542	453	477
14	539	1,890	1,020	e550	779	2,410	2,020	7,640	4,600	505	458	478
15	544	1,690	1,140	e670	767	2,250	2,020	6,670	4,430	471	459	512
16	549	1,660	1,170	e730	804	2,010	2,070	6,350	4,080	449	455	493
17	563	1,720	915	e730	826	1,900	1,870	6,550	4,100	487	461	484
18	565	1,520	e760	e710	787	2,010	2,110	7,070	3,750	508	469	527
19	563	1,420	e730	680	772	2,310	2,190	7,480	3,230	511	468	579
20	603	1,370	e780	691	760	2,460	1,970	7,430	3,010	481	467	606
21	694	1,510	e820	699	768	2,470	1,840	7,400	2,970	454	481	609
22	698	1,600	845	676	748	2,280	1,800	6,760	2,920	437	489	620
23	659	1,540	852	682	753	2,130	1,790	5,570	2,770	432	479	731
24	636	1,440	862	696	753	2,060	1,860	4,910	2,540	447	465	954
25	621	1,380	848	677	720	2,140	2,020	4,670	2,290	447	453	924
26	613	1,310	890	653	717	2,390	2,300	4,400	2,020	451	434	846
27	606	1,260	912	633	699	2,480	2,430	4,430	1,760	455	427	800
28	597	1,170	886	601	680	2,390	2,590	5,490	1,650	441	430	772
29	587	996	821	584	---	2,200	3,530	5,280	1,630	418	442	785
30	587	909	720	601	---	2,070	4,830	4,580	1,550	405	443	767
31	578	---	690	621	---	1,990	---	4,550	---	402	455	---
Total	17,997	62,331	27,930	21,538	20,660	50,604	65,280	184,200	119,690	20,478	13,721	17,784
Mean	581	2,078	901	695	738	1,632	2,176	5,942	3,990	661	443	593
Max	698	11,400	1,170	894	829	2,480	4,830	8,150	6,390	1,420	489	954
Min	539	507	690	530	581	619	1,740	3,960	1,550	402	397	466
Ac-ft	35,700	123,600	55,400	42,720	40,980	100,400	129,500	365,400	237,400	40,620	27,220	35,270

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,092	1,100	928	800	904	1,029	2,294	6,110	7,667	1,846	688	921
Max	3,025	2,078	1,604	1,365	1,795	1,632	3,599	9,886	13,180	4,060	1,288	2,012
(WY)	(1960)	(2007)	(1959)	(1965)	(1963)	(2007)	(1965)	(1958)	(1964)	(1964)	(1965)	(1965)
Min	566	585	561	561	607	644	1,157	4,321	3,990	661	399	537
(WY)	(1961)	(2003)	(2003)	(2004)	(2004)	(1964)	(2005)	(1960)	(2007)	(2007)	(1961)	(2006)

* During periods of operation (September 1957 to December 1965, October 2002 to current year).

12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

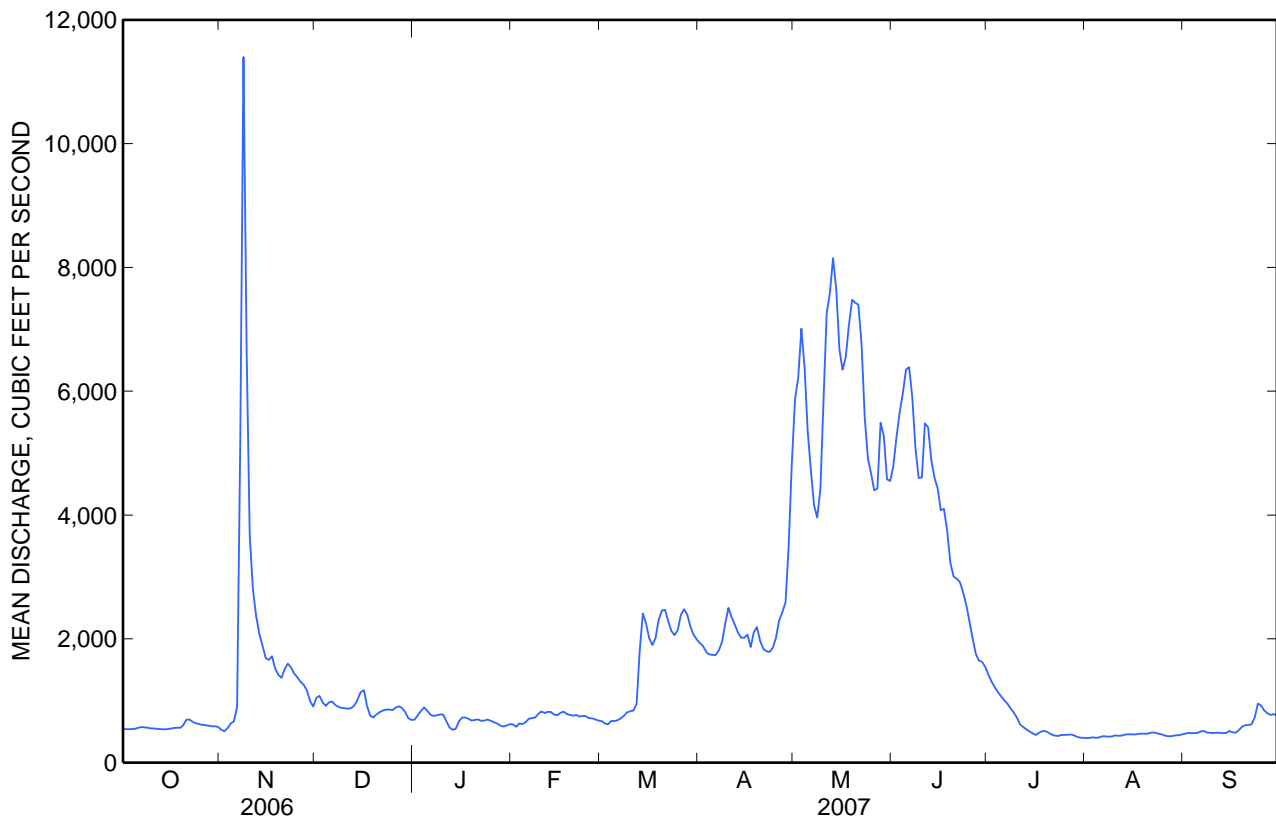
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1957 - 2007*	
Annual total	740,590		622,213			
Annual mean	2,029		1,705		2,109	
Highest annual mean					3,070	1965
Lowest annual mean					1,420	2005
Highest daily mean	15,600	May 20	11,400	Nov 8	19,600	Jun 9, 1964
Lowest daily mean	350	Feb 18	397	Aug 1	270	Dec 8, 2005
Annual seven-day minimum	445	Sep 9	404	Jul 30	372	Aug 17, 1961
Maximum peak flow			12,700	Nov 8	^a 20,300	Jun 9, 1964
Maximum peak stage			11.54	Nov 8	13.43	Jun 1, 2003
Instantaneous low flow					^b 365	Aug 20, 1961
Annual runoff (ac-ft)	1,469,000		1,234,000		1,528,000	
10 percent exceeds	5,530		4,800		5,530	
50 percent exceeds	806		814		940	
90 percent exceeds	508		463		558	

* During periods of operation (September 1957 to December 1965, October 2002 to current year).

^a Gage height, 10.82 ft, from graph based on gage readings, datum then in use.

^b Observed.



12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to September 1997, March 2004 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Total nitrogen, wat unfltrd, by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)
Mar 22...	0945	2,290	7.8	65	4.0	4.0	.031	E.001	.09	.17	E.004	.018	.8
May 22...	0915	6,940	7.5	52	8.0	7.0	.020	<.002	.06	.23	E.005	.027	.6
Jun 14...	0845	4,600	7.7	64	15.5	12.0	.019	<.002	.09	.17	.008	.019	1.2
Aug 10...	1030	445	7.8	166	20.0	17.0	E.013	E.001	.06	.21	.009	.020	.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Mar 22...	<.1	.8	2.3	64	9	56
May 22...	<.1	.6	--	38	34	637
Jun 14...	<.1	1.2	2.5	62	10	124
Aug 10...	<.1	.6	2.1	78	3	3.6

12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

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

Date	Time	Hard- ness, water, mg/L as CaCO3 (00900)	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 water, fltrd, mg/L (00930)	Alka- linity, wat flt lab, mg/L as CaCO3 (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)
Mar 22...	0945	27	8.27	1.56	.85	.2	2.98	31	1.03	.11	10.5	2.44	47
Jun 14...	0845	22	6.57	1.28	.69	.2	2.13	31	.74	E.08	9.4	1.44	41

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis- solved, tons/d (70302)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Chrom- ium, water, fltrd, µg/L (01030)	Chrom- ium, water, unfltrd recover- able, µg/L (01034)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover- able, µg/L (01042)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover- able, µg/L (01051)	Nickel, water, fltrd, µg/L (01065)
Mar 22...	.06	288	.23	.32	E.02	E.01	<.12	<.60	.44	E1.0	<.12	.21	.12
Jun 14...	.06	511	.25	.37	.07	<.02	<.12	<.60	.68	E.83	.16	.24	.25

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

Part 3 of 3

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

Date	Nickel, water, unfltrd recover- able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover- able, µg/L (01092)
Mar 22...	.21	.64	E2
Jun 14...	.20	3.0	2.8



Water-Data Report 2007

12352500 BITTERROOT RIVER NEAR MISSOULA, MT

Pend Oreille Basin
Bitterroot Subbasin

LOCATION.--Lat 46°49'55", long 114°03'11" referenced to North American Datum of 1927, in SW ¼ NW ¼ NE ¼ sec.1, T.12 N., R.20 W., Missoula County, MT, Hydrologic Unit 17010205, on right bank 40 ft downstream from bridge on U.S. Highway 93, 0.5 mi south of Fort Missoula, and at river mile 5.7.

DRAINAGE AREA.--2,814 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1898 to November 1901, May 1903 to December 1904, July 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,110 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1905, nonrecording gage at site 1.5 mi upstream at different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Some regulation occurs by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 111,000 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	619	629	1,210	802	687	783	2,320	6,360	5,280	1,660	471	512
2	611	596	1,270	870	e630	751	2,230	6,800	5,700	1,530	471	522
3	609	634	1,180	967	e560	713	2,130	7,600	6,210	1,430	477	528
4	609	720	1,100	1,040	e650	768	2,060	7,460	6,510	1,340	471	525
5	615	773	1,150	1,010	711	790	2,050	6,230	6,910	1,240	474	529
6	627	848	1,170	926	774	806	2,030	5,560	7,040	1,170	490	542
7	635	3,830	1,120	885	802	833	2,100	4,930	6,800	1,110	492	552
8	639	10,400	1,070	893	821	880	2,240	4,620	5,870	1,040	488	539
9	633	8,810	1,040	922	881	950	2,520	4,930	5,290	969	485	533
10	623	4,630	1,050	920	946	984	2,860	6,180	5,150	896	495	530
11	622	3,440	1,060	e770	940	1,000	2,790	7,660	5,890	800	495	535
12	618	2,860	1,060	e650	939	1,100	2,620	8,260	6,140	722	494	534
13	616	2,480	1,100	e520	951	1,910	2,480	8,680	5,550	677	502	528
14	608	2,240	1,200	e550	916	2,830	2,380	8,630	5,190	635	508	525
15	611	2,000	1,320	e580	890	2,750	2,360	7,630	5,020	598	508	544
16	626	1,900	1,410	e670	914	2,460	2,430	7,100	4,670	571	505	548
17	643	2,010	e1,100	e700	968	2,300	2,280	7,230	4,580	574	505	533
18	656	1,810	e900	e730	937	2,370	2,410	7,690	4,390	601	513	551
19	655	1,670	e830	e780	909	2,700	2,610	8,140	3,790	603	513	591
20	704	1,610	e840	e790	890	2,930	2,390	8,140	3,470	581	516	623
21	793	1,760	e900	e800	891	2,990	2,210	8,060	3,380	552	527	637
22	821	1,870	e960	808	874	2,790	2,140	7,750	3,350	535	535	644
23	777	1,840	e990	807	871	2,600	2,130	6,470	3,230	522	532	718
24	746	1,710	1,000	817	872	2,490	2,180	5,700	2,980	523	520	916
25	727	1,650	993	783	846	2,540	2,370	5,400	2,710	529	506	960
26	716	1,530	1,040	745	837	2,800	2,640	5,090	2,420	522	493	890
27	708	1,490	1,090	720	813	2,960	2,850	4,980	2,110	531	482	838
28	700	1,390	1,070	682	800	2,890	2,960	5,860	1,920	517	483	810
29	688	e1,200	998	652	---	2,670	3,720	6,110	1,870	503	491	806
30	682	e1,050	879	665	---	2,490	5,080	5,250	1,800	489	494	804
31	671	---	815	683	---	2,390	---	5,080	---	477	500	---
Total	20,608	69,380	32,915	24,137	23,520	60,218	75,570	205,580	135,220	24,447	15,436	18,847
Mean	665	2,313	1,062	779	840	1,943	2,519	6,632	4,507	789	498	628
Max	821	10,400	1,410	1,040	968	2,990	5,080	8,680	7,040	1,660	535	960
Min	608	596	815	520	560	713	2,030	4,620	1,800	477	471	512
Ac-ft	40,880	137,600	65,290	47,880	46,650	119,400	149,900	407,800	268,200	48,490	30,620	37,380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	965	1,093	963	885	961	1,268	2,762	6,689	7,958	2,857	963	870
Max	1,570	2,313	3,141	1,791	3,030	2,021	4,944	13,430	21,880	14,510	3,412	1,623
(WY)	(1904)	(2007)	(1996)	(1997)	(1996)	(1997)	(1996)	(1997)	(1899)	(1899)	(1899)	(1899)
Min	568	614	530	542	477	801	1,336	4,039	2,397	789	498	455
(WY)	(1905)	(1905)	(1905)	(1993)	(1994)	(2002)	(2001)	(1990)	(1992)	(2007)	(2007)	(1904)

* During periods of operation (July 1898 to November 1901, May 1903 to December 1904, and July 1989 to current year.)

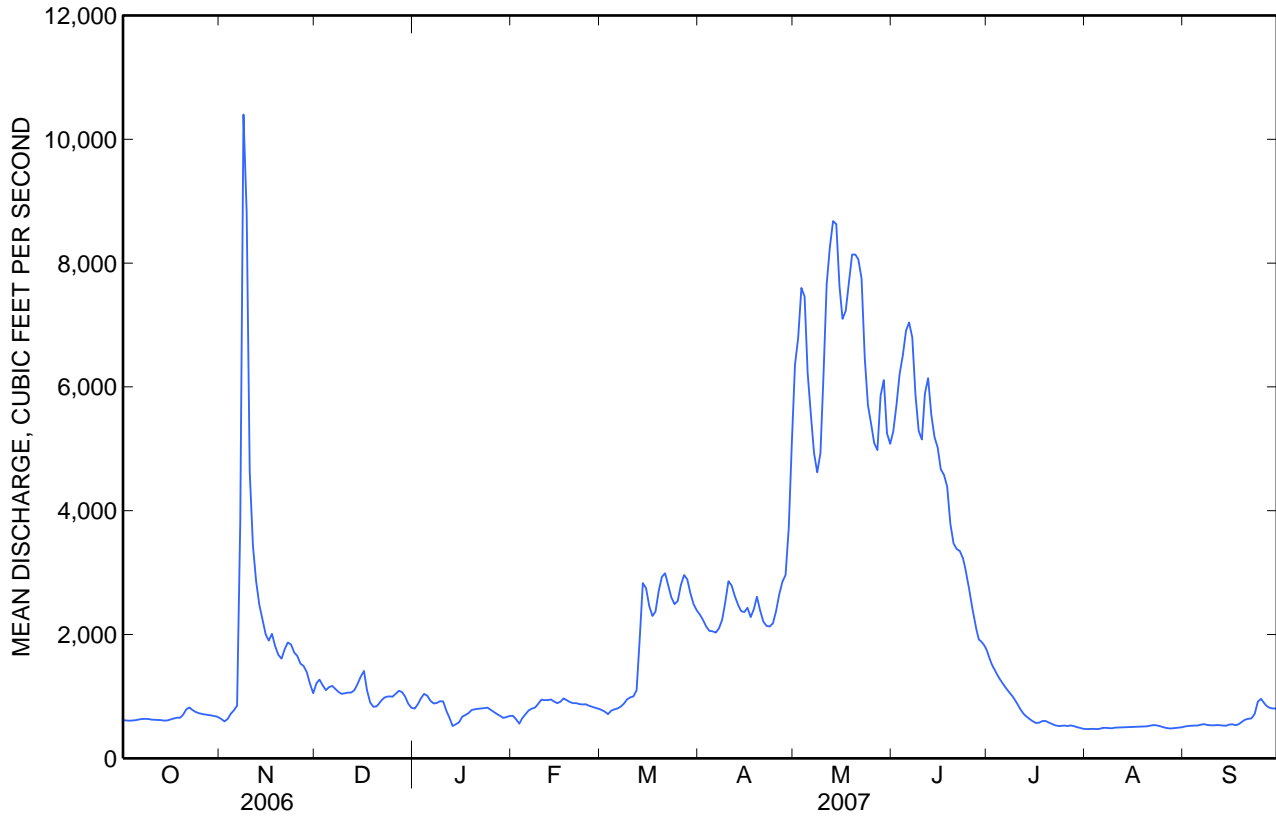
12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1898 - 2007*	
Annual total	846,047		705,878			
Annual mean	2,318		1,934		2,343	
Highest annual mean					4,864	1899
Lowest annual mean					1,366	1992
Highest daily mean	17,300	May 21	10,400	Nov 8	37,400	Jun 20, 1899
Lowest daily mean	300	Feb 18	471	Aug 1	270	Dec 8, 2005
Annual seven-day minimum	481	Feb 16	476	Jul 30	370	Sep 16, 1904
Maximum peak flow			12,200	Nov 8	^a 38,300	Jun 20, 1899
Maximum peak stage			9.27	Nov 8	13.11	May 18, 1997
Instantaneous low flow			468	Aug 1	300	Feb 9, 1994
Annual runoff (ac-ft)	1,678,000		1,400,000		1,697,000	
10 percent exceeds	6,370		5,330		5,980	
50 percent exceeds	914		926		1,060	
90 percent exceeds	576		522		618	

* During periods of operation (July 1898 to November 1901, May 1903 to December 1904, and July 1989 to current year.)

^a Observed gage height, 11.55 ft, site and datum then in use.



12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--May 1997 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1999 to September 2003 (only seasonal records for 2003), October 2004 to current year.

INSTRUMENTATION.--Water temperature probe installed Nov. 4, 1999.

REMARKS. --Ten samples were collected this year as part of a supplemental sampling program for the lower Clark Fork basin to assess water quality and loads associated with the removal of Milltown Dam. Daily water temperature records are rated good. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.0°C, July 23, 2006 and July 14, 2007; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.0°C, July 14; minimum, 0.0°C, many days in November through February.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 4

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	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, water, fltrd, mg/L (00930)	Alka- linity, wat flt fxd end lab, mg/L as CaCO3 (29801)
Oct													
18...	1530	657	8.2	178	6.5	8.5	78	22.9	5.08	--	--	--	--
Mar													
22...	1515	2,760	6.6	72	10.5	5.5	29	8.68	1.89	.85	.2	3.06	32
Apr													
10...	0830	2,860	7.7	68	3.0	7.0	28	8.41	1.81	--	--	--	--
24...	0830	2,150	7.6	84	9.0	9.5	35	10.2	2.21	--	--	--	--
May													
04...	0730	7,800	7.6	44	4.0	6.5	18	5.45	1.15	--	--	--	--
15...	0730	7,760	7.5	48	6.0	10.0	19	5.78	1.16	--	--	--	--
21...	1600	8,040	7.3	45	11.5	9.0	--	--	--	--	--	--	--
23...	0700	6,600	7.5	59	5.5	8.0	25	7.29	1.53	--	--	--	--
Jun													
01...	0630	5,130	7.6	61	11.0	13.5	24	7.26	1.51	--	--	--	--
07...	0700	6,990	7.5	56	8.5	9.5	23	6.68	1.44	--	--	--	--
13...	0630	5,580	7.8	67	12.0	14.0	27	7.97	1.72	--	--	--	--
13...	0915	5,520	7.5	66	14.5	13.5	27	7.95	1.67	.82	.2	2.49	32
20...	0700	3,480	7.6	81	14.0	15.0	33	9.69	2.12	--	--	--	--
27...	0700	2,150	7.8	91	12.5	15.0	37	10.8	2.47	--	--	--	--
Aug													
10...	0745	490	8.0	175	15.0	18.0	--	--	--	--	--	--	--

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

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

Date	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dis- solved solids, sum of consti- tuents mg/L (70301)	Dis- solved solids, tons/ acre-ft (70303)	Dis- solved solids, tons/d (70302)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitro- gen, water, unfltrd, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Total phos- phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)
Oct													
18...	--	--	--	--	--	--	--	--	--	.18	--	E.008	--
Mar													
22...	1.21	.10	11.1	2.38	49	.07	363	.030	.002	.18	E.005	.019	.3
Apr													
10...	--	--	--	--	--	--	--	--	--	.27	--	.025	--
24...	--	--	--	--	--	--	--	--	--	.21	--	.020	--
May													
04...	--	--	--	--	--	--	--	--	--	.36	--	.050	--
15...	--	--	--	--	--	--	--	--	--	.21	--	.034	--
21...	--	--	--	--	--	--	--	E.012	<.002	.17	E.004	.032	1.1
23...	--	--	--	--	--	--	--	--	--	.20	--	.024	--
Jun													
01...	--	--	--	--	--	--	--	--	--	.17	--	.018	--
07...	--	--	--	--	--	--	--	--	--	.21	--	.025	--
13...	--	--	--	--	--	--	--	--	--	.15	--	.020	--
13...	.83	E.07	9.5	1.52	44	.06	658	E.014	E.002	.18	.006	.023	.9
20...	--	--	--	--	--	--	--	--	--	.15	--	.016	--
27...	--	--	--	--	--	--	--	--	--	.18	--	.014	--
Aug													
10...	--	--	--	--	--	--	--	E.014	<.002	.18	.008	.013	.6

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

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

Date	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Chrom- ium, water, fltrd, µg/L (01030)	Chrom- ium, water, unfltrd recover- -able, µg/L (01034)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover- -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover- -able, µg/L (01045)
Oct													
18...	--	--	--	.49	.58	<.04	<.02	--	--	.66	E1.0	23	63
Mar													
22...	<.1	.3	2.4	.25	.29	<.04	E.01	<.12	<.60	.42	E.9	--	--
Apr													
10...	--	--	--	.24	.31	<.04	E.01	--	--	.50	E.93	29	359
24...	--	--	--	.27	.31	<.04	E.01	--	--	.61	E.83	30	196
May													
04...	--	--	--	.27	.39	<.04	E.01	--	--	.87	1.6	32	785
15...	--	--	--	.27	.32	<.04	E.01	--	--	.66	1.3	28	442
21...	<.1	1.1	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	.31	.34	<.04	<.02	--	--	.62	E.92	36	304
Jun													
01...	--	--	--	.26	.32	<.04	<.02	--	--	<.40	E.67	26	214
07...	--	--	--	.28	.34	<.04	E.01	--	--	E.24	E.83	43	362
13...	--	--	--	.33	.42	<.04	<.02	--	--	<.40	E.79	32	290
13...	<.1	.9	2.7	.33	.37	<.04	<.02	<.12	<.60	.58	1.2	--	--
20...	--	--	--	.35	.37	<.04	E.01	--	--	.47	E1.0	40	191
27...	--	--	--	.36	.44	E.02	<.02	--	--	E.34	E.62	31	121
Aug													
10...	<.1	.5	1.9	--	--	--	--	--	--	--	--	--	--

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

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

Date	Lead,	Lead,	Mangan-		Nickel,		Zinc,		Suspd.	Sus-	Sus-
	water,	water,	ese,	ese,	water,	water,	water,	water,	sediment,	pended	pended
	fltrd,	unfltrd	water,	water,	water,	water,	water,	water,	sieve	sediment	sediment
	μg/L	recover	fltrd,	recover	fltrd,	recover	fltrd,	recover	percent	concentration	discharge,
	(01049)	able,	(01056)	able,	(01065)	(01067)	(01090)	(01092)	<.063mm	(80154)	(80155)
		μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L		mg/L	tons/d
Oct											
18...	<.12	<.06	2.5	8.5	--	--	.91	<2	80	1	1.8
Mar											
22...	<.12	.16	--	--	.11	.27	E.59	E1	51	13	97
Apr											
10...	<.12	.30	4.5	20.4	--	--	.90	E1.6	52	21	162
24...	<.12	.16	5.1	14.0	--	--	.76	E1.1	73	9	52
May											
04...	<.12	.70	3.8	33.5	--	--	1.3	3.3	36	96	2,020
15...	<.12	.42	4.4	17.8	--	--	1.6	2.9	32	68	1,420
21...	--	--	--	--	--	--	--	--	46	38	825
23...	<.12	.25	6.9	15.6	--	--	.97	2.0	32	36	642
Jun											
01...	<.12	.16	3.9	10.3	--	--	E.41	E1.2	48	16	222
07...	<.12	.28	5.2	15.8	--	--	.83	2.2	39	32	604
13...	<.12	.22	3.9	12.3	--	--	E.31	E1.4	39	20	301
13...	E.10	.29	--	--	.23	.26	1.4	2.4	50	17	253
20...	<.12	.15	4.3	11.2	--	--	.74	2.1	68	7	66
27...	<.12	.08	3.4	8.4	--	--	.98	E1.1	80	4	23
Aug											
10...	--	--	--	--	--	--	--	--	82	2	2.6

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	15.0	12.0	13.5	4.5	2.5	3.5	2.0	0.5	1.5	1.0	0.0	0.5
2	14.5	12.0	13.0	4.5	3.0	4.0	2.0	1.0	1.5	2.5	1.0	1.5
3	15.0	12.0	13.5	6.0	4.5	5.5	1.5	0.5	1.0	3.5	2.5	3.0
4	15.0	12.0	13.5	7.5	6.0	6.5	1.5	0.5	1.0	3.5	2.5	3.0
5	15.0	12.5	13.5	8.5	7.0	8.0	3.0	1.5	2.0	2.5	1.5	2.0
6	16.0	13.5	14.5	9.5	8.5	9.0	2.5	1.5	2.0	1.5	0.5	1.0
7	14.5	12.5	14.0	10.0	8.5	9.0	2.0	1.0	1.5	1.5	0.5	1.0
8	12.5	11.0	11.5	8.5	7.0	7.5	1.5	1.0	1.0	3.0	1.5	2.5
9	11.0	9.5	10.5	7.0	5.5	6.0	1.5	0.5	1.0	3.5	2.5	3.0
10	10.0	7.5	9.0	5.5	5.0	5.5	1.5	0.5	1.0	3.0	1.5	2.5
11	11.5	8.0	9.5	6.0	5.5	6.0	3.0	1.5	2.0	1.5	0.0	0.5
12	11.5	8.5	10.0	6.0	5.0	5.5	4.0	2.5	3.0	1.0	0.0	0.5
13	11.5	9.0	10.5	5.5	5.0	5.0	4.0	3.5	3.5	0.5	0.0	0.0
14	12.0	9.0	10.5	5.5	4.5	5.0	3.5	3.0	3.5	1.0	0.0	0.5
15	11.0	10.0	10.0	5.0	4.0	4.5	4.0	3.0	3.5	0.5	0.0	0.5
16	10.5	9.5	10.0	6.5	4.5	5.5	3.0	1.0	2.0	0.5	0.0	0.5
17	11.0	8.5	9.5	5.5	4.0	4.5	1.5	0.0	0.5	0.5	0.0	0.0
18	9.5	8.5	9.0	4.5	3.5	4.0	0.5	0.0	0.5	0.5	0.0	0.0
19	9.5	8.5	9.0	4.5	3.5	4.0	0.5	0.5	0.5	0.5	0.0	0.0
20	10.0	9.0	9.5	5.5	4.5	5.0	0.5	0.5	0.5	0.5	0.0	0.0
21	10.5	8.5	9.5	6.5	5.5	6.0	0.5	0.5	0.5	0.5	0.0	0.5
22	10.0	7.5	9.0	6.0	5.0	5.5	1.0	0.0	0.5	1.0	0.0	0.5
23	9.0	7.5	8.0	5.0	4.0	4.5	1.0	0.5	0.5	1.0	0.5	1.0
24	9.0	7.0	8.0	4.5	3.5	4.0	1.5	0.5	1.0	1.5	0.0	0.5
25	9.5	7.5	8.5	4.0	3.0	3.5	2.0	1.0	1.5	2.0	0.5	1.0
26	8.5	7.0	8.0	3.5	2.0	2.5	3.0	2.0	2.5	2.0	0.5	1.0
27	9.0	7.0	8.0	3.0	2.5	2.5	3.0	2.5	3.0	1.5	0.0	1.0
28	8.5	6.5	7.5	2.5	1.0	1.5	2.5	2.0	2.5	1.5	0.0	0.5
29	8.5	6.0	7.5	1.0	0.0	0.5	2.0	1.0	1.5	0.5	0.0	0.5
30	7.5	4.0	6.0	1.0	0.0	0.5	1.0	0.5	1.0	1.0	0.0	0.5
31	5.0	3.0	4.0	---	---	---	1.0	0.0	0.5	1.0	0.0	0.5
Month	16.0	3.0	10.0	10.0	0.0	5.0	4.0	0.0	1.5	3.5	0.0	1.0

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	1.0	0.0	0.5	3.5	2.0	2.5	8.5	6.5	7.5	11.5	9.5	10.5
2	1.0	0.0	0.5	4.0	1.5	2.5	8.5	7.0	7.5	11.0	10.0	10.5
3	0.5	0.0	0.5	4.0	2.0	3.0	8.5	5.5	7.0	10.5	7.5	8.5
4	1.5	0.0	1.0	5.5	2.5	4.0	7.5	5.5	6.0	7.5	6.0	6.5
5	3.5	1.5	2.5	6.5	4.0	5.0	9.5	6.0	7.5	8.5	6.0	7.5
6	4.0	2.5	3.0	8.5	5.0	6.5	10.0	7.5	9.0	10.5	7.5	9.0
7	3.0	2.0	3.0	7.5	5.5	6.5	11.0	7.5	9.0	12.0	9.5	10.5
8	3.5	2.5	3.0	7.5	6.0	6.5	11.0	8.0	9.5	13.5	11.0	12.0
9	3.5	3.0	3.5	7.5	5.5	6.5	10.5	8.5	9.5	14.0	12.0	13.0
10	4.0	3.0	3.5	7.5	5.5	6.5	8.5	7.0	7.5	13.5	11.5	12.5
11	4.0	3.0	3.5	7.5	6.0	7.0	8.0	6.0	7.0	12.0	10.0	11.5
12	3.5	2.5	3.5	9.0	6.5	7.5	8.0	6.0	7.0	12.0	10.5	11.5
13	3.5	2.0	3.0	8.5	6.0	7.0	9.5	6.0	7.5	12.0	10.0	11.0
14	4.0	3.0	3.5	6.5	5.5	6.0	10.0	7.5	9.0	11.5	9.5	10.5
15	4.0	3.0	3.5	6.5	5.0	5.5	10.5	9.0	9.5	12.0	9.5	11.0
16	4.0	3.0	3.5	6.0	5.5	5.5	10.0	7.5	8.5	12.5	10.5	11.5
17	5.0	3.0	4.0	8.0	5.0	6.5	9.5	8.5	9.0	13.0	11.0	12.0
18	4.0	3.0	3.5	9.0	6.5	8.0	8.5	6.5	7.5	13.5	11.5	12.5
19	4.0	2.5	3.0	9.0	7.0	7.5	7.5	6.0	6.5	13.5	11.0	12.5
20	4.5	3.0	3.5	8.0	6.5	7.0	8.5	6.0	7.0	13.0	10.5	11.5
21	4.0	2.0	3.0	7.0	5.0	6.0	10.0	6.0	8.0	10.5	8.0	9.0
22	4.0	3.0	3.5	6.5	5.5	5.5	11.5	8.5	9.5	9.0	7.0	8.0
23	4.0	3.0	3.5	8.5	5.5	6.5	12.5	9.5	11.0	10.5	8.5	9.5
24	4.5	2.0	3.5	9.0	7.0	8.0	13.0	10.0	11.5	11.0	9.0	10.0
25	4.5	3.0	3.5	8.5	7.5	8.5	11.5	9.5	10.5	13.0	9.5	11.0
26	4.0	3.0	3.5	7.5	6.0	7.0	12.0	9.0	10.0	13.5	11.0	12.5
27	4.0	2.0	2.5	7.0	6.0	6.0	12.5	9.5	11.0	13.5	11.5	12.5
28	4.5	2.0	3.0	7.0	5.0	6.0	13.5	10.5	12.0	11.5	10.0	11.0
29	---	---	---	7.5	5.0	6.0	13.0	11.0	12.0	13.0	10.0	11.5
30	---	---	---	7.0	5.0	6.0	12.0	10.5	11.5	14.0	11.0	12.5
31	---	---	---	7.0	5.5	6.5	---	---	---	14.5	12.0	13.5
Month	5.0	0.0	3.0	9.0	1.5	6.0	13.5	5.5	9.0	14.5	6.0	11.0

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

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



Water-Data Report 2007

12353000 CLARK FORK BELOW MISSOULA, MT

Pend Oreille Basin
Middle Clark Fork Subbasin

LOCATION.--Lat 46°52'09", long 114°07'33" referenced to North American Datum of 1927, in NW ¼ NE ¼ SE ¼ sec.21, T.13 N., R.20 W., Missoula County, MT, Hydrologic Unit 17010204, on right bank 1.0 mi downstream from Bitterroot River, 4.5 mi west of Missoula, and at river mile 349.5.

DRAINAGE AREA.--9,003 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.-- Water Supply Paper (WSP) 1042: 1931. WSP 1246: Drainage area. WSP 1316: 1932, maximum discharge (M); 1935 (M); 1946 (M).

GAGE.--Water-stage recorder. Elevation of gage is 3,083.88 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records are excellent. Some diurnal fluctuation at low flow is caused by powerplant at Milltown 14.9 mi upstream. Diversions for irrigation of about 235,000 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.

12353000 CLARK FORK BELOW MISSOULA, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,710	1,810	2,690	1,830	1,850	2,090	5,780	13,000	11,800	4,280	1,530	1,290
2	1,710	1,770	2,870	2,100	1,750	2,050	5,600	14,100	12,200	4,010	1,510	1,300
3	1,720	1,910	2,720	2,650	1,610	1,950	5,420	16,200	12,700	3,830	1,500	1,300
4	1,720	2,040	2,610	2,780	1,780	2,040	5,230	17,500	13,100	3,670	1,470	1,290
5	1,730	2,140	2,770	2,670	1,970	2,150	5,130	15,500	13,700	3,500	1,440	1,290
6	1,760	2,270	2,850	2,420	2,160	2,280	5,060	13,800	14,600	3,340	1,450	1,350
7	1,800	4,810	2,700	2,260	2,340	2,670	5,040	12,400	15,400	3,190	1,450	1,370
8	1,790	13,300	2,610	2,340	2,390	3,130	5,130	11,500	14,700	3,060	1,430	1,350
9	1,790	13,500	2,540	2,420	2,480	3,460	5,400	11,900	13,300	2,910	1,400	1,350
10	1,810	8,230	2,600	2,410	2,660	3,310	5,870	13,700	12,600	2,780	1,390	1,350
11	1,830	6,520	2,810	2,010	2,670	3,250	5,840	16,100	13,400	2,620	1,370	1,350
12	1,830	5,650	2,800	1,410	2,620	3,630	5,620	17,400	14,000	2,470	1,360	1,340
13	1,820	5,050	2,810	1,110	2,520	5,540	5,410	18,300	12,900	2,370	1,360	1,320
14	1,810	4,730	2,950	1,200	2,390	6,550	5,250	18,500	11,900	2,260	1,360	1,320
15	1,820	4,350	3,090	1,340	2,360	5,950	5,210	16,800	11,200	2,190	1,330	1,330
16	1,880	4,120	3,210	1,490	2,450	5,320	5,350	15,500	10,400	2,130	1,310	1,340
17	1,980	4,200	2,660	1,570	2,670	5,110	5,280	15,300	10,000	2,120	1,310	1,330
18	2,010	3,910	2,020	1,720	2,610	5,250	5,590	15,700	9,890	2,190	1,320	1,360
19	2,000	3,710	1,780	1,900	2,550	5,890	6,200	16,400	8,960	2,190	1,330	1,440
20	2,160	3,580	1,850	2,090	2,450	6,270	6,020	16,400	8,110	2,080	1,360	1,520
21	2,350	3,750	1,940	2,140	2,430	6,420	5,720	16,200	7,650	1,980	1,410	1,560
22	2,400	3,930	2,180	2,260	2,380	6,190	5,520	16,100	7,350	1,900	1,440	1,570
23	2,300	3,930	2,330	2,240	2,370	5,910	5,450	14,500	7,000	1,840	1,430	1,780
24	2,210	3,770	2,410	2,190	2,350	5,730	5,580	13,300	6,580	1,800	1,400	2,140
25	2,150	3,670	2,460	2,130	2,270	5,810	5,930	12,700	6,190	1,780	1,350	2,300
26	2,110	3,520	2,660	2,010	2,260	6,330	6,440	12,000	5,760	1,790	1,300	2,180
27	2,070	3,380	2,780	1,930	2,210	6,730	6,880	11,500	5,290	1,780	1,270	2,070
28	2,040	3,220	2,750	1,810	2,150	6,820	7,160	12,400	4,910	1,740	1,260	2,020
29	2,010	2,670	2,520	1,700	---	6,550	8,450	13,400	4,690	1,690	1,260	2,030
30	1,990	2,390	2,120	1,730	---	6,180	10,800	12,400	4,500	1,620	1,250	2,020
31	1,970	---	1,880	1,780	---	5,930	---	11,900	---	1,570	1,250	---
Total	60,280	131,830	78,970	61,640	64,700	146,490	177,360	452,400	304,780	76,680	42,600	46,560
Mean	1,945	4,394	2,547	1,988	2,311	4,725	5,912	14,590	10,160	2,474	1,374	1,552
Max	2,400	13,500	3,210	2,780	2,670	6,820	10,800	18,500	15,400	4,280	1,530	2,300
Min	1,710	1,770	1,780	1,110	1,610	1,950	5,040	11,500	4,500	1,570	1,250	1,290
Ac-ft	119,600	261,500	156,600	122,300	128,300	290,600	351,800	897,300	604,500	152,100	84,500	92,350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,684	2,729	2,454	2,235	2,470	3,099	6,398	14,730	16,440	5,694	2,260	2,264
Max	6,617	5,110	6,064	4,401	6,697	7,012	16,500	30,440	33,970	16,320	5,530	5,160
(WY)	(1960)	(1960)	(1996)	(1934)	(1996)	(1972)	(1934)	(1997)	(1972)	(1975)	(1975)	(1965)
Min	1,393	1,471	1,414	871	1,108	1,743	2,302	5,113	4,619	1,361	810	909
(WY)	(1938)	(1938)	(1988)	(1937)	(1933)	(1937)	(1941)	(1941)	(1987)	(1931)	(1931)	(1937)

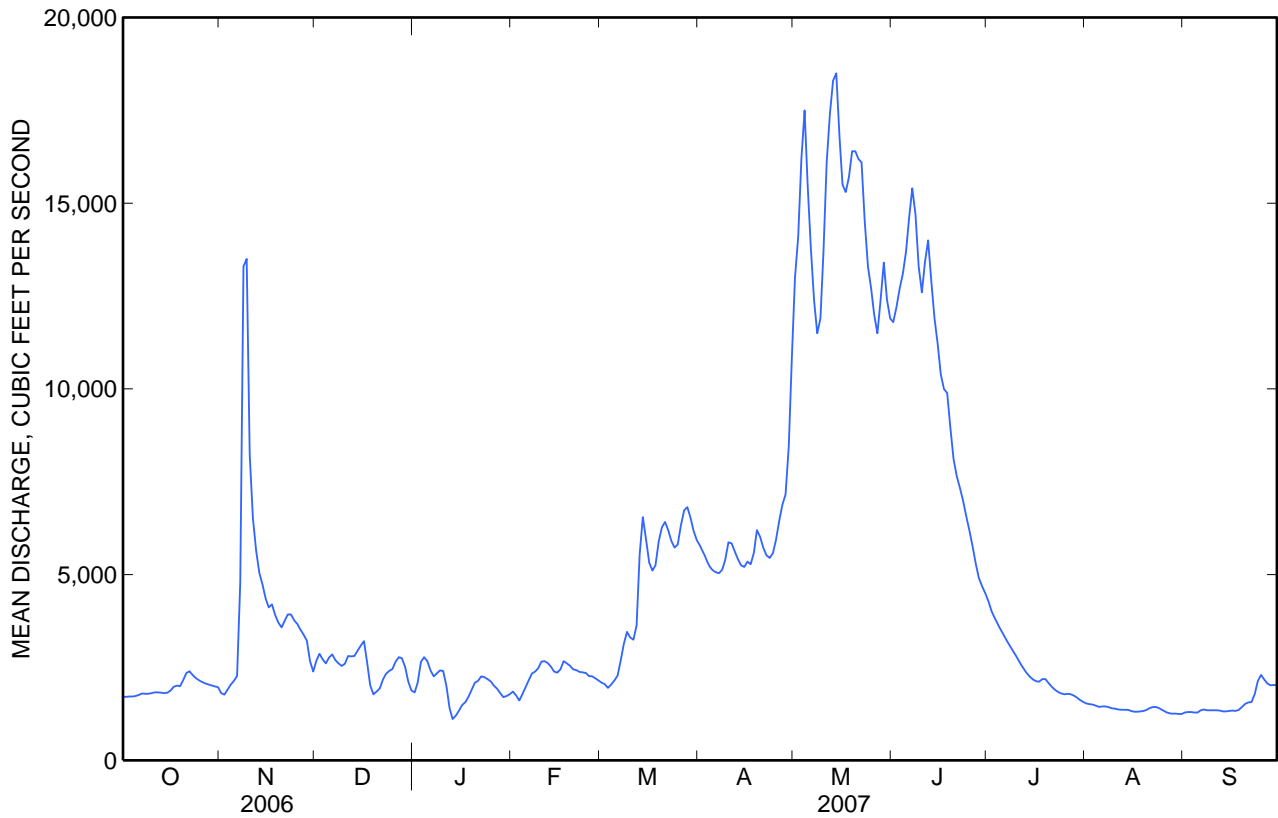
12353000 CLARK FORK BELOW MISSOULA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1930 - 2007	
Annual total	1,854,349		1,644,290			
Annual mean	5,080		4,505		5,291	
Highest annual mean					8,832	1976
Lowest annual mean					2,582	1937
Highest daily mean	31,400	May 21	18,500	May 14	54,100	May 18, 1997
Lowest daily mean	939	Feb 18	1,110	Jan 13	580	Jan 19, 1933
Annual seven-day minimum	1,300	Sep 8	1,270	Aug 26	660	Dec 8, 1932
Maximum peak flow			19,100	May 14	55,100	May 18, 1997
Maximum peak stage			7.01	May 14	12.18	May 18, 1997
Instantaneous low flow			^a 1,040	Jan 13	^b 388	Jan 18, 1933
Annual runoff (ac-ft)	3,678,000		3,261,000		3,833,000	
10 percent exceeds	13,300		12,500		13,100	
50 percent exceeds	2,390		2,470		2,760	
90 percent exceeds	1,530		1,370		1,620	

^a Gage height, 0.56 ft, result of freezeup.

^b Gage height, 0.58 ft, result of freezeup.



Water-Data Report 2007

12353650 CLARK FORK AT SUPERIOR, MT

Pend Oreille Basin
Middle Clark Fork Subbasin

LOCATION.--Lat 47°11'47", long 114°53'22" referenced to North American Datum of 1927, in NW ¼ NW ¼ NE ¼ sec.34, T.17 N., R.26 W., Mineral County, MT, Hydrologic Unit 17010204, on left bank, at bridge on River Street in Superior.

DRAINAGE AREA.--10,210 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1985 to September 1991, July to September 2007.

INSTRUMENTATION.--Water temperature recorder was installed July 10, 2007.

REMARKS.--Water temperature record is rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.0°C, July 14 and 23, 2007; minimum, 0.0°C, many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Mmaximum, 25.0°C, July 14 and 23; minimum during period of operation, 10.0°C, Sept. 22 and 30.

12353650 CLARK FORK AT SUPERIOR, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
JULY 2007 TO SEPTEMBER 2007

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

Water-Data Report 2007

12354000 ST. REGIS RIVER NEAR ST. REGIS, MT

Pend Oreille Basin
Middle Clark Fork Subbasin

LOCATION.--Lat 47°17'49", long 115°07'18" referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.26, T.18 N., R.28 W., Mineral County, MT, Hydrologic Unit 17010204, on left bank 50 ft downstream from road bridge, 500 ft upstream from Little Joe Creek, 1.2 mi west of St. Regis, and at river mile 1.7.

DRAINAGE AREA.--303 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1910 to September 1917 (no winter records), annual maximum, water year 1948, published in Water Supply Paper (WSP) 1080, September 1958 to September 1975, February 2002 to current year. Monthly discharge only for some periods, published in WSP 1316 and 1736.

REVISED RECORDS.-- Water Supply Paper (WSP) 1246: water year 1912; WSP 1316: drainage area, 1911.

GAGE.--Water-stage recorder. Elevation of gage is 2,645.00 ft, referenced to the National Geodetic Vertical Datum of 1929. September 1910 to September 1917, non-recording gage at site 2 mi upstream at different elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Minor diversions for irrigation for hay meadows occur above 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 on or about Dec. 20, 1933, reached a stage of about 14.5 ft, from information by local residents (discharge unknown). Flood of May 19, 1954, reached a discharge of about 11,000 ft³/s, gage height, 9.4 ft, from rating curve extended above 5,100 ft³/s.

12354000 ST. REGIS RIVER NEAR ST. REGIS, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	90	84	248	205	e150	241	1,260	1,550	812	239	109	84
2	89	86	235	210	e155	205	1,170	1,650	851	229	108	83
3	89	97	222	251	e150	236	1,080	1,650	854	220	105	80
4	89	149	219	253	e155	234	1,010	1,510	840	213	103	78
5	88	240	222	237	e165	235	965	1,360	847	207	103	76
6	88	457	213	233	184	241	934	1,230	760	200	102	75
7	87	1,850	208	229	182	259	956	1,180	696	194	101	74
8	89	1,230	206	243	183	346	1,020	1,250	620	188	100	74
9	88	658	205	235	189	382	1,140	1,470	570	184	100	74
10	89	464	203	239	190	394	1,220	1,610	615	178	97	75
11	88	388	202	e203	193	435	1,140	1,640	581	170	95	74
12	88	341	215	e168	199	971	1,080	1,690	523	163	94	72
13	87	334	230	e175	199	2,000	1,020	1,740	484	159	92	71
14	86	321	244	e168	199	1,670	1,020	1,690	458	156	90	70
15	87	278	337	e165	203	1,320	1,050	1,510	431	152	88	70
16	97	366	318	e170	252	1,180	1,030	1,470	413	148	86	70
17	99	340	238	e175	249	1,120	1,110	1,580	420	146	86	69
18	93	292	217	e175	268	1,250	1,130	1,650	432	167	84	71
19	94	265	e194	e175	278	1,450	1,090	1,560	385	151	84	78
20	114	371	e195	e175	300	1,590	1,010	1,400	358	147	89	77
21	106	456	e197	e178	292	1,570	963	1,250	341	142	99	80
22	98	438	e198	200	281	1,440	935	1,100	329	138	101	78
23	96	406	e197	198	276	1,310	932	1,010	313	134	94	77
24	94	386	e200	199	263	1,240	1,020	960	300	130	90	87
25	92	352	226	190	259	1,670	1,120	947	304	128	88	82
26	91	319	239	179	256	2,060	1,180	880	288	125	85	78
27	90	312	239	166	248	1,830	1,220	894	270	122	85	76
28	89	280	228	153	245	1,610	1,320	918	257	117	83	75
29	90	253	216	e150	---	1,430	1,480	838	248	114	82	77
30	96	240	200	e145	---	1,330	1,520	790	249	112	81	78
31	89	---	193	e150	---	1,290	---	782	---	110	79	---
Total	2,850	12,053	6,904	5,992	6,163	32,539	33,125	40,759	14,849	4,983	2,883	2,283
Mean	91.9	402	223	193	220	1,050	1,104	1,315	495	161	93.0	76.1
Max	114	1,850	337	253	300	2,060	1,520	1,740	854	239	109	87
Min	86	84	193	145	150	205	932	782	248	110	79	69
Ac-ft	5,650	23,910	13,690	11,890	12,220	64,540	65,700	80,850	29,450	9,880	5,720	4,530
Cfs/m	0.30	1.33	0.74	0.64	0.73	3.46	3.64	4.34	1.63	0.53	0.31	0.25
In.	0.35	1.48	0.85	0.74	0.76	3.99	4.07	5.00	1.82	0.61	0.35	0.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	137	226	206	264	288	433	1,221	2,070	1,420	371	156	126
Max	350	590	555	1,363	759	1,366	2,057	4,700	3,367	1,150	313	204
(WY)	(1960)	(1915)	(1959)	(1974)	(1971)	(1972)	(1916)	(1917)	(1974)	(1916)	(1916)	(1914)
Min	85.1	101	92.4	89.2	86.6	94.2	349	671	388	155	83.1	74.3
(WY)	(2004)	(1962)	(1964)	(2004)	(1964)	(1964)	(1975)	(1915)	(1915)	(1973)	(1973)	(2005)

* During periods of operation [September 1910 to September 1917 (no winter records), September 1958 to September 1975, February 2002 to current year].

12354000 ST. REGIS RIVER NEAR ST. REGIS, MT—Continued

SUMMARY STATISTICS

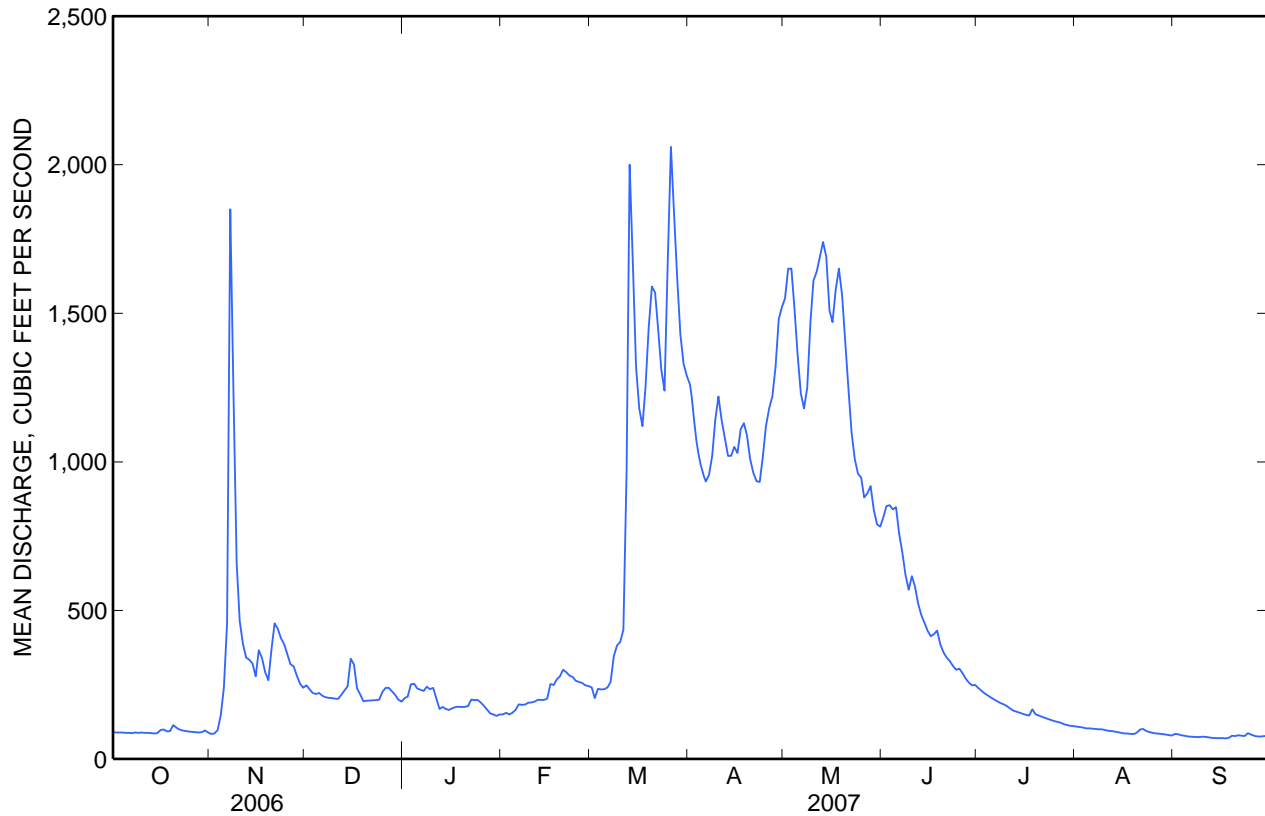
	Calendar Year 2006		Water Year 2007		Water Years 1910 - 2007*	
Annual total	198,046		165,383			
Annual mean	543		453		543	
Highest annual mean					938	1974
Lowest annual mean					256	1973
Highest daily mean	3,580	May 18	2,060	Mar 26	8,500	Jan 16, 1974
Lowest daily mean	84	Nov 1	69	Sep 17	45	Dec 11, 1961
Annual seven-day minimum	88	Oct 9	70	Sep 12	59	Dec 5, 1972
Maximum peak flow			2,260	Mar 26	^b 9,640	Jan 16, 1974
Maximum peak stage			6.01	Mar 26	7.54	Apr 14, 2002
Instantaneous low flow			^a 68	Sep 17	^c 41	Dec 30, 2001
Annual runoff (ac-ft)	392,800		328,000		393,300	
Annual runoff (cfsm)	1.79		1.50		1.79	
Annual runoff (inches)	24.31		20.30		24.35	
10 percent exceeds	1,590		1,270		1,480	
50 percent exceeds	239		222		213	
90 percent exceeds	96		85		96	

* During periods of operation [September 1910 to September 1917 (no winter records), September 1958 to September 1975, February 2002 to current year].

^a Gage height, 2.70 ft.

^b Gage height, 7.38 ft.

^c Result of freezeup.





Water-Data Report 2007

12354500 CLARK FORK AT ST. REGIS, MT

Pend Oreille Basin
Middle Clark Fork Subbasin

LOCATION.--Lat 47°18'07", long 115°05'11" referenced to North American Datum of 1927, in NW ¼ SE ¼ SW ¼ sec.19, T.18 N., R.27 W., Mineral County, MT, Hydrologic Unit 17010204, on left bank at St. Regis, 0.4 mi downstream from St. Regis River, and at river mile 270.3.

DRAINAGE AREA.--10,709 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1316.

REVISED RECORDS.-- WSP 1246: Drainage area. WSP 1316: 1916-17; 1920; 1929-31, maximum discharge (M); 1933 (M).

GAGE.--Water-stage recorder. Elevation of gage is 2,600.37 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Nov. 29, 1933, nonrecording gage at same site and elevation.

REMARKS.--Records are good. Diversions for irrigation of about 244,000 acres occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12354500 CLARK FORK AT ST. REGIS, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,350	2,600	3,670	2,820	2,580	3,090	8,990	15,800	14,800	5,840	2,220	1,800
2	2,340	2,460	3,830	2,880	2,580	2,970	8,680	18,000	15,000	5,560	2,180	1,830
3	2,350	2,450	3,900	3,170	2,410	2,960	8,370	19,500	15,500	5,260	2,150	1,820
4	2,350	2,650	3,760	3,670	2,420	2,890	8,060	21,500	16,000	5,070	2,120	1,810
5	2,360	2,940	3,660	3,720	2,630	2,950	7,810	20,400	16,600	4,840	2,080	1,790
6	2,370	3,350	3,790	3,610	2,840	3,070	7,640	18,200	17,100	4,640	2,050	1,790
7	2,400	5,590	3,800	3,380	2,980	3,230	7,570	16,500	17,800	4,420	2,050	1,840
8	2,420	10,200	3,680	3,280	3,110	3,740	7,630	15,500	17,700	4,250	2,040	1,880
9	2,420	16,500	3,570	3,330	3,210	4,260	7,960	15,700	16,500	4,090	2,020	1,870
10	2,420	12,000	3,510	3,400	3,340	4,550	8,460	17,100	15,500	3,920	1,980	1,860
11	2,440	8,990	3,560	3,260	3,480	4,490	8,750	19,600	15,300	3,770	1,950	1,860
12	2,460	7,630	3,760	e2,740	3,500	5,150	8,540	21,800	16,200	3,600	1,940	1,860
13	2,460	6,860	3,790	e2,150	3,450	8,020	8,230	22,800	15,800	3,450	1,920	1,850
14	2,450	6,350	3,890	1,820	3,340	e9,270	8,010	23,300	14,600	3,310	1,910	1,820
15	2,430	5,890	4,200	1,650	3,250	e8,410	7,900	22,000	13,800	3,180	1,900	1,820
16	2,480	5,670	4,350	1,740	3,290	8,640	7,920	20,300	13,000	3,090	1,890	1,830
17	2,550	5,500	4,180	2,040	3,400	8,080	8,130	19,700	12,300	3,020	1,860	1,840
18	2,610	5,380	3,460	2,350	3,600	8,140	8,130	20,100	12,200	3,110	1,850	1,850
19	2,660	5,050	3,010	2,620	3,580	8,890	8,590	20,700	11,600	3,090	1,850	1,890
20	2,760	5,000	2,890	2,890	3,540	9,780	8,800	20,700	10,600	3,020	1,870	1,980
21	2,900	5,160	2,920	2,980	3,480	10,100	8,490	20,300	9,900	2,910	1,950	2,070
22	3,020	5,340	3,130	3,050	3,440	9,810	8,180	19,800	9,410	2,790	1,990	2,120
23	3,060	5,410	3,230	3,070	3,380	9,290	8,020	18,600	9,030	2,700	2,010	2,190
24	2,970	5,350	3,430	3,110	3,350	8,910	8,090	17,100	8,580	2,620	1,990	2,440
25	2,880	5,160	3,500	3,080	3,320	9,440	8,510	16,200	8,150	2,560	1,940	2,720
26	2,820	4,950	3,580	2,990	3,250	10,700	9,040	15,500	7,720	2,500	1,890	2,880
27	2,770	4,760	3,730	2,840	3,210	10,900	9,650	14,900	7,240	2,500	1,840	2,790
28	2,750	4,580	3,780	2,700	3,160	10,700	10,300	14,900	6,720	2,470	1,810	2,700
29	2,730	4,270	3,690	2,570	---	10,300	11,200	15,900	6,340	2,420	1,790	2,670
30	2,700	3,710	3,430	2,530	---	9,740	13,300	15,700	6,100	2,360	1,790	2,680
31	2,650	---	3,010	2,550	---	9,280	---	15,000	---	2,290	1,780	---
Total	80,330	171,750	111,690	87,990	89,120	221,750	258,950	573,100	377,090	108,650	60,610	62,150
Mean	2,591	5,725	3,603	2,838	3,183	7,153	8,632	18,490	12,570	3,505	1,955	2,072
Max	3,060	16,500	4,350	3,720	3,600	10,900	13,300	23,300	17,800	5,840	2,220	2,880
Min	2,340	2,450	2,890	1,650	2,410	2,890	7,570	14,900	6,100	2,290	1,780	1,790
Med	2,480	5,250	3,670	2,890	3,310	8,410	8,300	18,600	13,400	3,110	1,940	1,860
Ac-ft	159,300	340,700	221,500	174,500	176,800	439,800	513,600	1,137,000	748,000	215,500	120,200	123,300
Cfsm	0.24	0.53	0.34	0.27	0.30	0.67	0.81	1.73	1.17	0.33	0.18	0.19
In.	0.28	0.60	0.39	0.31	0.31	0.77	0.90	1.99	1.31	0.38	0.21	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,371	3,561	3,412	3,104	3,446	4,307	9,236	20,060	21,130	7,489	3,100	2,947
Max	8,042	7,047	10,710	8,520	10,660	11,490	24,880	42,140	42,410	19,460	6,747	6,252
(WY)	(1960)	(1934)	(1934)	(1934)	(1996)	(1972)	(1934)	(1997)	(1972)	(1975)	(1975)	(1965)
Min	1,854	1,942	1,909	1,474	1,592	2,199	3,333	7,190	6,021	1,998	1,454	1,351
(WY)	(1938)	(1932)	(1937)	(1937)	(1936)	(1937)	(1937)	(1941)	(1987)	(1931)	(1931)	(1937)

* Statistics not computed prior to 1930 because the 1924-29 period of record was estimated.

12354500 CLARK FORK AT ST. REGIS, MT—Continued

SUMMARY STATISTICS

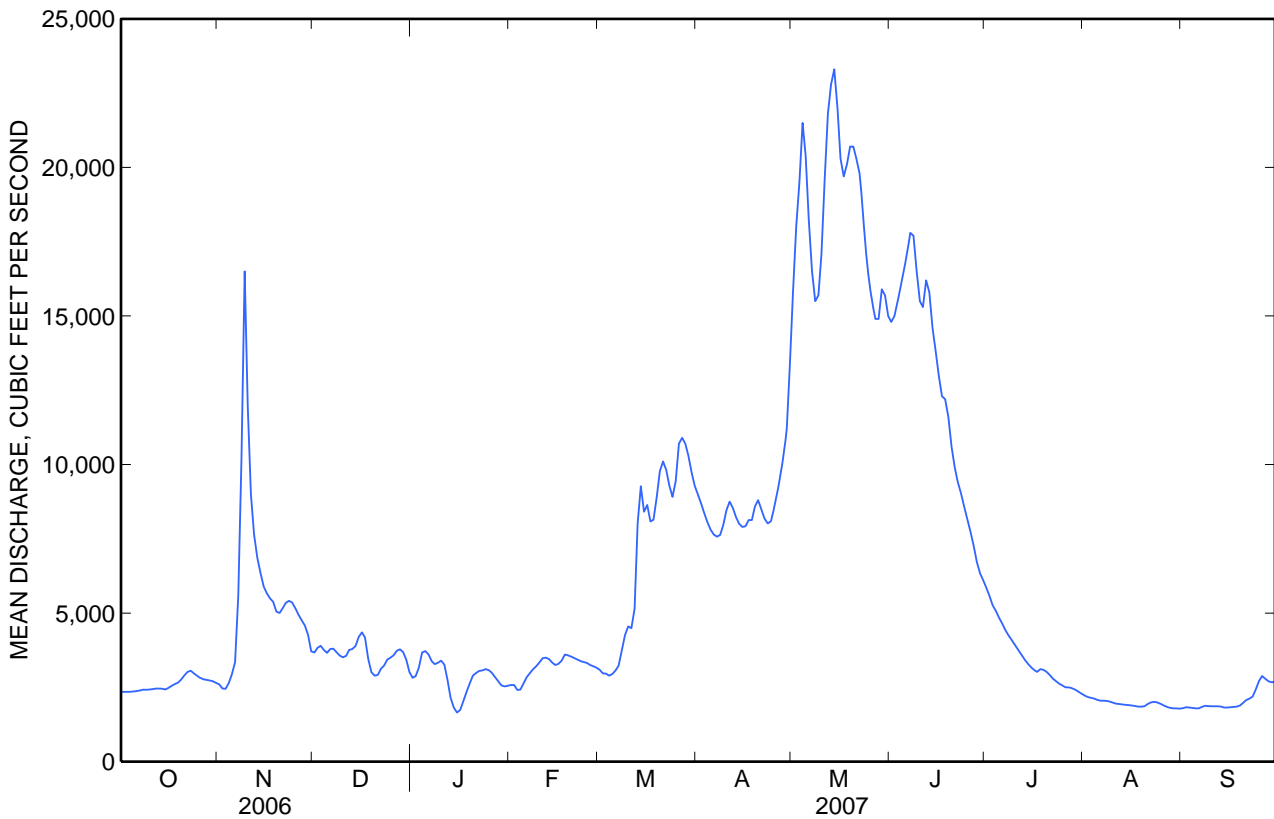
	Calendar Year 2006		Water Year 2007		Water Years 1930 - 2007	
Annual total	2,506,350		2,203,180			
Annual mean	6,867		6,036		7,101	
Highest annual mean					11,560	1997
Lowest annual mean					3,420	1941
Highest daily mean	39,300	May 21	23,300	May 14	68,500	May 18, 1997
Lowest daily mean	1,470	Feb 19	1,650	Jan 15	800	Feb 3, 1989
Annual seven-day minimum	1,850	Sep 9	1,800	Aug 28	1,130	Jan 31, 1936
Maximum peak flow			23,600	May 14	68,900	May 18, 1997 ^b
Maximum peak stage			12.39	May 14	20.27	May 18, 1997
Instantaneous low flow			^a 907	Jan 15	^c 702	Jan 6, 2004
Annual runoff (ac-ft)	4,971,000		4,370,000		5,145,000	
Annual runoff (cfsm)	0.641		0.564		0.663	
Annual runoff (inches)	8.71		7.65		9.01	
10 percent exceeds	17,600		15,500		17,500	
50 percent exceeds	3,450		3,460		3,650	
90 percent exceeds	2,170		1,930		2,190	

* Statistics not computed prior to 1930 because the 1924-29 period of record was estimated.

^a Gage height, 3.76 ft.

^b Also May 24, 1948, gage height, 19.96 ft.

^c Gage height, 3.58 ft, result of upstream freezeup.



Water-Data Report 2007

12354500 CLARK FORK AT ST. REGIS, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1998 to August 2003, April 2006 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 2002 to September 2002.

REMARKS.-- Sampling was conducted this year as part of a supplemental sampling program for the lower Clark Fork basin to assess water quality and loads associated with the removal of Milltown Dam. 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, 18.0°C, several days in July and August 2002; minimum, 3.5°C, Apr. 2 and 3, 2002.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

[Remark codes: E, estimated.]

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat un- f µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Total nitro- gen, wat un- f by anal- ysis, mg/L (62855)	Phos- phorus, water, unfltrd mg/L (00665)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)
Oct													
18...	1245	2,620	8.3	284	9.0	8.0	130	35.5	9.87	.24	E.008	2.8	2.8
Apr													
10...	1430	8,510	8.2	173	9.0	4.5	75	20.5	5.72	.28	.022	1.5	1.7
24...	1545	8,080	8.3	187	9.0	7.0	83	22.9	6.34	.24	.029	2.0	2.1
May													
04...	1300	21,800	8.2	110	9.0	5.5	52	14.4	3.86	.63	.122	1.5	3.6
15...	1430	21,800	7.9	116	8.5	9.0	52	14.3	3.85	.30	.078	1.4	2.6
23...	1300	18,500	8.1	122	14.5	8.0	55	15.2	4.19	.21	.034	1.3	1.8
Jun													
01...	1300	14,800	8.1	150	30.0	11.5	65	18.0	4.95	.22	.030	2.4	3.2
07...	1330	18,000	8.1	129	9.0	9.5	58	16.2	4.31	.25	.039	2.1	3.2
13...	1330	15,800	7.9	156	9.0	12.5	68	18.8	5.16	.32	.048	3.7	5.3
20...	1330	10,600	8.1	183	29.0	13.5	79	21.6	6.07	.19	.023	3.1	3.5
27...	1300	7,210	8.4	188	26.0	14.0	86	23.3	6.70	.17	.013	2.9	2.9

12354500 CLARK FORK AT ST. REGIS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium water, flt'd, µg/L (01025)	Cadmium water, unflt'd µg/L (01027)	Copper, water, flt'd, µg/L (01040)	Copper, water, unflt'd recovery, µg/L (01042)	Iron, water, flt'd, µg/L (01046)	Iron, water, unflt'd recovery, µg/L (01045)	Lead, water, flt'd, µg/L (01049)	Lead, water, unflt'd recovery, µg/L (01051)	Mangan- ese, water, flt'd, µg/L (01056)	Mangan- ese, water, unflt'd recovery, µg/L (01055)	Zinc, water, flt'd, µg/L (01090)	Zinc, water, unflt'd recovery, µg/L (01092)
Oct												
18...	<.04	.03	3.0	3.9	7	88	.16	.46	1.6	17.1	3.5	6
Apr												
10...	E.02	.03	1.5	4.5	13	179	E.07	.72	2.9	24.0	2.5	7.6
24...	E.02	.04	1.7	5.0	12	200	E.08	.86	2.4	26.9	2.4	8.1
May												
04...	<.04	.19	1.7	25.8	21	1,720	E.07	5.27	2.6	126	2.3	50.8
15...	E.02	.09	1.8	13.0	16	881	<.12	2.62	2.9	54.5	2.4	23.9
23...	E.02	.05	1.5	6.3	17	392	<.12	1.10	3.4	30.5	2.6	10.6
Jun												
01...	<.04	.06	2.1	9.7	15	345	<.12	1.62	2.5	31.2	3.6	15.3
07...	<.04	.10	2.0	12.6	18	585	<.12	2.23	1.8	49.5	2.0	21.0
13...	<.04	.13	3.6	21.4	14	676	.13	3.19	2.6	56.7	5.9	31.1
20...	<.04	.07	2.0	8.1	14	262	E.06	1.17	4.2	26.3	3.6	13.7
27...	<.04	.02	2.0	4.5	16	119	<.12	.46	2.6	13.2	1.6	5.0

12354500 CLARK FORK AT ST. REGIS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

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

Date	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct			
18...	91	4	28
Apr			
10...	77	12	276
24...	77	11	240
May			
04...	60	151	8,890
15...	57	78	4,590
23...	62	34	1,700
Jun			
01...	71	23	919
07...	58	49	2,380
13...	71	41	1,750
20...	80	14	401
27...	83	5	97



Water-Data Report 2007

12354700 CLARK FORK NEAR PARADISE, MT

Pend Oreille Basin
Middle Clark Fork Subbasin

LOCATION.--Lat 47°19'19", long 114°53'24" referenced to North American Datum of 1927, in NE ¼ SW ¼ NE ¼ sec.15, T.18 N., R.25 W., Sanders County, MT, Hydrologic Unit 17010204, on right bank at bridge on State Highway 461, 12.5 mi downstream from St. Regis, and 6.3 mi southwest of Paradise.

DRAINAGE AREA.--10,709 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1985 to September 1991, July 2007 to September 2007.

INSTRUMENTATION.--Water temperature probe installed July 9, 2007.

REMARKS.--Water temperature record is rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 24.0°C, July 23 and 24, 2007; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.0°C, July 23 and 24; minimum for season, 10.0°C Sept. 30.

12354700 CLARK FORK NEAR PARADISE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
JULY 2007 TO SEPTEMBER 2007

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



Water-Data Report 2007

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA

Pend Oreille Basin
North Fork Flathead Subbasin

LOCATION.--Lat 49°00'06", long 114°28'27" referenced to North American Datum of 1927, Hydrologic Unit 17010206, on left bank 200 ft north of international boundary at Flathead, British Columbia, 1.6 mi upstream from Sage Creek, 6.5 mi northwest of Trail Creek, MT, and at river mile 216.6.

DRAINAGE AREA.--427 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1929 to June 1995 (no winter records prior to 1952), October 1999 to current year. Prior to 1934, published as Flathead River near Trail Creek, MT. October 1970 to September 1972, published as North Fork Flathead River at Flathead British Columbia. Gage was reestablished in 1999 and is operated by the U.S. Geological Survey at site on left bank in British Columbia.

GAGE.--Water-stage recorder. Elevation of gage is 3,964.95 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1949, nonrecording gage and Sept. 1, 1949 to Oct. 4, 1964, water-stage recorder was located at a site 1,200 ft upstream at an elevation 11.01 ft higher. Oct. 5, 1964, to Aug. 1, 1973, water-stage recorder was located at a site on left bank 155 ft upstream at an elevation 1.79 ft higher. Aug. 2, 1973 to June 28, 1995 operated by Water Survey Canada at site on right bank at elevation 3.21 ft. higher. October 1999 to current year, located at site 200 ft upstream from International Border in British Columbia on left bank.

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

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	170	e120	e400	e230	e130	e170	1,030	2,730	3,670	974	323	202
2	169	e130	e380	e260	e130	e140	945	3,130	4,020	911	316	192
3	169	e140	e360	e270	e140	e160	860	3,590	4,200	868	307	186
4	167	169	e340	e250	e170	e160	802	3,090	4,370	830	298	182
5	167	276	e320	e220	e200	e170	768	2,530	4,480	802	292	178
6	166	734	e300	e230	e230	177	734	2,160	4,310	771	288	175
7	165	4,610	e280	e200	e220	179	725	2,080	3,670	745	281	174
8	164	5,940	e270	e200	e190	185	764	2,550	2,950	716	278	175
9	163	2,660	e260	e220	e160	179	886	4,490	2,480	688	275	174
10	163	1,670	e250	e240	e180	173	976	5,320	2,590	654	269	171
11	162	1,290	e240	e130	e170	188	929	4,630	2,630	625	270	168
12	160	1,020	e240	e80	e120	340	877	4,550	2,290	596	261	165
13	159	891	e250	e65	e110	539	852	5,360	1,980	575	253	167
14	158	775	e250	e75	e120	504	839	5,130	1,840	558	246	164
15	158	698	e270	e85	e150	476	910	4,270	1,800	534	241	161
16	175	712	e240	e90	e140	467	944	4,070	1,700	514	236	158
17	167	636	e180	e120	e130	456	1,020	4,490	1,810	512	235	156
18	163	553	e170	e150	e150	620	1,070	5,170	1,880	542	229	159
19	163	523	e200	e200	e140	776	1,040	5,090	1,850	512	225	e163
20	178	655	e200	e220	e160	841	989	5,200	1,780	498	229	166
21	175	707	e210	e190	e180	807	944	3,910	1,710	466	230	e175
22	167	646	e230	e220	e160	742	936	3,110	1,670	445	227	e173
23	163	615	e240	e230	e170	688	970	2,630	1,600	424	223	e172
24	159	567	e250	e210	e170	793	1,150	2,630	1,470	407	227	e170
25	159	520	e260	e210	e180	1,740	1,330	2,390	1,330	398	215	167
26	155	467	e280	e160	e180	2,120	1,520	2,240	1,230	387	208	163
27	153	e360	e280	e110	e160	1,790	1,600	2,340	1,120	373	210	e165
28	152	e320	e270	e85	e170	1,420	1,810	3,160	1,050	360	209	163
29	e145	e340	e210	e77	---	1,220	2,360	3,370	1,060	349	203	167
30	e135	e380	e200	e70	---	1,130	2,690	3,170	1,030	340	197	167
31	e140	---	e210	e100	---	1,080	---	3,330	---	331	195	---
Total	5,009	29,124	8,040	5,197	4,510	20,430	33,270	111,910	69,570	17,705	7,696	5,118
Mean	162	971	259	168	161	659	1,109	3,610	2,319	571	248	171
Max	178	5,940	400	270	230	2,120	2,690	5,360	4,480	974	323	202
Min	135	120	170	65	110	140	725	2,080	1,030	331	195	156
Ac-ft	9,940	57,770	15,950	10,310	8,950	40,520	65,990	222,000	138,000	35,120	15,270	10,150
Cfsm	0.38	2.27	0.61	0.39	0.38	1.54	2.60	8.45	5.43	1.34	0.58	0.40
In.	0.44	2.54	0.70	0.45	0.39	1.78	2.90	9.75	6.06	1.54	0.67	0.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	332	354	241	196	177	212	922	3,476	3,045	963	379	292
Max	1,285	1,261	881	672	485	685	2,957	5,584	6,691	2,418	937	785
(WY)	(1948)	(2000)	(1976)	(2005)	(2005)	(1986)	(1934)	(1948)	(1974)	(1954)	(1976)	(1951)
Min	127	124	97.0	87.3	83.3	97.7	189	1,540	824	279	188	132
(WY)	(2002)	(1937)	(2001)	(2001)	(2001)	(2001)	(1970)	(1977)	(1977)	(1977)	(1931)	(2001)

* During periods of operation (no winter records prior to 1952).

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1929 - 2007*	
Annual total	330,592		317,579			
Annual mean	906		870		897	
Highest annual mean					1,376	1974
Lowest annual mean					377	2001
Highest daily mean	7,880	May 19	5,940	Nov 8	^a 16,800	Jun 7, 1995
Lowest daily mean	120	Feb 17	65	Jan 13	62	Jan 2, 1977
Annual seven-day minimum	137	Oct 28	92	Jan 11	71	Dec 31, 1976
Maximum peak flow			7,300	Nov 7	^b 16,300	Jun 8, 1964
Maximum peak stage			9.29	Nov 7	^c 10.00	May 31, 2002
Instantaneous low flow					^d 59	Feb 23, 2003
Annual runoff (ac-ft)	655,700		629,900		650,000	
Annual runoff (cfsm)	2.12		2.04		2.10	
Annual runoff (inches)	28.80		27.67		28.55	
10 percent exceeds	2,790		2,630		2,670	
50 percent exceeds	287		280		300	
90 percent exceeds	169		158		137	

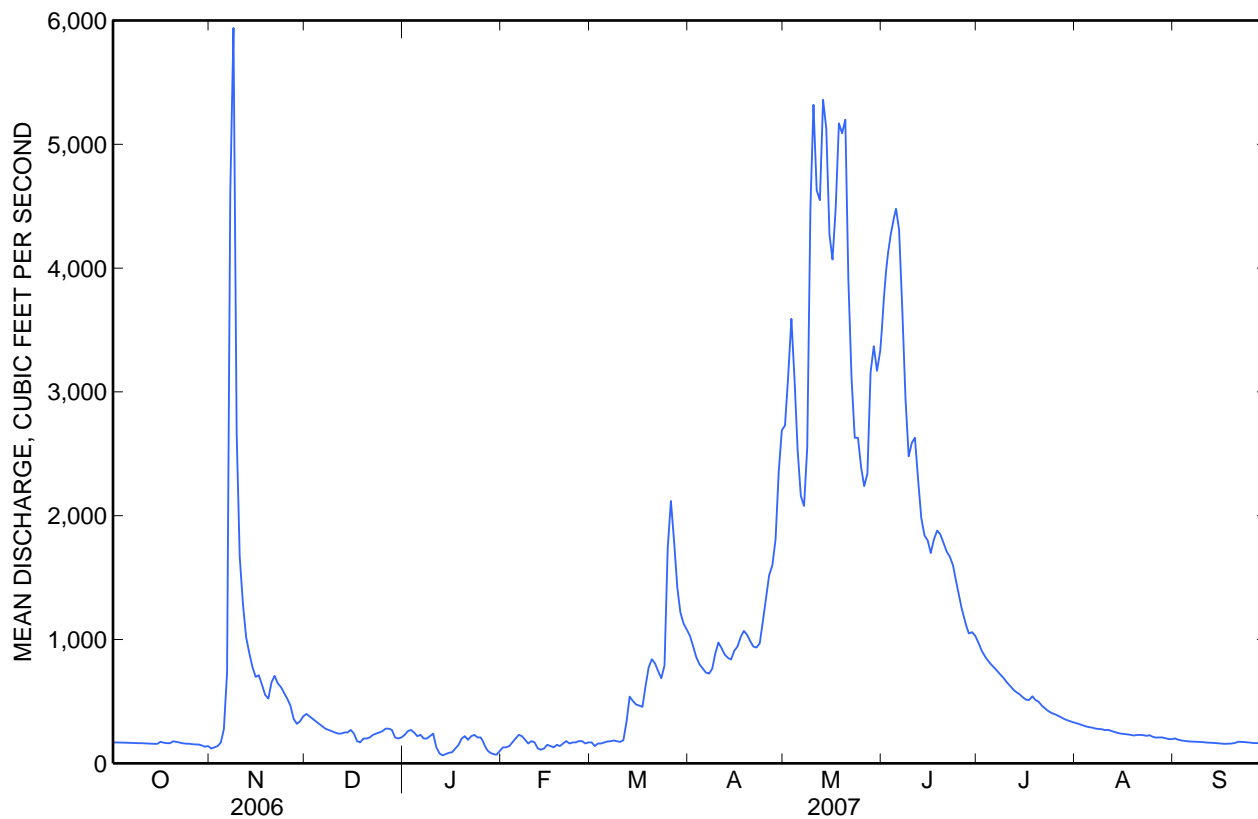
* During periods of operation (no winter records prior to 1952).

^a Instantaneous peak flow not determined.

^b Gage height, 8.00 ft, site and datum then in use. Peak flow was known to be higher in 1995.

^c At present site and datum. Flood of June 7, 1995 reached a stage of 9.66 ft (site and datum then in use), which is 12.86 ft at present site and datum.

^d Gage height, 3.95 ft.



12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1949-50, 1965, 1970, 1975-93 and August 1999 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1974 to September 1981.

WATER TEMPERATURE: November 1974 to September 1991.

SUSPENDED-SEDIMENT DISCHARGE: April 1975 to October 1978, August 1985 to June 1991.

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, 309 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Jan. 12, 28, 1975, Jan. 20, 1980; minimum daily, 130 $\mu\text{S}/\text{cm}$ at 25.0°C, May 20, 1976.

WATER TEMPERATURE: Maximum 19.5°C, Aug 2, 1977; minimum 0.0°C on many days during winters.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,310 mg/L, June 20, 1975; minimum daily mean, 1 mg/L on many days most years.

SEDIMENT LOAD: Maximum daily, 36,100 tons, June 20, 1975; minimum daily, 0.24 ton, Feb. 1, 23, 1988.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 4

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd std units (00400)	Specif- ic	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)
							conduc- tance, wat unf $\mu\text{S}/\text{cm}$ 25 degC (00095)						
Mar													
27...	1200	1,800	654	11.9	102	7.8	199	5.5	2.5	110	32.9	6.75	.31
Apr													
17...	1100	1,030	662	11.8	104	8.0	232	7.0	4.0	130	37.1	8.02	.31
May													
01...	1300	2,680	655	10.1	95	8.2	199	19.5	6.0	110	31.5	6.81	.30
15...	0900	4,380	665	11.2	98	8.0	178	8.5	4.0	94	27.9	5.96	.27
Jun													
05...	1000	4,600	650	10.1	100	8.1	159	17.0	8.0	83	24.8	5.15	.27
19...	0930	1,870	663	10.8	102	8.1	186	14.0	7.0	100	30.2	6.49	.29
Jul													
17...	1230	498	660	10.4	116	8.3	244	29.0	13.5	130	39.7	8.07	.32
Aug													
07...	1200	289	656	10.6	119	8.4	259	24.5	13.5	140	42.2	9.16	.33
Sep													
18...	1245	163	661	11.6	115	8.2	274	12.0	8.5	150	44.1	9.68	.35

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

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

Date	Sodium adsorp- tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alka- linity, wat flt lab, mg/L as CaCO3 (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dis- solved solids, sum of consti- tuents mg/L (70301)	Dis- solved solids, tons/ acre-ft (70303)	Dis- solved solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Mar 27...	.0	.77	104	.14	E.07	4.47	4.06	112	.15	544	<.020	.025	<.002
Apr 17...	.0	.93	124	E.12	E.09	4.69	4.04	E129	E.18	E361	<.020	<.016	<.002
May 01...	.0	.79	105	E.07	E.08	4.57	3.50	E111	E.15	E800	<.020	.019	<.002
15...	.0	.65	94	<.12	E.07	4.42	2.76	E99	E.13	E1,165	E.012	.026	<.002
Jun 05...	.0	.55	85	E.07	.11	3.79	2.41	E88	E.12	E1,094	<.020	.017	<.002
19...	.0	.65	99	<.12	E.08	4.22	3.04	E104	E.14	E528	<.020	<.016	<.002
Jul 17...	.0	.74	131	E.09	.10	4.95	4.05	E137	E.19	E184	<.020	<.016	E.001
Aug 07...	.0	.76	141	E.07	E.09	4.83	4.28	E146	E.20	E114	<.020	<.016	<.002
Sep 18...	.0	.77	149	E.12	E.10	4.68	4.45	E154	E.21	E66	<.020	<.016	<.002

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

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

Date	Total nitrogen, water, unfltrd, mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd, mg/L (00665)	Suspnd. sedi-ment, sieve diametr <.063mm percent (70331)	Suspended sedi-ment concen-tration mg/L (80154)	Suspended sedi-ment dis-charge, tons/d (80155)
Mar						
27...	.12	E.005	.042	78	47	228
Apr						
17...	E.04	E.004	.011	77	13	36
May						
01...	.14	E.004	.075	66	79	572
15...	.15	.006	.059	64	68	804
Jun						
05...	.13	E.005	.092	62	101	1,250
19...	E.05	E.005	.015	75	13	66
Jul						
17...	<.06	E.004	<.008	77	1	1.3
Aug						
07...	.07	<.006	<.008	82	7	5.5
Sep						
18...	<.06	E.003	<.008	92	6	2.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

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

Date	Time	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Organic carbon, water, unfltrd mg/L (00680)	Chloro-phyll a phyto-plank-ton, fluoro, µg/L (70953)	Pheo-phytin a, phyto-plank-ton, µg/L (62360)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, unfltrd µg/L (01027)	Chrom-ium, water, unfltrd recover-able, µg/L (01034)	Copper, water, unfltrd recover-able, µg/L (01042)	Lead, water, unfltrd recover-able, µg/L (01051)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, unfltrd recover-able, µg/L (01092)
Apr												
17...	1100	2.9	--	--	--	.30	E.01	<.60	E.87	.14	.26	E1.0
May												
15...	0900	26	3.6	.3	.3	.73	.05	.83	1.4	.77	1.1	4.5
Jun												
19...	0930	2.6	--	--	--	.37	E.01	E.32	<1.2	.15	.35	E1.1
Aug												
07...	1200	<2.0	.9	.1	.2	.34	E.01	E.31	<1.2	<.06	<.16	<2.0



Water-Data Report 2007

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT

Pend Oreille Basin
North Fork Flathead Subbasin

LOCATION.--Lat 48°29'44", long 114°07'36" referenced to North American Datum of 1927, in NE ¼ SW ¼ NW ¼ sec.35, T.32 N., R.20 W., Flathead County, MT, Hydrologic Unit 17010206, on right bank 1.5 mi downstream from Canyon Creek, 3.8 mi upstream from Middle Fork, 8.8 mi northeast of Columbia Falls, and at river mile 162.1.

DRAINAGE AREA.--1,548 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1910 to September 1917 (no winter records in water years 1913, 1916, 1917), April 1929 to February 1935 (incomplete), June 1935 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1316. Published as Flathead River near Columbia Falls 1915-17, 1929-70.

REVISED RECORDS.-- WSP 1216: Drainage area. WSP 1246: 1911; 1912, maximum discharge (M); 1915-17 (M); 1929 (M); 1938-39 (M); 1946 (M).

GAGE.--Water-stage recorder. Elevation of gage is 3,145.59 ft, referenced to the National Geodetic Vertical Datum of 1929. September 1910 to September 1917 and April to August 1929, nonrecording gages, and May 1, 1930, to Sept. 30, 1962, water-stage recorder, all at site 2.7 mi downstream at different elevations.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. A few small diversions from tributaries for irrigation of hay meadows occur upstream from station. Bureau of Reclamation satellite telemeter is located at the station.

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	671	e500	1,740	780	e400	668	4,600	7,670	10,000	3,900	1,360	792
2	663	e400	1,670	1,040	e400	610	4,320	8,320	11,000	3,700	1,320	794
3	661	e520	1,560	1,140	e450	652	3,970	9,740	11,900	3,560	1,280	762
4	655	e560	1,600	953	e570	666	3,640	9,980	12,700	3,460	1,230	747
5	648	714	1,540	725	e700	685	3,400	8,570	13,300	3,360	1,190	736
6	642	1,310	1,450	764	e800	716	3,230	7,390	13,600	3,300	1,160	726
7	638	8,290	1,420	662	791	781	3,160	6,720	12,200	3,260	1,130	721
8	635	18,000	1,350	662	649	845	3,230	6,930	10,500	3,210	1,100	727
9	630	12,300	1,280	718	546	876	3,620	9,480	9,010	3,080	1,080	720
10	624	8,020	1,220	794	580	870	4,060	12,500	8,550	2,880	1,060	710
11	621	6,110	1,190	e330	586	963	3,980	12,400	8,850	2,700	1,030	696
12	614	4,850	1,190	e190	397	2,050	3,800	12,100	8,150	2,550	1,010	681
13	608	4,120	1,200	e200	346	3,860	3,620	13,300	7,180	2,450	979	675
14	603	3,530	1,180	e250	350	3,430	3,530	14,200	6,420	2,380	953	667
15	603	3,020	1,330	e280	540	2,890	3,730	12,400	6,010	2,330	926	657
16	642	2,910	1,280	e300	522	2,640	3,820	11,400	5,640	2,270	910	645
17	651	2,700	e1,000	e400	478	2,520	3,970	11,700	5,580	2,210	905	642
18	625	2,390	e870	e500	590	3,060	4,180	13,300	6,080	2,250	891	645
19	622	2,160	e930	e700	537	4,080	4,140	13,700	6,030	2,210	877	680
20	660	2,350	e950	e800	664	4,540	4,010	13,300	5,880	2,130	886	675
21	672	2,690	e1,000	e650	700	4,430	3,830	11,700	5,830	2,040	915	695
22	649	2,570	e1,100	e750	669	4,000	3,700	10,100	5,900	1,950	887	682
23	631	2,420	e1,150	812	663	3,630	3,720	8,740	5,870	1,860	870	671
24	619	2,290	e1,100	749	677	3,690	3,940	8,130	5,620	1,830	867	668
25	613	2,120	e1,170	767	684	6,260	4,370	7,870	5,260	1,760	846	658
26	606	e1,800	1,230	516	687	8,450	4,890	7,080	4,860	1,700	825	648
27	594	e1,300	1,170	335	644	7,540	5,240	6,780	4,360	1,650	807	637
28	584	e1,200	766	e240	666	6,330	5,500	8,050	4,020	1,580	805	628
29	587	e1,400	577	e220	---	5,470	6,330	9,420	3,970	1,520	788	640
30	599	e1,600	584	e200	---	4,980	7,270	9,000	4,000	1,460	769	638
31	e560	---	677	e300	---	4,710	---	9,170	---	1,410	755	---
Total	19,430	104,144	36,474	17,727	16,286	96,892	124,800	311,140	228,270	75,950	30,411	20,663
Mean	627	3,471	1,177	572	582	3,126	4,160	10,040	7,609	2,450	981	689
Max	672	18,000	1,740	1,140	800	8,450	7,270	14,200	13,600	3,900	1,360	794
Min	560	400	577	190	346	610	3,160	6,720	3,970	1,410	755	628
Ac-ft	38,540	206,600	72,350	35,160	32,300	192,200	247,500	617,100	452,800	150,600	60,320	40,990
Cfsm	0.40	2.24	0.76	0.37	0.38	2.02	2.69	6.48	4.92	1.58	0.63	0.44
In.	0.47	2.50	0.88	0.43	0.39	2.33	3.00	7.48	5.49	1.83	0.73	0.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,189	1,235	951	788	751	931	3,335	9,831	9,966	4,006	1,620	1,166
Max	3,650	3,733	3,388	2,242	2,017	3,126	6,877	15,160	20,780	9,262	3,232	2,653
(WY)	(1952)	(1990)	(1996)	(2005)	(1996)	(2007)	(1943)	(1954)	(1974)	(1954)	(1976)	(1959)
Min	517	486	433	398	342	406	833	4,986	3,353	1,436	747	552
(WY)	(2002)	(1988)	(2001)	(1988)	(2001)	(1944)	(1975)	(1944)	(1941)	(1977)	(1941)	(2001)

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

SUMMARY STATISTICS

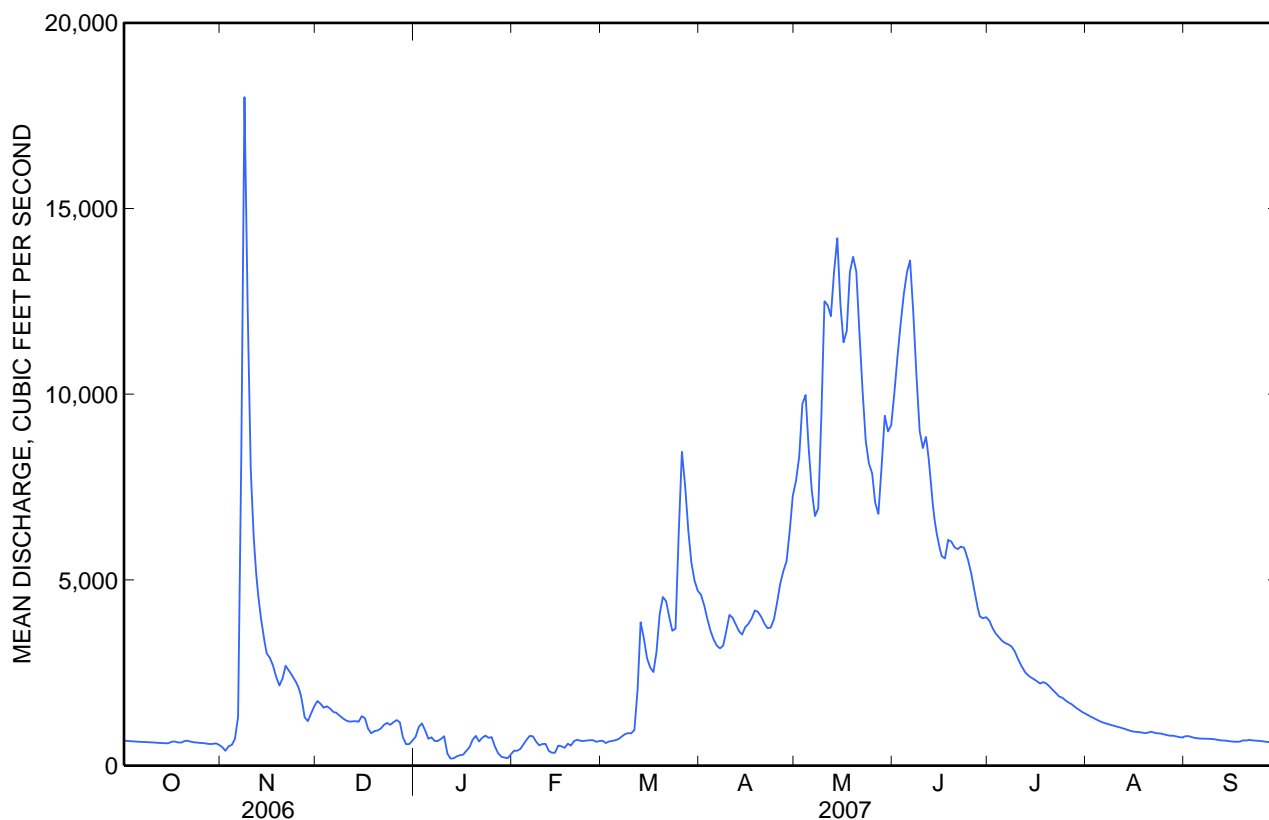
	Calendar Year 2006		Water Year 2007		Water Years 1940 - 2007	
Annual total	1,201,092		1,082,187			
Annual mean	3,291		2,965		2,987	
Highest annual mean					4,721 1974	
Lowest annual mean					1,383 1944	
Highest daily mean	21,100	May 20	18,000	Nov 8	58,000	Jun 9, 1964
Lowest daily mean	400	Nov 2	^a 190	Jan 12	190	Jan 12, 2007
Annual seven-day minimum	532	Oct 29	279	Jan 11	279	Jan 11, 2007
Maximum peak flow			19,200	Nov 8	^b 69,100	Jun 9, 1964
Maximum peak stage			9.39	Nov 8	^c 18.60	Jun 9, 1964
Instantaneous low flow					^d 187	Feb 8, 2001
Annual runoff (ac-ft)	2,382,000		2,147,000		2,164,000	
Annual runoff (cfsm)	2.13		1.92		1.93	
Annual runoff (inches)	28.86		26.01		26.22	
10 percent exceeds	9,690		8,300		8,460	
50 percent exceeds	1,300		1,220		1,220	
90 percent exceeds	661		587		560	

^a Result of freezeup.

^b From rating curve extended above 30,000 ft³/s, on basis of slope-area measurement of peak flow.

^c From floodmark.

^d Gage height, 0.87 ft, result of freezeup.



12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1950, 1970, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to October 1978.

WATER TEMPERATURE: October 1975 to current year (seasonal records beginning April 2006).

SUSPENDED-SEDIMENT DISCHARGE: October 1975 to November 1978.

INSTRUMENTATION.--Temperature probe installed Oct. 1, 1975.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 246 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Dec. 31, 1976; minimum daily, 128 $\mu\text{S}/\text{cm}$ at 25.0°C, June 30, July 1, 1976.

WATER TEMPERATURE: Maximum, 23.0°C, Aug. 12, 1997; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 931 mg/L, May 11, 1976; minimum daily mean, 1 mg/L on many days each year.

SEDIMENT LOAD: Maximum daily, 56,800 tons, May 11, 1976; minimum daily, 1.1 tons, Mar. 3, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 20.5°C, July 18, 24, and 27; minimum for season, 2.0°C, April 3, 4.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 4

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd std units (00400)	Specif- ic conduc- tance, wat un- f $\mu\text{S}/\text{cm}$ 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)
Mar													
26...	1630	8,370	652	12.3	110	8.0	149	8.0	4.0	81	23.3	5.52	.41
Apr													
17...	1430	4,000	679	11.6	105	8.0	170	6.0	6.0	90	25.9	6.14	.39
May													
01...	1700	7,740	675	12.0	116	8.2	161	23.0	8.5	84	24.0	5.79	.31
15...	1230	12,200	684	11.0	101	8.1	143	19.5	7.0	74	21.3	4.98	.28
Jun													
05...	1430	13,400	668	10.2	107	8.1	129	25.0	11.5	66	19.1	4.43	.27
19...	1300	6,060	683	10.8	107	8.2	149	20.5	10.0	78	22.2	5.36	.26
Jul													
17...	1530	2,220	678	9.5	114	8.4	181	36.0	18.5	97	28.1	6.43	.22
Aug													
07...	1530	1,120	676	10.2	117	8.3	204	23.5	16.0	100	29.6	7.36	.33
Sep													
19...	1130	681	684	10.0	99	8.5	223	11.0	10.0	120	35.3	8.67	.33

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

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

Date	Sodium adsorp- tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alka- linity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dis- solved solids, sum of consti- tuents mg/L (70301)	Dis- solved solids, tons/ acre-ft (70303)	Dis- solved solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Mar 26...	.1	1.04	76	.21	<.10	5.86	4.56	87	.12	1,960	<.020	.057	<.002
Apr 17...	.1	1.14	88	.20	<.10	5.24	4.70	96	.13	1,040	<.020	E.013	<.002
May 01...	.0	.95	82	.13	E.06	5.25	4.12	90	.12	1,880	<.020	.032	<.002
15...	.0	.76	74	<.12	<.10	4.89	3.15	E80	E.11	E2,630	<.020	.042	<.002
Jun 05...	.0	.70	68	E.10	<.10	4.13	2.81	E72	E.10	E2,620	<.020	.025	<.002
19...	.0	.79	77	E.09	E.06	4.49	3.76	E83	E.11	E1,360	<.020	<.016	<.002
Jul 17...	.0	.92	91	.14	<.10	4.83	5.54	101	.14	604	<.020	E.008	E.001
Aug 07...	.0	1.00	104	E.12	E.05	5.04	7.22	E113	E.15	E342	<.020	<.016	<.002
Sep 19...	.0	1.09	115	.18	E.07	5.86	10.0	130	.18	240	<.020	E.010	<.002

1235500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

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

Date	Total nitrogen, water, unfltrd, mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd, mg/L (00665)	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)
Mar						
26...	.27	E.005	.089	82	136	3,070
Apr						
17...	.08	E.003	E.006	88	6	65
May						
01...	.31	<.006	.045	74	88	1,840
15...	.18	E.005	.069	70	86	2,830
Jun						
05...	.16	<.006	.081	71	106	3,840
19...	.09	E.004	.009	80	9	147
Jul						
17...	E.05	E.004	<.008	84	2	12
Aug						
07...	E.05	<.006	<.008	70	1	3.0
Sep						
19...	E.04	E.004	<.008	58	1	1.8

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

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

Date	Time	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Organic carbon, water, unfltrd mg/L (00680)	Chloro-phyll a phyto-plank-ton, fluoro, µg/L (70953)	Pheo-phytin a, phyto-plank-ton, µg/L (62360)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, unfltrd µg/L (01027)	Chrom-ium, water, unfltrd recover-able, µg/L (01034)	Copper, water, unfltrd recover-able, µg/L (01042)	Lead, water, unfltrd recover-able, µg/L (01051)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, unfltrd recover-able, µg/L (01092)
May												
15...	1230	35	3.1	.7	.5	.81	.02	.78	1.7	.94	1.1	4.8
Aug												
07...	1530	<2.0	.9	.1	.1	.34	E.01	<.60	<1.2	<.06	<.16	<2.0

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
APRIL 2007 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	April			May			June		
1	5.0	3.5	4.0	8.5	6.0	7.5	11.5	9.0	10.5
2	4.5	3.0	3.5	8.5	6.5	7.5	12.0	9.5	11.0
3	4.0	2.0	3.0	7.5	5.0	6.0	12.5	9.5	11.0
4	4.0	2.0	3.0	5.5	4.0	4.5	12.0	10.0	11.0
5	6.0	3.5	4.5	7.0	4.5	5.5	12.0	10.5	11.0
6	6.5	4.0	5.0	8.5	5.0	6.5	10.5	8.5	9.0
7	6.5	4.0	5.5	8.5	6.5	7.5	9.0	8.0	8.5
8	7.5	4.5	6.0	10.0	6.5	8.0	9.5	8.0	8.5
9	7.0	5.0	5.5	9.5	8.0	9.0	10.5	8.0	9.0
10	5.5	4.0	4.5	9.0	6.5	7.5	10.5	9.5	10.0
11	5.0	3.0	4.0	9.0	6.5	7.5	10.5	8.5	9.5
12	6.0	3.0	4.5	9.5	7.0	8.0	10.0	8.0	9.0
13	6.0	4.0	5.0	9.0	6.5	7.5	10.0	8.0	9.0
14	7.0	4.5	6.0	8.5	5.5	6.5	11.0	8.5	9.5
15	7.0	5.5	6.0	9.0	6.0	7.5	11.0	8.5	10.0
16	7.0	4.0	5.5	10.0	7.0	8.5	11.5	9.0	10.0
17	7.0	5.5	6.5	10.0	7.5	9.0	11.0	8.5	9.0
18	6.5	5.0	5.5	9.5	7.5	8.5	10.5	8.0	9.0
19	5.0	4.0	4.5	9.0	7.5	8.0	12.5	8.5	10.5
20	6.0	4.5	5.0	7.5	6.0	7.0	14.0	10.0	12.0
21	7.0	4.0	5.5	7.5	6.5	7.0	14.0	11.0	12.5
22	8.0	5.0	6.5	8.5	6.5	7.5	14.0	11.0	12.5
23	8.5	5.5	7.0	8.5	6.5	7.5	14.5	11.5	13.0
24	8.0	6.0	7.0	8.5	6.0	7.5	14.0	11.5	12.5
25	7.5	5.5	6.5	8.0	5.0	6.5	12.5	10.0	11.0
26	8.0	5.5	6.5	10.0	6.5	8.0	13.5	9.0	10.5
27	7.0	6.0	6.5	9.5	8.0	8.5	14.5	10.5	12.5
28	8.0	5.5	6.5	8.5	6.5	7.5	16.0	12.5	14.0
29	8.0	6.0	7.0	9.5	6.0	7.5	16.0	13.5	14.5
30	7.5	5.5	6.5	10.5	7.5	9.0	14.5	12.0	13.5
31	---	---	---	11.5	8.5	10.0	---	---	---
Month	8.5	2.0	5.5	11.5	4.0	7.5	16.0	8.0	11.0

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
APRIL 2007 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	July			August			September		
1	15.0	11.5	13.5	18.0	15.5	17.0	16.5	14.0	15.0
2	15.5	13.0	14.5	18.5	15.5	17.0	16.5	14.5	15.5
3	16.5	13.0	15.0	18.0	16.0	17.5	16.5	14.0	15.5
4	17.5	13.5	15.5	17.5	14.5	16.0	16.0	14.0	15.0
5	18.0	14.5	16.5	17.5	15.0	16.5	16.0	13.5	15.0
6	18.5	15.5	17.0	17.5	15.5	16.5	16.0	14.0	15.0
7	18.5	16.0	17.5	16.5	15.0	16.0	14.5	12.0	13.5
8	18.0	15.0	16.0	15.5	14.0	14.5	12.5	10.5	11.5
9	17.0	14.5	16.0	16.5	13.0	15.0	13.0	10.5	12.0
10	17.5	14.5	16.0	16.5	14.5	16.0	12.5	10.5	12.0
11	18.5	15.0	17.0	16.0	13.0	14.5	13.5	11.0	12.5
12	19.0	16.0	17.5	16.0	13.5	15.0	13.5	12.0	12.5
13	19.5	16.5	18.0	16.5	13.5	15.5	12.5	10.0	11.5
14	20.0	17.0	18.5	17.0	14.0	16.0	12.0	10.0	11.0
15	19.5	17.5	18.5	17.0	14.5	16.0	12.5	10.0	11.5
16	19.0	16.5	18.0	16.5	14.5	15.5	12.5	10.5	11.5
17	19.0	16.5	18.0	16.0	14.0	15.0	12.0	11.0	11.5
18	20.5	17.0	18.5	16.0	13.5	15.0	11.5	10.5	11.0
19	20.0	18.0	19.0	15.0	13.5	14.0	12.0	10.0	11.0
20	19.5	17.0	18.0	14.0	12.5	13.5	10.5	8.0	9.0
21	18.5	16.5	17.5	14.0	12.5	13.5	10.0	7.5	9.0
22	19.5	16.0	17.5	15.0	12.0	13.5	11.5	9.5	10.5
23	20.0	17.0	18.5	14.5	12.5	13.5	11.5	9.0	10.5
24	20.5	18.5	19.5	15.5	12.5	14.0	9.5	8.0	8.5
25	20.0	17.5	18.5	16.0	13.0	14.5	8.5	8.0	8.0
26	19.5	16.5	18.5	16.0	14.0	14.5	9.5	8.0	8.5
27	20.5	17.5	19.0	14.0	12.5	13.5	10.0	8.0	9.0
28	20.0	17.5	19.0	14.0	11.0	12.5	11.5	9.0	10.0
29	19.5	17.0	18.5	15.0	12.0	13.5	10.5	8.5	9.5
30	19.5	16.5	18.0	15.5	13.0	14.5	9.0	7.0	8.0
31	19.0	16.5	17.5	15.0	13.5	14.5	---	---	---
Month	20.5	11.5	17.5	18.5	11.0	15.0	16.5	7.0	11.5

Water-Data Report 2007

12358500 MIDDLE FORK FLATHEAD RIVER NEAR WEST GLACIER, MT

Pend Oreille Basin
Middle Fork Flathead Subbasin

LOCATION.--Lat 48°29'43", long 114°00'33" referenced to North American Datum of 1927, in S ½ SW ¼ NE ¼ sec.34, T.32 N., R.19 W., Flathead County, MT, Hydrologic Unit 17010207, on left bank 0.8 mi downstream from McDonald Creek, 1.3 mi west of West Glacier, and at river mile 3.8.

DRAINAGE AREA.--1,128 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1939 to current year. Prior to October 1947, published as "near Belton."

REVISED RECORDS.-- Water Supply Paper 1216: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,128.72 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1950, non-recording gage at present site and elevation.

REMARKS.--Records are excellent. Bureau of Reclamation satellite telemeter is located at the station.

12358500 MIDDLE FORK FLATHEAD RIVER NEAR WEST GLACIER, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	533	411	1,600	717	601	550	4,260	7,470	7,660	3,440	1,070	551
2	519	401	1,510	846	569	540	3,970	8,780	8,810	3,230	1,030	558
3	506	395	1,440	958	565	527	3,650	11,100	9,840	3,110	988	553
4	494	410	1,380	924	575	528	3,330	10,400	10,600	3,030	951	549
5	482	463	1,320	876	606	542	3,110	8,410	11,800	2,950	927	537
6	473	965	1,270	878	628	541	2,900	7,100	12,500	2,880	892	526
7	466	10,200	1,210	857	608	564	2,760	6,470	10,400	2,860	864	515
8	457	15,700	1,170	859	589	620	2,710	6,520	8,560	2,760	845	514
9	454	8,950	1,120	831	585	689	2,890	8,980	7,420	2,550	821	506
10	444	6,420	1,080	826	580	699	3,190	11,700	8,000	2,370	794	489
11	439	5,290	1,060	755	580	779	3,120	11,200	8,550	2,220	775	473
12	429	4,450	1,050	706	582	1,790	3,000	11,700	7,340	2,120	747	463
13	424	3,880	1,070	628	566	5,220	2,870	12,600	6,510	2,070	726	455
14	416	3,400	1,080	672	560	4,630	2,780	11,500	5,860	2,010	722	442
15	410	2,990	1,170	665	572	3,750	2,870	9,770	5,370	1,970	720	438
16	428	2,930	1,180	675	599	3,240	3,010	9,300	5,050	1,900	708	429
17	435	2,750	1,010	682	597	3,010	3,180	10,100	5,080	1,820	691	425
18	425	2,440	886	714	585	3,630	3,450	11,800	5,460	1,810	682	438
19	426	2,220	890	724	589	4,650	3,580	12,200	5,530	1,830	672	441
20	458	2,310	901	746	596	5,180	3,470	11,100	5,280	1,760	663	448
21	493	2,710	913	724	597	5,400	3,270	9,680	5,320	1,640	669	462
22	497	2,780	980	707	576	4,800	3,140	8,320	5,410	1,560	672	454
23	481	2,650	965	709	580	4,230	3,110	7,190	5,240	1,510	655	443
24	468	2,510	944	719	580	3,930	3,430	6,650	4,890	1,480	643	463
25	459	e2,300	921	691	565	5,400	4,090	6,330	4,440	1,440	625	484
26	451	e2,100	923	663	569	7,980	5,040	5,860	4,010	1,360	597	470
27	442	e1,900	912	646	570	7,270	5,450	5,830	3,560	1,300	579	451
28	431	e1,800	891	603	558	6,210	5,570	6,580	3,430	1,260	567	440
29	428	e1,630	833	588	---	5,310	6,880	6,770	3,620	1,220	560	431
30	444	1,600	737	604	---	4,780	7,330	6,390	3,670	1,170	546	431
31	425	---	727	596	---	4,450	---	6,720	---	1,110	537	---
Total	14,137	98,955	33,143	22,789	16,327	101,439	111,410	274,520	199,210	63,740	22,938	14,279
Mean	456	3,298	1,069	735	583	3,272	3,714	8,855	6,640	2,056	740	476
Max	533	15,700	1,600	958	628	7,980	7,330	12,600	12,500	3,440	1,070	558
Min	410	395	727	588	558	527	2,710	5,830	3,430	1,110	537	425
Med	451	2,470	1,050	714	580	3,750	3,230	8,780	5,490	1,900	708	462
Ac-ft	28,040	196,300	65,740	45,200	32,380	201,200	221,000	544,500	395,100	126,400	45,500	28,320
Cfsm	0.40	2.92	0.95	0.65	0.52	2.90	3.29	7.85	5.89	1.82	0.66	0.42
In.	0.47	3.26	1.09	0.75	0.54	3.35	3.67	9.05	6.57	2.10	0.76	0.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,050	1,195	916	728	716	902	3,245	9,481	9,917	3,863	1,333	939
Max	3,004	5,598	3,750	2,420	2,686	3,272	7,093	14,670	19,870	8,162	2,364	2,510
(WY)	(1960)	(1990)	(1996)	(1974)	(1971)	(2007)	(1943)	(1957)	(1964)	(1954)	(1976)	(1968)
Min	367	279	262	282	244	307	664	5,259	3,576	1,249	576	420
(WY)	(1940)	(1953)	(1953)	(2001)	(2001)	(1944)	(1975)	(1941)	(1941)	(1944)	(1941)	(1988)

12358500 MIDDLE FORK FLATHEAD RIVER NEAR WEST GLACIER, MT—Continued

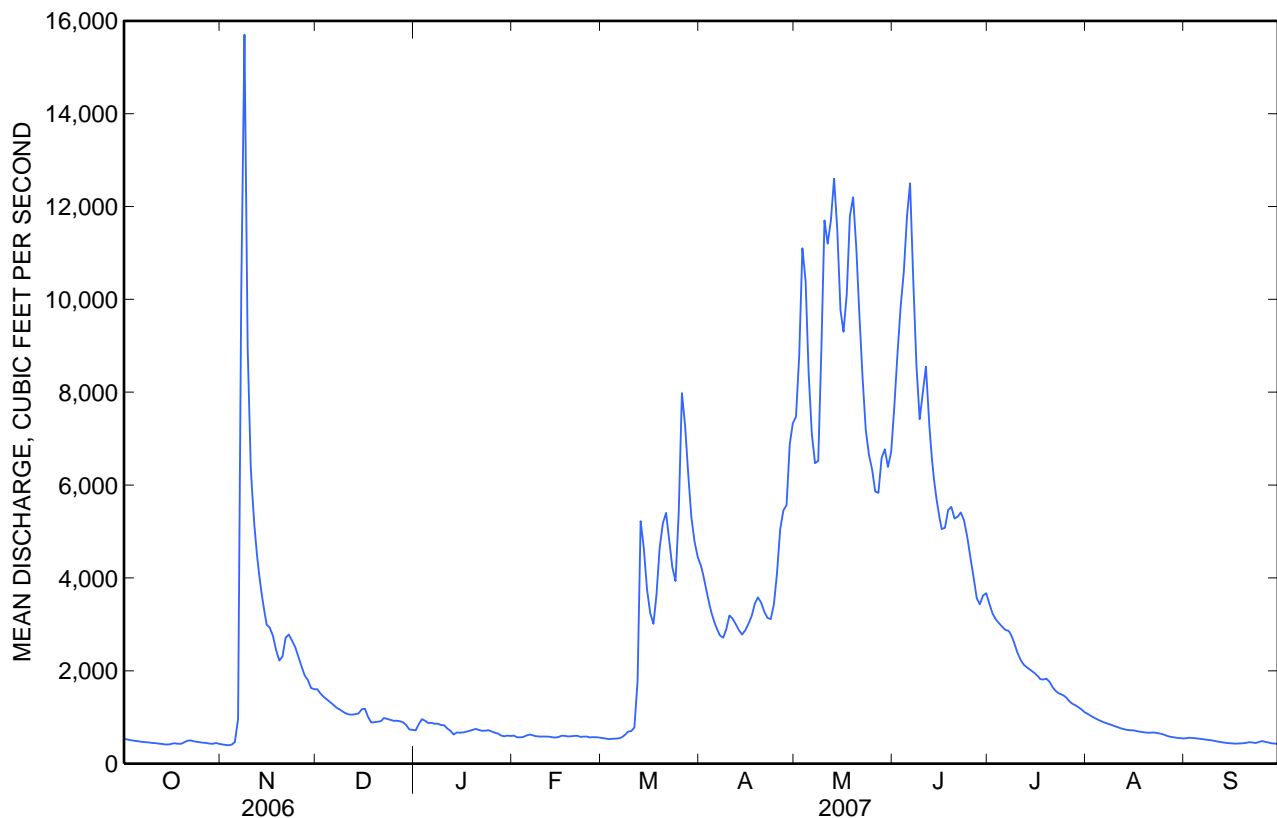
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1940 - 2007	
Annual total	1,134,744		972,887			
Annual mean	3,109		2,665		2,863	
Highest annual mean					4,071	1974
Lowest annual mean					1,437	1941
Highest daily mean	21,500	Jun 16	15,700	Nov 8	92,700	Jun 9, 1964
Lowest daily mean	395	Nov 3	395	Nov 3	189	Nov 27, 1952
Annual seven-day minimum	416	Oct 29	416	Oct 29	205	Nov 26, 1952
Maximum peak flow			18,700	Nov 8	^b 140,000	Jun 9, 1964
Maximum peak stage			8.05	Nov 8	36.46	Jun 9, 1964
Instantaneous low flow			^a 387	Nov 2	^c 173	Nov 27, 1952
Annual runoff (ac-ft)	2,251,000		1,930,000		2,074,000	
Annual runoff (cfs)	2.76		2.36		2.54	
Annual runoff (inches)	37.42		32.08		34.48	
10 percent exceeds	9,230		7,290		8,310	
50 percent exceeds	1,200		1,050		1,110	
90 percent exceeds	500		458		439	

^a Gage height, 1.55 ft.

^b About 140,000 ft³/s, from rating extended above 31,000 ft³/s, on basis of a contracted opening measurement at gage height 19.42 ft, and flood volume-hydrographic comparison.

^c Stage below intakes.



12358500 MIDDLE FORK FLATHEAD RIVER NEAR WEST GLACIER, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--1949-50, 1970, 1998 to 2003, March 2007 to September 2007.

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

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

Part 1 of 3

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat un µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)
Mar													
26...	1400	8,130	652	12.1	108	7.9	144	10.0	4.0	79	22.2	5.71	.34
Apr													
16...	1530	3,040	682	11.9	111	8.0	159	15.0	7.5	85	24.1	6.09	.31
30...	1500	7,340	687	11.7	106	8.1	152	19.5	6.5	77	21.9	5.54	.28
May													
14...	1545	11,200	687	11.4	107	8.1	135	17.0	8.0	70	19.9	5.04	.30
Jun													
04...	1400	10,700	680	11.7	122	8.0	121	26.0	12.0	61	17.2	4.39	.25
18...	1330	5,480	681	11.9	115	8.0	125	10.0	9.0	66	18.3	4.87	.25
Jul													
18...	0830	1,810	680	9.0	104	8.1	144	18.0	16.5	77	21.7	5.46	.36
Aug													
08...	1230	849	682	10.2	110	8.2	163	20.0	13.5	84	23.4	6.32	.31

12358500 MIDDLE FORK FLATHEAD RIVER NEAR WEST GLACIER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Sodium adsorp- tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alka- linity, wat flt end lab, mg/L as CaCO3 (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dis- solved, sum of consti- tuents mg/L (70301)	Dis- solved, solids, tons/ acre-ft (70303)	Dis- solved, solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Mar													
26...	.0	.92	74	.49	<.10	4.51	3.24	83	.11	1,810	<.020	.199	<.002
Apr													
16...	.0	1.03	82	.38	<.10	4.37	3.54	90	.12	735	<.020	.135	<.002
30...	.0	.88	76	.46	<.10	4.38	3.04	83	.11	1,640	<.020	.201	<.002
May													
14...	.0	.80	69	E.09	<.10	4.11	2.48	E74	E.10	E2,240	<.020	.177	<.002
Jun													
04...	.0	.58	64	E.12	<.10	3.29	2.20	E67	E.09	E1,920	<.020	.124	<.002
18...	.0	.69	65	E.11	<.10	3.55	2.62	E69	E.09	E1,030	<.020	.104	<.002
Jul													
18...	.0	.85	73	.22	<.10	3.79	3.33	80	.11	391	<.020	.089	E.002
Aug													
08...	.0	.97	85	.29	<.10	3.82	3.90	90	.12	207	<.020	.066	E.001

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

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

Date	Total nitro- gen, water, fltrd, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Total phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Chloro- phyll a phyto- plank- ton, fluoro, µg/L (70953)	Pheo- phytin a, phyto- plank- ton, µg/L (62360)	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)
Mar									
26...	.31	E.004	.049	--	--	--	67	119	2,610
Apr									
16...	.17	E.003	<.008	--	--	--	86	2	16
30...	.30	<.006	.033	--	--	--	71	51	1,010
May									
14...	.27	E.004	.059	2.2	.4	.2	68	60	1,810
Jun									
04...	.19	<.006	.027	--	--	--	62	48	1,390
18...	.19	E.004	E.005	--	--	--	86	9	133
Jul									
18...	.12	E.004	<.008	--	--	--	82	1	4.9
Aug									
08...	.12	<.006	<.008	.6	.3	.2	81	1	2.3



Water-Data Report 2007

12359800 SOUTH FORK FLATHEAD RIVER ABOVE TWIN CREEK, NEAR HUNGRY HORSE, MT

Pend Oreille Basin
South Fork Flathead Subbasin

LOCATION.--Lat 47°58'45", long 113°33'36" referenced to North American Datum of 1927, in NE ¼ NW ¼ NE ¼ sec.36, T.26 N., R.16 W., Flathead County, MT, Hydrologic Unit 17010209, Flathead National Forest, on left bank 0.1 mi downstream from Tin Creek, 0.4 mi upstream from Twin Creek, 36.3 mi southeast of Hungry Horse, and at river mile 42.2.

DRAINAGE AREA.--1,160 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1982, October 1984 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 3,575 ft (referenced to the National Geodetic Vertical Datum of 1929), from river-profile map.

REMARKS.--Seasonal records are good except those for estimated discharges, which are poor. No known regulation or diversions 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 June 8, 1964, reached a stage of 20.87 ft, from high-water profile; discharge, 50,900 ft³/s, by slope-area measurement of peak flow.

12359800 SOUTH FORK FLATHEAD RIVER ABOVE TWIN CREEK, NEAR HUNGRY HORSE, MT—Continued

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

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				2,780	6,880	6,570	1,990	549	311	298	437	
2				2,590	8,120	7,440	1,860	536	306	304	417	
3				2,380	9,970	8,120	1,770	519	301	368	398	
4				2,220	8,870	8,260	1,680	503	294	389	393	
5				2,120	7,060	8,840	1,600	487	287	364	399	
6				2,010	5,870	8,810	1,530	476	283	347	385	
7				1,960	5,280	7,170	1,480	466	281	335	381	
8				2,020	5,460	5,680	1,420	460	284	332	394	
9				2,330	7,280	4,940	1,340	448	280	357	415	
10				2,440	9,430	5,110	1,250	446	275	383	425	
11				2,360	9,860	5,300	1,180	436	271	399	442	
12				2,270	10,400	4,780	1,120	422	266	431	424	
13				2,160	11,100	4,340	1,080	411	262	436	462	
14				2,090	9,860	3,980	1,040	401	261	416	442	
15				2,190	8,420	3,690	1,000	390	260	402	415	
16				2,270	8,110	3,440	964	382	255	391	421	
17				2,390	8,900	3,470	926	379	254	388	466	
18				e2,600	10,200	3,530	995	369	255	387	566	
19				e2,700	10,600	3,310	938	361	294	410	610	
20				2,580	9,830	3,080	893	367	287	451	566	
21				2,440	8,340	3,170	849	386	301	447	510	
22				e2,350	7,020	3,330	806	390	284	432	421	
23				2,360	5,860	3,240	767	375	354	428	364	
24				2,640	5,160	3,020	735	366	387	463	344	
25				3,130	5,020	2,780	707	351	357	518	e350	
26				3,620	4,770	2,510	680	337	331	542	e350	
27				3,800	4,840	2,220	661	329	310	525	e350	
28				4,250	5,630	2,050	644	322	302	501	e340	
29				6,080	5,590	2,080	616	316	305	481	e320	
30				6,470	5,300	2,100	591	309	301	475	e300	
31				---	5,670	---	571	303	---	456	---	
Total				83,600	234,700	136,360	33,683	12,592	8,799	12,856	12,507	
Mean				2,787	7,571	4,545	1,087	406	293	415	417	
Max				6,470	11,100	8,840	1,990	549	387	542	610	
Min				1,960	4,770	2,050	571	303	254	298	300	
Ac-ft				165,800	465,500	270,500	66,810	24,980	17,450	25,500	24,810	
Cfsm				2.40	6.53	3.92	0.94	0.35	0.25	0.36	0.36	
In.				2.68	7.53	4.37	1.08	0.40	0.28	0.41	0.40	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 – 1982 AND SEASONS 1985 – 2007*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	479	520	588	2,535	7,687	8,159	2,599	757	563	567	729	514
Max	1,197	2,285	1,342	4,490	12,580	15,910	5,904	1,331	1,853	1,878	3,098	1,323
(WY)	(1974)	(1971)	(1972)	(1990)	(1997)	(1974)	(1975)	(1972)	(1985)	(1986)	(1990)	(1976)
Min	207	201	252	464	4,738	2,522	844	339	245	225	204	249
(WY)	(1980)	(1980)	(1980)	(1975)	(1977)	(1987)	(1977)	(1988)	(1988)	(1988)	(1988)	(1972)

* During periods of operation. Seasonal records only from October 1984 to current year.

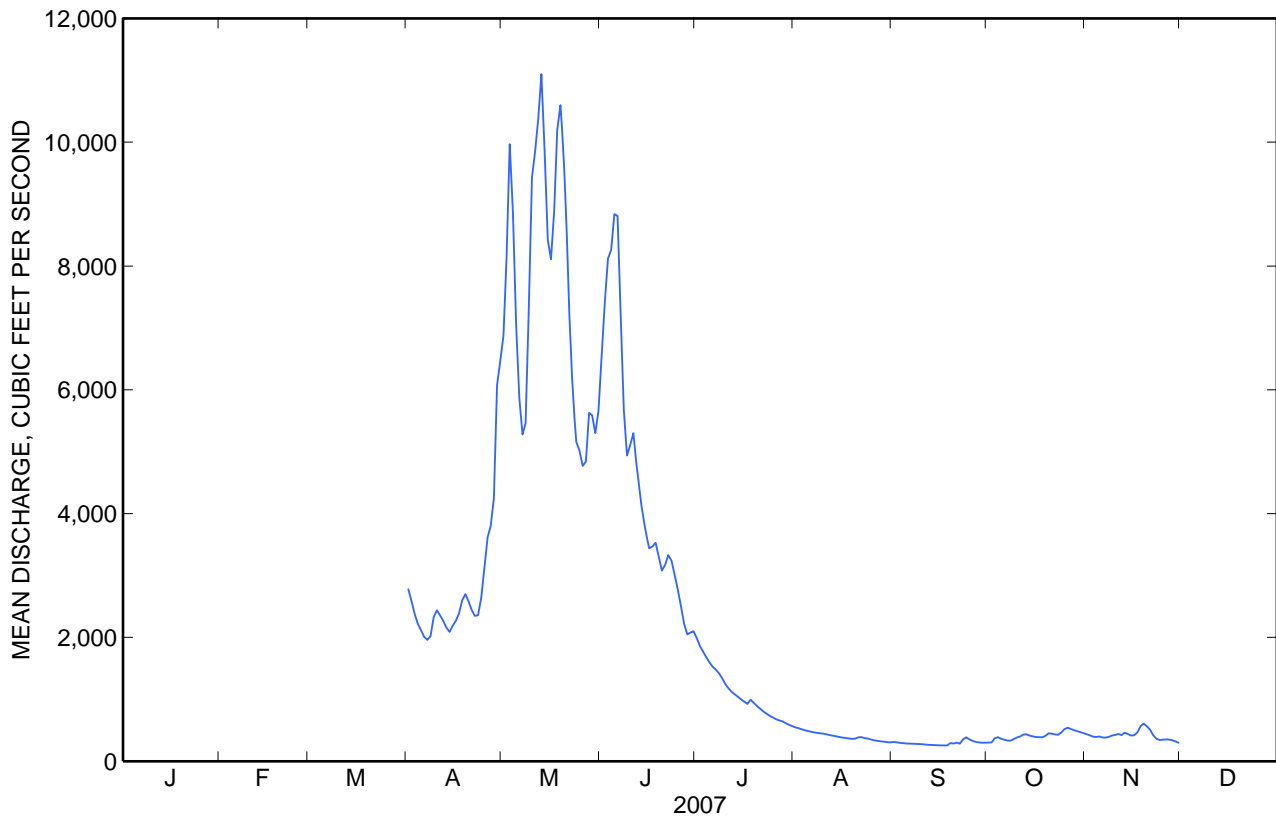
12359800 SOUTH FORK FLATHEAD RIVER ABOVE TWIN CREEK, NEAR HUNGRY HORSE, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1985 - 2007		Water Years 1956 - 1982*	
Annual mean					2,310	
Highest annual mean					2,988	1971
Lowest annual mean					1,175	1977
Highest daily mean	11,100	May 13	29,800	May 17, 1997	29,500	Jun 16, 1974
Lowest daily mean	254	Sep 17	176	Nov 30, 1987	135	Jan 29, 1980
Annual seven-day minimum					155	Jan 26, 1980
Maximum peak flow	11,400	May 13	29,100	May 17, 1997	30,200	Jun 16, 1974
Maximum peak stage	10.87	May 13	15.01	May 17, 1997	15.20	Jun 16, 1974
Instantaneous low flow					^a 127	Nov 30, 1979
Annual runoff (ac-ft)					1,673,000	
Annual runoff (cfsm)					1.99	
Annual runoff (inches)					27.06	
10 percent exceeds					7,420	
50 percent exceeds					646	
90 percent exceeds					290	

* During periods of operation. Seasonal records only from October 1984 to current year.

^a Gage height, 4.13 ft.



Water-Data Report 2007

12362000 HUNGRY HORSE RESERVOIR NEAR HUNGRY HORSE, MT

Pend Oreille Basin
South Fork Flathead Subbasin

LOCATION.--Lat 48°20'28", long 114°00'48" referenced to North American Datum of 1927, in NE ¼ NE ¼ NW ¼ sec.27, T.30 N., R.19 W., Flathead County, MT, Hydrologic Unit 17010209, in block 14 of Hungry Horse Dam on South Fork Flathead River, 3.8 mi southeast of Hungry Horse, and at river mile 5.3.

DRAINAGE AREA.--1,654 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1951 to current year.

GAGE.--Water-stage recorder equipped with remote indicator in power house. Elevation of gage is 3,196 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). During construction and prior to May 1, 1953, various types of nonrecording gages were used.

COOPERATION.--Capacity table and daily elevations provided by U.S. Bureau of Reclamation.

REMARKS.--Reservoir and flow are completely controlled by concrete arch-gravity dam; construction began in 1948 and was completed in 1952. Storage began Sept. 21, 1951. Usable capacity is 3,451,000 acre-ft, top of 1.0 ft flash-boards; 3,427,000 acre-ft between elevations 3,196 ft, lowest outlet, and 3,560 ft, controlled spillway elevation. Dead storage is 39,730 acre-ft below elevation 3,196 ft. Minimum operating level is 445,400 acre-ft, elevation, 3,336 ft for on-site power generation. Water is used for power production, flood control, irrigation and recreation. Controlled spillway is an adjustable ring gate with 1.0 ft flashboards. Figures given herein represent usable contents. Capacity table in use is dated August 1969.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 3,461,000 acre-ft, July 3, 4, 1955, Aug. 6, 1956; maximum elevation observed, 3,561.40 ft, July 3, 4, 1955; minimum contents observed since normal low operating level reached in May 1952, 607,700 acre-ft, Jan. 13, 1953, elevation, 3,362.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,419,000 acre-ft, June 23, elevation, 3,559.64 ft; minimum, 2,770,000 acre-ft, Mar. 10,11, elevation, 3,530.43 ft.

Capacity Table

Elevation (feet)	Contents (acre-feet)
3,500	2,185,000
3,530	2,761,000
3,560	3,427,000

12362000 HUNGRY HORSE RESERVOIR NEAR HUNGRY HORSE, MT—Continued

**ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY OBSERVATION AT 2359 HOURS**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,541.21	3,535.08	3,540.56	3,539.43	3,535.58	3,531.69	3,535.90	3,538.24	3,551.86	3,559.21	3,552.17	3,542.21
2	3,541.03	3,534.89	3,540.58	3,539.37	3,535.40	3,531.52	3,535.82	3,538.75	3,552.31	3,559.10	3,551.87	3,541.95
3	3,540.83	3,534.68	3,540.65	3,539.36	3,535.23	3,531.34	3,535.57	3,539.52	3,552.85	3,558.96	3,551.55	3,541.73
4	3,540.64	3,534.52	3,540.70	3,539.27	3,535.08	3,531.18	3,535.41	3,540.04	3,553.42	3,558.83	3,551.24	3,541.54
5	3,540.45	3,534.32	3,540.65	3,539.28	3,534.94	3,531.02	3,535.26	3,540.29	3,554.29	3,558.68	3,550.93	3,541.34
6	3,540.26	3,534.70	3,540.72	3,539.19	3,534.77	3,530.86	3,535.09	3,540.41	3,555.23	3,558.51	3,550.63	3,541.14
7	3,540.04	3,535.42	3,540.72	3,539.19	3,534.67	3,530.72	3,534.94	3,540.45	3,555.90	3,558.33	3,550.30	3,540.97
8	3,539.85	3,536.64	3,540.71	3,539.06	3,534.55	3,530.64	3,534.79	3,540.56	3,556.32	3,558.15	3,549.99	3,540.77
9	3,539.63	3,537.31	3,540.64	3,539.04	3,534.41	3,530.54	3,534.74	3,540.90	3,556.75	3,557.95	3,549.68	3,540.59
10	3,539.39	3,537.76	3,540.65	3,538.93	3,534.28	3,530.43	3,534.71	3,541.59	3,557.20	3,557.75	3,549.35	3,540.40
11	3,539.22	3,538.12	3,540.62	3,538.77	3,534.14	3,530.43	3,534.62	3,542.29	3,557.64	3,557.54	3,549.04	3,540.20
12	3,539.01	3,538.36	3,540.64	3,538.58	3,534.01	3,530.70	3,534.51	3,543.07	3,558.00	3,557.33	3,548.73	3,540.01
13	3,538.81	3,538.54	3,540.65	3,538.37	3,533.85	3,531.26	3,534.36	3,543.93	3,558.30	3,557.11	3,548.41	3,539.81
14	3,538.59	3,538.71	3,540.60	3,538.22	3,533.70	3,531.66	3,534.43	3,544.56	3,558.50	3,556.90	3,548.10	3,539.60
15	3,538.41	3,538.85	3,540.81	3,538.04	3,533.50	3,531.95	3,534.49	3,545.14	3,558.64	3,556.65	3,547.76	3,539.40
16	3,538.23	3,538.98	3,540.70	3,537.87	3,533.46	3,532.24	3,534.56	3,545.71	3,558.74	3,556.43	3,547.45	3,539.20
17	3,538.02	3,539.10	3,540.64	3,537.68	3,533.31	3,532.53	3,534.70	3,546.42	3,558.89	3,556.24	3,547.11	3,539.02
18	3,537.85	3,539.21	3,540.51	3,537.56	3,533.19	3,532.90	3,534.86	3,547.25	3,559.26	3,555.95	3,546.80	3,538.83
19	3,537.66	3,539.27	3,540.40	3,537.44	3,533.08	3,533.27	3,535.06	3,548.13	3,559.37	3,555.75	3,546.50	3,538.64
20	3,537.50	3,539.44	3,540.28	3,537.34	3,532.96	3,533.70	3,535.16	3,548.84	3,559.45	3,555.48	3,546.18	3,538.48
21	3,537.33	3,539.51	3,540.18	3,537.19	3,532.83	3,533.99	3,535.25	3,549.36	3,559.55	3,555.24	3,545.85	3,538.31
22	3,537.14	3,539.77	3,540.10	3,537.08	3,532.68	3,534.21	3,535.33	3,549.70	3,559.61	3,555.00	3,545.54	3,538.12
23	3,536.95	3,539.87	3,540.12	3,536.95	3,532.56	3,534.42	3,535.42	3,549.95	3,559.64	3,554.72	3,545.16	3,537.97
24	3,536.74	3,540.03	3,540.09	3,536.86	3,532.42	3,534.64	3,535.57	3,550.16	3,559.62	3,554.45	3,544.89	3,537.70
25	3,536.56	3,540.15	3,539.96	3,536.72	3,532.26	3,535.07	3,535.81	3,550.32	3,559.62	3,554.21	3,544.53	3,537.46
26	3,536.37	3,540.27	3,539.98	3,536.60	3,532.12	3,535.57	3,536.11	3,550.44	3,559.57	3,553.92	3,544.18	3,537.23
27	3,536.17	3,540.37	3,539.94	3,536.41	3,531.99	3,535.72	3,536.43	3,550.56	3,559.52	3,553.64	3,543.85	3,537.07
28	3,535.93	3,540.41	3,539.88	3,536.26	3,531.85	3,535.86	3,536.80	3,550.84	3,559.46	3,553.36	3,543.52	3,536.84
29	3,535.75	3,540.50	3,539.84	3,536.08	---	3,535.93	3,537.39	3,551.06	3,559.31	3,553.06	3,543.17	3,536.68
30	3,535.55	3,540.52	3,539.67	3,535.90	---	3,535.92	3,537.86	3,551.25	3,559.30	3,552.76	3,542.84	3,536.47
31	3,535.30	---	3,539.52	3,535.72	---	3,535.92	---	3,551.50	---	3,552.47	3,542.50	---
Mean	3,538.27	3,538.18	3,540.38	3,537.86	3,533.67	3,532.83	3,535.36	3,545.52	3,557.60	3,556.25	3,547.41	3,539.32
Max	3,541.21	3,540.52	3,540.81	3,539.43	3,535.58	3,535.93	3,537.86	3,551.50	3,559.64	3,559.21	3,552.17	3,542.21
Min	3,535.30	3,534.32	3,539.52	3,535.72	3,531.85	3,530.43	3,534.36	3,538.24	3,551.86	3,552.47	3,542.50	3,536.47

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT END OF MONTH

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	2,872	2,984	2,962	2,881	2,799	2,885	2,926	3,229	3,411	3,251	3,027	2,897

CHANGE IN CONTENTS, IN ACRE-FEET

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	-131,000	+112,000	-22,000	-81,000	-82,000	+86,000	+41,000	+303,000	+182,000	-160,000	-224,000	-130,000

Calendar Year 2006 +21,000

Water Year 2007 -106,000



Water-Data Report 2007

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT

Pend Oreille Basin
South Fork Flathead Subbasin

LOCATION.--Lat 48°21'24", long 114°02'12" referenced to North American Datum of 1927, in SW ¼ SE ¼ SW ¼ sec.16, T.30 N., R.19 W., Flathead County, MT, Hydrologic Unit 17010209, on right bank 1.7 mi downstream from Hungry Horse Dam, 6.8 mi east of Columbia Falls, and at river mile 3.5.

DRAINAGE AREA.--1,663 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1910 to January 1911 (discharge measurements only), February 1911 to September 1913 (no winter records), October 1913 to August 1916 (scattered daily discharge only), water years 1917-22 (annual maximum), April 1923 to November 1924 (no winter records), July to October 1925, May to November 1927, May 1928 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1316.

REVISED RECORDS.-- WSP 1216: Drainage area. WSP 1316: 1923-24, maximum discharge (M); 1926-27 (M); 1932 (M); 1935-36 (M). WSP 1636: 1958, adjusted runoff.

GAGE.--Water-stage recorder. Elevation of gage is 3,040 ft, referenced to National Geodetic Vertical Datum of 1929 (levels by the U.S. Bureau of Reclamation). September 1910 to September 1916, nonrecording gage, Apr. 23, 1923, to Sept. 30, 1928, water-stage recorder at site 3 mi downstream at different elevation. Oct. 1, 1928, to Sept. 30, 1952, water-stage recorder at site 1.5 mi downstream at different elevation.

REMARKS.--Records are good. Flow regulated by Hungry Horse Reservoir since Sept. 21, 1951 (see preceding page). U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--79 years (water years, 1929-2007), 3,489 ft³/s, 28.49 in/yr, 2,528,500 acre-ft/yr, adjusted for change in contents in Hungry Horse Reservoir since Oct. 1, 1951.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 46,200 ft³/s, June 19, 1916, gage height, 16.6 ft, site and elevation then in use, from rating curve extended above 20,000 ft³/s; minimum observed, 7.3 ft³/s, Sept. 24, 1951, gage height, 0.52 ft, dam closure, site and elevation then in use; minimum daily, 7.3 ft³/s, Sept. 24, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,250 ft³/s, Apr. 3, gage height, 9.21 ft; minimum daily, 912 ft³/s, Nov. 9.

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,500	2,780	1,030	2,240	2,530	2,420	5,170	6,700	6,140	4,120	4,370	3,890
2	2,520	2,910	1,010	2,080	2,510	2,530	5,200	7,670	6,160	4,120	4,310	3,380
3	2,530	2,880	1,030	1,720	2,480	2,600	7,230	7,800	6,140	4,400	4,360	2,880
4	2,560	2,830	1,030	1,670	2,470	2,580	5,450	7,780	6,150	4,400	4,340	2,690
5	2,590	2,740	1,050	1,730	2,430	2,540	5,210	7,770	3,220	4,380	4,320	2,500
6	2,620	2,590	1,110	1,810	2,350	2,530	5,170	7,760	3,210	4,380	4,330	2,380
7	2,620	1,320	1,200	1,830	2,310	2,450	5,170	7,770	3,160	4,420	4,320	2,490
8	2,630	928	1,240	1,870	2,310	2,330	5,210	7,750	3,160	4,410	4,300	2,460
9	2,650	912	1,350	1,860	2,420	2,190	5,200	7,750	3,150	4,370	4,310	2,440
10	2,640	938	1,390	1,860	2,420	2,140	5,200	7,770	3,190	4,320	4,310	2,460
11	2,730	943	1,430	2,140	2,430	2,060	5,180	7,760	3,180	4,330	4,300	2,460
12	2,730	935	1,440	2,450	2,430	1,630	5,210	7,770	3,120	4,320	4,330	2,480
13	2,650	970	1,440	2,700	2,520	1,040	5,190	7,790	3,100	4,300	4,330	2,570
14	2,790	1,040	1,410	2,620	2,550	1,040	3,210	7,750	3,520	4,280	4,300	2,560
15	2,710	1,060	1,380	2,680	2,490	1,010	3,150	6,220	4,130	4,320	4,290	2,490
16	2,640	1,060	1,260	2,740	2,470	1,000	3,150	6,250	4,100	4,260	4,340	2,490
17	2,590	1,030	1,590	2,630	2,450	1,000	3,140	6,220	4,110	4,310	4,310	2,480
18	2,620	1,010	2,070	2,480	2,440	1,020	3,150	6,260	4,070	4,290	4,310	2,570
19	2,690	996	2,110	2,320	2,440	1,920	3,150	6,240	4,060	4,290	4,310	2,450
20	2,640	1,030	2,010	2,210	2,400	2,870	3,160	6,210	4,070	4,280	4,330	2,500
21	2,620	1,060	2,000	2,210	2,340	2,850	3,150	6,210	4,100	4,330	4,340	2,470
22	2,590	1,010	1,910	2,280	2,410	2,860	3,130	6,200	4,380	4,280	4,370	2,450
23	2,600	998	1,750	2,240	2,450	2,860	3,140	6,160	4,700	4,290	4,340	2,490
24	2,630	1,000	1,760	2,230	2,450	2,870	3,140	6,140	4,640	4,310	4,380	3,540
25	2,640	988	1,720	2,160	2,440	2,880	3,150	6,140	4,630	4,330	4,370	3,240
26	2,670	986	1,710	2,230	2,440	4,140	3,140	6,120	4,630	4,330	4,390	2,820
27	2,670	995	1,700	2,360	2,430	5,240	3,150	6,140	4,060	4,360	4,370	2,480
28	2,730	1,010	1,710	2,520	2,420	5,240	3,160	6,150	4,100	4,300	4,380	2,600
29	2,740	1,010	1,950	2,590	---	5,240	3,130	6,150	4,100	4,330	4,390	2,560
30	2,720	1,040	2,220	2,650	---	5,190	4,630	6,150	4,130	4,280	4,370	2,550
31	2,720	---	2,280	2,640	---	5,170	---	6,160	---	4,360	4,380	---
Total	81,980	40,999	48,290	69,750	68,230	83,440	124,820	212,710	124,610	133,800	134,500	79,820
Mean	2,645	1,367	1,558	2,250	2,437	2,692	4,161	6,862	4,154	4,316	4,339	2,661
Max	2,790	2,910	2,280	2,740	2,550	5,240	7,230	7,800	6,160	4,420	4,390	3,890
Min	2,500	912	1,010	1,670	2,310	1,000	3,130	6,120	3,100	4,120	4,290	2,380
Med	2,640	1,010	1,440	2,240	2,440	2,530	3,190	6,250	4,100	4,320	4,330	2,500
Ac-ft	162,600	81,320	95,780	138,300	135,300	165,500	247,600	421,900	247,200	265,400	266,800	158,300
Cfsm	1.59	0.82	0.94	1.35	1.47	1.62	2.50	4.13	2.50	2.60	2.61	1.60
In.	1.83	0.92	1.08	1.56	1.53	1.87	2.79	4.76	2.79	2.99	3.01	1.79

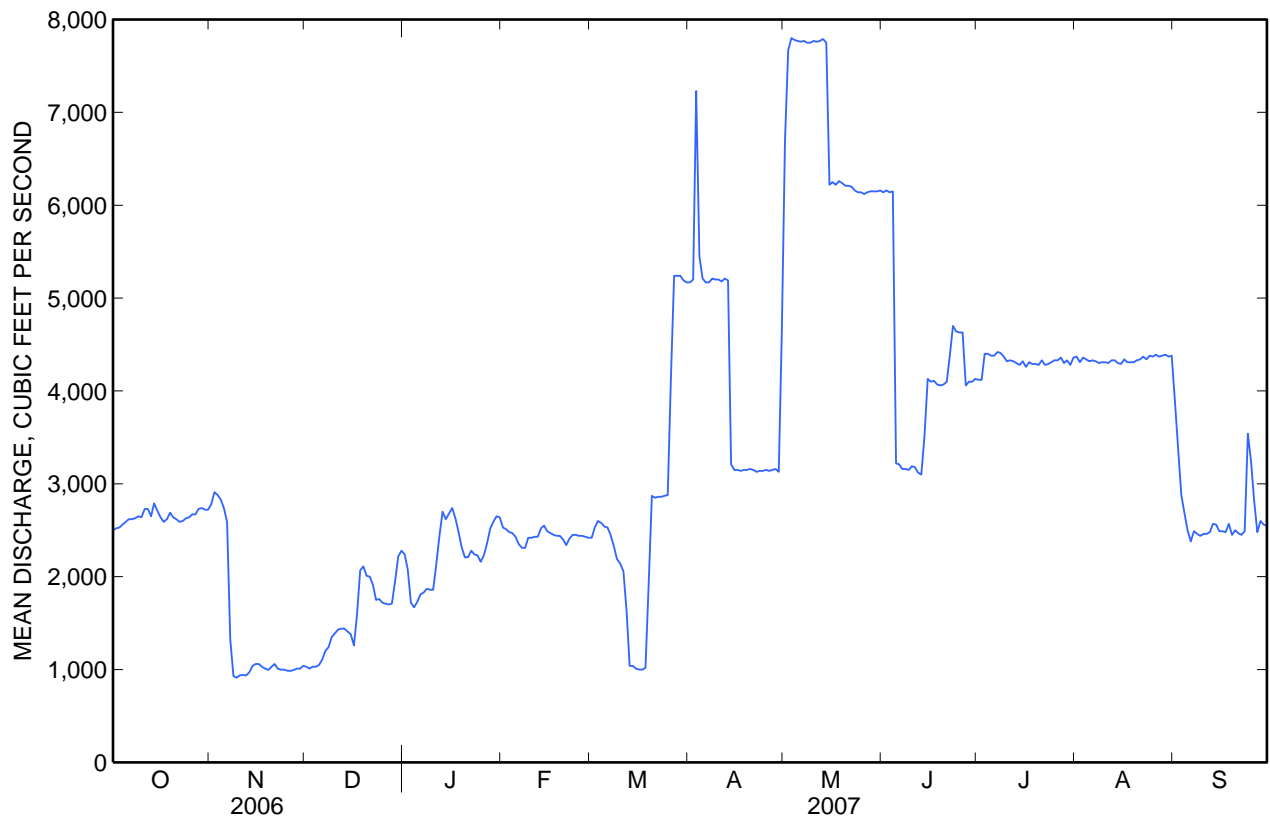
ADJUSTED FOR CHANGE IN CONTENTS IN HUNGRY HORSE RESERVOIR

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	514	3,248	1,200	932	959	4,090	4,850	11,790	7,213	1,714	696	476
Cfsm	0.31	1.95	0.72	0.56	0.58	2.46	2.92	4.09	4.34	1.03	0.42	0.29
In.	0.36	2.18	0.83	0.65	0.60	2.84	3.25	8.17	4.84	1.19	0.48	0.32
Ac-ft	31,600	193,300	73,780	57,300	53,300	251,500	288,600	724,900	429,200	105,400	42,800	28,300

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

OBSERVED										
Calendar Year 2006	Total	1,398,927	Mean	3,833	Max	11,700	Min	717	Ac-ft	2,775,000
Water Year 2007	Total	1,202,949	Mean	3,296	Max	7,800	Min	912	Ac-ft	2,286,000

ADJUSTED										
Calendar Year 2006	Total	1,409,629	Mean	3,862	Cfsm	2.32	In	31.52	Ac-ft	2,796,000
Water Year 2007	Total	1,099,067	Mean	3,011	Cfsm	1.81	In	24.58	Ac-ft	2,180,000



12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--March 2007 to September 2007.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1964 to September 1968, March 1979 to current year.

INSTRUMENTATION.--Temperature recorder since Mar. 30, 1979.

REMARKS.--Prior to March 1979, thermograph records furnished by Montana Department of Fish, Wildlife, and Parks. Daily temperature record is rated excellent. Missing water temperature data for June 20, 27 to and July 2-9 due to equipment problems. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 19.0°C Aug. 9-11, 1966, Aug. 2-6, 1968, Aug. 6, 2003; minimum (water years 1965-68, 1979-81, 1983-88), 2.0°C on many days during winter most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 18.0°C, July 18 and 22, minimum, 3.0°C, Jan. 14, 15, 16. Maximum water temperature may have been higher during the period of missing record from July 2-9.

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

Part 1 of 3

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)
Mar													
26...	1100	3,950	652	10.6	93	7.4	151	6.5	3.5	85	24.4	5.74	.37
Apr													
16...	1330	3,140	683	12.0	102	7.7	152	13.5	4.0	79	22.8	5.36	.34
30...	1245	5,150	690	10.6	89	8.0	155	15.5	4.0	78	22.3	5.42	.35
May													
14...	1345	7,790	688	12.4	105	7.9	156	16.5	4.0	80	22.8	5.52	.33
Jun													
04...	1200	6,180	682	11.6	99	8.0	153	29.0	4.0	82	23.6	5.66	.38
18...	1200	4,010	682	9.5	99	8.2	144	13.5	12.0	76	21.6	5.45	.30
Jul													
18...	1000	4,330	681	9.4	110	8.3	144	22.5	17.5	76	21.8	5.17	.24
Aug													
08...	1030	4,200	682	9.2	106	8.2	142	19.5	16.5	74	20.8	5.36	.33

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Sodium adsorp- tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alka- linity, wat flt end lab, mg/L as CaCO3 (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dis- solved, sum of consti- tuents mg/L (70301)	Dis- solved, solids, tons/ acre-ft (70303)	Dis- solved, solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Mar													
26...	.0	.79	80	.18	<.10	4.23	2.05	86	.12	921	<.020	.083	<.002
Apr													
16...	.0	.74	81	.24	<.10	4.20	1.67	84	.11	713	<.020	.080	<.002
30...	.0	.78	80	.15	<.10	4.31	2.10	84	.11	1,170	<.020	.080	<.002
May													
14...	.0	.77	82	E.10	<.10	4.32	2.13	E85	E.12	E1,790	<.020	.082	<.002
Jun													
04...	.0	.78	83	.19	<.10	4.25	2.11	87	.12	1,450	<.020	.075	<.002
18...	.0	.71	77	.14	E.05	3.95	1.73	80	.11	867	<.020	.049	<.002
Jul													
18...	.0	.65	76	.15	<.10	3.40	1.77	79	.11	922	<.020	.021	E.002
Aug													
08...	.0	.70	76	.15	<.10	3.32	1.72	78	.11	884	<.020	.019	E.001

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

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

Date	Total nitro- gen, water, unfltrd, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Total phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Chloro- phyll a phyto- plank- ton, fluoro, µg/L (70953)	Pheo- phytin a, phyto- plank- ton, µg/L (62360)	Suspd. 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)
Mar									
26...	.13	E.003	<.008	--	--	--	70	1	11
Apr									
16...	.11	<.006	<.008	--	--	--	84	1	8.5
30...	.14	<.006	<.008	--	--	--	89	1	14
May									
14...	.16	E.004	<.008	1.5	.2	<.1	86	1	21
Jun									
04...	.14	<.006	<.008	--	--	--	85	<1	E17
18...	.15	E.004	<.008	--	--	--	87	1	11
Jul									
18...	.08	E.003	<.008	--	--	--	93	1	12
Aug									
08...	.09	<.006	<.008	1.8	1.3	.3	87	1	11

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	13.0	12.0	12.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5
2	13.0	12.5	12.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5
3	12.5	12.0	12.0	4.5	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5
4	12.0	11.0	12.0	4.5	4.5	4.5	4.0	4.0	4.0	3.5	3.5	3.5
5	12.5	11.5	12.0	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5
6	12.5	12.0	12.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5
7	12.0	10.5	11.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5
8	11.5	10.5	11.0	4.5	4.0	4.5	4.0	4.0	4.0	4.0	3.5	4.0
9	12.0	10.5	11.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
10	12.0	11.5	11.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0
11	11.5	10.5	11.0	4.5	4.0	4.5	4.0	4.0	4.0	4.0	3.5	4.0
12	11.5	9.0	10.0	4.5	4.5	4.5	4.0	4.0	4.0	4.0	3.5	3.5
13	9.5	7.5	8.5	4.5	4.0	4.5	4.0	4.0	4.0	4.0	3.5	3.5
14	7.5	5.5	6.5	4.5	4.0	4.0	4.0	4.0	4.0	3.5	3.0	3.5
15	6.0	5.5	5.5	4.5	4.0	4.5	4.0	4.0	4.0	3.5	3.0	3.5
16	5.5	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.0	3.5
17	4.0	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5
18	4.0	4.0	4.0	4.5	4.0	4.0	4.0	3.5	4.0	3.5	3.5	3.5
19	4.5	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5
20	4.0	4.0	4.0	4.5	4.0	4.5	4.0	3.5	4.0	4.0	3.5	3.5
21	4.0	4.0	4.0	4.5	4.5	4.5	4.0	3.5	4.0	4.0	3.5	3.5
22	4.5	4.0	4.0	4.5	4.5	4.5	4.0	4.0	4.0	3.5	3.5	3.5
23	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.0	4.0	3.5	3.5	3.5
24	4.5	4.0	4.0	4.5	4.0	4.5	4.0	3.5	4.0	3.5	3.5	3.5
25	4.5	4.0	4.0	4.5	4.0	4.0	4.0	3.5	4.0	3.5	3.5	3.5
26	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	3.5	3.5	3.5
27	4.5	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	3.5	3.5	3.5
28	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	3.5	3.5	3.5
29	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	3.5	3.5	3.5
30	4.5	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5
31	4.5	4.0	4.5	---	---	---	4.0	3.5	3.5	3.5	3.5	3.5
Month	13.0	4.0	7.5	4.5	3.5	4.0	4.0	3.5	4.0	4.0	3.0	3.5

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
9	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
10	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
11	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
12	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
13	3.5	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
14	3.5	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
15	3.5	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
16	3.5	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
17	3.5	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
18	3.5	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
19	3.5	3.5	3.5	4.0	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
20	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
21	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
22	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5	4.0	3.5	3.5
23	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5	4.0	3.5	3.5
24	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5	4.0	3.5	3.5
25	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5	4.0	3.5	4.0
26	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0	4.0	3.5	4.0
27	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	3.5	4.0
28	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	3.5	4.0
29	---	---	---	3.5	3.5	3.5	4.0	4.0	4.0	4.0	3.5	4.0
30	---	---	---	3.5	3.5	3.5	4.0	3.5	4.0	4.0	3.5	3.5
31	---	---	---	3.5	3.5	3.5	---	---	---	4.0	3.5	4.0
Month	3.5	3.5	3.5	4.0	3.5	3.5	4.0	3.5	3.5	4.0	3.5	4.0

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	4.0	3.5	3.5	14.0	13.0	13.5	15.0	13.0	14.0	15.0	12.5	14.0
2	4.0	3.5	3.5	---	---	---	15.5	13.5	14.5	16.0	14.5	15.0
3	4.0	3.5	4.0	---	---	---	15.5	14.0	15.0	16.0	14.0	15.0
4	4.0	3.5	4.0	---	---	---	16.0	13.0	14.5	15.5	14.5	15.0
5	4.0	3.5	4.0	---	---	---	16.0	14.5	15.5	15.0	13.5	14.0
6	4.0	3.5	4.0	---	---	---	16.5	14.0	15.0	15.0	14.0	14.5
7	4.0	3.5	4.0	---	---	---	17.5	14.0	16.0	15.0	13.0	14.0
8	4.0	3.5	4.0	---	---	---	17.0	15.0	16.0	14.5	11.5	13.5
9	4.0	3.5	4.0	---	---	---	15.5	14.0	14.5	15.0	13.5	14.0
10	4.0	4.0	4.0	16.5	14.0	15.5	15.0	12.0	13.5	15.5	14.0	15.0
11	4.0	3.5	4.0	16.5	14.5	15.5	15.5	10.5	13.0	15.5	14.5	15.0
12	6.0	3.5	4.5	16.5	15.0	16.0	15.0	12.5	14.0	15.5	13.5	14.5
13	9.5	6.0	8.0	16.5	15.5	16.0	15.5	13.5	14.5	15.0	14.5	15.0
14	12.5	9.0	11.0	17.0	15.5	16.0	15.0	13.5	14.0	15.0	12.5	13.5
15	11.5	10.5	11.0	17.0	16.0	16.5	14.5	13.0	14.0	14.5	13.5	14.0
16	12.0	10.0	11.5	16.5	15.0	16.0	15.0	13.5	14.0	14.0	12.0	13.5
17	11.5	10.0	10.5	17.0	14.5	15.5	15.0	13.5	14.0	14.0	12.5	13.0
18	12.0	11.0	11.5	18.0	15.5	17.0	15.0	13.5	14.0	14.0	11.0	13.0
19	12.5	11.0	12.0	17.5	13.5	15.5	14.5	13.5	14.0	13.5	11.0	12.5
20	---	---	---	16.5	14.0	15.0	14.5	11.5	13.0	13.5	12.5	13.0
21	13.0	12.0	12.5	17.0	14.5	15.5	14.0	12.5	13.5	13.5	11.5	12.5
22	13.0	12.0	12.5	18.0	15.5	16.5	15.5	13.0	14.0	13.0	12.5	13.0
23	13.0	12.0	12.5	17.5	15.0	16.0	15.0	13.5	14.5	13.0	10.5	11.5
24	12.5	11.5	12.5	15.5	13.0	14.0	15.0	13.0	14.0	13.0	10.0	11.5
25	12.5	11.0	11.5	15.0	13.5	14.5	15.5	13.5	14.5	12.5	12.0	12.5
26	12.5	10.5	12.0	16.5	14.5	15.5	15.5	11.0	13.5	12.0	11.5	12.0
27	---	---	---	17.0	15.0	16.0	15.0	12.5	13.5	12.5	11.5	12.0
28	14.0	13.0	13.5	17.0	15.5	16.0	14.5	12.5	13.5	12.5	11.5	12.5
29	14.0	12.5	13.5	16.5	14.5	15.5	15.0	13.5	14.5	12.0	10.0	11.0
30	13.5	12.0	13.0	16.5	14.5	15.5	15.0	13.5	14.5	12.0	10.5	11.5
31	---	---	---	16.0	13.0	14.0	15.0	14.0	14.5	---	---	---
Month	---	---	---	---	---	---	17.5	10.5	14.2	16.0	10.0	13.4



Water-Data Report 2007

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT

Pend Oreille Basin
Flathead Lake Subbasin

LOCATION.--Lat 48°21'43", long 114°11'02" referenced to North American Datum of 1927, in NW ¼ NW ¼ SE ¼ sec.17, T.30 N., R.20 W., Flathead County, MT, Hydrologic Unit 17010208, on right bank 200 ft downstream from county road bridge at Columbia Falls, 5.7 mi downstream from South Fork, and at river mile 143.0.

DRAINAGE AREA.--4,464 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1922 to September 1923 (fragmentary), June 1928 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1316.

REVISED RECORDS.-- WSP 1092: 1923. WSP 1216: Drainage area. WSP 1636: 1958, adjusted runoff.

GAGE.--Water-stage recorder. Elevation of gage is 2,977.67 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Nov. 12, 1928, nonrecording gage on bridge 200 ft upstream at elevation 0.19 ft higher.

REMARKS.--Records are good. South Fork Flathead River, which contributes about one-third of flow, is completely regulated by Hungry Horse Reservoir 10.9 mi upstream since Sept. 21, 1951 (see station number 12362000). Bureau of Reclamation satellite telemeter is located at the station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--79 years, 9,583 ft³/s, 29.15 in/yr, 6,942,900 acre-ft/yr, adjusted for change in contents in Hungry Horse Reservoir since Oct. 1, 1951.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176,000 ft³/s, June 9, 1964, gage height, 25.58 ft, from floodmarks, from rating curve extended above 95,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 798 ft³/s, Dec. 8, 1929, gage height, -0.08 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1894 reached a stage of 22.7 ft, from floodmarks, discharge, 142,000 ft³/s, from rating curve extended above 95,000 ft³/s on basis of slope-area measurement of peak flow in 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 37,900 ft³/s, Nov. 8, gage height, 12.01 ft; minimum daily, 3,610 ft³/s, Sept. 17.

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,690	3,640	4,610	3,950	3,990	3,760	14,500	21,400	23,900	13,000	7,110	5,490
2	3,690	3,680	4,440	4,080	3,880	3,750	14,000	23,900	26,000	12,500	6,990	5,100
3	3,650	3,770	4,210	4,160	3,840	3,820	14,800	27,700	27,900	12,200	6,860	4,610
4	3,680	3,760	4,220	4,090	3,870	3,870	13,300	28,300	29,300	11,900	6,760	4,230
5	3,690	3,800	4,180	3,940	3,950	3,870	12,100	25,200	28,900	11,700	6,660	4,020
6	3,700	4,120	4,060	3,950	3,960	3,900	11,700	22,600	30,000	11,500	6,570	3,800
7	3,700	14,400	4,100	3,880	3,850	3,950	11,400	21,200	27,400	11,400	6,480	3,750
8	3,690	35,000	4,040	3,950	3,820	3,950	11,400	21,100	23,900	11,200	6,400	3,770
9	3,680	24,200	4,030	3,890	3,820	3,950	11,800	25,000	21,200	10,900	6,330	3,740
10	3,680	16,500	3,970	3,880	3,840	3,930	12,600	31,400	20,600	10,300	6,270	3,720
11	3,720	13,300	3,940	3,800	3,860	3,960	12,600	31,500	21,900	9,920	6,190	3,710
12	3,720	11,200	3,930	3,730	3,830	4,610	12,400	31,400	20,400	9,600	6,130	3,670
13	3,650	9,750	3,980	3,720	3,800	9,810	12,000	33,300	18,800	9,360	6,050	3,700
14	3,700	8,740	3,990	3,920	3,850	10,000	10,200	34,000	17,600	9,150	5,980	3,720
15	3,730	7,770	4,090	3,880	3,870	8,460	9,960	29,200	17,400	9,060	5,920	3,670
16	3,680	7,360	4,080	4,010	3,940	7,540	10,200	27,300	16,700	8,930	5,880	3,630
17	3,660	7,110	3,820	4,070	3,910	7,030	10,500	28,000	16,500	8,790	5,870	3,610
18	3,650	6,420	3,870	4,150	3,860	7,680	11,000	31,100	17,200	8,670	5,840	3,630
19	3,670	5,910	4,110	4,090	3,870	10,400	11,300	32,600	17,400	8,680	5,830	3,680
20	3,720	5,900	4,120	4,040	3,880	12,800	11,100	31,200	17,100	8,610	5,820	3,650
21	3,750	6,770	4,120	4,000	3,820	13,300	10,600	28,500	16,900	8,490	5,830	3,710
22	3,720	6,880	4,180	4,000	3,780	12,400	10,300	25,500	17,100	8,290	5,880	3,690
23	3,680	6,590	4,060	4,020	3,810	11,400	10,200	23,100	17,500	8,100	5,880	3,660
24	3,680	6,350	3,950	4,040	3,820	10,900	10,600	21,700	17,000	8,000	5,850	4,380
25	3,670	5,920	3,860	4,030	3,820	13,500	11,700	21,300	16,300	7,920	5,880	4,710
26	3,670	5,430	3,940	3,900	3,830	19,900	13,100	20,100	15,500	7,790	5,810	4,260
27	3,670	4,950	3,910	3,820	3,820	20,400	14,100	19,600	14,200	7,680	5,780	3,840
28	3,680	4,340	3,890	3,850	3,770	18,200	14,500	20,800	13,400	7,570	5,740	3,730
29	3,690	4,370	3,820	3,880	---	16,500	16,100	22,800	13,200	7,450	5,720	3,770
30	3,710	4,510	3,850	3,950	---	15,500	18,900	22,200	13,200	7,330	5,680	3,700
31	3,690	---	3,930	4,040	---	14,800	---	22,400	---	7,220	5,670	---
Total	114,360	252,440	125,300	122,710	107,960	287,840	368,960	805,400	594,400	293,210	189,660	118,350
Mean	3,689	8,415	4,042	3,958	3,856	9,285	12,300	25,980	19,810	9,458	6,118	3,945
Max	3,750	35,000	4,610	4,160	3,990	20,400	18,900	34,000	30,000	13,000	7,110	5,490
Min	3,650	3,640	3,820	3,720	3,770	3,750	9,960	19,600	13,200	7,220	5,670	3,610
Ac-ft	226,800	500,700	248,500	243,400	214,100	570,900	731,800	1,598,000	1,179,000	581,600	376,200	234,700
Cfsm	0.83	1.89	0.91	0.89	0.86	2.08	2.76	5.82	4.44	2.12	1.37	0.88
In.	0.95	2.10	1.04	1.02	0.90	2.40	3.07	6.71	4.95	2.44	1.58	0.99

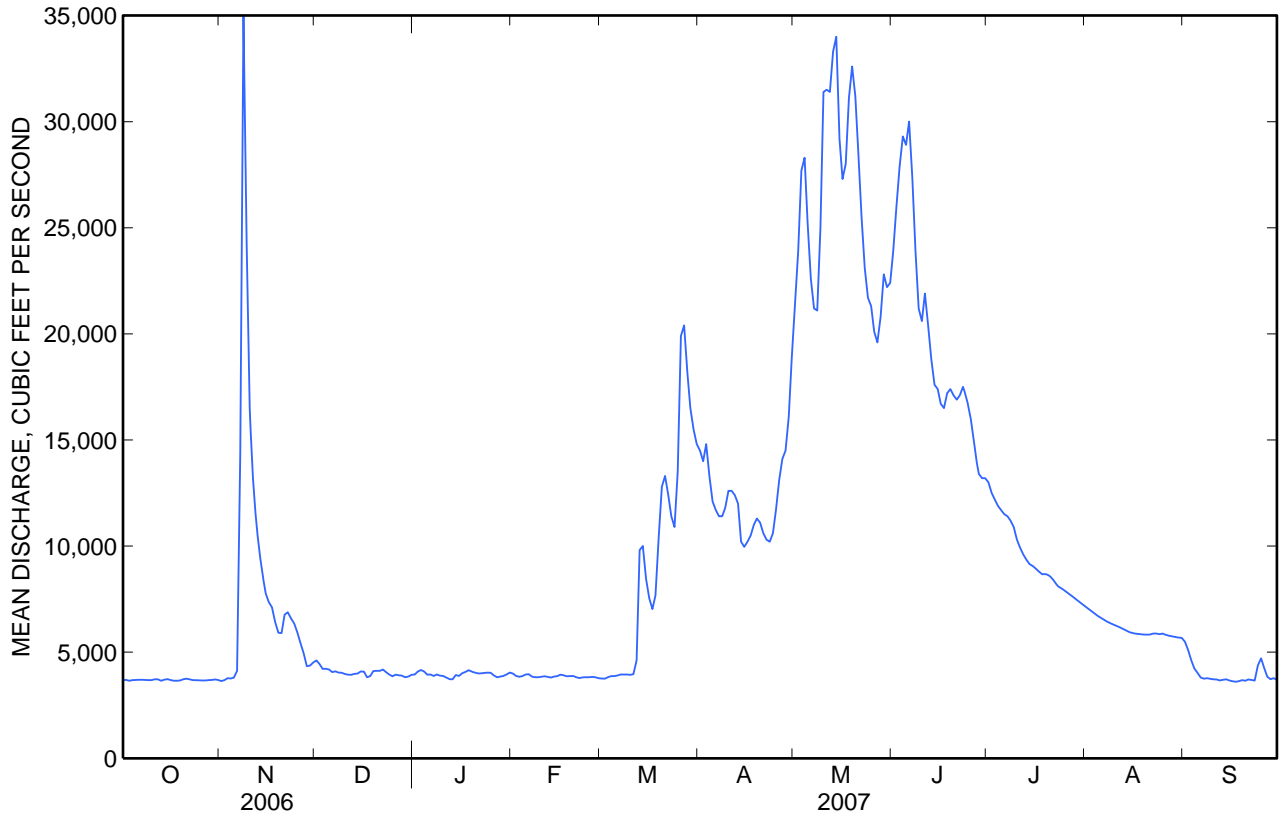
ADJUSTED FOR CHANGE IN CONTENTS IN HUNGRY HORSE RESERVOIR

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	34,790	10,300	3,684	2,641	2,379	10,680	12,990	30,920	22,870	6,857	2,475	1,760
Ac-ft	2,139,000	612,700	226,500	162,400	132,100	656,900	772,800	1,901,000	1,361,000	421,600	152,200	104,700
Cfsm	7.79	2.31	0.83	0.59	0.53	2.39	2.91	6.93	5.12	1.54	0.55	0.39
In.	8.98	2.57	0.95	0.68	0.55	2.76	3.25	7.98	5.72	1.77	0.64	0.44

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

OBSERVED										
Calendar Year 2006	Total	3,829,970	Mean	10,490	Max	44,700	Min	3,370	Ac-ft	7,597,000
Water Year 2007	Total	3,380,590	Mean	9,262	Max	35,000	Min	3,610	Ac-ft	6,705,000

ADJUSTED										
Calendar Year 2006	Total	3,840,686	Mean	10,520	Cfsm	2.36	In	32.00	Ac-ft	7,618,000
Water Year 2007	Total	3,326,947	Mean	9,115	Cfsm	2.04	In	27.72	Ac-ft	6,599,000



12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1949-50, 1963-67, 1970, 1979 to September 1994, March 2002 to current year. Water years 1968-69 published as Flathead River near Kalispell (station 12363500) 15 mi downstream. No appreciable inflow or outflow occurs between the two points.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1964 to September 1967, March 1979 to September 1981.

WATER TEMPERATURE: January 1949 to September 1950, August 1963 to September 1969, March 1979 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1965 to September 1969.

INSTRUMENTATION.--Temperature recorder since Mar. 27, 1979.

REMARKS.--Daily water temperature records are rated good. Missing water temperature data for Feb. 17 due to equipment problems. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 290 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, April 6, 1980; minimum daily, 121 $\mu\text{S}/\text{cm}$ at 25.0°C, May 28, 1979.

WATER TEMPERATURE: Maximum, 21.0°C, Aug. 23, 1963, Aug. 8, 1968; minimum, 0.0°C on several days during winter periods most years.

SEDIMENT CONCENTRATION: Maximum daily, 980 mg/L, May 21, 1967; Minimum daily, 1 mg/L on several days most years.

SEDIMENT LOAD: Maximum daily, 140,000 tons, May 23, 1967; minimum daily, 4 tons, Mar. 4-6, 1967.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 20.0°C, July 18 and 27; minimum, 0.0°C, Nov. 26-30 and Jan. 11 and 12.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd std units (00400)	Specif- ic conduc- tance, wat unf $\mu\text{S}/\text{cm}$ 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N		Total nitro- gen, water, unfltrd, mg/L (62855)
											(00631)	(00613)	
Apr 16...	1200	10,300	687	12.3	107	8.1	164	9.5	5.0	<.020	.066	<.002	.11
May 15...	1400	28,700	687	11.6	105	8.1	146	20.0	6.5	<.020	.095	<.002	.20
Jul 17...	0930	8,830	683	9.1	104	8.2	157	25.5	16.5	<.020	.039	E.002	.10
Aug 07...	0800	6,510	683	8.9	100	8.3	159	17.0	15.5	<.020	.023	E.001	.08

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

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

Date	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Total phos- phorus, water, unfltrd mg/L (00665)	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					
16...	E.003	<.008	88	3	83
May					
15...	E.004	.065	72	56	4,340
Jul					
17...	E.003	<.008	71	1	24
Aug					
07...	<.006	<.008	71	1	18

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	13.5	11.5	12.5	4.0	2.5	3.0	1.0	0.5	0.5	2.0	1.5	2.0
2	13.0	11.0	11.5	3.5	2.5	3.0	1.0	0.5	1.0	2.5	2.0	2.0
3	12.5	10.5	11.5	3.5	3.0	3.5	1.0	1.0	1.0	2.5	2.0	2.5
4	13.0	11.0	11.5	4.5	3.5	4.0	1.5	1.0	1.5	2.5	2.0	2.0
5	13.0	11.0	12.0	5.5	4.5	5.0	2.0	1.5	1.5	2.0	1.5	1.5
6	12.5	11.0	12.0	6.0	5.0	5.5	2.0	1.5	2.0	2.0	1.0	1.5
7	12.5	10.5	11.5	7.5	6.0	7.0	2.0	2.0	2.0	2.0	1.0	1.5
8	11.5	10.0	10.5	7.0	5.0	6.0	2.5	2.0	2.0	2.0	1.5	2.0
9	11.5	9.5	10.0	5.0	4.5	5.0	2.0	2.0	2.0	2.5	2.0	2.0
10	10.5	9.5	10.0	5.0	4.5	5.0	2.0	2.0	2.0	2.5	1.0	2.0
11	11.0	9.0	10.0	5.0	4.5	4.5	2.5	2.0	2.5	1.5	0.0	1.0
12	11.0	8.5	9.5	4.5	4.0	4.5	3.0	2.5	3.0	1.5	0.0	0.5
13	9.5	7.5	8.5	4.5	4.0	4.0	3.0	2.5	3.0	1.5	0.5	1.0
14	9.0	6.5	7.5	4.0	3.5	3.5	3.0	2.5	2.5	1.5	1.0	1.0
15	7.0	6.5	6.5	4.0	3.5	4.0	2.5	2.0	2.5	2.0	1.0	1.5
16	7.0	5.5	6.5	5.0	4.0	4.5	2.0	1.0	2.0	2.0	1.5	1.5
17	6.0	5.0	5.5	4.0	3.5	3.5	1.5	0.5	1.0	2.0	1.5	2.0
18	5.0	5.0	5.0	4.0	3.0	3.5	2.0	1.0	1.0	2.0	1.5	1.5
19	5.5	5.0	5.0	3.0	2.5	3.0	1.5	1.0	1.0	2.0	1.5	2.0
20	6.5	5.0	5.5	4.5	3.0	4.0	1.5	0.5	1.0	2.0	1.5	2.0
21	7.0	5.0	5.5	4.5	4.0	4.0	1.5	1.0	1.0	2.5	1.5	2.0
22	6.5	4.5	5.5	4.0	3.5	4.0	1.5	1.0	1.5	2.0	1.5	2.0
23	6.0	4.5	5.0	4.0	3.0	3.5	1.5	1.0	1.5	2.5	2.0	2.0
24	6.0	4.0	5.0	3.0	2.5	3.0	2.0	1.5	1.5	3.0	2.0	2.0
25	5.0	4.5	5.0	2.5	1.0	2.0	2.0	1.5	1.5	2.5	1.5	2.0
26	5.5	4.5	5.0	1.0	0.0	0.5	2.0	1.5	2.0	2.5	1.5	2.0
27	5.5	4.5	5.0	0.0	0.0	0.0	2.5	2.0	2.0	2.5	1.0	1.5
28	6.5	4.5	5.5	0.0	0.0	0.0	2.0	1.5	2.0	2.5	1.0	2.0
29	5.0	2.5	4.0	0.0	0.0	0.0	2.0	1.0	1.5	2.0	1.5	1.5
30	4.5	2.5	3.0	0.5	0.0	0.0	2.0	1.5	1.5	2.0	1.0	1.5
31	3.5	3.0	3.0	---	---	---	2.0	1.5	2.0	2.0	1.5	1.5
Month	13.5	2.5	7.5	7.5	0.0	3.5	3.0	0.5	1.5	3.0	0.0	1.5

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	2.0	1.5	1.5	3.5	2.0	2.5	4.5	4.0	4.0	7.0	6.0	6.5
2	2.0	1.5	2.0	4.0	2.0	3.0	4.5	3.5	4.0	7.0	6.5	6.5
3	2.5	1.5	2.0	3.0	2.0	2.5	4.0	3.0	3.5	6.5	4.5	5.5
4	2.5	1.5	2.0	4.5	2.5	3.0	4.0	3.0	3.5	5.0	4.5	4.5
5	3.5	2.0	2.5	4.0	3.0	3.5	4.5	3.5	4.0	6.0	4.5	5.0
6	3.0	2.0	2.5	5.5	3.5	4.0	5.5	4.0	4.5	7.0	5.0	6.0
7	3.0	2.0	2.5	5.5	3.0	4.0	5.5	4.0	5.0	7.0	6.0	6.5
8	2.5	2.0	2.0	5.5	3.5	4.0	6.0	4.5	5.0	8.0	6.0	7.0
9	2.5	2.0	2.0	5.5	3.5	4.0	5.5	4.5	5.0	8.5	7.5	8.0
10	4.0	2.5	3.0	5.5	3.0	4.0	4.5	3.5	4.0	8.0	6.5	7.0
11	3.0	1.5	2.5	4.5	4.0	4.0	4.5	3.5	4.0	7.5	6.5	7.0
12	1.5	1.0	1.0	5.5	3.5	4.5	5.0	3.5	4.5	8.0	7.0	7.5
13	2.0	1.0	1.5	3.5	1.5	2.5	5.0	4.5	4.5	8.0	6.0	7.0
14	2.5	1.5	2.0	2.5	2.0	2.5	6.0	4.5	5.5	7.5	5.5	6.5
15	2.5	2.0	2.5	3.0	1.5	2.5	6.0	5.5	5.5	8.0	6.5	7.0
16	3.5	2.0	3.0	3.0	2.5	3.0	6.0	4.5	5.5	8.5	7.0	8.0
17	---	---	---	5.0	3.0	3.5	6.5	5.5	6.0	9.0	8.0	8.5
18	4.0	2.5	3.0	5.0	4.5	5.0	6.0	5.0	5.0	9.0	7.5	8.0
19	3.0	2.5	2.5	4.5	3.5	4.0	5.0	4.5	4.5	8.5	7.0	7.5
20	3.5	2.0	2.5	4.0	3.5	3.5	5.5	4.5	5.0	7.0	6.5	7.0
21	4.0	2.0	2.5	3.5	2.5	3.0	6.0	4.0	5.0	7.0	6.0	6.5
22	2.5	2.0	2.0	3.5	3.0	3.5	6.5	5.0	6.0	7.5	6.5	7.0
23	3.5	2.0	2.5	4.5	3.0	3.5	7.5	5.5	6.5	7.5	6.5	7.0
24	4.0	2.5	3.0	4.5	4.0	4.5	7.0	6.0	6.5	7.5	7.0	7.0
25	4.0	2.5	3.0	4.5	4.0	4.5	6.5	6.0	6.5	7.0	5.5	6.5
26	3.5	2.5	3.0	4.0	3.0	3.5	6.5	5.5	6.0	8.0	6.5	7.5
27	4.0	1.5	2.5	4.0	3.5	3.5	6.5	6.0	6.0	8.0	7.5	7.5
28	4.0	2.0	3.0	4.5	3.5	4.0	6.5	5.5	6.0	7.5	6.5	7.0
29	---	---	---	4.5	3.5	4.0	7.0	6.5	6.5	8.5	6.0	7.0
30	---	---	---	4.5	3.5	4.0	6.5	5.5	6.0	9.0	7.5	8.5
31	---	---	---	4.0	4.0	4.0	---	---	---	10.0	8.5	9.0
Month	---	---	---	5.5	1.5	3.5	7.5	3.0	5.0	10.0	4.5	7.0

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	10.0	9.0	9.5	14.5	13.0	13.5	17.0	14.5	15.5	16.5	14.0	15.0
2	11.0	9.5	10.0	15.5	14.0	14.5	17.0	15.5	16.0	17.0	14.0	15.5
3	11.0	9.5	10.5	16.0	14.0	15.0	17.5	15.5	16.5	17.0	15.0	16.0
4	11.5	10.0	10.5	16.5	14.5	15.5	17.0	15.0	16.0	17.0	14.5	15.5
5	11.5	10.5	11.0	17.0	15.0	16.0	17.5	15.5	16.5	17.0	14.0	15.5
6	11.0	8.0	9.0	17.5	16.0	16.5	17.5	15.5	16.5	16.5	14.5	15.0
7	8.0	8.0	8.0	17.5	16.0	16.5	17.0	15.5	16.0	14.5	13.5	14.0
8	8.5	7.5	8.0	17.0	15.5	16.0	17.0	15.5	16.0	15.0	12.5	13.5
9	9.5	8.0	9.0	17.0	15.0	16.0	17.0	14.5	15.5	15.5	12.0	13.5
10	9.5	9.0	9.5	17.5	15.0	16.0	16.5	14.0	15.5	15.5	13.0	14.0
11	9.5	8.5	9.0	18.0	16.0	17.0	15.0	13.5	14.0	16.0	13.5	14.5
12	9.0	8.0	8.5	18.5	16.5	17.5	15.5	14.0	14.5	15.5	13.0	14.5
13	9.5	8.5	9.0	19.0	17.0	17.5	16.5	14.0	15.5	16.0	12.5	14.0
14	10.5	9.0	10.0	19.0	17.0	18.0	17.0	14.5	15.5	14.5	12.5	13.5
15	11.0	9.5	10.5	19.0	17.5	18.0	16.5	14.5	15.5	15.0	12.5	13.5
16	11.5	10.5	11.0	18.5	17.0	17.5	15.5	14.5	15.0	14.0	12.0	13.0
17	11.0	9.5	10.0	18.5	16.5	17.5	16.0	14.0	15.0	14.5	12.5	13.0
18	10.0	9.0	9.5	20.0	17.0	18.5	16.0	14.0	15.0	14.0	11.5	12.5
19	12.0	9.5	10.5	19.0	17.0	18.5	15.0	14.0	14.5	13.5	11.5	12.0
20	13.0	11.5	12.0	18.0	16.0	17.0	14.5	12.5	13.5	12.0	11.5	11.5
21	13.0	12.0	12.5	18.5	16.0	17.0	15.0	12.5	14.0	13.0	11.0	11.5
22	13.5	12.5	13.0	19.0	16.5	18.0	15.5	12.5	14.0	13.5	11.5	12.5
23	13.5	12.5	13.0	19.5	17.5	18.5	15.5	14.0	14.5	12.5	10.5	11.5
24	13.0	12.0	12.5	18.5	17.0	17.5	16.0	13.5	14.5	11.5	9.5	10.5
25	12.5	10.5	11.5	18.5	16.0	17.0	16.5	14.0	15.0	11.5	10.5	11.0
26	12.5	10.0	11.0	18.5	16.0	17.0	15.0	13.0	14.0	12.0	10.5	11.0
27	14.0	12.0	13.0	20.0	17.5	18.5	15.0	13.5	14.0	12.5	10.0	11.0
28	15.5	13.5	14.5	19.5	17.5	18.5	15.5	13.0	14.0	13.0	11.0	12.0
29	15.0	14.5	14.5	18.5	16.5	17.5	16.0	13.0	14.5	11.5	10.0	11.0
30	14.5	13.0	14.0	18.5	16.5	17.5	15.5	14.0	15.0	11.5	9.0	10.5
31	---	---	---	17.5	15.5	17.0	15.5	14.0	14.5	---	---	---
Month	15.5	7.5	11.0	20.0	13.0	17.0	17.5	12.5	15.0	17.0	9.0	13.0



Water-Data Report 2007

12365700 STILLWATER RIVER AT LAWRENCE PARK, AT KALISPELL, MT

Pend Oreille Basin
Stillwater Subbasin

LOCATION.--Lat 48°13'03", long 114°18'44" referenced to North American Datum of 1927, in NW ¼ NE ¼ SE ¼ sec.6, T.29 N., R.21 W., Flathead County, MT, Hydrologic Unit 17010210, on right bank on downstream side of private road bridge in Lawrence Park, at Kalispell, 3.1 mi upstream from Whitefish River, and at river mile 5.6.

DRAINAGE AREA.--588 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 2007 to September 2007.

GAGE.--Water-stage recorder. Elevation of gage is 2,940 ft, referenced to the National Geodetic Vertical Datum of 1929.

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

12365700 STILLWATER RIVER AT LAWRENCE PARK, AT KALISPELL, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1						e110	750	776	667	261	105	68
2						e115	727	799	643	248	97	68
3						e115	705	836	626	235	97	66
4						e110	667	877	625	227	98	65
5						e115	626	905	634	215	95	65
6						e115	591	894	662	208	93	64
7						e115	557	858	695	200	92	63
8						e109	539	821	718	195	88	63
9						e109	537	788	715	186	82	63
10						e151	558	779	680	173	78	63
11						171	603	786	638	167	79	62
12						212	630	799	596	164	77	62
13						220	638	820	560	154	75	61
14						218	622	848	525	149	77	61
15						250	609	892	495	145	75	61
16						270	609	908	466	137	73	61
17						325	617	895	443	130	71	61
18						380	636	860	430	137	74	61
19						396	658	834	423	153	74	62
20						393	680	826	419	143	74	63
21						439	686	833	416	137	74	65
22						488	678	826	402	132	73	66
23						516	662	792	380	130	70	68
24						524	647	764	360	142	68	68
25						537	640	761	344	136	69	67
26						602	652	782	330	131	73	67
27						726	669	757	319	122	73	69
28						815	693	727	309	124	70	69
29						840	718	712	292	122	68	69
30						816	747	701	277	115	68	69
31						779	---	688	---	110	67	---
Total						11,081	19,351	25,144	15,089	5,028	2,447	1,940
Mean						357	645	811	503	162	78.9	64.7
Max						840	750	908	718	261	105	69
Min						109	537	688	277	110	67	61
Ac-ft						21,980	38,380	49,870	29,930	9,970	4,850	3,850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEAR 2007

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean						357	645	811	503	162	78.9	64.7
Max						357	645	811	503	162	78.9	64.7
(WY)						(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)
Min						357	645	811	503	162	78.9	64.7
(WY)						(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)

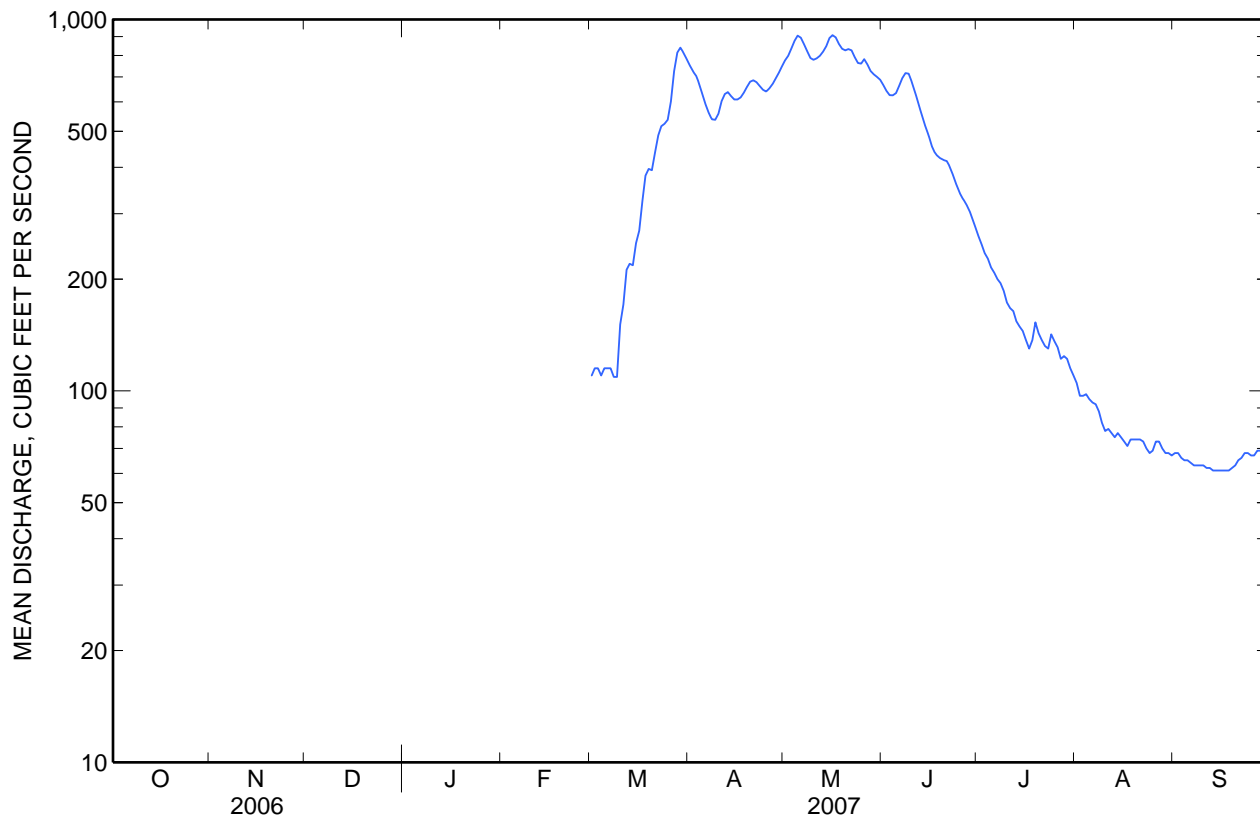
12365700 STILLWATER RIVER AT LAWRENCE PARK, AT KALISPELL, MT—Continued

SUMMARY STATISTICS

Water Year 2007		
Highest daily mean	908	May 16, 2007
Lowest daily mean	61	Sep 13, 2007 ^a
Maximum peak flow	923	May 5, 2007
Maximum peak stage	4.75	May 5, 2007
Instantaneous low flow	^b 60	Sep 17, 2007

^a Also occurred Sept. 14-18.

^b Gage height, 2.70 ft.



12365700 STILLWATER RIVER AT LAWRENCE PARK, AT KALISPELL, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2007 to September 2007.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)
Mar													
28...	1100	831	667	11.3	99	8.1	208	7.5	4.0	110	32.3	7.82	.90
Apr													
18...	1100	632	681	10.8	100	8.1	211	7.5	7.0	110	32.3	7.44	.75
May													
01...	0800	776	683	9.7	96	8.2	206	10.0	10.0	110	31.2	7.37	.73
14...	1030	842	690	9.0	98	8.3	208	13.0	14.5	110	30.8	7.01	.66
Jun													
05...	1630	643	677	7.5	95	8.3	203	22.0	21.0	110	30.8	7.00	.58
19...	1530	416	688	9.2	102	8.3	207	26.0	15.5	110	32.1	7.25	.48
Jul													
17...	0630	127	685	6.4	86	8.1	220	18.0	24.5	120	34.2	8.27	.48
Aug													
07...	0700	94	684	7.1	89	8.2	227	11.5	21.0	120	33.0	9.18	.63

12365700 STILLWATER RIVER AT LAWRENCE PARK, AT KALISPELL, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Sodium adsorption ratio (00931)	Sodium water, fltrd, mg/L (00930)	Alkalinity, wat flt lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solid, tons/ acre-ft (70303)	Dissolved solid, 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)
Mar													
28...	.1	2.10	111	.86	<.10	12.0	2.04	125	.17	280	<.020	.060	<.002
Apr													
18...	.1	1.98	114	.92	E.09	10.8	1.40	124	.17	211	<.020	.029	<.002
May													
01...	.1	1.92	110	.71	E.05	10.9	1.75	121	.16	253	<.020	.019	<.002
14...	.1	1.78	108	.61	<.10	9.92	1.73	118	.16	267	<.020	E.013	E.001
Jun													
05...	.1	1.57	109	.53	<.10	8.44	1.38	116	.16	201	<.020	E.010	<.002
19...	.1	1.57	112	.51	<.10	8.38	1.28	119	.16	134	<.020	<.016	<.002
Jul													
17...	.1	2.01	118	.63	E.06	10.5	1.65	128	.17	44.0	<.020	E.015	E.002
Aug													
07...	.1	2.34	124	.74	<.10	10.3	1.57	132	.18	33.6	<.020	E.009	E.002

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

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

Date	Total nitrogen, water, unfltrd, mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd, mg/L (00665)	Organic carbon, water, unfltrd, mg/L (00680)	Chlorophyll a phytoplankton, fluoro, µg/L (70953)	Pheophytin a, phytoplankton, µg/L (62360)	Suspnd. sediment, sieve diametr <.063mm percent (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Mar									
28...	.28	E.006	.036	--	--	--	96	47	105
Apr									
18...	.17	E.005	.019	--	--	--	98	21	36
May									
01...	.18	E.004	.025	--	--	--	99	29	61
14...	.21	E.005	.028	4.2	.8	.7	98	31	70
Jun									
05...	.17	E.003	.025	--	--	--	99	27	47
19...	.09	E.004	.013	--	--	--	98	16	18
Jul									
17...	.15	E.005	.017	--	--	--	99	14	4.8
Aug									
07...	.15	E.004	.010	2.4	2.8	<.1	97	8	2.0

Water-Data Report 2007

12366080 WHITEFISH RIVER NEAR MOUTH, AT KALISPELL, MT

Pend Oreille Basin
Stillwater Subbasin

LOCATION.-- Lat 48°13'36", long 114°17'29" referenced to North American Datum of 1927, in NW ¼ NE ¼ NE ¼ sec.5, T.28 N., R.21 W., Flathead County, MT, Hydrologic Unit 17010210, on upstream side of bridge on West Evergreen Drive, 0.7 miles east of the Evergreen school, and at river mile 1.6.

DRAINAGE AREA.--184 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 2007 to September 2007.

GAGE.--Water-stage recorder. Elevation of gage is 2,915 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. Some regulation occurs by Whitefish Lake. Diversion for irrigation of about 650 acres occurs upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12366080 WHITEFISH RIVER NEAR MOUTH, AT KALISPELL, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1						79	241	356	598	284	108	61
2						78	266	372	595	271	103	60
3						78	269	401	596	257	100	58
4						79	265	447	597	242	97	57
5						80	259	460	603	233	97	54
6						82	251	460	623	223	93	54
7						85	244	453	638	215	91	54
8						88	243	447	641	204	89	54
9						90	248	446	629	198	86	52
10						91	260	459	616	189	84	51
11						92	267	481	603	183	83	48
12						97	268	503	584	177	82	48
13						119	266	540	561	170	79	48
14						122	263	590	540	165	78	48
15						118	264	616	520	162	75	48
16						117	267	626	496	158	75	48
17						119	271	629	478	155	72	48
18						128	280	636	468	153	70	48
19						138	289	652	459	158	71	49
20						145	299	671	441	151	73	48
21						149	300	685	426	144	71	50
22						149	296	688	409	138	69	51
23						151	292	674	393	134	68	51
24						154	292	670	379	139	67	51
25						163	296	680	366	134	64	50
26						180	300	670	355	129	64	51
27						203	307	651	339	125	64	52
28						228	326	636	328	123	63	51
29						236	337	631	313	119	60	54
30						237	346	622	298	117	60	56
31						240	---	608	---	111	60	---
Total						4,115	8,372	17,460	14,892	5,361	2,416	1,553
Mean						133	279	563	496	173	77.9	51.8
Max						240	346	688	641	284	108	61
Min						78	241	356	298	111	60	48
Ac-ft						8,160	16,610	34,630	29,540	10,630	4,790	3,080

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

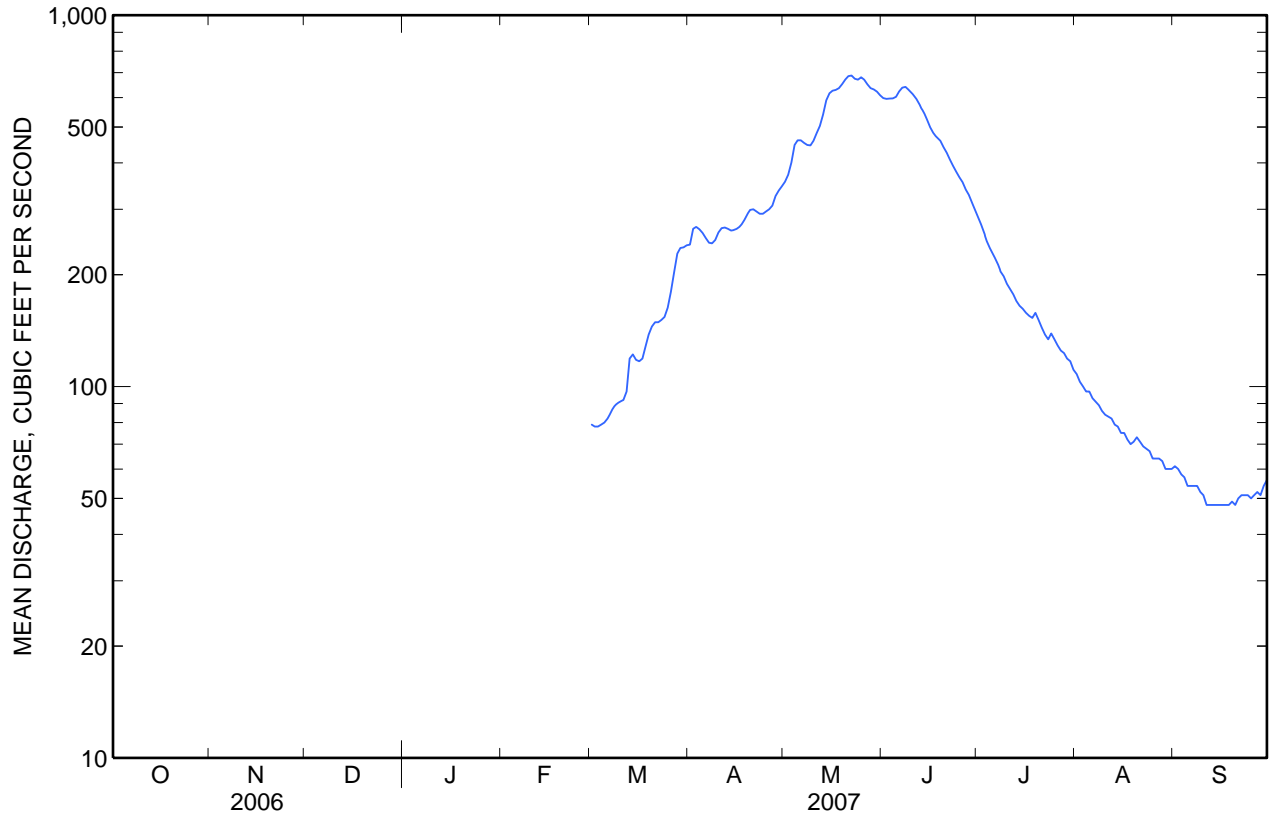
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean						133	279	563	496	173	77.9	51.8
Max						133	279	563	496	173	77.9	51.8
(WY)						(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)
Min						133	279	563	496	173	77.9	51.8
(WY)						(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)

12366080 WHITEFISH RIVER NEAR MOUTH, AT KALISPELL, MT—Continued

SUMMARY STATISTICS

	Water Year 2007	
Highest daily mean	688	May 22
Lowest daily mean	48	Sep 11
Maximum peak flow	698	May 21
Maximum peak stage	5.47	May 21
Instantaneous low flow	^a 46	Sep 12

^a Gage height, 1.52 ft.



12366080 WHITEFISH RIVER NEAR MOUTH, AT KALISPELL, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2007 to September 2007.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Mar													
28...	0930	228	667	11.0	96	8.0	218	4.5	4.0	120	33.9	7.68	.69
Apr													
18...	1300	280	681	11.0	100	8.1	193	6.0	6.5	100	29.0	6.67	.47
30...	1700	358	692	11.2	113	8.2	187	18.5	11.5	93	26.6	6.34	.45
May													
15...	1545	621	690	10.6	111	8.2	179	22.5	13.0	90	25.8	6.15	.41
Jun													
04...	1600	601	683	10.2	122	8.4	175	32.0	18.5	90	25.9	6.23	.41
18...	1630	475	686	9.6	106	8.3	176	21.0	15.0	93	26.5	6.48	.39
Jul													
16...	1730	160	692	8.4	112	8.5	195	34.5	25.0	99	28.1	6.89	.47
Aug													
07...	1730	91	683	9.6	119	8.3	211	28.0	20.5	100	28.8	7.97	.61

12366080 WHITEFISH RIVER NEAR MOUTH, AT KALISPELL, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Sodium adsorption ratio (00931)	Sodium water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solids, tons/ acre-ft (70303)	Dissolved solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Mar													
28...	.1	2.99	110	3.36	<.10	6.44	3.28	125	.17	77.1	.097	.170	.003
Apr													
18...	.1	2.21	100	2.06	E.05	6.44	1.81	109	.15	82.6	.023	.080	.003
30...	.1	1.87	96	1.28	<.10	7.26	1.98	104	.14	100	.021	.061	.003
May													
15...	.1	1.67	94	.91	E.07	7.42	1.89	101	.14	169	.021	.032	.003
Jun													
04...	.1	1.65	92	.82	<.10	6.63	1.74	99	.13	161	<.020	.047	.017
18...	.1	1.77	93	.93	<.10	6.91	1.67	101	.14	129	<.020	.041	.003
Jul													
16...	.1	2.26	99	1.64	E.05	6.88	2.30	108	.15	46.7	<.020	.068	.002
Aug													
07...	.1	3.16	106	2.87	<.10	5.88	2.75	116	.16	28.6	<.020	.080	<.002

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

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

Date	Total nitrogen, water, unfltrd, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd, mg/L (00665)	Organic carbon, water, unfltrd, mg/L (00680)	Chlorophyll a phytoplankton, fluoro, µg/L (70953)	Pheophytin a, phytoplankton, µg/L (62360)	Suspnd. sediment, sieve diametr <.063mm percent (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
Mar									
28...	.47	.020	.019	--	--	--	81	18	11
Apr									
18...	.25	E.004	.018	--	--	--	74	17	13
30...	.30	E.003	.031	--	--	--	83	35	34
May									
15...	.45	E.004	.050	3.5	2.6	2.9	81	59	99
Jun									
04...	.21	<.006	.020	--	--	--	75	26	42
18...	.14	E.004	.015	--	--	--	79	20	26
Jul									
16...	.19	E.004	.010	--	--	--	93	6	2.6
Aug									
07...	.21	<.006	E.005	2.1	.7	.6	91	2	.49



Water-Data Report 2007

12367800 ASHLEY CREEK AT KALISPELL, MT

Pend Oreille Basin
Flathead Lake Subbasin

LOCATION.--Lat 48°09'50", long 114°18'01" referenced to North American Datum of 1927, in NE ¼ SE ¼ NW ¼ sec.29, T.28 N., R.21 W., Flathead County, MT, Hydrologic Unit 17010208, on left bank 15 ft downstream from culverts on Cemetery Road, 0.6 mi west of U.S. Highway 93, 0.8 mi downstream from wastewater treatment plant, and at river mile 9.4.

DRAINAGE AREA.--287 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2007 to September 2007.

GAGE.--Water-stage recorder. Elevation of gage is 2,920 ft, referenced to National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for August to September, which are fair. Some upstream regulation or diurnal effect occurs from wastewater treatment plant. Numerous diversions occur upstream from the station. A U.S. Geological Survey satellite telemeter is located at the station.

Water-Data Report 2007

12367800 ASHLEY CREEK AT KALISPELL, MT—Continued

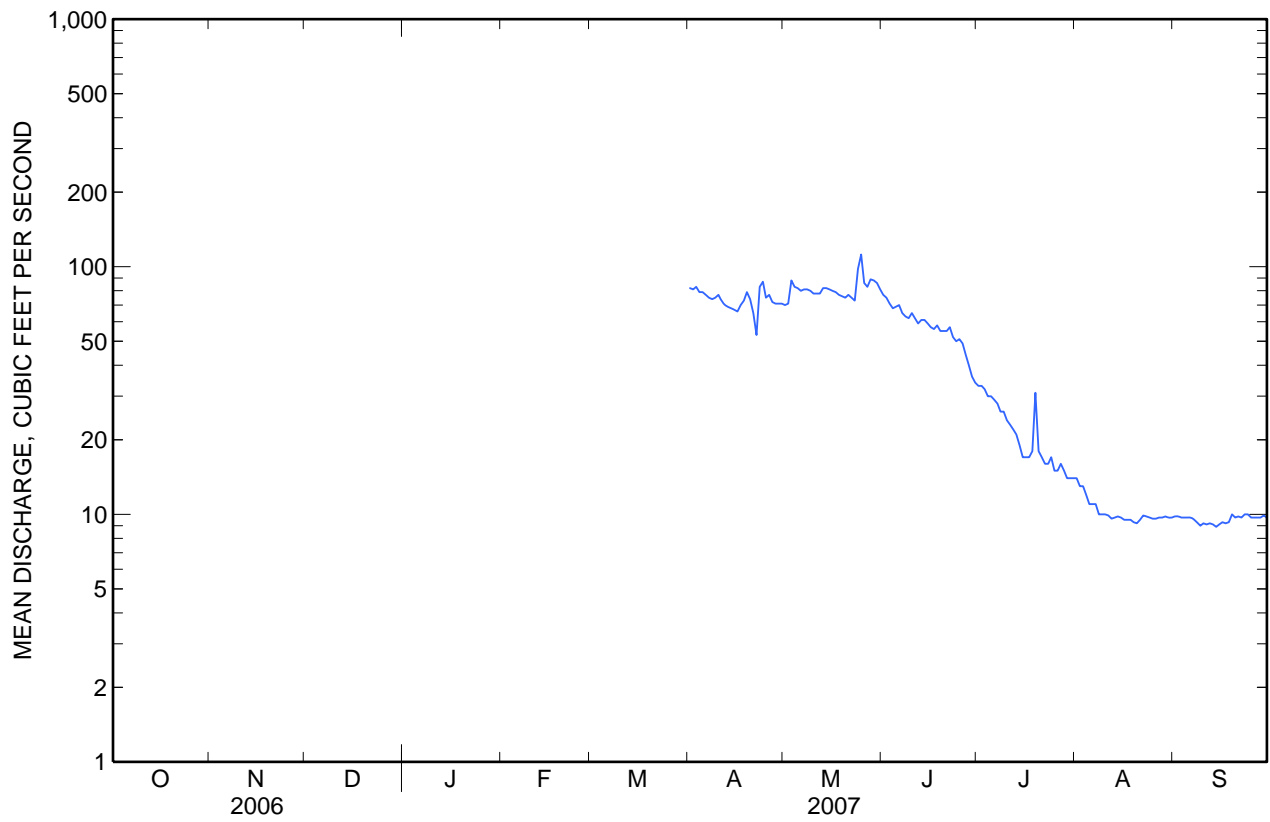
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1							82	70	77	33	14	9.8	
2							81	71	75	33	13	9.8	
3							83	88	71	32	13	9.7	
4							79	83	68	30	12	9.7	
5							79	82	69	30	11	9.7	
6							77	80	70	29	11	9.7	
7							75	81	65	28	11	9.5	
8							74	81	63	26	10	9.3	
9							75	80	62	26	10	9.0	
10							77	78	65	24	10	9.2	
11							73	78	62	23	9.9	9.1	
12							70	78	59	22	9.6	9.2	
13							69	82	61	21	9.7	9.1	
14							68	82	61	19	9.8	8.9	
15							67	81	59	17	9.7	9.1	
16							66	80	57	17	9.5	9.3	
17							70	79	56	17	9.5	9.2	
18							73	77	58	18	9.5	9.3	
19							79	76	55	31	9.3	10	
20							74	75	55	18	9.2	9.7	
21							65	77	55	17	9.5	9.8	
22							53	75	57	16	9.9	9.7	
23							83	73	52	16	9.8	10	
24							87	98	50	17	9.7	10	
25							75	112	51	15	9.6	9.7	
26							77	86	49	15	9.6	9.7	
27							72	83	44	16	9.7	9.7	
28							71	89	40	15	9.7	9.7	
29							71	88	36	14	9.8	9.9	
30							71	86	34	14	9.7	9.7	
31							---	81	---	14	9.7	---	
Total								2,216	2,530	1,736	663	317.4	286.2
Mean								73.9	81.6	57.9	21.4	10.2	9.54
Max								87	112	77	33	14	10
Min								53	70	34	14	9.2	8.9
Ac-ft								4,400	5,020	3,440	1,320	630	568

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean							73.9	81.6	57.9	21.4	10.2	9.54
Max							73.9	81.6	57.9	21.4	10.2	9.54
(WY)							(2007)	(2007)	(2007)	(2007)	(2007)	(2007)
Min							73.9	81.6	57.9	21.4	10.2	9.54
(WY)							(2007)	(2007)	(2007)	(2007)	(2007)	(2007)

12367800 ASHLEY CREEK AT KALISPELL, MT—Continued



Water-Data Report 2007

12367800 ASHLEY CREEK AT KALISPELL, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2007 to September 2007.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/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)
Mar													
28...	1300	81	667	11.2	104	8.1	284	8.5	6.5	120	31.9	10.6	3.70
Apr													
18...	0810	68	682	9.2	89	8.0	289	4.5	9.0	120	30.8	9.72	2.90
May													
02...	1130	71	680	7.9	87	8.1	288	16.0	14.5	120	30.9	9.72	2.56
16...	0930	82	686	7.6	85	8.1	293	14.5	15.5	120	31.9	10.5	2.35
Jun													
06...	0815	72	677	6.5	78	8.1	320	10.5	18.0	140	34.8	11.8	2.13
20...	0745	56	689	6.8	77	8.1	360	11.5	16.5	150	38.9	13.3	2.19
Jul													
16...	1630	17	693	13.6	180	8.6	468	36.0	24.5	180	44.5	16.5	3.32
Aug													
06...	1730	11	683	14.7	190	8.7	695	--	22.5	210	49.2	20.9	6.48

12367800 ASHLEY CREEK AT KALISPELL, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solids, tons/ acre-ft (70303)	Dissolved solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Mar 28...	.5	13.7	121	11.1	E.10	14.3	10.3	170	.23	37.1	<.020	.371	.002
Apr 18...	.6	14.4	124	12.2	.13	15.3	7.83	170	.23	31.1	E.012	.445	.002
May 02...	.6	14.5	123	11.6	.12	15.2	7.73	168	.23	32.2	E.013	.399	.002
May 16...	.5	13.6	128	11.3	.11	12.4	6.61	167	.23	37.1	.020	.374	.003
Jun 06...	.6	15.2	143	12.6	.12	8.80	6.97	180	.24	35.0	<.020	.468	.004
Jun 20...	.7	18.9	159	16.0	.13	7.35	7.56	202	.27	30.5	E.014	.520	.003
Jul 16...	1.0	30.9	184	32.9	.17	7.09	10.8	261	.36	12.0	E.013	.977	.009
Aug 06...	1.9	64.2	228	68.3	.20	9.04	24.1	389	.53	11.6	.022	2.31	.029

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

Date	Total nitrogen, water, unfltrd, mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Total phosphorus, water, unfltrd, mg/L (00665)	Organic carbon, water, unfltrd, mg/L (00680)	Chlorophyll a phyton, plankton, fluoro, µg/L (70953)	Pheophytin a, phyton, plankton, µg/L (62360)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Suspended sedi- ment concen- tration mg/L (80154)	Suspended sedi- ment dis- charge, tons/d (80155)
Mar 28...	.98	.012	.057	--	--	--	89	28	6.1
Apr 18...	1.07	.013	.056	--	--	--	92	22	4.0
May 02...	.95	.015	.035	--	--	--	97	46	8.8
May 16...	1.13	.016	.065	11.9	4.4	4.8	91	20	4.4
Jun 06...	1.19	.012	.060	--	--	--	94	11	2.1
Jun 20...	1.11	.012	.039	--	--	--	88	6	.91
Jul 16...	1.68	.037	.075	--	--	--	90	3	.14
Aug 06...	2.96	.010	.042	6.3	1.8	3.7	81	3	.09



Water-Data Report 2007

12369000 FLATHEAD RIVER NEAR BIGFORK, MT

Pend Oreille Basin
Flathead Lake Subbasin

LOCATION.--Lat 48°05'33", long 114°06'50" referenced to North American Datum of 1927, in SW ¼ NW ¼ SW ¼ sec.23, T.27 N., R.20 W., Flathead County, MT, Hydrologic Unit 17010208, at bridge on State Highway 208, 3 mi northwest of Bigfork, and at river mi 106.5. Formerly published at Flathead River near Holt.

DRAINAGE AREA.--6,300 mi².

GAGE.--Elevation at site is 2,895 ft referenced to the National Geodetic Vertical Datum of 1929.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to June 1971, March 2007 to September 2007.

REMARKS.--Several unpublished observations of water temperature and specific conductance were made during the year. Note: mercury concentrations are reported in nanograms per liter.

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

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, wat unfiltered, µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Mar													
29...	1130	17,500	701	12.2	104	7.9	162	7.5	5.0	86	24.7	5.88	.41
Apr													
19...	1000	11,700	683	11.1	100	8.2	171	4.5	6.0	90	25.7	6.18	.42
May													
02...	0930	22,400	680	10.8	102	8.1	161	14.5	8.0	83	23.7	5.77	.36
16...	1430	28,000	686	10.8	103	8.2	154	20.0	8.5	76	21.8	5.25	.33
Jun													
06...	1030	29,700	678	9.3	96	8.0	134	11.5	11.5	70	20.2	4.80	.28
20...	0945	15,800	690	9.8	99	8.1	150	19.5	11.5	77	21.8	5.43	.30
Jul													
16...	1330	8,570	694	8.7	107	8.4	163	34.0	21.0	85	24.4	5.86	.29
Aug													
06...	1500	6,900	682	9.4	110	8.2	167	26.5	17.5	86	24.1	6.25	.36

12369000 FLATHEAD RIVER NEAR BIGFORK, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Sodium adsorp- tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alka- linity, wat flt lab, mg/L as CaCO3 (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dis- solved solids, sum of consti- tuents mg/L (70301)	Dis- solved solids, tons/ acre-ft (70303)	Dis- solved solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Mar 29...	.1	1.10	83	.48	<.10	5.21	3.52	92	.12	4,330	<.020	.118	<.002
Apr 19...	.1	1.26	89	.53	E.07	5.02	3.32	96	.13	3,030	<.020	.070	<.002
May 02...	.0	1.02	83	.28	<.10	4.92	3.14	89	.12	5,410	<.020	.104	<.002
16...	.0	.92	79	.17	<.10	4.74	2.78	84	.11	6,320	<.020	.093	<.002
Jun 06...	.0	.78	70	.20	<.10	3.92	2.42	75	.10	6,020	<.020	.065	<.002
20...	.0	.90	77	.29	<.10	4.25	2.80	82	.11	3,510	<.020	.050	<.002
Jul 16...	.0	.89	84	.29	E.08	4.07	3.18	89	.12	2,070	<.020	.033	E.002
Aug 06...	.0	1.00	87	.33	<.10	3.94	3.20	91	.12	1,700	<.020	.021	<.002

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

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

Date	Total nitro- gen, water, unfltrd, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Total phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Chloro- phyll a phyto- plank- ton, fluoro, µg/L (70953)	Pheo- phytin a, phyto- plank- ton, µg/L (62360)	Mercury water, unfltrd ng/L (50286)	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)
Mar 29...	.24	E.003	.022	--	--	--	--	96	27	1,280
Apr 19...	.14	E.003	.009	--	--	--	--	96	6	190
May 02...	.24	<.006	.037	--	--	--	--	92	47	2,840
16...	.20	E.004	.034	2.4	.7	.5	2.24	92	44	3,330
Jun 06...	.18	<.006	.039	--	--	--	--	95	48	3,850
20...	.09	E.004	.009	--	--	--	--	94	8	341
Jul 16...	.10	E.003	E.004	--	--	--	--	88	2	46
Aug 06...	.13	<.006	<.008	1.7	1.4	.4	6.52	90	2	37

Water-Data Report 2007

12370000 SWAN RIVER NEAR BIGFORK, MT

Pend Oreille Basin
Swan Subbasin

LOCATION.--Lat 48°01'28", long 113°58'44" referenced to North American Datum of 1927, in SH ¼ SW ¼ sec.11, T.26 N., R.19 W., Lake County, MT, Hydrologic Unit 17010211, on left bank 0.2 mi downstream from Johnson Creek, 0.4 mi downstream from Swan Lake, 5.1 mi southeast of Bigfork, and at river mile 14.0.

DRAINAGE AREA.--671 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1910 to May 1911 (gage heights only), April 1922 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1316.

REVISED RECORDS.-- WSP 1216: Drainage area. WSP 1246: 1923-24, maximum discharge; 1930. WSP 1316: 1923.

GAGE.--Water-stage recorder. Elevation of gage is 3,062.6 ft, referenced to National Geodetic Vertical Datum of 1929 (from river-profile survey). Oct. 10, 1910, to May 22, 1911, nonrecording gage at site 10 mi upstream at different elevation. Apr. 28, 1922, to Oct. 14, 1930, nonrecording gage at site 800 ft upstream at elevation 1.9 ft higher.

REMARKS.--Records are good. Diversions for irrigation include about 360 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.

12370000 SWAN RIVER NEAR BIGFORK, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	386	406	638	480	385	450	1,400	1,640	2,070	1,350	561	382
2	378	394	624	475	381	440	1,340	1,760	2,170	1,310	551	379
3	373	397	619	492	374	430	1,290	2,040	2,330	1,260	531	377
4	366	403	597	515	374	420	1,220	2,370	2,540	1,220	516	367
5	369	419	579	529	380	420	1,170	2,440	2,760	1,180	501	362
6	362	461	581	527	386	417	1,130	2,310	3,130	1,140	500	362
7	360	537	560	523	393	425	1,090	2,120	3,450	1,090	492	358
8	365	929	549	512	404	452	1,040	1,950	3,390	1,060	481	354
9	359	1,710	535	509	418	479	1,030	1,850	3,090	1,030	474	353
10	359	2,030	526	500	432	508	1,050	1,970	2,830	996	474	353
11	350	1,900	524	490	443	534	1,080	2,250	2,710	965	470	348
12	352	1,700	520	448	462	616	1,100	2,530	2,670	931	460	343
13	349	1,510	523	400	472	890	1,110	2,790	2,560	903	449	339
14	348	1,320	537	373	468	1,270	1,100	3,040	2,380	865	442	333
15	356	1,200	570	367	470	1,420	1,080	3,130	2,220	842	437	329
16	371	1,070	588	364	471	1,430	1,090	2,980	2,070	821	428	331
17	383	983	591	367	479	1,440	1,100	2,850	1,990	818	421	324
18	395	896	545	374	484	1,480	1,120	2,870	1,990	824	415	333
19	406	841	499	390	487	1,570	1,180	3,060	2,000	820	411	350
20	430	796	473	406	492	1,650	1,220	3,200	1,960	811	421	356
21	462	788	463	416	490	e1,680	1,210	3,200	1,910	785	424	369
22	472	821	460	424	486	e1,670	1,170	3,050	1,860	766	427	372
23	461	838	462	434	480	1,670	1,130	2,800	1,850	737	428	373
24	454	832	458	438	476	1,630	1,120	2,530	1,810	703	425	392
25	438	824	475	429	470	1,590	1,120	2,360	1,790	683	421	400
26	431	813	488	424	466	1,620	1,160	2,210	1,730	673	404	395
27	424	768	514	420	462	1,690	1,220	2,050	1,640	644	396	400
28	421	739	524	404	457	1,690	1,290	1,990	1,530	630	392	385
29	418	700	524	393	---	1,630	1,350	2,050	1,440	608	391	387
30	423	666	512	382	---	1,550	1,490	2,070	1,400	582	386	387
31	420	---	494	384	---	1,460	---	2,050	---	573	380	---
Total	12,241	27,691	16,552	13,589	12,442	34,621	35,200	75,510	67,270	27,620	13,909	10,893
Mean	395	923	534	438	444	1,117	1,173	2,436	2,242	891	449	363
Max	472	2,030	638	529	492	1,690	1,490	3,200	3,450	1,350	561	400
Min	348	394	458	364	374	417	1,030	1,640	1,400	573	380	324
Ac-ft	24,280	54,930	32,830	26,950	24,680	68,670	69,820	149,800	133,400	54,780	27,590	21,610
Cfsm	0.59	1.38	0.80	0.65	0.66	1.66	1.75	3.63	3.34	1.33	0.67	0.54
In.	0.68	1.54	0.92	0.75	0.69	1.92	1.95	4.19	3.73	1.53	0.77	0.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	546	595	564	499	498	634	1,513	2,806	3,268	1,607	687	532
Max	1,682	1,514	1,796	1,298	1,627	1,813	3,228	5,469	5,803	3,310	1,225	1,096
(WY)	(1960)	(1928)	(1934)	(1934)	(1971)	(1986)	(1925)	(1928)	(1974)	(1950)	(1950)	(1965)
Min	308	290	307	271	236	244	675	1,670	1,433	609	322	285
(WY)	(1938)	(1937)	(1937)	(1930)	(1930)	(1930)	(1937)	(1941)	(1941)	(1941)	(1941)	(1988)

12370000 SWAN RIVER NEAR BIGFORK, MT—Continued

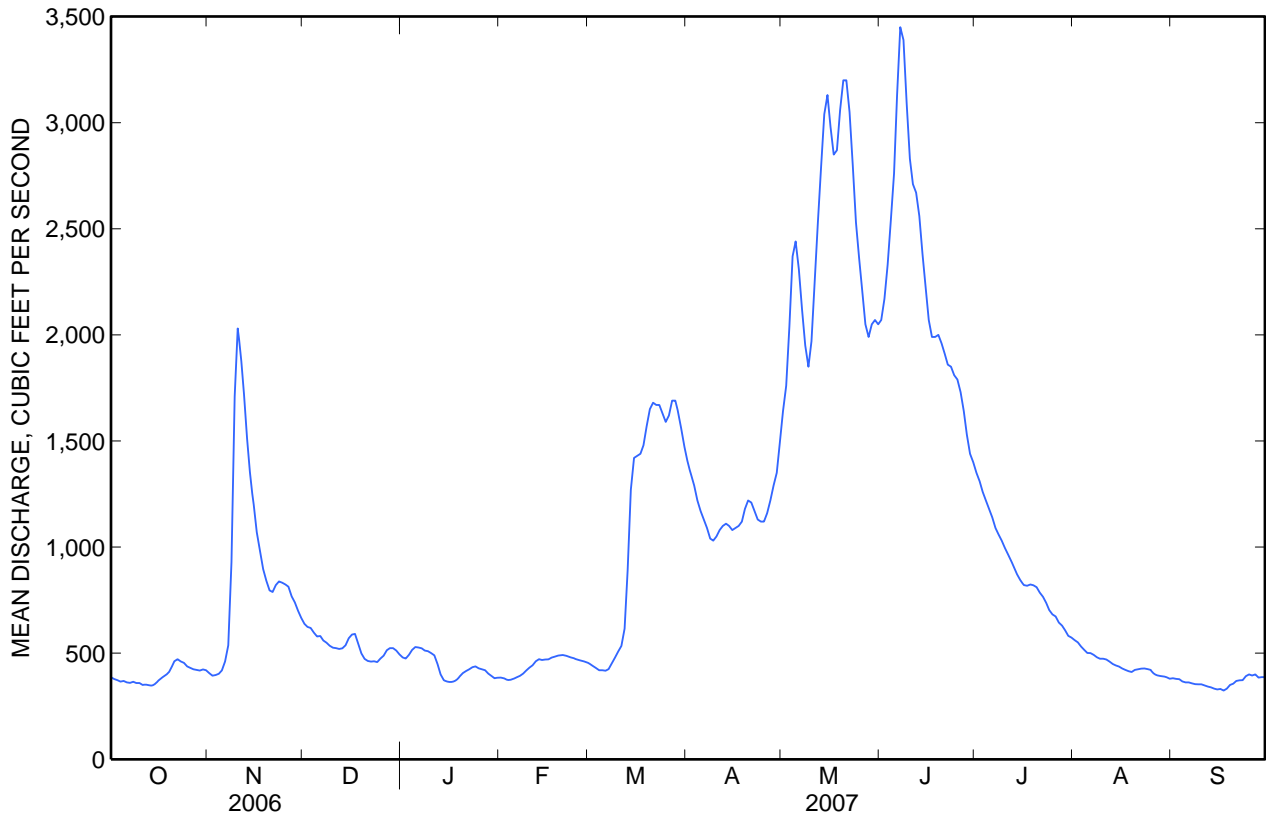
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1922 - 2007	
Annual total	445,455		347,538			
Annual mean	1,220		952		1,147	
Highest annual mean					1,860	1928
Lowest annual mean					607	1941
Highest daily mean	6,040	Jun 18	3,450	Jun 7	8,800	Jun 21, 1974
Lowest daily mean	348	Oct 14	324	Sep 17	193	Jan 26, 1930
Annual seven-day minimum	353	Oct 9	333	Sep 12	195	Jan 26, 1930
Maximum peak flow			^a 3,510	Jun 7	8,890	Jun 20, 1974
Maximum peak stage			4.76	Jun 7	7.34	Jun 20, 1974
Instantaneous low flow			^b 299	Sep 18	^c 193	Jan 26, 1930
Annual runoff (ac-ft)	883,600		689,300		830,700	
Annual runoff (cfsm)	1.82		1.42		1.71	
Annual runoff (inches)	24.70		19.27		23.22	
10 percent exceeds	2,820		2,070		2,810	
50 percent exceeds	662		534		631	
90 percent exceeds	406		373		363	

^a Also occurred on June 8, 2007.

^b Gage height, 2.06 ft.

^c Jan. 26-29, 1930; site and datum then in use.



Water-Data Report 2007

12370100 SWAN RIVER ABOVE DAM, NEAR BIGFORK, MT

Pend Oreille Basin
Swan Subbasin

LOCATION.--Lat 48°03'21", long 114°01'46" referenced to North American Datum of 1927, in SE ¼ NE ¼ SE ¼ sec.32, T.27 N., R.19 W., Flathead County, MT, Hydrologic Unit 17010211.

DRAINAGE AREA.--735 mi².

GAGE.--None. Elevation at site is 3,015 ft referenced to the National Geodetic Vertical Datum of 1929.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2007 to August 2007.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Jun													
06...	1300	3,450	675	9.0	100	8.0	150	9.5	14.5	79	22.7	5.40	.44
20...	1230	2,150	687	8.6	94	8.1	152	24.0	14.5	79	22.7	5.43	.37
Jul													
16...	1200	931	692	9.0	116	8.4	160	34.5	23.0	83	24.0	5.55	.33
Aug													
06...	1140	545	682	8.3	102	8.3	168	28.0	20.0	84	23.9	5.99	.44

12370100 SWAN RIVER ABOVE DAM, NEAR BIGFORK, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

[Remark codes: <, less than.]

Date	Sodium adsorp- tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alka- linity, wat flt lab, mg/L as CaCO3 (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dis- solved solids, sum of consti- tuents mg/L (70301)	Dis- solved solids, tons/ acre-ft (70303)	Dis- solved solids, tons/d (70302)
Jun										
06...	.0	.98	81	.55	<.10	5.06	1.32	85	.12	792
20...	.0	.94	81	.35	<.10	5.15	1.18	85	.12	491
Jul										
16...	.0	.94	84	.35	<.10	5.51	1.31	88	.12	222
Aug										
06...	.1	1.08	89	.42	<.10	5.65	1.22	92	.13	136

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

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

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitro- gen, water, unfltrd, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Total phos- phorus, water, unfltrd mg/L (00665)	Suspnd. sedi- ment, sieve diametr percent <.063mm mg/L (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Jun									
06...	<.020	.028	<.002	.17	<.006	E.007	93	3	28
20...	<.020	.018	E.001	.14	E.004	<.008	80	1	5.8
Jul									
16...	<.020	<.016	E.001	.07	E.003	<.008	76	1	2.5
Aug									
06...	<.020	<.016	E.001	.11	<.006	E.005	89	1	1.5



Water-Data Report 2007

12371000 TURTLE LAKE NEAR POLSON, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°40'19", long 114°04'32" referenced to North American Datum of 1927, in SW ¼ NW ¼ NE ¼ sec.18, T.22 N., R.19 W., Lake County, MT, Hydrologic Unit 17010212, at outlet works 4 mi southeast of Polson.

DRAINAGE AREA.--Undetermined.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Turtle Lake is one of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1932. Prior to October 1968, published as "Twin Reservoir." Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 899 acre-ft between elevation 3,061.0 ft and 3,090.5 ft. Dead storage is unknown; reservoir was a natural lake. Reservoir has a natural watershed and fed by Hell Roaring Creek and Bisson Creek. Nonrecording gage is read on the last day of the month. Figures given herein represent usable contents.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,000 acre-ft, June 30, 1996, elevation, 3,092.02 ft; no storage at times in July 1941, August and September 1944, October 1957, July, August and September 1977, July through October 1992, March 1994, October through December 1994, August 2001, August 2003, and July through August 2004.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 816 acre-ft, June 30, elevation, 3,089.20 ft; minimum observed, 165 acre-ft, Aug. 31, elevation 3,071.70.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270

Water-Data Report 2007

12371550 FLATHEAD LAKE AT POLSON, MT

Pend Oreille Basin
Flathead Lake Subbasin

LOCATION.--Lat 47°41'49", long 114°09'41" referenced to North American Datum of 1927, in SW ¼ SE ¼ NE ¼ sec.4, T.22 N., R.20 W., Lake County, MT, Hydrologic Unit 17010208, at Polson.

DRAINAGE AREA.--7,086 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1, 1998 to current year. April to August 1900, daily lake elevations only, at site near Holt, 6 mi east of Somers (elevation unknown). August 1908 to November 1909 (fragmentary), January 1910 to Sept.30, 1998 published as "at Somers". Monthend contents only for some periods, published in Water Supply Paper 1316. Prior to April 1923, published as "at Polson." Oct. 1, 1941 to Sept. 30, 1998, unpublished daily lake elevations at Polson are available in files at the USGS Water Science Center located in Helena, Montana.

GAGE.--Water-stage recorder. Elevation of the gage is 2,880 ft., Somers Datum (2,799 ft), referenced to the National Geodetic Vertical Datum of 1929). Subtract 1 foot to convert Somers datum to sea level. July 1 to Dec. 12, 1923, nonrecording gage at Somers site.

REMARKS.--Natural storage in Flathead Lake increased by construction of Kerr Dam 4 mi downstream from natural lake outlet; storage began Apr. 11, 1938. Usable capacity, 1,791,000 acre-ft at controlled spillway elevation 2,893.00 ft. Dead storage unknown below 2,878 ft, elevation of natural outlet. Minimum operating level, 572,300 acre-ft, elevation 2,883.00 ft for on-site power generation. Water is used for power production, flood control, recreation, and irrigation. Figures given herein represent usable contents. U.S. Geological Survey satellite telemeter is located at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,208,000 acre-ft, June 19, 1933, elevation, 2,896.26 ft; minimum, 347,000 acre-ft, Dec. 5, 1936, elevation, 2,881.07 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,807,000 acre-ft, July 18, elevation, 2,893.13 ft; minimum, 702,600 acre-ft, Mar. 12, 13, elevation, 2,884.10 ft.

12371550 FLATHEAD LAKE AT POLSON, MT—Continued

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,892.49	2,891.81	2,891.47	2,889.31	2,886.97	2,885.02	2,885.76	2,885.83	2,891.80	2,892.86	2,892.71	2,892.66
2	2,892.49	2,891.78	2,891.44	2,889.20	2,886.86	2,884.97	2,885.80	2,885.97	2,891.97	2,892.85	2,892.70	2,892.66
3	2,892.47	2,891.76	2,891.36	2,889.13	2,886.79	2,884.89	2,885.84	2,886.19	2,892.15	2,892.83	2,892.66	2,892.65
4	2,892.43	2,891.73	2,891.28	2,889.07	2,886.72	2,884.82	2,885.88	2,886.46	2,892.31	2,892.82	2,892.67	2,892.63
5	2,892.38	2,891.70	2,891.22	2,888.96	2,886.66	2,884.74	2,885.87	2,886.77	2,892.46	2,892.81	2,892.70	2,892.59
6	2,892.34	2,891.67	2,891.16	2,888.85	2,886.59	2,884.67	2,885.87	2,886.98	2,892.53	2,892.80	2,892.66	2,892.51
7	2,892.32	2,891.69	2,891.09	2,888.78	2,886.52	2,884.59	2,885.82	2,887.16	2,892.57	2,892.76	2,892.67	2,892.52
8	2,892.28	2,891.95	2,891.02	2,888.77	2,886.46	2,884.46	2,885.78	2,887.31	2,892.57	2,892.80	2,892.68	2,892.50
9	2,892.25	2,892.36	2,890.95	2,888.68	2,886.40	2,884.45	2,885.70	2,887.46	2,892.59	2,892.84	2,892.71	2,892.42
10	2,892.19	2,892.55	2,890.88	2,888.58	2,886.35	2,884.38	2,885.71	2,887.72	2,892.61	2,892.82	2,892.69	2,892.37
11	2,892.16	2,892.59	2,890.81	2,888.64	2,886.30	2,884.30	2,885.76	2,888.04	2,892.65	2,892.80	2,892.73	2,892.33
12	2,892.15	2,892.57	2,890.69	2,888.46	2,886.29	2,884.20	2,885.77	2,888.36	2,892.69	2,892.79	2,892.72	2,892.35
13	2,892.13	2,892.48	2,890.60	2,888.39	2,886.20	2,884.19	2,885.73	2,888.70	2,892.71	2,892.77	2,892.71	2,892.28
14	2,892.11	2,892.45	2,890.59	e2,888.31	2,886.13	2,884.30	2,885.73	2,889.07	2,892.71	2,892.75	2,892.73	2,892.22
15	2,892.06	2,892.35	2,890.44	e2,888.20	2,886.05	2,884.37	2,885.68	2,889.39	2,892.78	2,892.75	2,892.73	2,892.17
16	2,892.13	2,892.19	2,890.46	2,888.11	2,886.02	2,884.38	2,885.66	2,889.59	2,892.85	2,892.74	2,892.74	2,892.11
17	2,892.10	2,892.18	2,890.41	2,888.03	2,885.95	2,884.41	2,885.64	2,889.74	2,892.82	2,892.75	2,892.72	2,892.05
18	2,892.04	2,892.10	2,890.34	2,887.95	2,885.86	2,884.38	2,885.64	2,889.86	2,892.89	2,892.83	2,892.72	2,892.05
19	2,892.01	2,892.02	2,890.26	2,887.89	2,885.80	2,884.43	2,885.64	2,890.03	2,892.94	2,892.87	2,892.70	2,892.06
20	2,892.05	2,891.95	2,890.18	2,887.81	2,885.69	2,884.41	2,885.62	2,890.19	2,892.94	2,892.88	2,892.62	2,891.96
21	2,892.05	2,891.93	2,890.09	2,887.74	2,885.68	2,884.53	2,885.64	2,890.34	2,892.91	2,892.86	2,892.64	2,891.91
22	2,892.03	2,891.91	2,890.03	2,887.70	2,885.62	2,884.67	2,885.61	2,890.48	2,892.89	2,892.84	2,892.70	2,891.87
23	2,892.01	2,891.82	2,889.95	2,887.64	2,885.53	2,884.77	2,885.58	2,890.52	2,892.86	2,892.83	2,892.71	2,891.91
24	2,891.98	2,891.80	2,889.88	2,887.58	2,885.44	2,884.84	2,885.54	2,890.62	2,892.86	2,892.81	2,892.70	2,891.86
25	2,891.95	2,891.83	2,889.80	2,887.50	2,885.38	2,884.89	2,885.51	2,890.77	2,892.83	2,892.80	2,892.66	2,891.78
26	2,891.90	2,891.83	2,889.76	2,887.43	2,885.28	2,885.07	2,885.52	2,890.90	2,892.85	2,892.78	2,892.65	2,891.73
27	2,891.88	2,891.86	2,889.69	2,887.35	2,885.22	2,885.30	2,885.55	2,891.01	2,892.86	2,892.76	2,892.67	2,891.72
28	2,891.87	2,891.75	2,889.64	2,887.27	2,885.10	2,885.51	2,885.58	2,891.15	2,892.87	2,892.74	2,892.69	2,891.67
29	2,891.88	2,891.61	2,889.58	2,887.20	---	2,885.63	2,885.64	2,891.31	2,892.86	2,892.73	2,892.67	2,891.59
30	2,891.89	2,891.53	2,889.49	2,887.12	---	2,885.70	2,885.72	2,891.48	2,892.85	2,892.72	2,892.67	2,891.56
31	2,891.82	---	2,889.41	2,887.04	---	2,885.73	---	2,891.63	---	2,892.67	2,892.66	---
Max	2,892.49	2,892.59	2,891.47	2,889.31	2,886.97	2,885.73	2,885.88	2,891.63	2,892.94	2,892.88	2,892.74	2,892.66
Min	2,891.82	2,891.53	2,889.41	2,887.04	2,885.10	2,884.19	2,885.51	2,885.83	2,891.80	2,892.67	2,892.62	2,891.56

CONTENTS IN THOUSANDS OF ACRE-FEET, AT THE END OF THE MONTH

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1,643	1,607	1,344	1,056	822	898	897	1,619	1,772	1,749	1,748	1,610

CHANGE IN CONTENTS, IN ACRE-FEET

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
-89,000	-36,000	-263,000	-288,000	-234,000	+76,000	-1,000	+722,000	+153,000	-23,000	-1,000	-138,000

Calendar Year 2006 +182,000

Water Year 2007 -122,000



Water-Data Report 2007

12372000 FLATHEAD RIVER NEAR POLSON, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°40'49", long 114°14'45" referenced to North American Datum of 1927, in SW ¼ NE ¼ SE ¼ sec.11, T.22 N., R.21 W., Lake County, MT, Hydrologic Unit 17010212, on left bank 0.5 mi downstream from Kerr Dam, 4.0 mi west of Polson, 5.0 mi downstream from Flathead Lake, and at river mile 71.5.

DRAINAGE AREA.--7,096 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1907 to current year.

REVISED RECORDS.-- Water Supply Paper (WSP) 652: 1926. WSP 752: 1932. WSP 1182: 1948. WSP 1216: Drainage area. WSP 1246: 1928, maximum discharge. WSP 1636: 1958, adjusted runoff.

GAGE.--Water-stage recorder. Elevation of gage is 2,692.70 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by The Montana Power Co.). Prior to Oct. 1, 1941, nonrecording gages or water-stage recorder at several sites near highway bridge at old site of Mitchell's ferry 6 mi downstream from present site, all at elevation 2,629.20 ft (from river-profile survey).

REMARKS.--Records are good. Flow is regulated by Flathead Lake (Kerr Dam) since April 1938 (station number 12371500) and Hungry Horse Reservoir (station number 12362000) since September 1951. Diversions occur upstream from station for irrigation of about 10,000 acres. Flathead project pumps can divert up to 12,000 acre-ft per month when required for irrigation of lands 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.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--100 years, 11,480 ft³/s, 21.97 in/yr, 8,317,000 acre-ft/yr, adjusted for change in contents in Hungry Horse Reservoir and Flathead Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,800 ft³/s, May 29, 1928, gage height, 17.2 ft, site and elevation then in use; minimum probably less than 5.0 ft³/s, Apr. 13, 1938; minimum daily, 32 ft³/s, Apr. 12, 1938.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1894 reached a stage of about 21 ft, present elevation; discharge, about 110,000 ft³/s, from lake elevation-discharge study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,200 ft³/s, June 7, gage height, 12.76 ft; minimum daily, 5,460 ft³/s, Oct. 12.

12372000 FLATHEAD RIVER NEAR POLSON, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,330	5,880	9,510	9,800	9,700	9,660	14,800	15,300	15,300	14,000	6,890	5,980
2	6,330	5,870	9,580	9,780	9,700	9,630	15,300	15,500	17,400	13,900	6,700	6,000
3	6,330	5,860	9,570	9,780	9,690	9,630	15,200	15,600	19,400	13,600	6,650	6,040
4	6,310	5,850	9,560	9,780	9,690	9,620	15,500	15,600	21,300	13,300	6,150	6,200
5	6,330	5,860	9,570	9,780	9,670	9,620	15,500	15,200	25,100	13,200	5,820	6,350
6	6,340	6,210	9,560	9,790	9,670	9,610	15,500	15,100	30,100	12,700	5,760	6,360
7	6,340	7,250	9,520	9,770	9,680	9,600	15,400	15,200	32,600	11,900	5,830	6,240
8	6,360	8,340	9,490	9,780	9,060	9,570	15,400	15,200	29,700	11,200	5,810	6,170
9	6,390	9,200	9,580	9,760	8,670	9,560	15,000	14,800	24,400	11,000	5,820	6,170
10	6,140	11,900	9,750	9,780	8,710	8,940	14,800	15,200	21,400	11,000	5,840	6,120
11	5,710	14,700	9,750	9,750	8,680	8,660	15,200	15,200	21,600	11,000	5,840	6,110
12	5,460	14,700	9,750	9,750	8,740	8,600	15,100	15,300	21,600	11,000	5,850	6,100
13	5,500	15,800	9,750	9,750	8,760	8,580	14,900	15,100	20,900	10,700	5,830	6,130
14	5,520	17,000	9,740	9,750	8,750	9,180	14,700	16,200	18,800	10,400	5,810	6,150
15	5,490	16,900	9,740	9,750	8,810	9,510	14,600	18,700	15,500	10,200	5,800	6,160
16	5,480	15,400	9,740	9,750	8,820	9,510	14,800	21,300	14,600	9,390	5,810	6,160
17	5,510	13,500	9,740	9,750	8,860	9,520	14,700	23,600	14,600	8,870	5,810	6,160
18	5,590	12,600	9,730	9,750	8,880	9,520	14,600	25,300	16,000	8,570	5,900	6,200
19	5,560	11,600	9,730	9,750	8,970	9,540	14,500	25,300	18,400	9,140	5,890	6,210
20	5,590	10,400	9,740	9,750	9,480	9,540	14,600	25,200	20,400	9,330	5,910	6,290
21	5,650	9,740	9,750	9,750	10,500	9,560	14,600	25,200	20,000	9,420	5,930	6,310
22	5,690	9,740	9,750	9,750	10,200	9,600	14,500	25,200	19,300	9,410	5,950	6,300
23	5,710	9,740	9,790	9,740	9,770	9,250	14,400	24,500	19,000	9,380	5,950	6,340
24	5,700	9,750	9,800	9,730	9,720	9,670	14,200	20,500	18,000	9,310	5,960	6,660
25	5,710	9,760	9,800	9,740	9,720	9,720	14,000	16,100	18,000	9,240	5,970	7,280
26	5,750	9,760	9,800	9,730	9,720	9,650	14,100	14,900	15,500	9,240	5,950	7,610
27	5,790	9,740	9,800	9,730	9,720	10,300	14,200	14,600	14,200	9,150	5,950	7,600
28	5,830	9,740	9,800	9,730	9,710	12,100	14,300	14,600	13,900	8,190	5,820	7,700
29	5,790	9,640	9,800	9,730	---	14,200	14,500	14,600	13,800	8,120	6,000	7,690
30	5,800	9,490	9,800	9,720	---	14,600	15,000	14,500	13,900	8,210	6,040	7,640
31	5,880	---	9,800	9,710	---	14,800	---	14,500	---	7,720	6,020	---
Total	181,910	311,920	300,790	302,360	262,050	311,050	443,900	553,100	584,700	321,790	185,260	194,430
Mean	5,868	10,400	9,703	9,754	9,359	10,030	14,800	17,840	19,490	10,380	5,976	6,481
Max	6,390	17,000	9,800	9,800	10,500	14,800	15,500	25,300	32,600	14,000	6,890	7,700
Min	5,460	5,850	9,490	9,710	8,670	8,580	14,000	14,500	13,800	7,720	5,760	5,980
Ac-ft	360,800	618,700	596,600	599,700	519,800	617,000	880,500	1,097,000	1,160,000	638,300	367,500	385,700
Cfsm	0.83	1.47	1.37	1.37	1.32	1.41	2.09	2.51	2.75	1.46	0.84	0.91
In.	0.95	1.64	1.58	1.59	1.37	1.63	2.33	2.90	3.07	1.69	0.97	1.02

CHANGE IN CONTENTS IN ACRE-FEET, IN HUNGRY HORSE RESERVOIR AND FLATHEAD LAKE

Ac-ft	-220,000	76,000	-285,000	-369,000	-316,000	162,000	40,000	+1,025,000	+335,000	-183,000	-225,000	-268,000
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ADJUSTED FOR CHANGE IN CONTENTS IN HUNGRY HORSE RESERVOIR AND FLATHEAD LAKE

Mean	2,290	11,670	5,068	3,752	3,670	12,670	15,470	34,510	25,120	7,405	2,318	1,978
Ac-ft	140,800	694,700	311,600	230,700	203,800	779,000	920,500	2,122,000	1,495,000	455,300	142,500	117,700
Cfsm	0.32	1.65	0.71	0.53	0.52	1.79	2.18	4.86	3.54	1.04	0.33	0.28
In	0.37	1.84	0.82	0.61	0.54	2.06	2.43	5.61	3.95	1.20	0.38	0.31

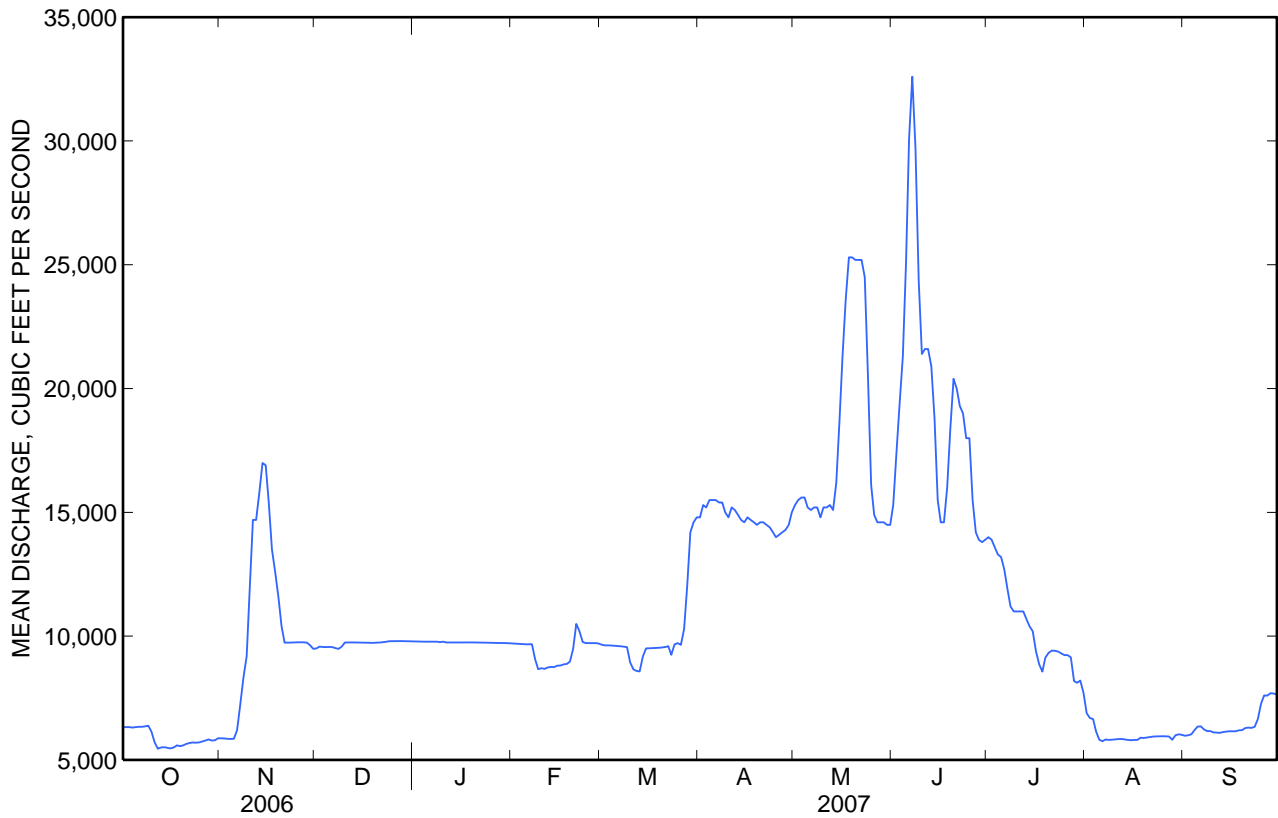
12372000 FLATHEAD RIVER NEAR POLSON, MT—Continued

OBSERVED										
Calendar Year 2006	Total	4,527,450	Mean	12,400	Max	48,100	Min	4,480	Ac-ft	^a 8,980,000
Water Year 2007	Total	3,953,260	Mean	10,830	Max	32,600	Min	5,460	Ac-ft	^b 7,841,000

ADJUSTED										
Calendar Year 2006	Total	4,629,695	Mean	12,680	Cfsm	1.79	In	24.26	Ac-ft	9,183,000
Water Year 2007	Total	3,838,165	Mean	10,520	Cfsm	1.48	In	20.12	Ac-ft	7,613,000

^a Change in contents in Hungry Horse Reservoir and Flathead Lake was 203,000 ac-ft.

^b Change in contents in Hungry Horse Reservoir and Flathead Lake was -228,000 ac-ft.





Water-Data Report 2007

12372500 LITTLE BITTERROOT LAKE NEAR MARION, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 48°05'34", long 114°41'51" referenced to North American Datum of 1927, in SE ¼ SE ¼ SW ¼ sec.16, T.27 N., R.24 W., Flathead County, MT, Hydrologic Unit 17010212, at dam on Little Bitterroot River, 2 mi southwest of Marion and at river mile 70.3.

DRAINAGE AREA.--31.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Little Bitterroot Lake is one of a group of four reservoirs known as the Camas Reservoirs located in the Little Bitterroot River basin operated for irrigation and recreation. Nonrecording gage is read on the last day of the month. Figures given herein represent usable contents. May to July 1948 scattered daily contents for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1918. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 26,400 acre-ft between elevation 3,897.98 ft and 3,906.48 ft. Dead storage is unknown; reservoir was a natural lake. Prior to 1960, usable capacity was 24,000 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 27,570 acre-ft, Apr. 30, 1997, elevation, 3,906.74 ft; no storage at times in 1939-46.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 8,150 acre-ft, Apr. 30 and May 31, elevation, 3,901.28 ft; minimum observed, 3,750 acre-ft, Sept. 30, elevation, 3,899.68 ft.

CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Little	Hubbert	Upper Dry	Dry Fork	Total of 4
	Bitterroot (12372500)	(12373500)	Fork (12375000)	(12375500)	
October 31	5,600	3,980	1,780	803	12,160
November 30	5,600	4,060	1,880	803	12,340
December 31	5,600	4,100	1,900	803	12,400
January 31	5,600	4,300	1,950	803	12,650
February 28	6,400	4,700	2,020	1,010	14,130
March 31	7,900	6,330	2,170	1,520	18,220
April 30	8,150	9,260	2,540	2,540	22,490
May 31	8,150	8,660	2,910	2,850	22,570
June 30	7,300	7,640	2,460	3,370	20,770
July 31	5,000	4,980	1,950	1,360	13,290
August 31	4,200	2,580	485	803	8,070
September 30	3,750	1,380	453	740	6,320

Water-Data Report 2007

12373500 HUBBART RESERVOIR NEAR NIARADA, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°55'43", long 114°43'53" referenced to North American Datum of 1927, in SE ¼ NE ¼ sec.18, T.25 N., R.24 W., Flathead County, MT, Hydrologic Unit 17010212, at dam on Little Bitterroot River, 9 mi northwest of Niarada and at river mile 55.8.

DRAINAGE AREA.--114 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Hubbart Reservoir is one of a group of four reservoirs known as the Camas Reservoirs located in the Little Bitterroot River basin operated for irrigation and recreation. Nonrecording gage is read on the last day of the month. Figures given herein represent usable contents. May to July 1948 scattered daily contents for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by concrete variable-radius dam; storage began in 1924. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 12,120 acre-ft between elevation 3,140.0 ft and 3,210.0 ft. Reservoir has no dead storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 13,050 acre-ft, May 31, 1959, elevation, 3,220.92 ft; no storage September to December 1959, Sept. 30, Oct. 1, 1973, October through November 1987, October 2004.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 9,620 acre-ft, Apr. 30, elevation, 3,212.10 ft; minimum, 1,380 acre-ft, Sept. 30, elevation, 3,180.80.

**CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Date	Little Bitterroot (12372500)	Hubbert (12373500)	Upper Dry Fork (12375000)	Dry Fork (12375500)	Total of 4
October 31	5,600	3,980	1,780	803	12,160
November 30	5,600	4,060	1,880	803	12,340
December 31	5,600	4,100	1,900	803	12,400
January 31	5,600	4,300	1,950	803	12,650
February 28	6,400	4,700	2,020	1,010	14,130
March 31	7,900	6,330	2,170	1,520	18,220
April 30	8,150	9,260	2,540	2,540	22,490
May 31	8,150	8,660	2,910	2,850	22,570
June 30	7,300	7,640	2,460	3,370	20,770
July 31	5,000	4,980	1,950	1,360	13,290
August 31	4,200	2,580	485	803	8,070
September 30	3,750	1,380	453	740	6,320



Water-Data Report 2007

12374250 MILL CREEK ABOVE BASSOO CREEK, NEAR NIARADA, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°49'47", long 114°41'48" referenced to North American Datum of 1927, in SE ¼ NW ¼ NE ¼ sec.20, T.24 N., R.24 W., Sanders County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank 0.3 mi upstream from Bassoo Creek, and 4.1 mi northwest of Niarada.

DRAINAGE AREA.--19.6 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 3,000 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Sept. 23, 1987, at site 305 ft downstream at different elevation. Prior to July 23, 1991, at site 275 ft downstream at different elevation.

REMARKS.--Records are fair except those for estimated daily discharges, which are poor. No known regulation or diversion occurs upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

12374250 MILL CREEK ABOVE BASSOO CREEK, NEAR NIARADA, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.8	e1.5	e2.5	2.7	e2.0	1.8	11	14	7.8	3.1	1.3	e1.5
2	1.9	e1.8	2.6	2.7	e1.8	1.9	11	15	7.7	3.0	1.3	e1.5
3	1.9	e2.0	2.4	e3.5	e2.2	1.8	11	16	7.4	2.8	1.3	e1.4
4	1.9	e2.5	2.4	e3.2	2.6	1.8	9.0	18	7.3	2.6	e1.3	e1.4
5	1.9	e2.8	2.4	2.7	3.2	1.8	9.0	18	7.5	2.5	e1.3	e1.4
6	1.9	3.2	2.4	2.2	3.7	1.8	9.0	17	7.5	2.3	e1.3	e1.4
7	1.9	5.0	2.3	e1.8	3.6	1.9	9.0	15	7.1	2.2	e1.3	e1.4
8	1.9	4.2	2.2	2.0	2.7	2.1	9.0	14	6.8	2.2	e1.4	e1.4
9	1.8	2.7	2.1	1.9	4.2	2.1	9.0	13	6.7	2.2	e1.4	e1.4
10	1.9	2.5	2.0	e1.8	3.6	2.0	9.0	13	6.8	2.2	e1.4	e1.4
11	1.9	2.5	2.2	e1.4	3.2	2.3	9.3	14	6.4	2.1	e1.4	e1.4
12	1.9	2.4	2.5	e1.5	2.7	10	9.3	15	6.0	2.0	e1.4	e1.4
13	1.9	2.6	2.7	e1.5	2.3	21	9.2	16	5.9	2.0	e1.4	e1.5
14	1.9	2.7	2.9	e1.5	1.9	11	9.0	17	5.6	1.9	e1.5	e1.6
15	1.9	2.4	e3.0	e1.8	1.5	7.9	9.0	17	5.5	1.9	e1.5	e1.8
16	2.1	e2.5	e2.8	e2.0	1.5	6.6	9.0	16	5.6	1.8	e1.5	e1.9
17	2.3	e2.5	2.7	e1.7	1.4	6.6	9.2	15	5.5	1.8	e1.5	e2.0
18	2.0	2.5	e2.5	e1.8	1.4	7.5	9.4	14	5.7	2.0	e1.5	e1.9
19	2.2	2.5	e2.8	e2.0	1.6	8.5	10	14	4.9	2.2	e1.5	e1.8
20	2.9	2.6	e3.0	e2.3	1.6	8.9	10	14	4.6	1.9	e1.5	e1.9
21	2.1	3.2	e3.0	e1.8	1.6	9.3	9.7	14	4.5	1.8	e1.6	e2.0
22	2.0	3.0	e2.7	e1.6	1.6	9.0	9.6	13	4.3	1.7	e1.5	e2.1
23	2.0	2.6	e2.5	e2.0	1.6	9.0	9.2	12	4.1	1.6	e1.5	e2.0
24	2.0	2.6	e3.0	e2.3	1.6	8.6	9.0	12	4.0	1.5	e1.5	e1.8
25	2.0	2.8	e3.0	e2.6	1.6	11	9.0	11	4.1	1.5	e1.4	1.8
26	2.0	e2.5	e3.3	e2.4	1.7	14	9.6	11	3.9	1.5	e1.4	1.7
27	2.0	e2.5	e3.5	e2.2	1.6	14	10	10	3.5	1.5	e1.4	1.7
28	1.8	e2.5	e3.5	e2.2	1.6	13	11	10	3.3	1.4	e1.4	1.7
29	1.9	e2.3	3.5	e2.0	---	13	12	9.2	3.2	1.3	e1.4	1.6
30	e1.8	e2.0	3.1	e2.0	---	12	13	8.6	3.3	1.3	e1.4	1.6
31	e1.5	---	2.8	e2.3	---	11	---	8.1	---	1.3	e1.4	---
Total	60.9	79.4	84.3	65.4	61.6	233.2	291.5	423.9	166.5	61.1	43.9	49.4
Mean	1.96	2.65	2.72	2.11	2.20	7.52	9.72	13.7	5.55	1.97	1.42	1.65
Max	2.9	5.0	3.5	3.5	4.2	21	13	18	7.8	3.1	1.6	2.1
Min	1.5	1.5	2.0	1.4	1.4	1.8	9.0	8.1	3.2	1.3	1.3	1.4
Ac-ft	121	157	167	130	122	463	578	841	330	121	87	98
Cfs/m	0.10	0.14	0.14	0.11	0.11	0.38	0.50	0.70	0.28	0.10	0.07	0.08
In.	0.12	0.15	0.16	0.12	0.12	0.44	0.55	0.80	0.32	0.12	0.08	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.51	3.26	3.39	3.13	3.58	6.85	18.7	23.7	14.4	5.33	2.92	2.40
Max	5.05	8.60	16.9	9.83	13.6	35.1	49.7	86.8	37.7	13.0	5.61	3.39
(WY)	(1986)	(1986)	(1996)	(1990)	(1996)	(1986)	(1996)	(1997)	(1997)	(1991)	(1997)	(1996)
Min	1.67	1.96	2.12	1.94	1.71	2.55	4.77	9.16	4.89	1.97	1.42	1.53
(WY)	(2004)	(2005)	(2006)	(1985)	(1994)	(1985)	(2005)	(2005)	(1987)	(2007)	(2007)	(2001)

12374250 MILL CREEK ABOVE BASSOO CREEK, NEAR NIARADA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1983 - 2007	
Annual total	2,523.1		1,621.1			
Annual mean	6.91		4.44		7.51	
Highest annual mean					18.8	1997
Lowest annual mean					3.63	2005
Highest daily mean	41	May 1	21	Mar 13	155	Apr 28, 1997
Lowest daily mean	1.3	Feb 22	1.3	Jul 29	1.0	Jan 5, 2004
Annual seven-day minimum	1.4	Feb 17	1.3	Jul 29	1.3	Jul 29, 2007
Maximum peak flow			^a 24	Mar 13	^c 173	Apr 28, 1997
Maximum peak stage			^b 2.78	Jan 19	^d 6.83	May 20, 1991
Instantaneous low flow					^e 0.85	Jan 6, 1988
Annual runoff (ac-ft)	5,000		3,220		5,440	
Annual runoff (cfsm)	0.353		0.227		0.383	
Annual runoff (inches)	4.79		3.08		5.21	
10 percent exceeds	22		11		18	
50 percent exceeds	2.6		2.4		3.2	
90 percent exceeds	1.8		1.4		2.0	

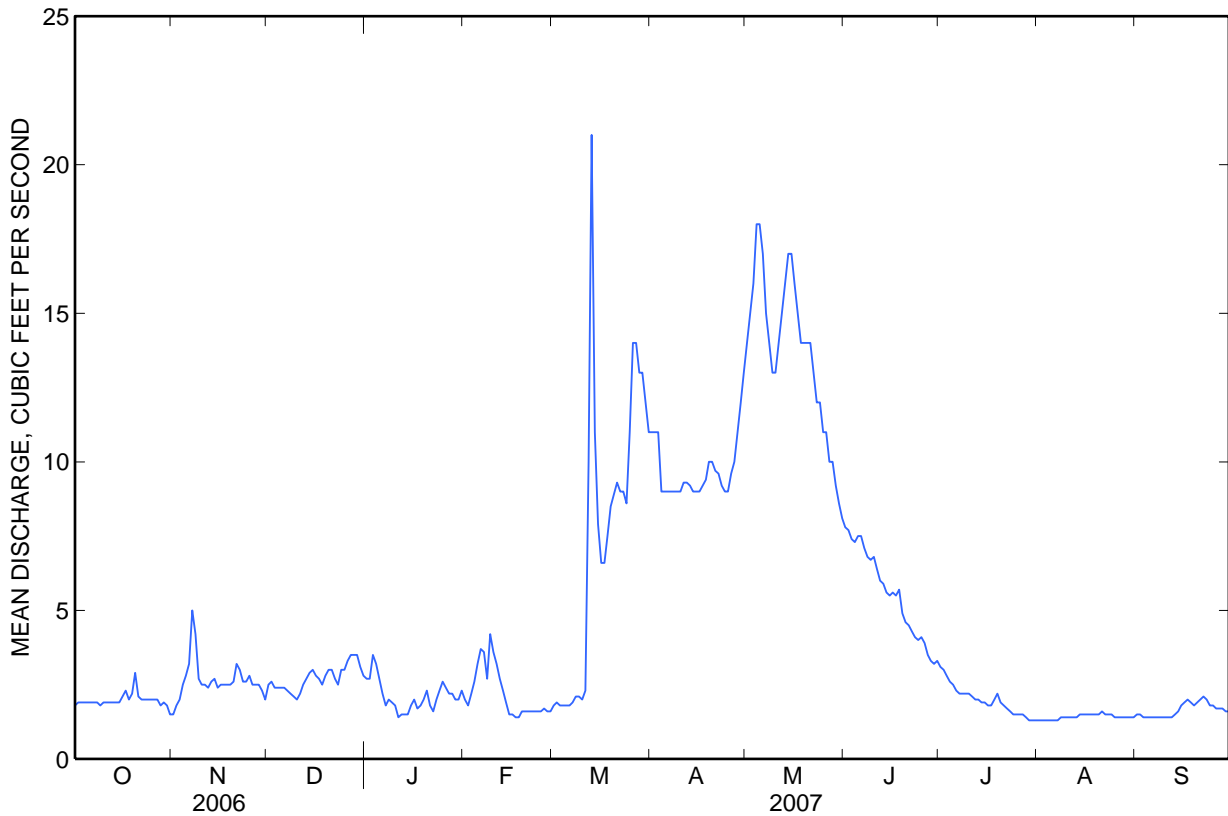
^a Gage height, 1.95 ft.

^b Backwater from ice.

^c Gage height, 2.60 ft.

^d Site and datum then in use.

^e Gage height, 5.00 ft, site and datum then in use.





Water-Data Report 2007

12375000 UPPER DRY FORK RESERVOIR NEAR LONEPINE, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°44'55", long 114°40'53" referenced to North American Datum of 1927, in SE ¼ SE ¼ SW ¼ sec.16, T.23 N., R.24 W., Sanders County, MT, Hydrologic Unit 17010212, at dam on Dry Fork Creek, 4 mi northwest of Lonepine.

DRAINAGE AREA.--8.53 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1940, September 1940 to current year.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Upper Dry Fork Reservoir is one of a group of four reservoirs known as the Camas Reservoirs located in the Little Bitterroot River basin operated for irrigation and recreation. Nonrecording gages are read on the last day of the month. Figures given herein represent usable contents. May to July 1948 scattered daily contents for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1940. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 2,810 acre-ft between elevation 2,900.0 ft and 2,928.5 ft. Reservoir has no dead storage. Prior to 1960, usable capacity was 2,700 acre-ft. Natural flow of Alder Creek in Thompson River basin is diverted in SW¼ sec 16, T.23 N., R.25 W., and carried by transbasin canal to upper Dry Fork Creek for storage in this reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 3,140 acre-ft, May 31, 1980, elevation, 2,929.5 ft; no storage at times in 1940, 1942, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 2,910 acre-ft, May 31, elevation, 2,928.80 ft; minimum, 453 acre-ft, Sept. 30, elevation, 2,915.50 ft.

CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Little	Hubbert	Upper Dry	Dry Fork	Total of 4
	Bitterroot (12372500)	(12373500)	Fork (12375000)	(12375500)	
October 31	5,600	3,980	1,780	803	12,160
November 30	5,600	4,060	1,880	803	12,340
December 31	5,600	4,100	1,900	803	12,400
January 31	5,600	4,300	1,950	803	12,650
February 28	6,400	4,700	2,020	1,010	14,130
March 31	7,900	6,330	2,170	1,520	18,220
April 30	8,150	9,260	2,540	2,540	22,490
May 31	8,150	8,660	2,910	2,850	22,570
June 30	7,300	7,640	2,460	3,370	20,770
July 31	5,000	4,980	1,950	1,360	13,290
August 31	4,200	2,580	485	803	8,070
September 30	3,750	1,380	453	740	6,320



Water-Data Report 2007

12375500 DRY FORK RESERVOIR NEAR LONEPINE, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°42'00", long 114°40'02" referenced to North American Datum of 1927, in SW ¼ NW ¼ NW ¼ sec.3, T.22 N., R.24 W., Sanders County, MT, Hydrologic Unit 17010212, at dam on Dry Fork Creek, 1 mi west of Lonepine.

DRAINAGE AREA.--17.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year. Records published in WSP 1316 were listed in error and should not be used.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Dry Fork Reservoir is one of a group of four reservoirs known as the Camas Reservoirs located in the Little Bitterroot River basin operated for irrigation and recreation. Nonrecording gages are read on the last day of the month. Figures given herein represent usable contents. May to July 1948 scattered daily contents for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1921. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 3,890 acre-ft, between elevation 2,830.5 ft and 2,856.3 ft. Prior to 1960, usable capacity was 4,000 acre-ft. Water also supplied by transbasin diversion from Little Bitterroot River and Mill Creek. Reservoir has no dead storage. Reservoir is also known as Lonepine Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 4,270 acre-ft, May 31, 1980, elevation, 2,857.4 ft; no storage Aug. 31, 1944, Aug. 31, Sept. 30, 1946, Oct. 31, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,370 acre-ft, June 30, elevation, 2,854.90 ft; minimum observed, 740 acre-ft, Sept. 30, elevation, 2,842.90 ft.

CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Little	Hubbert	Upper Dry	Dry Fork	Total of 4
	Bitterroot (12372500)	(12373500)	Fork (12375000)	(12375500)	
October 31	5,600	3,980	1,780	803	12,160
November 30	5,600	4,060	1,880	803	12,340
December 31	5,600	4,100	1,900	803	12,400
January 31	5,600	4,300	1,950	803	12,650
February 28	6,400	4,700	2,020	1,010	14,130
March 31	7,900	6,330	2,170	1,520	18,220
April 30	8,150	9,260	2,540	2,540	22,490
May 31	8,150	8,660	2,910	2,850	22,570
June 30	7,300	7,640	2,460	3,370	20,770
July 31	5,000	4,980	1,950	1,360	13,290
August 31	4,200	2,580	485	803	8,070
September 30	3,750	1,380	453	740	6,320

Water-Data Report 2007

12375900 SOUTH CROW CREEK NEAR RONAN, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°29'30", long 114°01'33" referenced to North American Datum of 1927, in NW ¼ NE ¼ SW ¼ sec.16, T.20 N., R.19 W., Lake County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank 200 ft upstream from Pablo Feeder Canal, 2.2 mi northeast of Kicking Horse Reservoir, 4.5 mi southeast of Ronan, and at river mile 2.6.

DRAINAGE AREA.--7.57 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 3,320 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. No known regulation or diversion occurs upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

12375900 SOUTH CROW CREEK NEAR RONAN, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.0	e6.8	7.2	6.3	5.8	5.5	9.2	26	49	30	11	7.7
2	8.1	7.2	7.3	6.3	5.7	5.3	8.9	33	58	29	11	7.8
3	7.9	7.7	7.2	6.4	5.7	5.3	8.6	42	65	27	11	7.7
4	7.9	7.7	7.2	6.4	5.8	5.3	8.3	35	72	26	10	7.7
5	7.9	8.3	7.4	6.5	6.1	5.3	8.2	31	82	24	10	7.7
6	7.8	9.0	7.2	6.5	6.2	5.4	8.0	27	117	23	10	7.5
7	7.3	16	7.2	6.4	6.3	5.6	7.7	25	98	23	9.9	7.5
8	7.2	19	7.0	6.3	6.4	6.7	7.7	27	72	22	9.9	7.5
9	7.4	15	6.8	6.3	6.6	6.9	10	37	63	21	9.7	7.5
10	7.3	12	6.7	6.3	6.7	6.7	12	44	74	19	9.8	7.4
11	7.2	11	6.7	e5.0	6.5	6.7	11	49	94	19	9.4	7.4
12	7.2	11	6.7	e4.5	6.5	8.4	9.7	54	75	18	9.4	7.2
13	7.0	9.7	6.7	e4.7	6.5	16	9.1	58	63	18	9.3	6.8
14	7.1	9.1	6.7	e5.0	6.4	12	8.8	58	57	17	9.2	7.1
15	7.3	8.7	6.9	e5.0	6.3	10	9.9	59	51	17	9.0	7.2
16	8.3	8.4	7.0	e5.2	6.3	9.5	11	53	47	17	9.0	7.2
17	8.2	8.0	6.8	e5.4	6.2	9.1	12	54	48	16	9.5	7.3
18	7.7	7.7	e6.0	e5.6	6.1	9.7	13	60	51	17	9.3	7.5
19	8.1	7.5	e6.2	5.9	6.1	12	13	68	47	16	8.8	7.5
20	9.7	7.8	e6.4	6.1	5.9	13	12	66	43	16	9.2	7.7
21	9.7	8.8	6.4	6.0	5.9	12	12	59	43	15	9.3	7.7
22	8.8	9.0	6.4	5.9	5.9	10	12	50	44	15	8.9	7.4
23	8.2	8.9	6.3	6.1	5.9	9.6	13	42	45	14	8.7	7.7
24	7.9	8.5	6.3	6.3	5.7	9.1	15	37	42	14	8.4	7.9
25	7.6	8.3	6.3	6.3	5.7	9.6	16	37	41	13	8.3	7.6
26	7.2	8.1	6.5	6.2	5.6	12	16	34	38	13	8.3	7.4
27	7.2	8.3	6.6	6.1	5.5	11	15	35	35	13	8.4	7.2
28	7.1	8.0	6.6	5.9	5.5	11	17	44	32	12	8.2	7.1
29	7.1	e7.5	6.5	5.9	---	9.7	23	44	31	12	8.2	7.7
30	e7.0	e7.2	6.3	5.9	---	9.2	22	43	30	12	8.1	7.7
31	e6.5	---	6.3	5.8	---	9.0	---	44	---	11	8.0	---
Total	238.9	280.2	207.8	182.5	169.8	276.6	359.1	1,375	1,707	559	287.2	224.3
Mean	7.71	9.34	6.70	5.89	6.06	8.92	12.0	44.4	56.9	18.0	9.26	7.48
Max	9.7	19	7.4	6.5	6.7	16	23	68	117	30	11	7.9
Min	6.5	6.8	6.0	4.5	5.5	5.3	7.7	25	30	11	8.0	6.8
Ac-ft	474	556	412	362	337	549	712	2,730	3,390	1,110	570	445
Cfsm	1.02	1.23	0.89	0.78	0.80	1.18	1.58	5.86	7.52	2.38	1.22	0.99
In.	1.17	1.38	1.02	0.90	0.83	1.36	1.76	6.76	8.39	2.75	1.41	1.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9.27	9.47	7.84	7.28	6.73	7.81	15.8	44.9	70.1	34.6	13.2	9.72
Max	14.9	19.2	15.2	11.0	9.97	12.9	25.2	68.6	104	73.6	21.6	19.6
(WY)	(2005)	(1990)	(1990)	(1984)	(1986)	(1986)	(1990)	(1993)	(1984)	(1983)	(1983)	(1985)
Min	6.06	5.75	5.20	5.45	5.03	4.86	8.80	25.3	35.9	15.5	7.87	6.88
(WY)	(2002)	(2003)	(2003)	(2000)	(1993)	(2002)	(1995)	(1999)	(1987)	(1988)	(1988)	(1988)

12375900 SOUTH CROW CREEK NEAR RONAN, MT—Continued

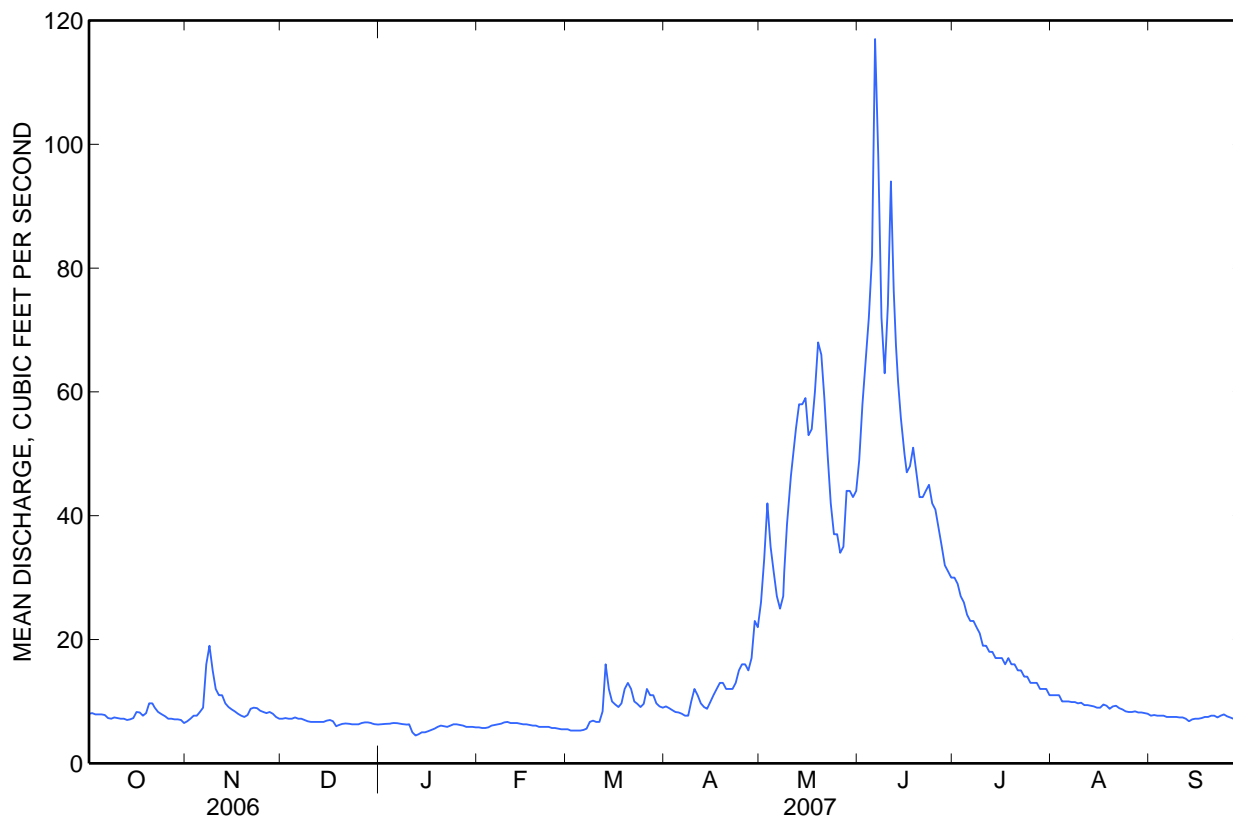
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1982 - 2007	
Annual total	7,761.7		5,867.4			
Annual mean	21.3		16.1		19.8	
Highest annual mean					27.2	1983
Lowest annual mean					13.7	1992
Highest daily mean	179	Jun 16	117	Jun 6	357	Jun 3, 2005
Lowest daily mean	5.0	Feb 18	4.5	Jan 12	3.0	Feb 24, 2003
Annual seven-day minimum	6.3	Dec 18	5.0	Jan 11	4.1	Feb 23, 2003
Maximum peak flow			^a 130	Jun 6	608	Jun 3, 2005
Maximum peak stage			^b 3.85	Jan 15	4.96	Jun 3, 2005
Instantaneous low flow					^c 2.0	Oct 30, 2002
Annual runoff (ac-ft)	15,400		11,640		14,310	
Annual runoff (cfsm)	2.81		2.12		2.61	
Annual runoff (inches)	38.14		28.83		35.45	
10 percent exceeds	65		44		52	
50 percent exceeds	9.3		8.3		9.6	
90 percent exceeds	6.7		6.1		6.1	

^a Gage height, 2.89 ft.

^b Backwater from ice.

^c Result of freezeup.





Water-Data Report 2007

12376700 LOWER CROW RESERVOIR NEAR CHARLO, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°30'09", long 114°13'35" referenced to North American Datum of 1927, in SW ¼ SE ¼ SE ¼ sec.11, T.20 N., R.21 W., Lake County, MT, Hydrologic Unit 17010212, at outlet works on Crow Creek, 5.2 mi northwest of Charlo, at river mile 3.44.

DRAINAGE AREA.--Undetermined.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

COOPERATION.--Records furnished by the Bureau of Indian Affairs.

REMARKS.--Lower Crow Reservoir is one of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1933. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 10,350 acre-ft between elevation 2,800 ft and 2,877.0 ft. Reservoir has no dead storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 10,770 acre-ft, May 21, 22, 1948, elevation, 2,878.2 ft; no storage Sept. 30, 1963, Oct. 31, Nov. 30, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,390 acre-ft, June 30, elevation, 2,848.20 ft; minimum observed, 1,420 acre-ft, Sept. 30, elevation, 2,833.20 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270

Water-Data Report 2007

12377150 MISSION CREEK ABOVE RESERVOIR, NEAR ST. IGNATIUS, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°19'23", long 113°58'43" referenced to North American Datum of 1927, in NW ¼ SW ¼ NE ¼ sec.14, T.18 N., R.19 W., Lake County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank, 0.2 mi southwest of upper BIA campground, 0.5 mi upstream from Mission Reservoir, and 5.3 mi east of St. Ignatius.

DRAINAGE AREA.--12.4 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 3,460 ft, referenced to National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. No known regulation or diversions occur upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

12377150 MISSION CREEK ABOVE RESERVOIR, NEAR ST. IGNATIUS, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	16	e10	16	10	9.4	9.9	14	60	143	116	41	26
2	15	e11	16	11	9.4	9.7	14	78	182	107	39	25
3	15	12	15	11	e9.0	9.8	13	95	218	101	39	23
4	15	12	14	11	9.9	9.5	12	83	251	102	37	22
5	14	13	16	11	11	9.5	11	66	290	101	35	22
6	14	15	15	11	12	10	11	55	308	103	34	21
7	14	48	15	10	12	10	11	50	198	106	35	20
8	14	110	14	11	12	12	11	55	138	102	34	20
9	14	74	e13	11	13	12	13	79	120	93	32	19
10	13	49	13	11	13	12	16	117	167	87	32	18
11	13	37	14	e8.0	12	11	16	130	247	83	31	17
12	13	30	13	e7.0	12	14	16	141	183	80	29	17
13	13	26	13	e6.0	12	18	14	163	148	79	29	16
14	12	25	13	e6.5	12	18	13	138	131	78	28	16
15	13	24	14	e7.5	12	16	14	116	120	76	28	15
16	17	22	12	e8.0	11	15	14	121	118	74	27	15
17	16	20	e10	e8.0	11	15	15	149	141	72	27	15
18	15	20	e9.0	e8.5	11	15	16	185	133	73	28	16
19	15	19	e9.0	e9.0	11	16	18	192	116	74	27	16
20	e15	20	e10	e10	11	17	18	161	113	67	31	15
21	e14	21	e10	11	10	17	17	131	141	62	30	15
22	e13	21	11	11	10	16	17	106	172	58	29	14
23	14	19	11	11	11	15	17	89	164	56	27	18
24	13	18	11	11	11	14	20	82	144	56	25	18
25	13	19	11	11	11	15	23	80	129	55	24	16
26	12	18	12	10	11	17	26	78	106	51	23	15
27	12	e17	12	10	11	18	26	90	90	52	23	14
28	12	e15	13	9.9	10	18	30	127	96	50	23	14
29	12	e15	12	9.5	---	17	47	112	127	48	22	16
30	e11	e15	11	9.5	---	15	52	101	131	45	21	15
31	e10	---	11	9.5	---	14	---	112	---	43	21	---
Total	422	775	389.0	299.9	310.7	435.4	555	3,342	4,765	2,350	911	529
Mean	13.6	25.8	12.5	9.67	11.1	14.0	18.5	108	159	75.8	29.4	17.6
Max	17	110	16	11	13	18	52	192	308	116	41	26
Min	10	10	9.0	6.0	9.0	9.5	11	50	90	43	21	14
Ac-ft	837	1,540	772	595	616	864	1,100	6,630	9,450	4,660	1,810	1,050
Cfsm	1.10	2.08	1.01	0.78	0.89	1.13	1.49	8.69	12.8	6.11	2.37	1.42
In.	1.27	2.33	1.17	0.90	0.93	1.31	1.67	10.03	14.29	7.05	2.73	1.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	25.0	19.5	13.2	10.8	9.24	10.6	25.1	102	174	111	47.5	29.5
Max	39.3	28.5	21.3	16.9	12.6	15.4	43.9	168	222	181	75.2	67.4
(WY)	(2005)	(1990)	(1990)	(2005)	(1986)	(1986)	(1990)	(1993)	(1997)	(1983)	(2004)	(1985)
Min	13.6	11.7	9.58	8.20	6.71	7.23	10.6	54.0	104	53.4	25.2	15.8
(WY)	(2007)	(2003)	(2003)	(2000)	(1985)	(2002)	(2002)	(1984)	(1987)	(1988)	(1988)	(1988)

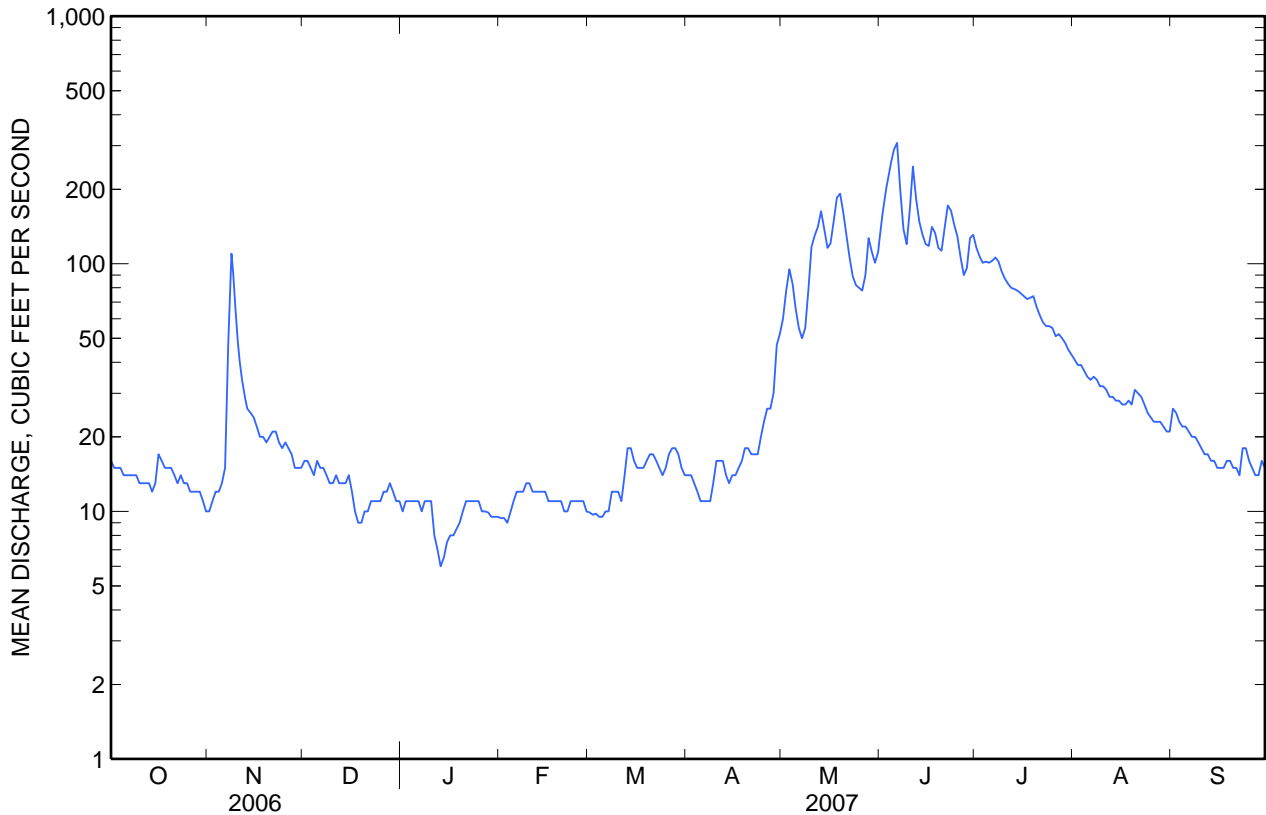
12377150 MISSION CREEK ABOVE RESERVOIR, NEAR ST. IGNATIUS, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1982 - 2007	
Annual total	17,108.6		15,084.0			
Annual mean	46.9		41.3		48.3	
Highest annual mean					61.0	1997
Lowest annual mean					35.6	1988
Highest daily mean	365	Jun 3	308	Jun 6	477	Jun 3, 2005
Lowest daily mean	6.0	Feb 18	6.0	Jan 13	5.5	Feb 28, 2001
Annual seven-day minimum	7.9	Feb 15	7.3	Jan 11	6.3	Feb 15, 1985
Maximum peak flow			347	Jun 6	^a 892	Jun 30, 1991
Maximum peak stage			3.72	Jun 6	^b 5.16	Jun 30, 1991
Instantaneous low flow					4.4	Dec 28, 2001
Annual runoff (ac-ft)	33,930		29,920		34,970	
Annual runoff (cfsm)	3.78		3.33		3.89	
Annual runoff (inches)	51.33		45.25		52.90	
10 percent exceeds	135		117		134	
50 percent exceeds	18		16		22	
90 percent exceeds	9.7		10		9.1	

^a Gage height, 4.72 ft.

^b Backwater from debris dam.





Water-Data Report 2007

12377200 MISSION RESERVOIR NEAR ST. IGNATIUS, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°18'54", long 114°01'15" referenced to North American Datum of 1927, in NW ¼ SW ¼ SE ¼ sec.15, T.18 N., R.19 W., Lake County, MT, Hydrologic Unit 17010212, at outlet works on Mission Creek, 4 mi east of St. Ignatius and at river mile 16.7.

DRAINAGE AREA.--Undetermined.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

REMARKS.--Mission Reservoir is one of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1935. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 8,130 acre-ft between elevation 3,340.7 ft and 3,406.0 ft. Prior to 1993, usable capacity was 7,250 acre-ft. Reservoir has no dead storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 8,400 acre-ft, June 30, 2002, elevation, 3,409.86 ft; no storage at times during September 1949, February, March, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 8,250 acre-ft, June 30, elevation, 3,409.37 ft; minimum observed, 774 acre-ft, Jan. 31, elevation, 3,377.10 ft.

**MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270



Water-Data Report 2007

12377300 ST. MARYS LAKE NEAR ST. IGNATIUS, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°15'58", long 113°56'08" referenced to North American Datum of 1927, in SW ¼ NE ¼ NE ¼ sec.6, T.17 N., R.18 W., Lake County, MT, Hydrologic Unit 17010212, at outlet works on Dry Creek, 8 mi southwest of St. Ignatius.

DRAINAGE AREA.--Undetermined.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--St. Marys Lake is one of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1919. Prior to October 1968, published as "Tabor Reservoir." Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 23,500 acre-ft between elevation 3,911.5 ft and 4,025.0 ft, not including contents of natural lake. Prior to 1993, usable capacity was 23,300 acre-ft. Reservoir is fed by Dry Creek and also by a transbasin diversion from Jocko River.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 23,510 acre-ft, June 30, 1976, June 30, 1978, elevation, 4,025.7 ft; no storage Sept. 30, 1969, Feb. 28, 1995, December 2001 through March 2002, December 2005 through February 2006, and December 2006 through February 2007.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 22,600 acre-ft, June 30, elevation, 4,022.50 ft; no contents December through February (under Bureau of Reclamation restriction).

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270



Water-Data Report 2007

12377900 PABLO RESERVIOR NEAR POLSON, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°38'25", long 114°08'33" referenced to North American Datum of 1927, in SW ¼ SW ¼ NE ¼ sec.27, T.22 N., R.20 W., Lake County, MT, Hydrologic Unit 17010212, at outlet works, 3 mi south of Polson, 3 mi northwest of Pablo.

DRAINAGE AREA.--Off-channel storage reservoir.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

COOPERATION.--Records furnished by the Bureau of Indian Affairs.

REMARKS.--Pablo Reservoir is one of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1914. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 28,400 acre-ft between elevation 3,179 ft, gate sill, and 3,210.2 ft. Prior to 1994 water year, published usable capacity was 27,100 acre-ft.

Reservoir has no dead storage. Reservoir is fed entirely by Pablo feeder canal, some water is supplied by Flathead pumping plant. Reservoir was under repair and emptied from September 2004 through March 2005.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 28,760 acre-ft, June 30, 1998, elevation, 3,211.07 ft; no storage at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 19,670 acre-ft, June 30, elevation, 3,206.20 ft; minimum contents, 958 acre-ft, Aug. 31, elevation, 3,186.56 ft.

**MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270



Water-Data Report 2007

12378200 MCDONALD RESERVOIR NEAR CHARLO, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°25'31", long 113°59'27" referenced to North American Datum of 1927, in SE ¼ NE ¼ NE ¼ sec.10, T.19 N., R.19 W., Lake County, MT, Hydrologic Unit 17010212, at outlet works on Post Creek, 9 mi east of Charlo, and at river mile 12.4.

DRAINAGE AREA.--Undetermined.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

REMARKS.--McDonald Reservoir is one of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1919. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 8,220 acre-ft, not including contents of natural lake. Prior to 1993, usable capacity was 8,220 acre-ft and 7,200 ac-ft from 1993 to 2002. Dead storage is unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 8,330 acre-ft, June 30, 1983, elevation, 3,598.5 ft; no storage Aug. 31, 1961, Aug. 30, 1966, Oct. 31, 1971, Apr. 30, 1972, October 1994 through April 1995, August 1999 to Apr. 30, 2000, December 2001 through February 2002.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 8,210 acre-ft, June 30, elevation, 3,597.90 ft; minimum observed, 306 acre-ft, Dec. 31, elevation, 3,548.20 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270



Water-Data Report 2007

12378300 KICKING HORSE RESERVOIR NEAR CHARLO, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°27'25", long 114°04'35" referenced to North American Datum of 1927, Lake County, MT, Hydrologic Unit 17010212, at outlet works 4 mi northeast of Charlo.

DRAINAGE AREA.--Off channel storage reservoir.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1949 to current year.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Kicking Horse Reservoir of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. Nonrecording gages are read on the last day of the month. Figures given herein represent usable contents. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1930. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 9,200 acre-ft between elevation 3,042.00 ft and 3,061.94 ft. Prior to 1993, usable capacity was 8,350 acre-ft. Dead storage is 70 acre-ft below elevation 3,042.0 ft. Reservoir is fed entirely by canals leading from South Crow Creek and Post Creek. Prior to 1988 water year, published as 12379700 Kicking Horse Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 10,320 acre-ft, June 30, 1976, May 31, 1980, elevation, 3,064.4 ft; no storage Aug. 31, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 7,470 acre-ft, June 30, elevation, 3,060.85 ft; minimum observed, 1,180 acre-ft, Aug. 31, elevation, 3,048.84 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270



Water-Data Report 2007

12378400 NINEPIPE RESERVOIR NEAR CHARLO, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°27'20", long 114°08'08" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.34, T.20 N., R.20 W., Lake County, MT, Hydrologic Unit 17010212, at outlet works 2 mi northeast of Charlo.

DRAINAGE AREA.--Off-channel storage reservoir.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September 1940 to current year.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Ninepipe Reservoir is one of a group of eight reservoirs known as the Mission Valley Reservoirs. The reservoirs are located in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River, Lake County, Hydrologic Unit 17010212, and are operated for irrigation. April to July 1948 monthend contents and daily maximum for individual reservoirs, published in Water Supply Paper 1080.

Reservoir is formed by earthfill dam; storage began in 1911. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 15,000 acre-ft between elevation 2,895.4 ft and 3,010.0 ft. Prior to 1993, usable capacity was 14,870 acre-ft. Reservoir has no dead storage. Reservoir is fed entirely from Kicking Horse Reservoir and water can be pumped from Crow Creek by the Crow pump. Prior to 1988 water year, published as 12380000 Ninepipe Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 16,950 acre-ft, June 30, 1974, elevation, 3,012.3 ft; no storage Aug. 31, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 13,410 acre-ft, June 30, elevation, 3,009.10 ft; minimum observed, 836 acre-ft, Sept. 30, elevation, 2,995.00 ft.

**MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Date	Turtle (12371000)	Lower Crow (12376700)	Mission (12377200)	St. Marys (12377300)	Pablo (12377900)	McDonald (12378200)	Kicking Horse (12378300)	Ninepipe (12378400)	Total of 8
October 31	655	2,300	797	2,720	12,130	396	1,850	890	21,740
November 30	614	2,300	797	250	12,130	396	3,880	2,350	22,720
December 31	661	2,300	842	0	12,130	306	4,300	2,180	22,720
January 31	660	2,190	774	0	11,990	335	4,300	2,070	22,320
February 28	351	2,210	980	0	12,530	335	4,380	2,170	22,960
March 31	312	2,160	1,090	1,490	12,530	450	4,600	2,290	24,920
April 30	288	2,730	1,420	3,180	11,850	697	5,120	3,440	28,720
May 31	744	3,420	5,810	16,930	11,220	4,450	5,710	6,020	54,300
June 30	816	3,390	8,250	22,600	19,670	8,210	7,470	13,410	83,810
July 31	358	2,110	5,040	12,640	10,810	5,150	3,360	4,760	44,230
August 31	165	1,960	1,800	3,730	958	750	1,180	890	11,430
September 30	195	1,420	1,170	3,180	7,140	605	1,720	836	16,270



Water-Data Report 2007

12380000 UPPER JOCKO LAKE NEAR ARLEE, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°11'34", long 113°42'44" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.36, T.17 N., R.17 W., Missoula County, MT, Hydrologic Unit 17010212, at dam on Jocko River, 17.3 mi southeast of Arlee, and at river mile 41.8.

DRAINAGE AREA.--2.99 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1968 to current year. Nonrecording gage read at end of month. U.S. Geological Survey began publishing data October 1988.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Reservoir is formed by earthfill dam; storage began in 1967. Was previously known as "Black Lake" prior to dam construction. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 5,200 acre-ft, between elevation 4,390.0 ft, outlet sill, and 4,440.0 ft, spillway elevation. Prior to 1993, usable capacity was 4,440 acre-ft. Dead storage is 763 acre-ft. Transbasin diversion takes water from Placid Creek in Clearwater River basin in SW¼ sec. 29, T. 17 N., R. 16 W., to Upper Jocko Lake, thence to Lower Jocko Lake. The emergency spillway returns water to the Clear Water River Basin over the basin divide. Figures given herein represent usable contents. Water is used for irrigation and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 4,290 acre-ft, May 31, 1971, elevation, 4,439.1 ft; no storage at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 2,240 acre-ft, May 31, elevation, 4,420.70 ft; no storage most of year.

**UPPER AND LOWER JOCKO RESERVOIRS,
MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Date	Upper Jocko Lake (12380000)	Lower Jocko Lake (12380500)
October 31	0	0
November 30	0	0
December 31	0	0
January 31	0	0
February 28	0	0
March 31	0	0
April 30	1,140	1,020
May 31	2,240	3,600
June 30	1,460	1,880
July 31	159	855
August 31	0	0
September 30	0	0

Water-Data Report 2007

12380500 LOWER JOCKO LAKE NEAR ARLEE, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°12'10", long 113°45'35" referenced to North American Datum of 1927, in NW ¼ SW ¼ NW ¼ sec.27, T.17 N., R.17 W., Missoula County, MT, Hydrologic Unit 17010212, at dam on Jocko River, 15 mi east of Arlee, and at river mile 39.3.

DRAINAGE AREA.--7.39 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1939, April 1940, September, 1940, to current year (no winter records most years since 1947). Records for November 1957, published only in WSP 1736. May to July 1948 scattered daily contents, published in Water Supply Paper 1080. Nonrecording gage read at end of month.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

REMARKS.--Reservoir is formed by earthfill dam; storage began in 1937. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity is 6,380 acre-ft between elevation 4,267.0 ft and 4,340.0 ft. Prior to 1960, usable capacity was 7,600 acre-ft at elevation 4,350 ft and 1960-1992, usable capacity was 5,380 acre-ft. Dead storage is unknown below elevation 4,267 ft, sill of outlet conduit. Some water may then be diverted to St. Mary's Lake for use in the Mission Valley. Figures given herein represent usable contents. Water is used for irrigation and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 6,700 acre-ft, June 9, 1948, elevation, 4,342.7 ft; no storage at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,600 acre-ft, May 31, elevation, 4,313.55 ft; no storage most of year.

**UPPER AND LOWER JOCKO RESERVOIRS,
MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Date	Upper Jocko	Lower Jocko
	Lake (12380000)	Lake (12380500)
October 31	0	0
November 30	0	0
December 31	0	0
January 31	0	0
February 28	0	0
March 31	0	0
April 30	1,140	1,020
May 31	2,240	3,600
June 30	1,460	1,880
July 31	159	855
August 31	0	0
September 30	0	0



Water-Data Report 2007

12381400 SOUTH FORK JOCKO RIVER NEAR ARLEE, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°11'44", long 113°50'59" referenced to North American Datum of 1927, in NE ¼ NW ¼ NE ¼ sec.35, T.17 N., R.18 W., Lake County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank 600 ft upstream from confluence with Jocko River and Twin Campground and 12 mi northeast of Arlee, MT.

DRAINAGE AREA.--56 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1982 to current year. Records published as "near Jocko" 1912-16 and in Water Supply Paper 1246 and 1316 are not equivalent.

GAGE.--Water-stage recorder. Elevation of gage is 3,970 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 regulation or diversion occurs upstream from station. U.S. Geological Survey telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

12381400 SOUTH FORK JOCKO RIVER NEAR ARLEE, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	20	e14	e17	e16	e12	11	46	154	153	64	31	23
2	20	e14	e17	e18	13	9.6	44	174	156	62	30	21
3	19	e16	e16	e17	13	e13	42	201	156	59	30	20
4	19	19	e16	e16	14	e14	41	180	154	58	29	20
5	19	21	e16	15	e16	12	41	167	159	56	29	19
6	19	25	e15	16	e15	13	39	153	169	55	29	19
7	19	31	e14	19	13	13	40	148	158	53	28	19
8	19	e35	e15	18	13	14	43	154	143	52	28	19
9	19	33	e15	14	13	14	50	181	134	51	28	19
10	19	29	e16	12	13	14	49	215	135	50	27	19
11	19	27	e17	e9.0	13	16	46	250	136	49	27	19
12	18	25	17	e6.0	13	27	44	264	125	47	26	18
13	18	24	17	e6.0	13	39	43	279	117	46	26	18
14	18	23	17	e6.5	13	37	44	249	115	45	25	18
15	19	22	e15	e7.0	13	34	49	232	107	44	25	18
16	24	23	e15	e7.0	13	33	50	230	103	43	24	18
17	23	20	e14	e7.0	12	34	54	241	105	43	24	18
18	20	20	e13	e7.5	13	39	57	264	112	42	24	18
19	26	19	e14	e9.0	12	44	54	264	99	42	24	19
20	e32	e19	e15	e9.5	13	48	52	253	92	41	27	19
21	29	e18	e15	e9.0	12	47	51	236	89	39	27	19
22	24	e18	e16	e8.5	12	46	51	218	85	38	26	18
23	22	e16	e16	e8.5	13	45	54	201	81	37	25	32
24	21	e16	e17	e9.0	12	45	61	189	79	37	24	26
25	20	e17	e17	e9.0	13	53	70	186	78	36	23	21
26	19	e16	e18	e8.5	13	59	77	173	76	35	22	20
27	19	e15	e18	9.0	11	59	81	170	72	34	22	19
28	18	e15	e19	10	13	55	95	179	69	34	21	18
29	18	e15	e19	e12	---	51	127	166	68	33	21	19
30	18	e16	e17	e12	---	49	145	157	66	32	21	18
31	e16	---	e17	e11	---	47	---	154	---	32	20	---
Total	633	621	500	342.0	362	1,034.6	1,740	6,282	3,391	1,389	793	591
Mean	20.4	20.7	16.1	11.0	12.9	33.4	58.0	203	113	44.8	25.6	19.7
Max	32	35	19	19	16	59	145	279	169	64	31	32
Min	16	14	13	6.0	11	9.6	39	148	66	32	20	18
Ac-ft	1,260	1,230	992	678	718	2,050	3,450	12,460	6,730	2,760	1,570	1,170
Cfsm	0.36	0.37	0.29	0.20	0.23	0.60	1.04	3.62	2.02	0.80	0.46	0.35
In.	0.42	0.41	0.33	0.23	0.24	0.69	1.16	4.17	2.25	0.92	0.53	0.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2007, BY WATER YEAR (WY)

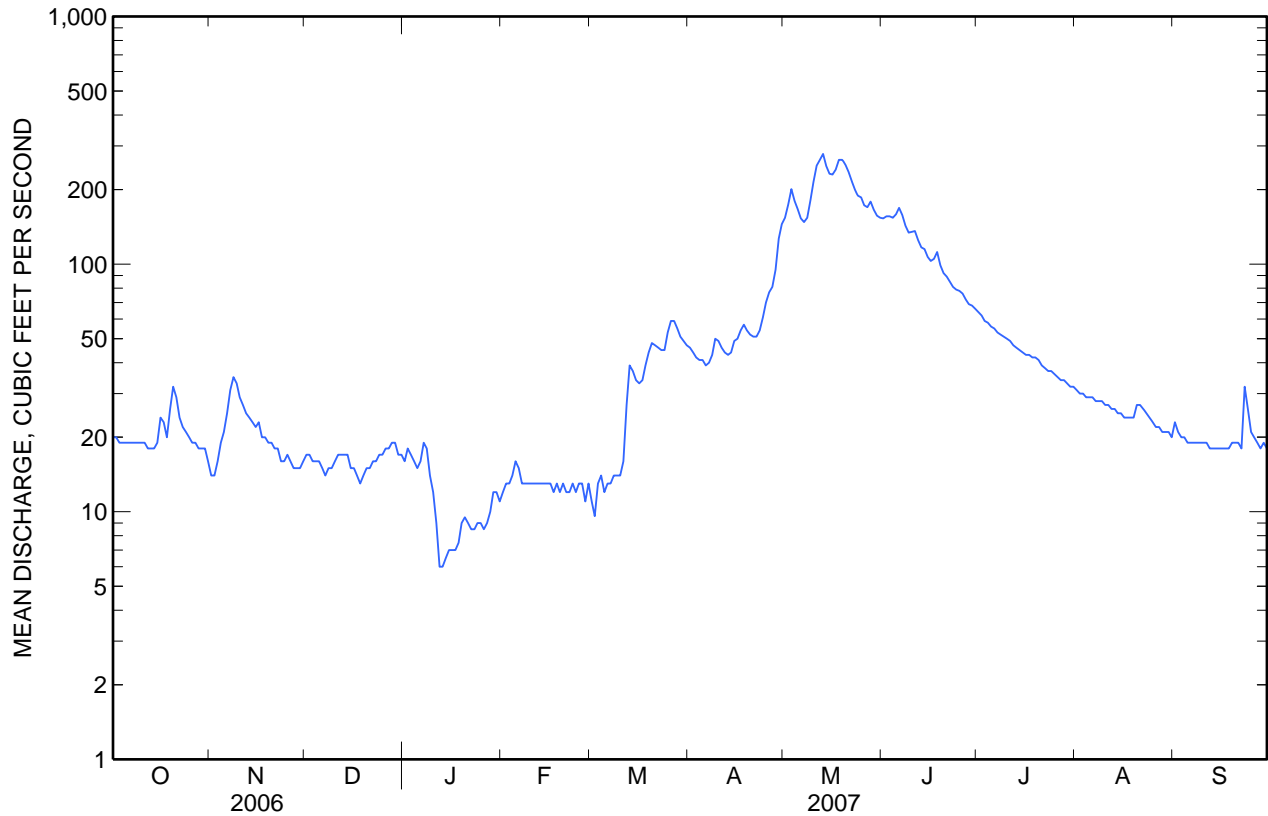
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	21.7	18.1	14.6	12.3	11.2	16.7	58.1	199	193	76.1	37.8	26.4
Max	42.2	26.3	37.4	22.9	25.0	56.0	113	459	446	140	53.5	44.5
(WY)	(1986)	(1986)	(1996)	(2005)	(2005)	(1986)	(1990)	(1997)	(1997)	(1997)	(1997)	(1985)
Min	13.0	11.1	9.29	3.66	4.45	7.68	24.8	119	70.2	37.0	21.6	15.8
(WY)	(1988)	(1988)	(2004)	(1985)	(1985)	(1985)	(1995)	(1995)	(1992)	(1992)	(1992)	(1987)

12381400 SOUTH FORK JOCKO RIVER NEAR ARLEE, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1983 - 2007	
Annual total	26,788.8		17,678.6			
Annual mean	73.4		48.4		57.3	
Highest annual mean					108	1997
Lowest annual mean					35.0	1992
Highest daily mean	496	May 20	279	May 13	1,060	May 17, 1997
Lowest daily mean	7.0	Feb 18	6.0	Jan 12	2.0	Feb 4, 1989
Annual seven-day minimum	8.7	Feb 13	6.7	Jan 12	2.6	Feb 1, 1989
Maximum peak flow			^a 297	May 13	^c 1,220	May 17, 1997
Maximum peak stage			^b 3.45	Jan 2	^d 4.98	Feb 15, 1989
Annual runoff (ac-ft)	53,140		35,070		41,520	
Annual runoff (cfsm)	1.31		0.865		1.02	
Annual runoff (inches)	17.80		11.74		13.90	
10 percent exceeds	228		153		158	
50 percent exceeds	27		23		23	
90 percent exceeds	15		13		9.7	

- ^a Gage height, 2.81 ft.
- ^b Backwater from ice.
- ^c Gage height, 4.31 ft.
- ^d Backwater from ice.



Water-Data Report 2007

12383500 BIG KNIFE CREEK NEAR ARLEE, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°08'51", long 113°58'24" referenced to North American Datum of 1927, in NW ¼ SW ¼ NW ¼ sec.14, T.16 N., R.19 W., Lake County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on left bank, 150 ft upstream from S Canal, 1 mi upstream from mouth, and 5.5 mi east of Arlee.

DRAINAGE AREA.--6.88 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1910 to September 1916 (no winter records), October 1982 to current year. Monthly discharge only for some periods, published in WSP 1316. Published as "near Jocko" 1910-16 and in Water Supply Paper (WSP) 916, and as "above Big Knife Canal, near Jocko" in WSP 1246 and 1316.

REVISED RECORDS.-- WSP 1246: 1916. WSP 1316: 1910-12, 1915-16.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 3,720 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to July 28, 1998, at site 38 ft upstream at different elevation.

REMARKS.--Records are good. No known regulation or diversion occurs upstream from station.

12383500 BIG KNIFE CREEK NEAR ARLEE, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.5	5.7	5.5	5.1	4.1	4.0	5.1	9.0	19	16	12	9.1
2	8.4	5.7	5.5	5.2	4.0	4.0	5.1	11	22	16	11	9.0
3	8.4	6.0	5.3	5.3	4.0	4.0	4.9	14	26	16	11	8.8
4	8.4	6.2	5.5	5.2	4.1	4.1	5.0	12	28	15	11	8.7
5	8.2	6.0	5.6	5.1	4.2	4.1	4.9	10	31	15	11	8.7
6	8.3	5.9	5.5	5.1	4.2	4.2	4.9	9.3	32	15	11	8.5
7	8.1	6.3	5.5	5.1	4.2	4.2	4.8	9.1	28	15	11	8.4
8	8.1	6.6	5.5	5.0	4.4	4.3	4.7	9.4	25	15	11	8.4
9	8.1	6.5	5.5	5.1	4.4	4.2	4.8	11	22	14	11	8.3
10	8.1	6.3	5.4	5.2	4.2	4.2	4.9	15	25	15	11	8.2
11	7.9	6.2	5.3	e4.5	4.2	4.1	4.9	19	29	14	11	8.1
12	7.8	5.8	5.5	e4.0	4.2	4.6	4.9	22	28	14	10	8.1
13	7.8	5.8	5.7	e4.5	4.2	4.7	4.8	24	27	14	10	8.0
14	7.8	5.9	5.6	e5.0	4.2	4.6	4.8	21	25	14	10	8.0
15	7.9	5.7	6.3	5.3	4.2	4.5	5.0	18	24	14	10	7.9
16	8.7	6.0	5.8	5.1	4.2	4.5	4.9	18	22	14	10	7.8
17	7.7	5.7	5.7	4.9	4.2	4.6	5.1	20	23	14	10	7.9
18	7.1	5.5	5.5	4.7	4.2	4.8	5.6	24	23	13	10	7.9
19	7.2	5.6	5.4	4.9	4.2	4.9	5.6	26	20	14	9.9	7.9
20	7.6	5.9	5.3	4.7	4.2	5.0	5.3	24	20	13	10	7.8
21	7.1	6.2	5.2	4.7	4.1	5.0	5.3	21	20	13	10	7.8
22	6.7	6.0	5.1	4.7	4.1	5.0	5.4	23	20	13	9.9	7.8
23	6.7	5.9	5.1	4.7	4.2	5.0	5.5	19	20	13	9.8	11
24	6.4	5.8	5.1	4.5	4.1	5.0	5.6	15	19	13	9.7	8.9
25	6.4	5.8	5.1	4.5	4.1	5.4	5.9	15	19	12	9.5	8.2
26	6.2	5.7	5.1	4.5	4.1	5.5	6.1	14	18	12	9.3	7.9
27	6.2	5.8	5.3	4.5	4.0	5.7	6.3	15	17	12	9.3	7.8
28	6.2	5.6	5.2	4.4	4.0	5.6	6.6	16	17	12	9.2	7.9
29	6.1	5.5	5.2	4.3	---	5.5	7.6	16	17	12	9.1	8.6
30	6.2	5.5	5.3	4.2	---	5.5	8.4	16	16	12	9.0	7.8
31	5.9	---	5.3	4.2	---	5.3	---	17	---	12	8.9	---
Total	230.2	177.1	167.9	148.2	116.5	146.1	162.7	512.8	682	426	315.6	249.2
Mean	7.43	5.90	5.42	4.78	4.16	4.71	5.42	16.5	22.7	13.7	10.2	8.31
Max	8.7	6.6	6.3	5.3	4.4	5.7	8.4	26	32	16	12	11
Min	5.9	5.5	5.1	4.0	4.0	4.0	4.7	9.0	16	12	8.9	7.8
Ac-ft	457	351	333	294	231	290	323	1,020	1,350	845	626	494
Cfsm	1.08	0.86	0.79	0.69	0.60	0.69	0.79	2.40	3.30	2.00	1.48	1.21
In.	1.24	0.96	0.91	0.80	0.63	0.79	0.88	2.77	3.69	2.30	1.71	1.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.03	6.81	5.77	5.09	4.54	4.54	6.23	16.0	26.3	18.3	12.7	9.72
Max	10.3	8.95	7.38	6.33	6.49	7.07	8.93	28.0	48.4	29.2	16.9	12.0
(WY)	(1983)	(1986)	(1985)	(1985)	(1986)	(1986)	(1986)	(1997)	(1997)	(1984)	(1983)	(1984)
Min	5.27	4.47	4.05	3.65	2.96	2.96	3.92	9.23	8.49	9.60	8.06	6.55
(WY)	(1993)	(1993)	(1993)	(1989)	(1989)	(1989)	(1991)	(1995)	(1992)	(1992)	(1992)	(1992)

12383500 BIG KNIFE CREEK NEAR ARLEE, MT—Continued

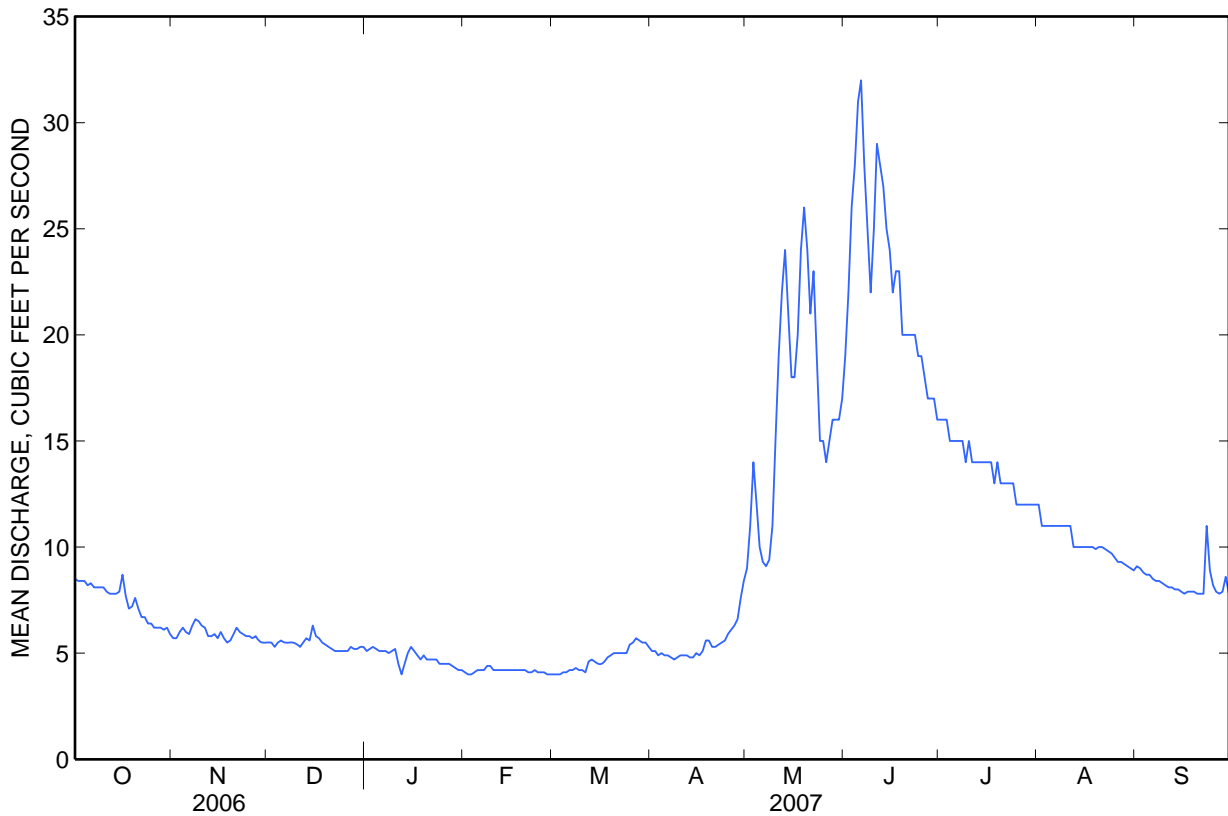
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1983 - 2007	
Annual total	4,387.7		3,334.3			
Annual mean	12.0		9.14		10.4	
Highest annual mean					14.6	1997
Lowest annual mean					6.60	1992
Highest daily mean	48	Jun 10	32	Jun 6	67	Jun 4, 2005
Lowest daily mean	4.0	Feb 18	4.0	Jan 12	1.7	Feb 4, 1989
Annual seven-day minimum	4.4	Mar 10	4.0	Feb 25	2.0	Feb 1, 1989
Maximum peak flow			34	Jun 6	^b 78	Jun 30, 1916
Maximum peak stage			5.74	Jun 6	5.91	Jun 29, 2002
Instantaneous low flow			^a 3.6	Mar 11	^c 1.3	Feb 4, 1989
Annual runoff (ac-ft)	8,700		6,610		7,500	
Annual runoff (cfsm)	1.75		1.33		1.51	
Annual runoff (inches)	23.72		18.03		20.46	
10 percent exceeds	29		18		20	
50 percent exceeds	7.8		6.4		7.5	
90 percent exceeds	4.8		4.2		4.2	

^a Gage height, 5.09 ft, result of freezeup.

^b Gage height, 3.65 ft; site and datum then in use.

^c Result of freezeup.





Water-Data Report 2007

12387450 VALLEY CREEK NEAR ARLEE, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°10'13", long 114°13'47" referenced to North American Datum of 1927, in NE ¼ SE ¼ SE ¼ sec.3, T.16 N., R.21 W., Sanders County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank, 1.4 mi upstream from East Fork, 6.7 mi west of Arlee, and 7.4 mi southwest of Ravalli.

DRAINAGE AREA.--15.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1982 to current season (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 3,450 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Seasonal records are good except those for estimated daily discharges, which are poor. No known regulation or diversion occurs upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

12387450 VALLEY CREEK NEAR ARLEE, MT—Continued

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

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				12	30	17	8.7	e6.5	6.7	e5.5		
2				11	35	18	8.5	e6.5	6.6	e5.5		
3				10	36	18	8.3	e6.5	6.7	e6.5		
4				10	32	18	8.0	e6.5	6.7	e6.0		
5				10	28	19	7.9	e6.5	6.7	e6.0		
6				10	24	18	7.8	e6.0	6.7	e6.0		
7				10	22	18	7.7	e6.0	6.6	e6.0		
8				10	22	16	e8.0	e6.5	6.6	e6.0		
9				10	27	14	e8.0	e6.5	6.4	e5.5		
10				10	32	14	e8.0	e6.5	6.2	e5.5		
11				10	34	14	e8.0	e6.5	6.2	5.4		
12				10	36	14	e8.0	e6.5	6.0	5.4		
13				10	38	13	e8.0	e6.5	6.0	5.4		
14				10	33	13	e7.5	6.2	e6.0	5.4		
15				11	30	12	e7.5	6.2	e6.0	5.4		
16				10	29	12	e7.5	6.2	e5.5	5.2		
17				11	31	12	e8.0	6.1	e5.5	5.0		
18				12	33	12	e8.5	6.1	e5.5	5.0		
19				11	32	11	e8.5	6.4	e6.0	5.5		
20				11	30	10	e8.0	6.6	e6.0	5.5		
21				11	28	11	e8.0	6.7	e6.0	5.4		
22				11	25	10	e7.5	6.5	e6.5	5.4		
23				11	22	9.9	e7.5	6.4	e8.5	5.4		
24				12	20	9.6	e7.5	6.3	e7.0	5.4		
25				13	19	9.7	e7.5	6.3	e6.0	5.4		
26				14	17	9.5	e7.0	6.5	e6.0	5.4		
27				14	18	9.3	e7.0	6.6	e6.0	5.4		
28				17	19	9.1	e7.0	6.6	e6.0	5.4		
29				23	18	9.0	e7.0	6.5	e5.5	5.4		
30				28	17	8.8	e7.0	6.5	e5.5	5.4		
31				---	17	---	e7.0	6.4	---	5.4		
Total				363	834	388.9	240.4	198.6	187.6	171.1		
Mean				12.1	26.9	13.0	7.75	6.41	6.25	5.52		
Max				28	38	19	8.7	6.7	8.5	6.5		
Min				10	17	8.8	7.0	6.0	5.5	5.0		
Ac-ft				720	1,650	771	477	394	372	339		
Cfsm				0.79	1.76	0.85	0.51	0.42	0.41	0.36		
In.				0.88	2.03	0.95	0.58	0.48	0.46	0.42		

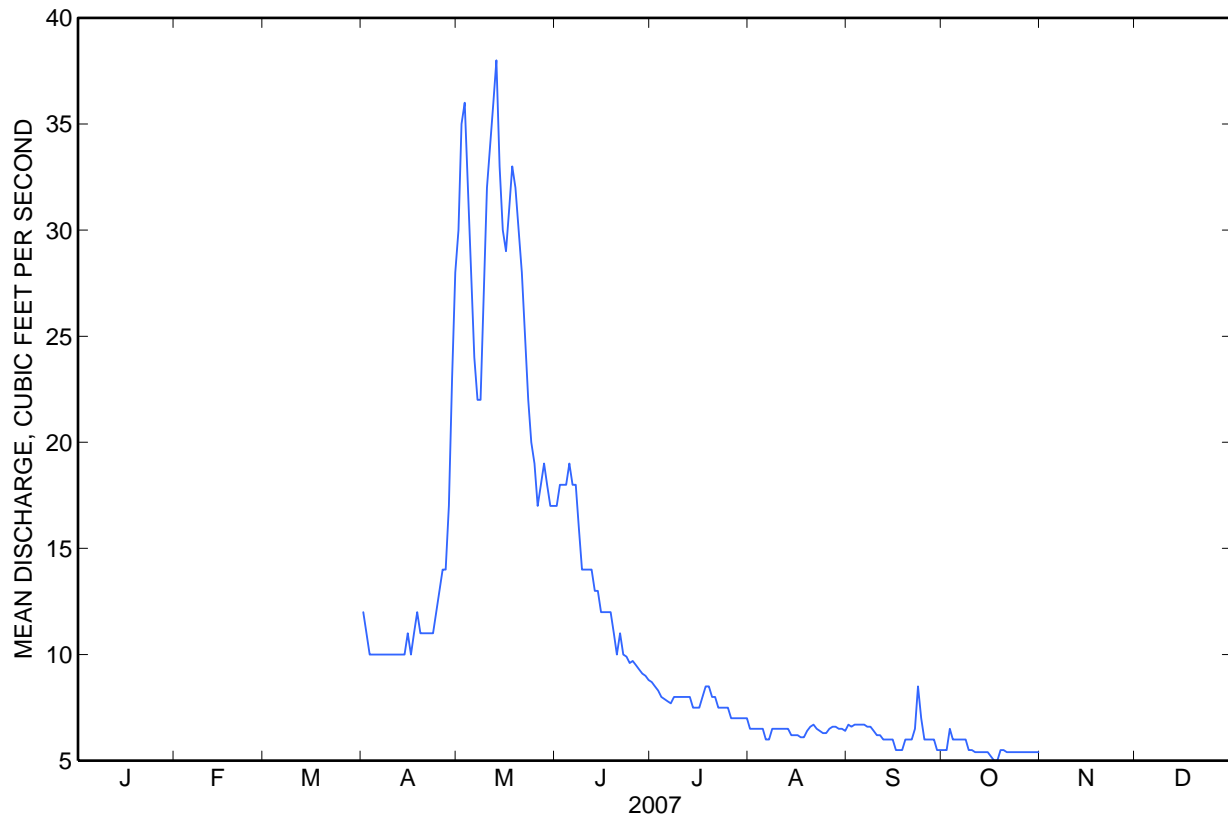
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1983 - 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			7.70	14.2	32.1	27.7	14.2	10.3	8.92	8.46	8.22	
Max			8.67	30.3	75.5	66.7	31.8	19.6	14.0	12.2	11.5	
(WY)			(1998)	(1996)	(1997)	(1997)	(1997)	(1997)	(1997)	(1998)	(1998)	
Min			6.37	6.27	21.5	11.6	7.75	6.41	6.21	5.97	5.85	
(WY)			(1984)	(2002)	(1988)	(1987)	(2007)	(2007)	(2001)	(1989)	(2002)	

12387450 VALLEY CREEK NEAR ARLEE, MT—Continued

SUMMARY STATISTICS

	2007 Season		Seasons 1983 - 2007	
	Value	Date	Value	Date
Highest daily mean	38	May 13	110	May 17, 1997
Lowest daily mean	5.0	Oct 17	5.0	Nov 22, 1994
Maximum peak flow	39	May 12	116	May 16, 1997
Maximum peak stage	1.89	May 12	3.04	May 16, 1997



Water-Data Report 2007

12388200 JOCKO RIVER AT DIXON, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°18'43", long 114°17'48" referenced to North American Datum of 1927, in NW ¼ NW ¼ NE ¼ sec.20, T.18 N., R.21 W., Sanders County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank 38 ft downstream from State Highway 212 bridge, 0.8 mi east of Dixon, and at river mile 0.8.

DRAINAGE AREA.--380 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1990 to current year. Miscellaneous measurements made at this site 1977 and 1987 water years.

GAGE.--Water-stage recorder. Elevation of gage is 2,521.87 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Some regulation and diversion occurs upstream from the gage for irrigation. Several unpublished observations of water temperature and specific conductance were made during the year.

12388200 JOCKO RIVER AT DIXON, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	178	171	192	156	133	142	246	331	324	189	138	143
2	179	169	193	164	129	137	240	365	323	185	140	139
3	179	175	189	173	128	138	235	471	323	184	137	142
4	177	181	189	176	133	141	230	449	322	178	141	139
5	176	179	193	169	141	142	233	400	344	175	146	138
6	178	180	190	166	151	143	225	364	370	172	147	134
7	175	403	188	163	144	145	219	338	386	169	150	133
8	173	575	186	167	143	149	218	320	329	171	148	134
9	173	401	184	165	152	150	225	336	306	168	146	133
10	173	323	182	168	151	150	237	389	306	164	146	134
11	174	288	184	150	150	152	232	469	338	163	141	135
12	174	267	188	e145	150	165	227	508	323	160	140	130
13	173	253	198	e115	148	224	218	550	312	157	137	127
14	171	260	206	e115	145	240	197	517	306	153	138	129
15	170	247	220	e120	144	230	199	470	291	153	138	131
16	182	248	208	e125	153	222	198	449	284	148	139	130
17	192	240	180	e130	149	223	197	455	275	150	138	138
18	179	231	161	e130	150	230	213	499	289	159	139	149
19	179	225	153	131	150	250	236	518	295	155	140	152
20	225	223	154	140	147	267	216	501	267	151	143	153
21	225	235	156	140	146	274	207	480	259	145	148	150
22	202	242	158	139	145	257	207	458	261	146	145	146
23	193	234	159	139	148	249	202	491	238	149	142	181
24	189	229	162	140	144	240	197	383	222	152	140	180
25	185	229	164	139	144	244	206	369	220	151	137	161
26	181	217	170	139	147	278	220	351	218	148	135	154
27	177	220	175	137	144	282	223	341	208	147	139	152
28	174	210	179	131	143	279	228	360	197	145	140	150
29	173	192	172	129	---	267	276	356	198	144	138	161
30	178	187	163	130	---	257	326	340	192	142	136	154
31	170	---	162	131	---	251	---	328	---	139	139	---
Total	5,627	7,434	5,558	4,462	4,052	6,518	6,733	12,956	8,526	4,912	4,371	4,332
Mean	182	248	179	144	145	210	224	418	284	158	141	144
Max	225	575	220	176	153	282	326	550	386	189	150	181
Min	170	169	153	115	128	137	197	320	192	139	135	127
Ac-ft	11,160	14,750	11,020	8,850	8,040	12,930	13,350	25,700	16,910	9,740	8,670	8,590

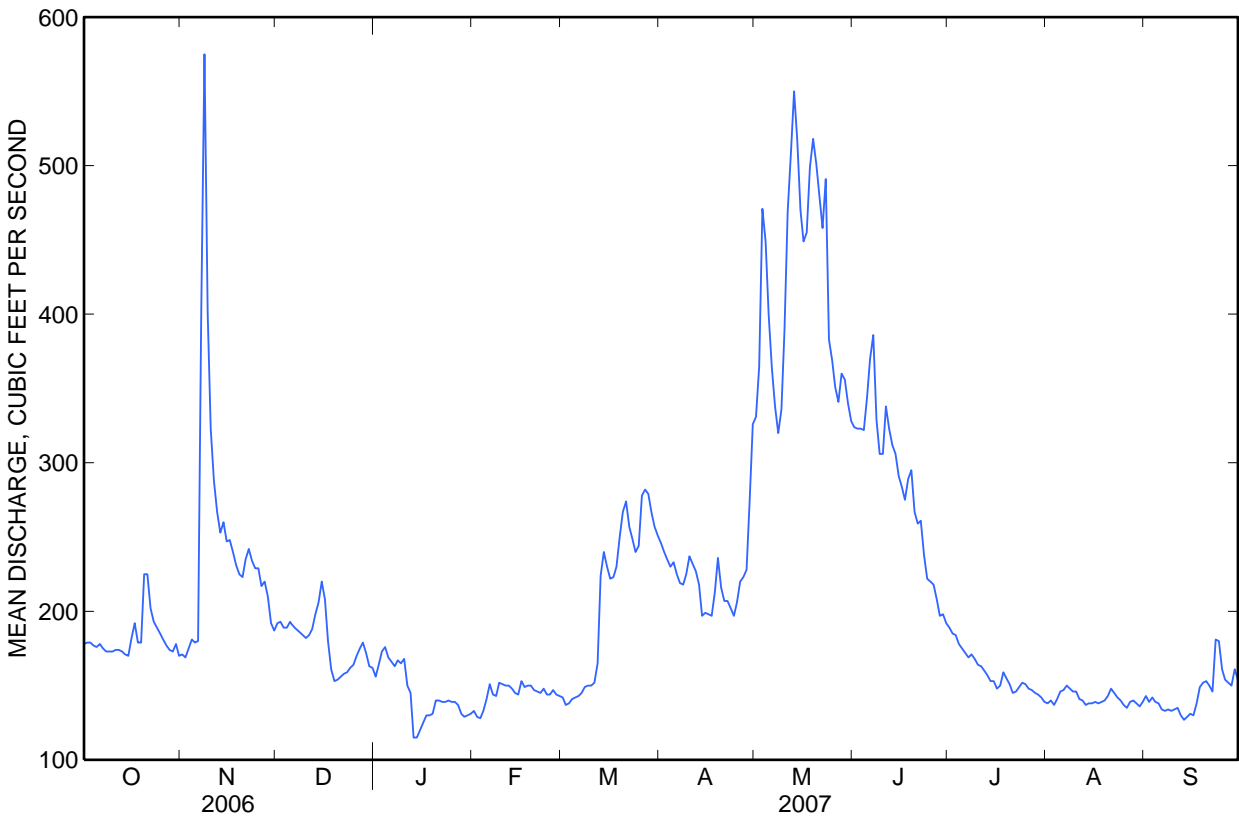
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	185	178	158	138	135	151	224	432	549	251	166	179
Max	233	248	265	190	208	246	390	1,303	1,537	512	222	244
(WY)	(2005)	(2007)	(1996)	(2005)	(1996)	(1997)	(1997)	(1997)	(1997)	(1997)	(1997)	(2004)
Min	138	138	123	102	108	118	130	203	149	140	131	137
(WY)	(2004)	(1995)	(1993)	(1995)	(1993)	(1994)	(1995)	(1992)	(1992)	(1994)	(1994)	(2003)

12388200 JOCKO RIVER AT DIXON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1991 - 2007	
Annual total	103,151		75,481			
Annual mean	283		207		229	
Highest annual mean					445	1997
Lowest annual mean					157	1992
Highest daily mean	1,420	Jun 16	575	Nov 8	2,540	May 18, 1997
Lowest daily mean	121	Feb 18	115	Jan 13	74	Feb 2, 1996
Annual seven-day minimum	126	Feb 15	124	Jan 13	82	Jan 3, 1995
Maximum peak flow			658	Nov 8	2,710	May 17, 1997
Maximum peak stage			2.53	Nov 8	4.68	May 17, 1997
Annual runoff (ac-ft)	204,600		149,700		165,900	
10 percent exceeds	599		330		381	
50 percent exceeds	184		175		172	
90 percent exceeds	135		138		124	



Water-Data Report 2007

12388400 REVAIS CREEK BELOW WEST FORK, NEAR DIXON, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°15'59", long 114°24'21" referenced to North American Datum of 1927, in SE ¼ NE ¼ NW ¼ sec.4, T.17 N., R.22 W., Sanders County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank, 0.3 mi downstream from West Fork, 7.3 mi southwest of Dixon, and at river mile 5.2.

DRAINAGE AREA.--23.4 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 3,420 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 regulation or diversion occurs upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

12388400 REVAIS CREEK BELOW WEST FORK, NEAR DIXON, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4.7	4.7	e8.5	e6.0	5.1	5.5	26	60	39	14	6.8	5.3
2	4.7	4.7	e8.5	e6.5	5.1	5.3	24	74	42	14	6.7	5.0
3	4.7	5.1	8.4	7.4	5.1	5.3	23	78	43	13	6.5	4.9
4	4.7	5.3	8.4	7.1	5.1	5.3	22	67	43	13	6.4	4.8
5	4.6	7.1	8.6	6.8	5.4	5.5	21	57	46	12	6.3	4.8
6	4.6	7.4	8.3	6.8	5.6	5.7	20	48	47	12	6.2	4.7
7	4.6	16	8.0	6.4	5.6	6.1	20	44	44	12	6.2	4.7
8	4.6	26	8.0	6.5	5.7	6.7	19	47	38	11	6.1	4.8
9	4.6	19	8.0	6.3	5.9	6.7	20	66	35	11	6.1	4.7
10	4.6	15	8.0	6.3	5.9	6.7	21	78	34	11	6.1	4.6
11	4.6	14	8.0	e5.5	5.9	7.7	21	82	32	10	6.0	4.5
12	4.6	12	8.0	e5.0	5.9	23	21	85	30	10	5.8	4.5
13	4.6	11	8.3	e5.0	5.6	38	20	92	28	9.9	5.7	4.5
14	4.6	11	e8.0	e5.5	5.6	30	20	75	27	9.6	5.6	4.5
15	4.6	10	e8.0	e5.5	5.9	24	21	65	26	9.5	5.5	4.4
16	5.2	11	e7.0	e5.5	6.2	22	21	64	24	9.2	5.5	4.4
17	5.3	10	e6.5	e6.0	5.9	22	21	68	24	9.3	5.4	4.5
18	4.9	9.5	e6.0	e6.0	6.1	25	23	76	24	10	5.3	4.7
19	5.1	9.3	e6.5	e6.0	6.0	29	22	71	22	9.7	5.4	5.1
20	8.2	11	e6.5	e6.0	6.1	31	22	66	21	9.2	5.6	5.0
21	6.3	13	e7.0	5.7	5.9	31	21	63	21	8.9	5.7	4.8
22	5.5	13	e7.0	5.6	5.9	29	21	57	20	8.5	5.4	4.6
23	5.3	11	e7.5	5.6	5.9	27	21	50	19	8.4	5.3	9.6
24	5.1	11	e7.5	5.6	5.7	27	22	45	18	8.2	5.2	6.6
25	5.1	11	7.6	5.6	5.7	31	26	44	17	8.0	5.2	5.4
26	5.0	10	7.8	5.4	5.7	35	29	40	17	7.7	5.2	5.0
27	4.9	10	7.9	5.4	5.6	36	30	40	16	7.6	5.2	5.0
28	4.9	e8.0	7.4	5.3	5.6	33	36	42	15	7.4	5.1	5.0
29	4.9	e7.5	7.1	5.1	---	30	47	40	15	7.3	5.1	5.3
30	5.0	e8.0	7.0	5.1	---	29	55	38	15	7.1	4.9	5.0
31	4.8	---	6.8	5.1	---	27	---	38	---	7.0	4.9	---
Total	154.9	321.6	236.1	181.6	159.7	645.5	736	1,860	842	305.5	176.4	150.7
Mean	5.00	10.7	7.62	5.86	5.70	20.8	24.5	60.0	28.1	9.85	5.69	5.02
Max	8.2	26	8.6	7.4	6.2	38	55	92	47	14	6.8	9.6
Min	4.6	4.7	6.0	5.0	5.1	5.3	19	38	15	7.0	4.9	4.4
Ac-ft	307	638	468	360	317	1,280	1,460	3,690	1,670	606	350	299
Cfsm	0.21	0.46	0.33	0.25	0.24	0.89	1.05	2.56	1.20	0.42	0.24	0.21
In.	0.25	0.51	0.38	0.29	0.25	1.03	1.17	2.96	1.34	0.49	0.28	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.21	6.77	6.46	5.38	5.61	8.27	23.1	67.0	53.6	15.9	7.78	6.22
Max	12.5	14.8	27.9	12.3	19.9	23.7	56.4	165	134	25.9	11.0	10.9
(WY)	(1986)	(1986)	(1996)	(1996)	(1996)	(1986)	(1996)	(1997)	(1997)	(1991)	(1997)	(1985)
Min	3.79	3.92	3.82	3.53	3.49	3.97	9.07	44.9	18.6	9.85	5.47	4.19
(WY)	(2004)	(2004)	(2002)	(2004)	(1993)	(2001)	(2001)	(1992)	(1987)	(2007)	(1988)	(1988)

12388400 REVAIS CREEK BELOW WEST FORK, NEAR DIXON, MT—Continued

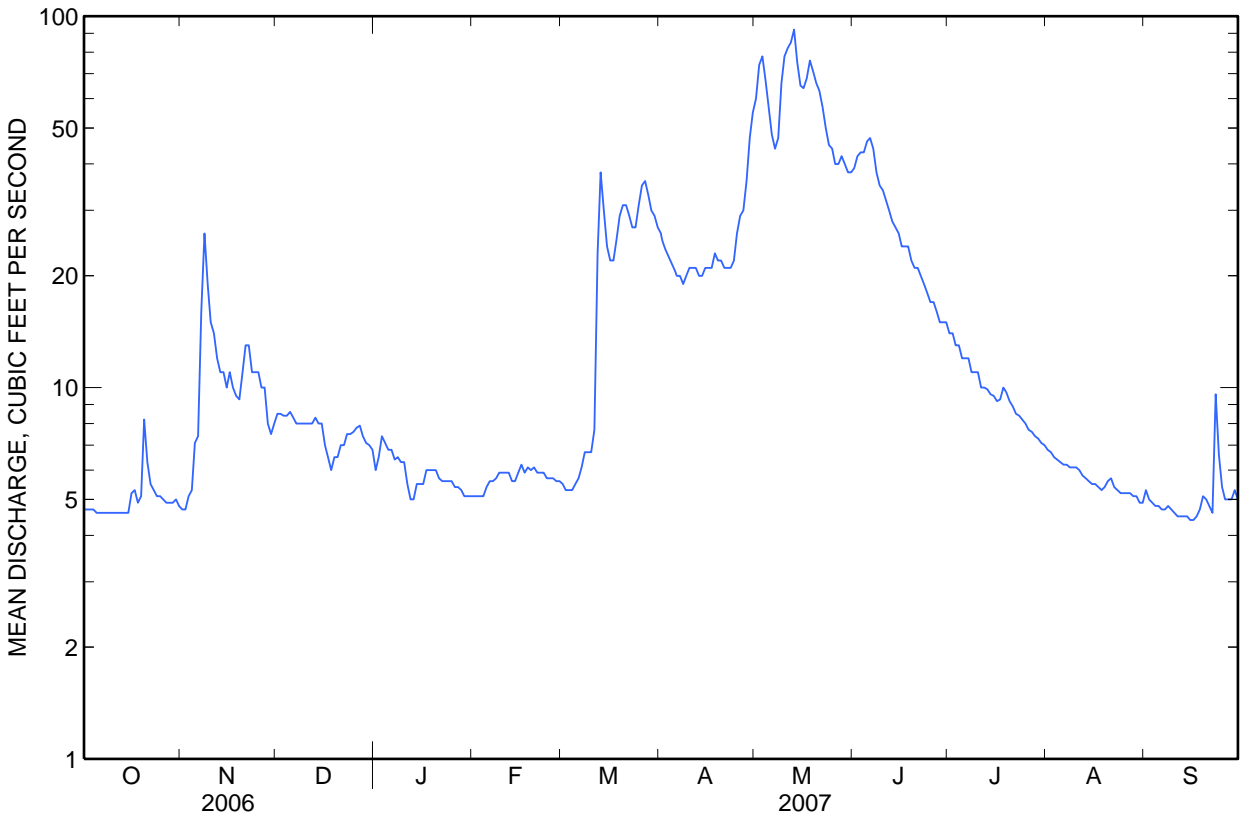
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1983 - 2007	
Annual total	7,075.7		5,770.0			
Annual mean	19.4		15.8		17.7	
Highest annual mean					35.2	1997
Lowest annual mean					11.6	1992
Highest daily mean	174	May 20	92	May 13	316	Jun 1, 1997
Lowest daily mean	3.0	Feb 18	4.4	Sep 15	2.5	Feb 4, 1989
Annual seven-day minimum	3.9	Feb 15	4.5	Sep 11	2.7	Feb 2, 1989
Maximum peak flow			^a 96	May 13	^c 382	Jun 1, 1997
Maximum peak stage			^b 4.22	Jan 14	^b 6.93	Dec 5, 1984
Annual runoff (ac-ft)	14,030		11,440		12,840	
Annual runoff (cfsm)	0.828		0.676		0.757	
Annual runoff (inches)	11.25		9.17		10.29	
10 percent exceeds	53		40		47	
50 percent exceeds	7.4		7.5		7.3	
90 percent exceeds	4.8		4.9		4.0	

^a Gage height, 3.67 ft.

^b Backwater from ice.

^c Gage height, 4.36 ft.



Water-Data Report 2007

12388700 FLATHEAD RIVER AT PERMA, MT

Pend Oreille Basin
Lower Flathead Subbasin

LOCATION.--Lat 47°22'03", long 114°35'03" referenced to North American Datum of 1927, in SE ¼ NE ¼ NE ¼ sec.36, T.19 N., R.24 W., Sanders County, MT, Hydrologic Unit 17010212, Flathead Indian Reservation, on right bank 0.3 mi north of Perma, 0.4 mi downstream from Camas Creek, and at river mile 10.9.

DRAINAGE AREA.--8,795 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,469.31 ft, referenced to National Geodetic Vertical Datum of 1929.

REMARKS.--Records are excellent except those for estimated daily discharges, which are fair. Flow is affected by regulation from Hungry Horse Reservoir (station no. 12362000) and by Flathead Lake (station no. 12371500). Diversions for irrigation include about 160,500 acres upstream from station. U.S. Geological Survey satellite telemeter is located at the station.

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

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

[e, estimated.]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,300	6,020	9,710	9,930	9,660	9,660	14,600	15,300	14,900	13,900	7,580	6,010
2	6,370	5,980	9,700	9,970	9,660	9,570	14,600	15,600	16,600	13,900	6,940	6,000
3	6,330	6,010	9,760	9,990	9,640	9,550	14,900	16,100	19,100	13,900	6,870	6,020
4	6,340	6,000	9,740	10,000	9,630	9,540	15,000	16,300	20,500	13,400	6,670	6,080
5	6,280	6,040	9,760	10,000	9,620	9,560	15,200	16,100	23,000	13,300	6,030	6,280
6	6,340	6,020	9,770	10,100	9,660	9,560	15,100	15,600	27,300	13,100	5,920	6,390
7	6,360	6,730	9,700	10,100	9,640	9,530	15,000	15,400	32,100	12,500	5,840	6,260
8	6,370	8,080	9,660	10,100	9,630	9,600	15,000	15,600	32,300	11,700	5,860	6,100
9	6,330	9,020	9,630	10,000	8,840	9,520	15,000	15,500	27,700	11,100	5,840	6,110
10	6,390	9,700	9,810	10,200	8,790	9,500	14,700	15,400	22,700	10,900	5,880	6,140
11	6,010	13,700	9,920	10,000	8,790	8,650	14,600	15,800	21,900	11,000	5,860	6,100
12	e5,490	14,800	9,970	e10,000	8,760	8,750	14,700	16,000	22,000	11,000	5,880	6,100
13	e5,530	14,700	10,000	e10,000	8,860	8,760	14,800	16,400	21,900	11,000	6,000	6,070
14	e5,550	16,700	10,000	e10,000	8,730	8,890	14,300	16,100	20,800	10,600	5,850	6,120
15	e5,540	17,000	10,200	e10,000	8,850	9,570	14,300	18,200	17,400	10,500	5,830	6,130
16	e5,550	16,900	10,100	e10,000	9,130	9,640	14,200	20,500	15,200	10,000	5,800	6,180
17	e5,560	14,600	9,980	e10,000	9,050	9,710	14,500	22,900	14,800	9,150	5,820	6,190
18	e5,610	13,500	9,950	e10,000	9,120	9,710	14,200	25,200	14,900	8,900	5,840	6,270
19	e5,660	12,600	9,870	e10,000	9,100	9,710	14,500	25,900	16,900	8,740	5,890	6,230
20	e5,660	11,800	9,830	e10,000	9,180	9,810	14,100	25,500	19,200	9,310	5,900	6,260
21	e5,700	10,500	9,840	e10,000	10,000	9,810	14,300	25,700	21,000	9,390	5,930	6,380
22	e5,740	10,200	9,870	e10,000	10,900	9,810	14,200	25,500	19,500	9,430	5,960	6,420
23	e5,750	10,200	9,910	10,100	10,100	9,820	14,100	25,500	19,300	9,420	5,980	6,510
24	e5,750	10,200	9,980	9,920	9,870	9,440	14,000	23,700	18,400	9,450	5,970	6,540
25	e5,770	10,200	9,940	9,810	9,840	9,920	13,800	19,000	17,800	9,440	5,970	6,930
26	e5,830	10,000	9,980	9,710	9,900	9,990	13,900	15,600	17,300	9,360	5,960	7,580
27	5,960	10,000	9,990	9,680	9,730	9,980	13,900	15,100	14,500	9,360	5,940	7,550
28	5,960	9,950	10,000	9,660	9,660	11,100	14,100	15,100	14,200	9,010	5,930	7,590
29	5,980	9,940	9,930	9,640	---	13,000	14,200	15,100	14,100	8,320	5,920	7,700
30	5,980	9,750	9,920	9,650	---	14,500	14,700	15,000	14,000	8,300	5,960	7,580
31	5,920	---	9,930	9,650	---	14,700	---	14,900	---	8,300	6,010	---
Total	183,910	316,840	306,350	308,210	264,340	310,860	434,500	569,600	591,300	327,680	187,630	193,820
Mean	5,933	10,560	9,882	9,942	9,441	10,030	14,480	18,370	19,710	10,570	6,053	6,461
Max	6,390	17,000	10,200	10,200	10,900	14,700	15,200	25,900	32,300	13,900	7,580	7,700
Min	5,490	5,980	9,630	9,640	8,730	8,650	13,800	14,900	14,000	8,300	5,800	6,000
Ac-ft	364,800	628,500	607,600	611,300	524,300	616,600	861,800	1,130,000	1,173,000	650,000	372,200	384,400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8,349	10,330	10,900	10,130	9,669	9,057	10,400	16,310	22,980	13,010	7,918	7,709
Max	12,070	13,150	17,260	15,200	18,340	23,420	23,370	36,930	45,490	22,780	12,690	13,090
(WY)	(1992)	(2000)	(1996)	(1996)	(1996)	(1996)	(1996)	(1997)	(1997)	(1991)	(1996)	(1989)
Min	4,042	4,052	6,160	4,626	4,234	4,121	4,397	5,877	9,092	6,279	4,164	3,987
(WY)	(2004)	(2002)	(2002)	(2003)	(2001)	(2001)	(2001)	(1995)	(1987)	(1994)	(1994)	(2003)

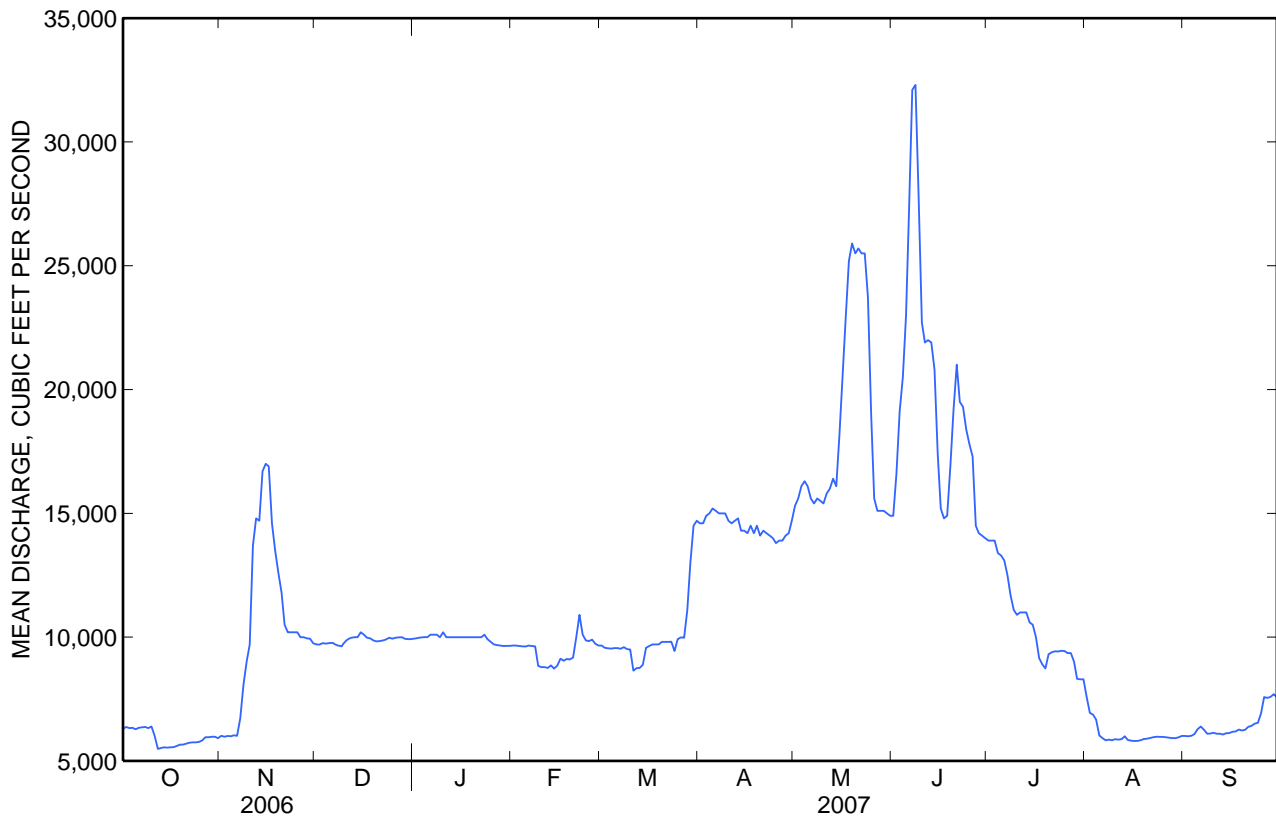
12388700 FLATHEAD RIVER AT PERMA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1984 - 2007	
Annual total	4,597,070		3,995,040			
Annual mean	12,590		10,950		11,390	
Highest annual mean					18,030	1996
Lowest annual mean					7,040	2001
Highest daily mean	47,200	Jun 19	32,300	Jun 8	53,400	Jun 6, 1997
Lowest daily mean	4,600	Sep 11	5,490	Oct 12	2,670	May 29, 1984
Annual seven-day minimum	4,660	Sep 8	5,550	Oct 12	3,110	May 25, 1984
Maximum peak flow			^a 33,700	Jun 7	54,700	Jun 7, 1997
Maximum peak stage			^b 17.58	Jan 17	21.65	Jun 7, 1997
Annual runoff (ac-ft)	9,118,000		7,924,000		8,255,000	
10 percent exceeds	25,700		16,500		17,700	
50 percent exceeds	9,950		9,840		10,100	
90 percent exceeds	4,880		5,960		5,370	

^a Gage height, 16.69 ft.

^b Backwater from ice.



12388700 FLATHEAD RIVER AT PERMA, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1971-73, 1997 to 2003, April 2006 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 2001 to 2003 (seasonal records) and April 2005 to current year (seasonal records for 2005 and 2006).

INSTRUMENTATION.--Temperature recorder installed Aug. 30, 2000.

REMARKS.--Sampling was conducted this year as part of a supplemental sampling program for the lower Clark Fork basin to assess water quality and loads associated with the removal of Milltown Dam. Daily water temperature records are rated excellent. Missing daily water temperature data for August 19-22 are due to equipment vandalism. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 30.0°C, Sept. 5-7, 2003; minimum, 0.0°C Jan. 11-20, 2007.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 28.0°C, July 23, 28, 29; minimum, 0.0°C, Jan. 11-20.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

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

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Total nitro- gen, water, unfltrd, mg/L (62855)	Total phos- phorus, water, unfltrd mg/L (00665)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)
Oct													
18...	1000	5,640	8.4	179	9.0	11.5	90	25.5	6.49	.15	<.008	.43	.50
Apr													
10...	1230	14,700	8.0	172	9.0	6.5	89	25.3	6.28	.14	E.005	.36	.39
24...	1130	14,000	7.9	174	22.0	9.5	91	26.1	6.40	.13	E.007	.42	.44
May													
04...	1100	16,300	8.4	173	10.5	9.0	91	25.8	6.39	.14	E.008	.38	.38
15...	1130	18,400	8.3	173	18.5	13.0	87	24.7	6.08	.14	.008	.46	.37
23...	1030	25,400	8.4	173	15.5	13.0	88	25.1	6.16	.12	E.007	.38	.40
Jun													
01...	1030	14,800	8.3	173	23.5	16.5	86	24.6	6.07	.12	E.005	.37	.43
07...	1100	32,600	8.2	171	14.0	16.0	87	25.0	6.03	.14	.011	.40	.47
13...	1130	22,000	8.2	173	21.0	14.0	87	24.8	6.19	.11	E.005	.38	.43
20...	1100	19,200	8.3	172	27.5	16.5	87	24.5	6.27	.11	E.005	.39	.43
27...	1030	14,400	8.3	170	20.0	18.0	85	23.8	6.21	.11	E.005	.42	.45

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 3

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

Date	Cadmium	Cadmium	Copper,	Copper,	Iron,	Iron,	Lead,	Lead,	Mangan-	Mangan-	Zinc,	Zinc,
	water,	water,	water,	water,	water,	water,	water,	water,	ese-	ese-	water,	water,
	flt'd,	unflt'd	flt'd,	unflt'd	flt'd,	unflt'd	flt'd,	unflt'd	water,	water,	flt'd,	unflt'd
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	flt'd,	unflt'd	µg/L	µg/L
	(01025)	(01027)	(01040)	(01042)	(01046)	(01045)	(01049)	(01051)	(01056)	(01055)	(01090)	(01092)
Oct												
18...	<.04	<.02	.97	<1.2	<6	42	<.12	E.03	.5	3.8	.64	<2
Apr												
10...	<.04	<.02	.69	<1.2	<6	63	<.12	.10	.9	4.6	.87	<2.0
24...	<.04	<.02	.66	<1.2	E3	45	<.12	.07	.9	3.9	E.47	<2.0
May												
04...	<.04	<.02	.95	<1.2	E5	85	<.12	.13	.8	6.2	.89	<2.0
15...	<.04	<.02	.46	<1.2	<6	72	<.12	.10	.9	5.6	.71	<2.0
23...	<.04	<.02	.69	E.62	<6	82	<.12	.09	.9	6.0	1.0	<2.0
Jun												
01...	<.04	<.02	<.40	<1.2	<6	50	<.12	.07	.8	4.5	.67	<2.0
07...	<.04	E.01	<.40	<1.2	E3	186	<.12	.25	.6	10.9	E.36	E1.1
13...	<.04	<.02	<.40	<1.2	E3	54	<.12	.10	.8	4.2	<.60	<2.0
20...	<.04	E.01	E.22	<1.2	E4	70	<.12	.11	.7	4.8	.77	<2.0
27...	<.04	<.02	<.40	<1.2	<6	41	<.12	.06	.8	3.7	E.52	<2.0

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO
SEPTEMBER 2007

Part 3 of 3

Date	Suspnd.	Sus-	Sus-
	sediment,	pended	pended
	sieve	sediment	sediment
	diameter	concentration	discharge,
	percent	mg/L	tons/d
	<.063mm	(80154)	(80155)
	(70331)		
Oct			
18...	88	2	30
Apr			
10...	84	5	198
24...	82	3	113
May			
04...	86	6	264
15...	75	7	348
23...	76	7	480
Jun			
01...	79	4	160
07...	81	15	1,320
13...	77	3	178
20...	83	4	207
27...	84	3	117

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	17.0	14.5	16.0	6.5	5.0	6.0	2.0	1.5	1.5	2.5	1.5	2.0
2	16.5	14.5	15.5	6.0	4.5	5.5	2.0	1.0	1.5	3.0	2.0	2.5
3	16.5	14.5	15.5	7.0	6.0	6.5	1.5	1.0	1.5	3.0	2.5	3.0
4	16.5	14.5	15.5	7.5	6.5	7.0	1.5	1.0	1.5	3.0	2.0	2.5
5	17.0	14.5	16.0	8.0	7.0	7.5	2.5	1.5	1.5	2.5	1.5	2.0
6	17.0	14.5	16.0	8.5	7.5	8.0	1.5	1.0	1.5	2.0	1.0	1.5
7	16.0	14.5	15.0	9.5	8.5	9.0	1.5	1.0	1.5	2.0	1.0	1.5
8	14.5	13.5	14.0	9.0	7.0	8.0	2.0	1.5	1.5	2.5	2.0	2.0
9	15.0	12.5	13.5	7.0	6.5	7.0	2.0	1.5	1.5	2.5	1.5	2.0
10	14.0	12.0	13.0	7.0	6.5	7.0	2.0	1.5	1.5	2.5	1.5	2.0
11	14.5	12.0	13.0	7.5	7.0	7.0	2.5	1.5	2.0	1.5	0.0	0.5
12	15.0	12.0	13.5	7.0	6.5	7.0	3.0	2.5	2.5	0.5	0.0	0.5
13	14.0	12.0	13.0	6.5	6.5	6.5	3.5	2.5	3.0	0.5	0.0	0.5
14	14.5	12.0	13.0	6.5	6.0	6.5	3.5	3.0	3.0	0.5	0.0	0.5
15	13.0	12.5	13.0	6.0	5.5	6.0	4.0	3.0	3.5	0.5	0.0	0.5
16	12.5	12.0	12.5	6.5	6.0	6.5	3.0	2.0	2.0	0.5	0.0	0.5
17	13.0	11.5	12.0	6.0	5.5	5.5	2.0	1.5	1.5	0.5	0.0	0.5
18	12.0	11.5	11.5	6.0	5.5	5.5	1.5	0.5	1.0	0.5	0.0	0.5
19	11.5	11.0	11.5	5.5	5.0	5.0	1.5	0.5	1.0	0.5	0.0	0.5
20	12.0	11.0	11.5	6.0	5.0	5.5	1.5	0.5	1.0	0.5	0.0	0.5
21	12.0	10.5	11.5	5.5	5.0	5.5	1.5	1.0	1.5	0.5	0.5	0.5
22	11.5	10.0	10.5	5.5	4.5	5.0	2.0	1.0	1.5	1.5	0.5	0.5
23	11.0	9.0	10.0	5.5	4.5	5.0	2.0	1.0	1.5	2.0	1.0	1.5
24	11.0	9.0	10.0	5.0	4.5	4.5	2.0	1.0	1.5	2.0	1.0	2.0
25	10.5	9.0	10.0	5.0	4.0	4.5	2.0	1.0	1.5	2.5	1.5	2.0
26	10.5	9.0	9.5	4.0	3.5	3.5	2.5	2.0	2.0	2.5	2.0	2.0
27	11.0	9.0	10.0	3.5	3.0	3.0	2.5	2.0	2.5	3.0	2.0	2.0
28	10.5	9.0	9.5	3.0	2.0	2.5	2.5	2.0	2.5	2.0	1.5	2.0
29	9.5	7.5	9.0	3.0	2.0	2.0	2.5	2.0	2.5	2.5	1.5	2.0
30	7.5	6.0	7.0	2.0	1.5	2.0	2.5	1.5	2.0	2.5	2.0	2.0
31	7.0	5.0	6.0	---	---	---	2.5	2.0	2.5	2.5	2.0	2.0
Month	17.0	5.0	12.0	9.5	1.5	5.5	4.0	0.5	2.0	3.0	0.0	1.5

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	2.5	1.5	2.0	3.5	2.0	2.5	8.0	6.5	7.0	11.5	9.5	10.5
2	2.0	1.0	1.5	3.5	1.0	2.5	7.0	5.5	6.5	11.0	10.0	10.5
3	1.5	0.5	1.0	3.5	2.0	2.5	7.0	5.5	6.0	10.5	9.5	10.0
4	2.0	1.0	1.5	4.5	2.5	3.5	6.0	5.5	6.0	11.0	9.0	10.0
5	3.0	2.0	2.5	4.5	3.0	4.0	6.5	5.5	6.0	10.5	9.0	10.0
6	3.0	2.5	3.0	6.0	3.0	4.5	7.5	5.5	6.5	10.5	8.5	9.5
7	3.0	2.5	2.5	6.0	4.0	5.0	8.0	6.5	7.0	11.5	9.5	10.5
8	3.0	2.0	2.5	6.0	4.0	5.0	8.5	7.0	7.5	12.0	9.5	10.5
9	3.0	2.5	2.5	6.0	4.0	5.0	8.0	7.5	8.0	12.5	10.5	11.5
10	3.0	2.0	2.5	6.5	4.5	5.5	7.5	6.5	7.0	12.5	11.0	11.5
11	3.0	2.5	2.5	6.5	5.0	5.5	8.0	6.5	7.0	13.0	11.0	12.0
12	3.0	2.0	2.5	7.0	6.0	6.0	8.0	6.0	7.0	13.5	12.0	12.5
13	3.0	1.5	2.0	8.0	5.5	6.5	8.0	6.5	7.0	13.0	12.0	12.5
14	3.0	2.0	2.5	7.0	5.0	6.0	8.5	7.5	8.0	14.5	12.0	13.0
15	3.0	2.0	2.5	7.0	4.5	5.5	9.0	7.5	8.5	14.0	12.5	13.5
16	3.5	2.0	3.0	7.0	5.5	6.5	9.0	7.5	8.0	14.5	13.0	14.0
17	4.0	2.5	3.0	8.0	5.0	6.5	8.5	7.5	8.0	15.0	13.5	14.5
18	3.5	2.0	2.5	9.0	6.5	7.5	8.0	7.0	7.5	15.5	14.0	15.0
19	3.5	2.0	2.5	8.5	6.0	7.5	8.5	7.0	7.5	15.5	14.0	14.5
20	3.5	2.0	3.0	8.5	6.5	7.5	8.0	6.5	7.5	15.0	14.5	14.5
21	3.5	2.0	2.5	8.0	5.5	6.5	8.0	6.5	7.5	14.5	13.5	14.0
22	3.0	2.0	2.5	7.5	6.0	6.5	8.5	7.0	8.0	14.5	13.0	13.5
23	3.5	2.0	2.5	8.5	6.0	7.0	10.0	7.5	9.0	14.5	13.0	14.0
24	3.0	1.5	2.0	9.0	6.5	7.5	10.5	9.0	9.5	14.0	13.0	13.5
25	3.0	2.0	2.5	7.5	6.5	7.0	9.5	9.0	9.5	14.5	13.0	14.0
26	3.5	2.5	3.0	8.0	5.5	6.5	11.0	9.0	9.5	15.0	13.0	14.0
27	3.0	2.0	2.5	7.0	6.0	6.5	11.0	9.0	10.0	14.0	13.0	13.5
28	3.5	1.5	2.5	7.5	5.5	6.5	11.0	9.5	10.0	14.0	13.0	13.5
29	---	---	---	8.0	6.0	7.0	10.5	9.5	9.5	16.0	13.0	14.5
30	---	---	---	8.0	6.5	7.0	11.0	9.5	10.0	16.5	14.0	15.5
31	---	---	---	7.5	7.0	7.0	---	---	---	17.5	15.0	16.0
Month	4.0	0.5	2.5	9.0	1.0	6.0	11.0	5.5	8.0	17.5	8.5	13.0

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

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

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

Water-Data Report 2007

12389000 CLARK FORK NEAR PLAINS, MT

Pend Oreille Basin
Lower Clark Fork Subbasin

LOCATION.--Lat 47°25'47", long 114°51'18" referenced to North American Datum of 1927, in EH ¼ SW ¼ sec.1, T.19 N., R.26 W., Sanders County, MT, Hydrologic Unit 17010213, on right bank 2.4 mi southeast of Plains, 6.0 mi downstream from Flathead River, and at river mile 239.0.

DRAINAGE AREA.--19,958 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1316.

REVISED RECORDS.-- WSP 1246: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,449.11 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Nov. 28, 1911, nonrecording gage located at site 50 ft upstream at same elevation.

REMARKS.--Records are good. Flow is partly regulated by Hungry Horse Reservoir (station number 12362000) and by Flathead Lake (station number 12371500). Diversions for irrigation include about 335,000 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.

12389000 CLARK FORK NEAR PLAINS, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8,530	8,410	13,000	12,500	12,000	12,600	23,600	29,900	29,300	19,600	10,400	7,640
2	8,560	8,370	13,000	12,400	12,000	12,500	23,400	32,400	29,900	19,400	9,770	7,640
3	8,570	8,260	13,200	12,500	11,900	12,300	23,500	34,600	32,200	19,100	9,290	7,650
4	8,580	8,320	13,200	12,900	11,800	12,300	23,200	36,800	34,700	18,600	9,060	7,680
5	8,560	8,560	13,100	13,200	11,900	12,300	23,200	36,900	37,400	18,100	8,830	7,680
6	8,570	8,860	13,100	13,100	12,100	12,300	23,000	34,300	42,000	17,700	8,390	7,730
7	8,590	9,970	13,200	13,000	12,300	12,400	22,800	32,300	47,100	17,000	8,170	7,780
8	8,610	14,800	13,100	12,800	12,400	12,600	22,600	31,200	50,100	16,100	8,060	7,820
9	8,640	23,400	12,900	12,800	12,100	13,000	22,800	30,700	46,400	15,400	7,990	7,820
10	8,680	22,600	12,900	12,800	11,800	13,400	22,800	31,300	39,600	15,000	7,930	7,820
11	8,510	21,900	13,000	12,900	11,900	13,200	23,300	33,400	37,000	14,700	7,890	7,820
12	8,180	22,400	13,100	12,900	12,000	12,900	23,400	36,000	37,300	14,500	7,840	7,790
13	7,900	21,400	13,300	11,500	12,000	14,900	23,200	37,900	37,700	14,400	7,810	7,780
14	7,900	22,600	13,400	11,700	12,000	17,800	22,500	38,900	35,900	14,100	7,780	7,780
15	7,930	22,700	13,600	11,500	11,800	18,800	22,300	39,500	32,300	13,700	7,750	7,780
16	7,940	22,300	13,900	11,400	11,800	18,100	22,100	40,200	28,700	13,400	7,740	7,770
17	8,010	20,200	13,800	11,600	12,000	17,400	22,600	41,400	27,100	12,800	7,700	7,780
18	8,040	18,800	13,200	13,400	12,200	17,300	22,400	43,500	26,600	12,100	7,680	7,780
19	8,100	17,500	12,500	12,800	12,300	17,900	22,800	45,700	27,600	11,900	7,650	7,820
20	8,280	16,300	12,300	13,500	12,300	18,900	23,000	46,600	29,000	11,800	7,640	7,860
21	8,440	15,500	12,200	13,800	12,600	19,300	22,900	46,500	30,200	11,900	7,640	7,910
22	8,560	15,000	12,500	13,000	13,400	19,300	22,500	46,000	29,100	12,000	7,670	7,990
23	8,640	15,000	12,600	12,700	13,500	18,800	22,200	45,000	28,000	11,900	7,720	8,080
24	8,660	15,100	12,800	12,600	13,100	18,000	22,000	42,300	27,200	11,900	7,750	8,230
25	8,540	14,900	13,000	12,600	12,900	18,500	22,100	36,800	26,000	11,800	7,760	8,400
26	8,490	14,700	13,100	12,500	12,800	20,000	22,500	31,900	25,300	11,700	7,750	8,710
27	8,440	14,600	13,200	12,300	12,700	20,300	23,100	30,300	22,500	11,600	7,730	9,140
28	8,450	14,400	13,300	12,200	12,700	21,100	23,800	29,600	21,000	11,500	7,700	9,410
29	8,500	14,000	13,300	12,000	---	22,600	24,700	30,100	20,300	11,100	7,680	9,590
30	8,540	13,400	13,100	12,000	---	24,000	26,400	30,800	19,900	10,800	7,650	9,730
31	8,400	---	12,800	12,000	---	23,900	---	29,900	---	10,600	7,640	---
Total	260,340	474,250	404,700	388,900	344,300	518,700	690,700	1,132,700	957,400	436,200	250,060	242,410
Mean	8,398	15,810	13,050	12,550	12,300	16,730	23,020	36,540	31,910	14,070	8,066	8,080
Max	8,680	23,400	13,900	13,800	13,500	24,000	26,400	46,600	50,100	19,600	10,400	9,730
Min	7,900	8,260	12,200	11,400	11,800	12,300	22,000	29,600	19,900	10,600	7,640	7,640
Ac-ft	516,400	940,700	802,700	771,400	682,900	1,029,000	1,370,000	2,247,000	1,899,000	865,200	496,000	480,800
Cfsm	0.42	0.79	0.65	0.63	0.62	0.84	1.15	1.83	1.60	0.71	0.40	0.40
In.	0.49	0.88	0.75	0.72	0.64	0.97	1.29	2.11	1.78	0.81	0.47	0.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,490	11,510	12,060	11,960	11,830	11,910	19,370	44,120	54,080	25,380	10,940	9,579
Max	23,550	21,170	27,630	22,320	30,070	31,390	47,830	89,760	101,600	76,930	24,840	16,920
(WY)	(1960)	(1928)	(1996)	(1934)	(1996)	(1996)	(1934)	(1928)	(1948)	(1916)	(1916)	(1985)
Min	4,760	4,588	4,075	3,344	3,940	4,636	6,112	13,010	13,560	7,843	5,656	4,768
(WY)	(1932)	(1937)	(1937)	(1937)	(1937)	(1937)	(1937)	(1941)	(1977)	(1940)	(1988)	(1931)

12389000 CLARK FORK NEAR PLAINS, MT—Continued

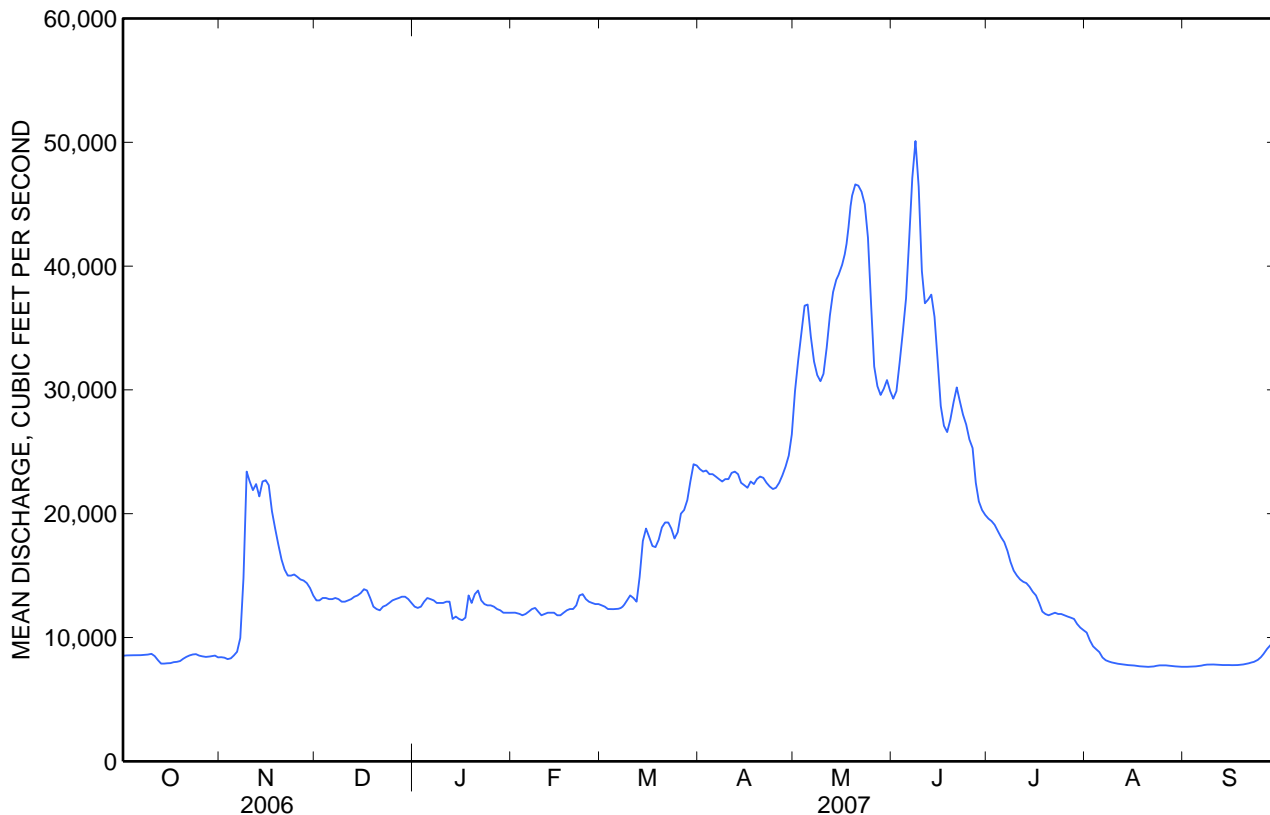
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1911 - 2007	
Annual total	7,110,430		6,100,660			
Annual mean	19,480		16,710		19,450	
Highest annual mean					29,420	1996
Lowest annual mean					8,845	1941
Highest daily mean	74,200	May 22	50,100	Jun 8	133,000	May 31, 1948
Lowest daily mean	6,450	Sep 13	^a 7,640	Aug 20	^b 3,200	Feb 8, 1936
Annual seven-day minimum	6,530	Sep 9	7,650	Aug 29	3,250	Jan 11, 1937
Maximum peak flow			50,100	Jun 8	134,000	Jun 5, 1948
Maximum peak stage			10.95	Jun 8	19.17	Jun 5, 1948
Instantaneous low flow					^c 3,200	Dec 10, 1940
Annual runoff (ac-ft)	14,100,000		12,100,000		14,090,000	
Annual runoff (cfsm)	0.976		0.837		0.974	
Annual runoff (inches)	13.25		11.37		13.24	
10 percent exceeds	45,100		31,200		44,100	
50 percent exceeds	13,400		13,000		13,100	
90 percent exceeds	7,110		7,820		6,540	

^a August 20, 21, and August 31 to September 2.

^b Estimated during period of ice-affected gage-height record.

^c Gage height, 2.85 ft.



Water-Data Report 2007

12389500 THOMPSON RIVER NEAR THOMPSON FALLS, MT

Pend Oreille Basin
Lower Clark Fork Subbasin

LOCATION.--Lat 47°35'31", long 115°13'43" referenced to North American Datum of 1927, in NW ¼ NE ¼ SE ¼ sec.7, T.21 N., R.28 W., Sanders County, MT, Hydrologic Unit 17010213, Lolo National Forest, on right bank 1.2 mi upstream from mouth and 5.5 mi east of Thompson Falls.

DRAINAGE AREA.--642 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March to September 1911, October 1911 to September 1916 (occasional gage heights, discharges, and discharge measurements), April 1956 to current year. Records for January and February 1911, published in Water Supply Paper (WSP) 916, have been found to be unreliable and should not be used.

REVISED RECORDS.-- Water Supply Paper 1246: 1911. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 2,429.97 ft, referenced to the National Geodetic Vertical Datum of 1929 (Bureau of Public Roads bench mark). October 1911 to September 1916, nonrecording gage at site 0.2 mi upstream at different elevation.

REMARKS.--Records are good. Minor diversions occur upstream from station for irrigation, acreage unknown. Diversion from headwaters of Alder Creek in SW¼ sec.16, T.23 N., R.25 W., supplement water supply for storage in Upper Dry Fork Reservoir in the Little Bitterroot River basin. 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 in May to June 1948 reached a discharge of 6,190 ft³/s, by slope-area measurement of peak flow at site 0.2 mi downstream.

12389500 THOMPSON RIVER NEAR THOMPSON FALLS, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	155	138	210	179	148	172	758	923	526	251	147	133
2	155	140	219	205	145	154	719	988	535	243	147	130
3	154	150	212	241	134	169	674	1,050	546	236	145	127
4	153	166	212	243	148	170	639	1,000	546	230	143	126
5	152	189	216	231	151	171	612	911	550	225	143	124
6	152	239	209	230	155	175	581	824	545	221	143	124
7	152	521	207	215	156	188	563	766	524	215	141	123
8	151	620	200	223	153	227	567	760	486	211	141	124
9	151	437	201	215	157	256	625	860	457	210	141	124
10	151	344	199	218	161	258	681	986	455	206	140	124
11	151	e300	197	174	164	276	669	1,010	444	202	138	124
12	151	e275	205	129	165	599	640	1,020	426	198	137	122
13	149	277	212	154	161	1,230	606	1,070	407	195	138	122
14	149	267	225	147	159	1,080	585	1,060	388	191	137	122
15	151	248	274	144	162	879	581	973	369	188	135	121
16	154	259	278	163	181	761	581	911	364	186	135	123
17	157	257	201	161	179	679	601	911	362	182	136	123
18	152	243	162	157	194	714	623	937	364	185	134	124
19	155	231	173	160	198	830	637	927	348	188	133	130
20	163	251	187	163	214	931	611	878	333	182	135	130
21	159	280	190	159	209	944	580	823	320	175	142	129
22	153	292	189	161	200	877	560	766	310	170	140	127
23	152	286	184	167	194	810	551	693	298	167	136	128
24	149	281	184	166	185	768	557	652	290	162	133	132
25	149	273	188	163	182	870	598	644	290	161	132	131
26	149	245	202	157	181	1,060	658	602	285	159	130	129
27	147	251	213	151	176	1,050	683	578	275	159	130	129
28	147	235	208	141	178	965	725	595	269	156	129	129
29	149	211	199	142	---	869	830	571	261	153	128	129
30	152	199	179	142	---	811	900	546	256	150	129	128
31	137	---	175	147	---	778	---	527	---	149	128	---
Total	4,701	8,105	6,310	5,448	4,790	19,721	19,195	25,762	11,829	5,906	4,246	3,791
Mean	152	270	204	176	171	636	640	831	394	191	137	126
Max	163	620	278	243	214	1,230	900	1,070	550	251	147	133
Min	137	138	162	129	134	154	551	527	256	149	128	121
Ac-ft	9,320	16,080	12,520	10,810	9,500	39,120	38,070	51,100	23,460	11,710	8,420	7,520
Cfs/m	0.24	0.42	0.32	0.27	0.27	0.99	1.00	1.29	0.61	0.30	0.21	0.20
In.	0.27	0.47	0.37	0.32	0.28	1.14	1.11	1.49	0.69	0.34	0.25	0.22

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	179	196	203	203	246	350	756	1,273	984	392	231	188
Max	343	501	880	719	1,226	1,344	1,674	3,154	2,369	724	382	288
(WY)	(1960)	(1996)	(1996)	(1974)	(1996)	(1972)	(1996)	(1997)	(1974)	(1974)	(1997)	(1997)
Min	112	115	101	109	103	120	238	374	244	140	113	105
(WY)	(1995)	(1988)	(1993)	(2004)	(1994)	(1964)	(1977)	(1977)	(1977)	(1977)	(1977)	(1994)

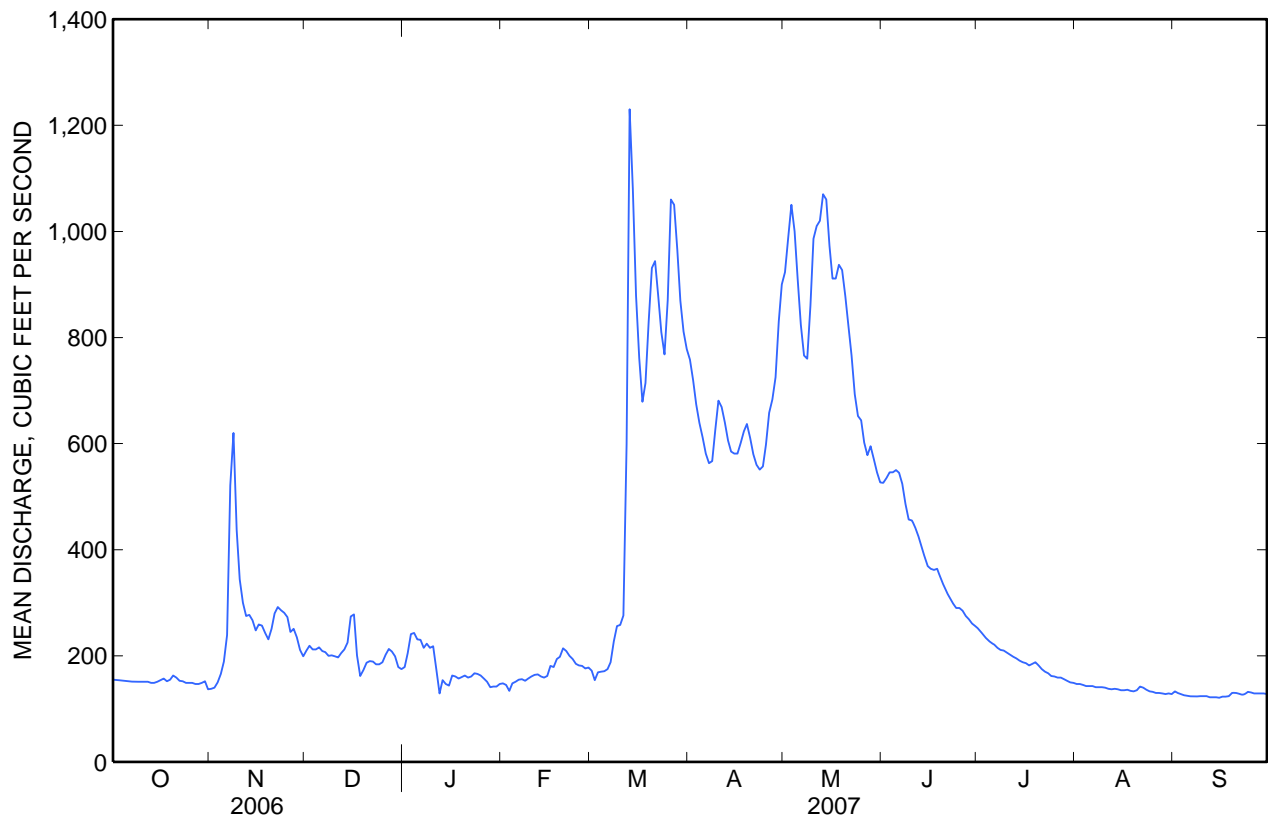
12389500 THOMPSON RIVER NEAR THOMPSON FALLS, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1957 - 2007	
Annual total	160,306		119,804			
Annual mean	439		328		434	
Highest annual mean					804 1997	
Lowest annual mean					176 1977	
Highest daily mean	2,230	May 20	1,230	Mar 13	5,360	Jun 9, 1964
Lowest daily mean	100	Feb 18	121	Sep 15	55	Dec 18, 2005
Annual seven-day minimum	138	Jan 3	122	Sep 11	73	Dec 31, 1994
Maximum peak flow			1,280	Mar 13	6,080	Jun 9, 1964
Maximum peak stage			4.37	Mar 13	8.53	Jun 9, 1964
Instantaneous low flow			^a 111	Feb 3	^b 48	Dec 4, 1992
Annual runoff (ac-ft)	318,000		237,600		314,300	
Annual runoff (cfsm)	0.684		0.511		0.676	
Annual runoff (inches)	9.29		6.94		9.18	
10 percent exceeds	1,130		772		1,050	
50 percent exceeds	216		199		232	
90 percent exceeds	152		132		130	

^a Gage height, 2.32 ft.

^b Gage height, 2.02 ft, result of freezeup.



Water-Data Report 2007

12390000 THOMPSON FALLS RESERVOIR AT THOMPSON FALLS, MT

Pend Oreille Basin
Lower Clark Fork Subbasin

LOCATION.--Lat 47°35'42", long 115°21'36" referenced to North American Datum of 1927, in NE ¼ sec.7, T.21 N., R.29 W., Sanders County, MT, Hydrologic Unit 17010213, at dam on Clark Fork at Thompson Falls, at river mile 208.0.

DRAINAGE AREA.--20,968 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Elevation of gage is 2,380 ft, referenced to National Geodetic Vertical Datum of 1929. Nonrecording gage is read several times daily but only midnight readings supplied.

COOPERATION.--Records furnished by PPL EnergyPlus, LLC.

REMARKS.--Reservoir is formed by two concrete dams, first generator installed July 1915. Usable capacity is 14,970 acre-ft between elevation 2,380.0 ft, spillway crest, and 2,396.0 ft, top of flashboards. Dead storage is unknown. Figures given herein represent usable contents. Water is used for power development and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum monthend contents observed, 16,420 acre-ft, May 12, 1997, elevation, 2,396.95 ft; no storage July 31, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 16,000 acre-ft, June 25, elevation, 2,396.67 ft; minimum observed, 13,930 acre-ft, Nov. 30, elevation, 2,395.28 ft.

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

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2,395.80	14,680	--
October 31	2,395.83	14,720	+40
November 30	2,395.28	13,930	-790
December 31	2,395.75	14,610	+680
Calendar Year 2006	--	--	+30
January 31	2,395.81	14,690	+80
February 28	2,395.84	14,740	+50
March 31	2,396.47	15,680	+940
April 30	2,396.38	15,540	-140
May 31	2,396.39	15,560	+20
June 30	2,395.95	14,900	-660
July 31	2,395.86	14,770	-130
August 31	2,395.90	14,820	+50
September 30	2,395.87	14,780	-40
Water Year 2007	--	--	+100

Water-Data Report 2007

12390700 PROSPECT CREEK AT THOMPSON FALLS, MT

Pend Oreille Basin
Lower Clark Fork Subbasin

LOCATION.--Lat 47°35'10", long 115°21'15" referenced to North American Datum of 1927, in SE ¼ SE ¼ SE ¼ sec.7, T.21 N., R.29 W., Sanders County, MT, Hydrologic Unit 17010213, lot 12, on right bank 500 ft downstream from Dry Creek, 0.5 mi upstream from mouth, and 0.7 mi south of Thompson Falls.

DRAINAGE AREA.--182 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1956 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,382.40 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. 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 temperature and specific conductance were made during the year.

12390700 PROSPECT CREEK AT THOMPSON FALLS, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	43	35	159	108	83	169	593	664	346	108	67	52
2	43	34	151	109	81	161	551	719	363	105	66	51
3	43	37	142	129	80	156	507	735	370	102	65	49
4	42	38	137	137	79	152	468	676	369	100	65	49
5	42	41	135	140	79	150	433	597	366	98	65	48
6	41	48	128	145	78	149	406	531	348	97	65	48
7	41	233	124	141	77	152	392	490	320	94	64	47
8	41	613	121	139	78	165	400	504	285	92	64	47
9	40	406	118	136	79	196	437	623	259	91	63	46
10	40	310	115	137	79	236	468	727	260	90	62	46
11	40	274	113	e110	80	260	461	737	245	88	62	45
12	39	237	118	e80	81	581	441	764	226	87	61	45
13	39	229	126	e85	81	1,290	411	811	212	85	59	44
14	38	209	135	e90	81	1,030	394	750	198	83	59	44
15	38	188	173	e90	85	817	388	664	187	82	58	43
16	39	204	187	e95	95	683	382	631	181	81	58	43
17	38	192	e170	e100	97	604	392	665	175	79	58	43
18	37	180	e120	106	112	624	399	701	174	82	57	43
19	38	169	e100	104	160	732	393	675	161	81	57	43
20	39	186	e110	103	212	810	379	623	151	79	58	43
21	37	219	e120	99	223	821	362	562	143	77	58	43
22	37	249	e130	97	215	743	347	494	136	76	57	41
23	36	256	e135	96	206	657	335	442	131	75	56	44
24	36	251	137	94	194	605	348	414	128	75	55	43
25	36	240	135	92	187	769	388	398	128	74	54	41
26	35	222	133	91	184	1,070	430	372	124	72	53	40
27	35	212	130	89	179	983	448	377	118	71	53	40
28	35	192	125	87	174	842	482	387	114	70	52	39
29	36	176	119	86	---	736	567	366	112	69	51	39
30	37	165	115	85	---	662	636	343	111	69	51	39
31	35	---	112	84	---	616	---	334	---	68	51	---
Total	1,196	6,045	4,073	3,284	3,439	17,621	13,038	17,776	6,441	2,600	1,824	1,328
Mean	38.6	202	131	106	123	568	435	573	215	83.9	58.8	44.3
Max	43	613	187	145	223	1,290	636	811	370	108	67	52
Min	35	34	100	80	77	149	335	334	111	68	51	39
Ac-ft	2,370	11,990	8,080	6,510	6,820	34,950	25,860	35,260	12,780	5,160	3,620	2,630
Cfs/m	0.21	1.11	0.72	0.58	0.67	3.12	2.39	3.15	1.18	0.46	0.32	0.24
In.	0.24	1.24	0.83	0.67	0.70	3.60	2.66	3.63	1.32	0.53	0.37	0.27

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

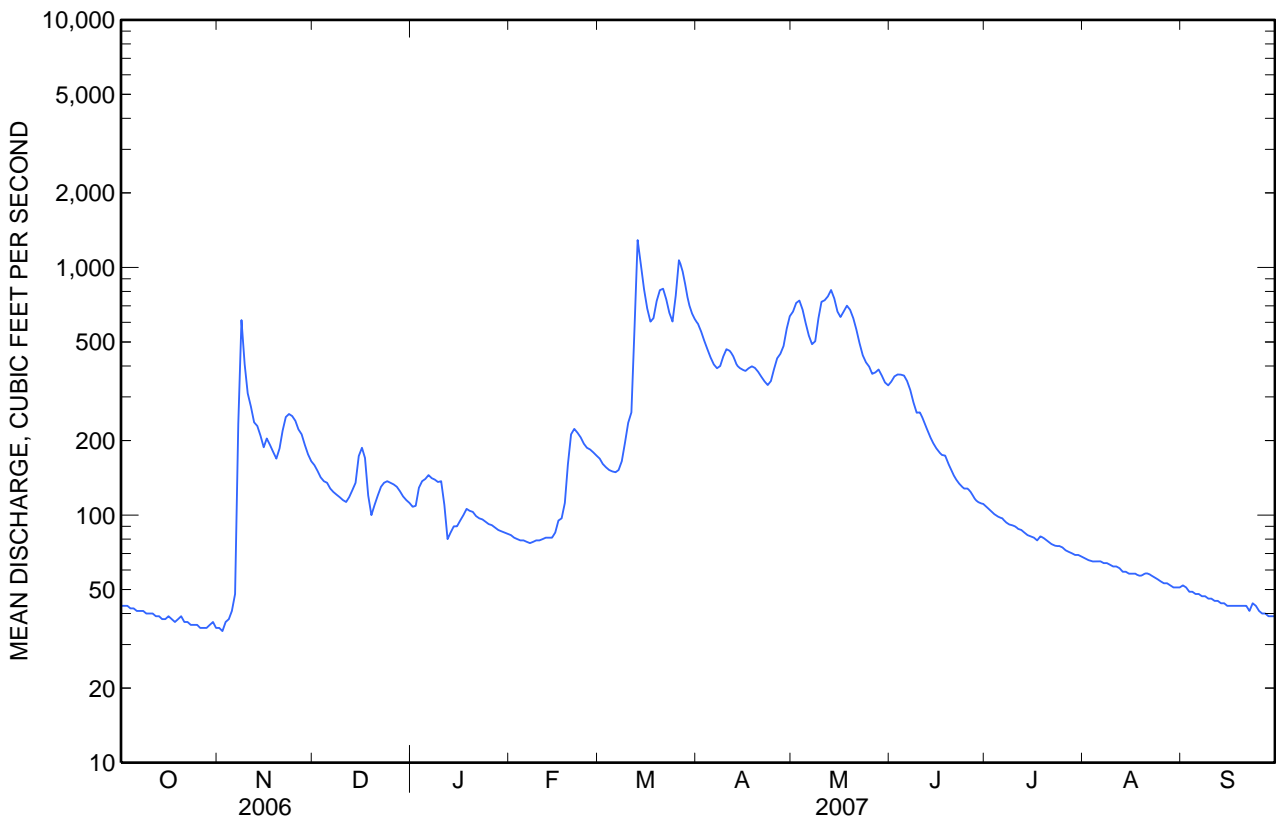
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	53.5	80.7	112	118	157	224	473	770	517	157	81.8	60.4
Max	168	469	701	735	875	828	877	1,425	1,468	317	109	79.9
(WY)	(1960)	(1996)	(1996)	(1974)	(1996)	(1972)	(1969)	(1997)	(1974)	(1997)	(1982)	(1959)
Min	28.7	28.8	29.9	29.1	26.4	31.8	84.5	297	142	73.7	48.5	35.8
(WY)	(2002)	(2002)	(1988)	(2001)	(2001)	(2001)	(2001)	(1977)	(1987)	(1977)	(1977)	(2001)

12390700 PROSPECT CREEK AT THOMPSON FALLS, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1957 - 2007	
Annual total	84,173		78,665			
Annual mean	231		216		234	
Highest annual mean					441	1974
Lowest annual mean					85.8	2001
Highest daily mean	1,290	May 18	1,290	Mar 13	4,960	Jan 16, 1974
Lowest daily mean	34	Nov 2	34	Nov 2	25	Feb 19, 2001
Annual seven-day minimum	35	Oct 27	35	Oct 27	25	Feb 27, 2001
Maximum peak flow			1,430	Mar 13	5,490	Jan 16, 1974
Maximum peak stage			5.10	Mar 13	9.86	Jan 16, 1974
Instantaneous low flow			^a 34	Nov 1	22	Feb 8, 2001
Annual runoff (ac-ft)	167,000		156,000		169,300	
Annual runoff (cfsm)	1.27		1.18		1.28	
Annual runoff (inches)	17.20		16.08		17.45	
10 percent exceeds	570		604		629	
50 percent exceeds	138		119		101	
90 percent exceeds	43		41		43	

^a Gage height, 0.54 ft.



Water-Data Report 2007

12391300 NOXON RAPIDS RESERVOIR NEAR NOXON, MT

Pend Oreille Basin
Lower Clark Fork Subbasin

LOCATION.--Lat 47°57'38", long 115°44'00" referenced to North American Datum of 1927, in NE ¼ SW ¼ SW ¼ sec.33, T.26 N., R.32 W., Sanders County, MT, Hydrologic Unit 17010213, at dam on Clark Fork, 3 mi southeast of Noxon, 7.2 mi upstream from Bull River, and at river mile 169.7.

DRAINAGE AREA.--21,833 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1959 to current year.

REMARKS.--Reservoir is formed by concrete and earthfill dam, construction began in 1955, completed in 1959. Storage began Apr. 3, 1959. Usable capacity, 334,600 acre-ft between elevation 2,270.00 ft, minimum operating level, and 2,331.00 ft. Prior to October 1962, published as "Noxon Reservoir." Records of daily elevation are on file at USGS Water Science Center located in Helena, Montana. Water-stage recorder, midnight readings. Elevation of gage is 2,270 ft, referenced to the National Geodetic Vertical Datum of 1929. Figures given herein represent usable contents. Water is used for power production, flood control, and recreation. Records furnished by the Avista Corporation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 335,400 acre-ft, Apr. 7, 1960, elevation, 2,331.10 ft; minimum since first filling, 26,380 acre-ft, May 10, 1967, elevation, 2,277.15 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 332,600 acre-ft, June 4, elevation, 2,330.75 ft; minimum, 292,900 acre-ft, Feb. 2, elevation, 2,325.56 ft.

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

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2329.58	323,400	--
October 31	2328.72	316,800	-6,600
November 30	2328.93	318,400	+1,600
December 31	2329.71	324,400	+6,000
Calendar Year 2006			-200
January 31	2326.84	302,500	-21,900
February 28	2329.85	325,500	+23,000
March 31	2329.40	322,000	-3,500
April 30	2328.98	318,800	-3,200
May 31	2330.43	330,100	+11,300
June 30	2329.15	320,100	-10,000
July 31	2329.28	321,100	+1,000
August 31	2329.17	320,300	-800
September 30	2329.25	320,900	+600
Water Year 2007			-2,500

Water-Data Report 2007

12391400 CLARK FORK BELOW NOXON RAPIDS DAM, NEAR NOXON, MT

Pend Oreille Basin
Lower Clark Fork Subbasin

LOCATION.--Lat 47°57'40", long 115°43'58" referenced to North American Datum of 1927, in SW ¼ sec.33, T.26 N., R.32 W., Sanders County, MT, Hydrologic Unit 17010213, at Noxon Rapids Dam, 1 mi upstream from Rock Creek, 3 mi southeast of Noxon, and at river mile 169.7.

DRAINAGE AREA.--21,833 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1960 to current year.

GAGE.--Plant generator rating or discharge through powerplant. Water-stage recorder on reservoir determines head on taintor gates. Elevation of gage is 2,320 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by The Washington Water Power Co.).

COOPERATION.--Records are collected by the Avista Corporation, under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

REMARKS.--Records are good. Flow is regulated by Hungry Horse Reservoir (station 12362000) and Flathead Lake (station 12371500). Diversions for irrigation include about 350,000 acres upstream from station. Some sub-surface flow is indicated by comparison with records for adjacent gaging stations. Figures of discharge given herein are combined flows through turbines and spillway. Several unpublished observations of water temperature and specific conductance were made during the year.

12391400 CLARK FORK BELOW NOXON RAPIDS DAM, NEAR NOXON, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,090	7,900	16,500	13,600	17,000	15,400	26,900	32,700	30,500	16,300	12,500	6,530
2	9,940	11,600	14,200	12,100	13,900	13,900	26,700	34,500	31,900	20,600	11,900	6,840
3	10,000	12,200	12,700	13,900	8,410	14,900	26,800	38,700	34,800	20,700	10,800	10,000
4	8,930	5,060	12,900	16,900	8,740	14,300	28,000	38,700	37,100	18,400	5,740	7,430
5	11,700	5,560	13,300	18,300	11,500	14,000	25,400	39,000	40,800	19,900	8,090	8,130
6	11,300	10,500	13,500	8,800	11,100	15,800	26,700	38,400	44,700	21,200	9,880	8,120
7	4,360	13,900	15,400	11,400	14,500	13,000	24,600	35,100	51,000	15,900	7,490	7,220
8	5,930	17,000	16,600	14,100	15,100	14,800	25,100	32,900	52,300	12,500	6,340	6,590
9	10,400	20,200	11,500	12,400	12,700	13,700	26,000	34,000	44,200	18,600	7,990	7,270
10	10,600	26,000	10,800	13,500	6,060	8,460	25,700	35,600	42,100	16,200	9,020	10,000
11	9,850	26,600	13,600	17,400	6,830	14,300	25,600	37,000	40,400	15,700	6,870	6,310
12	11,400	20,300	16,200	14,600	11,200	14,000	25,800	39,800	40,500	16,800	4,820	8,950
13	9,510	22,800	13,600	9,450	13,700	22,500	27,600	39,700	40,300	18,200	7,720	9,200
14	4,660	24,500	14,100	11,300	16,900	24,000	24,800	42,500	40,200	11,700	10,600	6,780
15	4,510	26,100	14,900	14,200	14,300	26,600	24,000	42,200	35,900	10,200	8,660	6,810
16	8,390	23,400	13,000	13,800	12,600	23,600	27,000	43,300	29,000	15,300	8,880	4,100
17	9,370	22,100	13,000	10,200	7,390	20,000	23,800	45,100	25,900	10,600	11,700	8,730
18	8,330	16,300	16,900	10,900	12,200	20,500	24,600	48,300	29,200	13,400	5,640	7,140
19	12,400	18,100	16,700	11,800	14,700	23,100	25,100	49,900	30,900	13,800	5,540	8,680
20	6,660	19,700	14,100	8,510	14,500	23,400	28,000	50,700	29,400	12,400	6,720	9,790
21	6,440	16,100	14,300	13,100	13,600	25,600	21,800	50,300	29,700	9,720	8,360	9,570
22	10,500	19,300	14,000	13,600	15,000	22,100	23,600	49,900	29,600	13,200	8,280	6,450
23	10,100	12,000	5,770	14,200	15,800	23,900	25,500	48,200	28,200	15,300	7,560	6,500
24	8,680	11,400	14,800	16,600	10,900	22,000	25,700	47,000	29,500	10,500	7,670	7,870
25	9,630	17,100	11,300	19,800	13,200	19,400	26,300	48,700	29,200	11,900	8,680	10,400
26	9,240	14,000	13,400	20,800	12,800	24,500	26,100	33,600	25,600	12,800	5,740	11,800
27	7,980	14,300	15,300	13,300	14,200	25,100	26,200	30,000	23,900	14,800	7,510	11,800
28	6,100	16,800	15,400	14,900	13,700	26,400	23,700	34,500	25,100	7,590	5,300	11,600
29	6,730	17,500	17,000	14,700	---	27,100	26,500	33,600	22,100	11,400	9,920	8,070
30	12,100	15,000	11,300	9,910	---	27,100	29,700	35,900	15,900	11,800	10,600	11,800
31	9,330	---	11,400	11,300	---	26,700	---	32,200	---	10,800	8,220	---
Total	270,160	503,320	427,470	419,370	352,530	620,160	773,300	1,242,000	1,009,900	448,210	254,740	250,480
Mean	8,715	16,780	13,790	13,530	12,590	20,010	25,780	40,060	33,660	14,460	8,217	8,349
Max	12,400	26,600	17,000	20,800	17,000	27,100	29,700	50,700	52,300	21,200	12,500	11,800
Min	4,360	5,060	5,770	8,510	6,060	8,460	21,800	30,000	15,900	7,590	4,820	4,100
Ac-ft	535,900	998,300	847,900	831,800	699,200	1,230,000	1,534,000	2,464,000	2,003,000	889,000	505,300	496,800

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11,450	13,090	14,080	14,100	14,840	16,040	22,590	40,530	49,670	22,670	10,500	10,060
Max	16,160	19,890	31,480	22,230	34,640	33,700	46,450	88,150	92,590	40,730	17,720	16,410
(WY)	(1976)	(1996)	(1996)	(1974)	(1996)	(1996)	(1996)	(1997)	(1974)	(1982)	(1997)	(1985)
Min	6,172	6,830	8,606	7,141	6,185	6,925	4,873	14,460	13,400	8,330	5,350	4,838
(WY)	(1961)	(2002)	(2002)	(2003)	(2001)	(2001)	(1977)	(1973)	(1977)	(1977)	(1988)	(1973)

12391400 CLARK FORK BELOW NOXON RAPIDS DAM, NEAR NOXON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1960 - 2007	
Annual total	7,611,640		6,571,640			
Annual mean	20,850		18,000		19,970	
Highest annual mean					31,870	1996
Lowest annual mean					11,170	1977
Highest daily mean	80,500	May 22	52,300	Jun 8	125,000	Jun 12, 1964
Lowest daily mean	4,250	Sep 10	4,100	Sep 16	60	Jan 29, 1989
Annual seven-day minimum	6,050	Sep 8	7,110	Aug 18	2,250	Aug 30, 1963
Annual runoff (ac-ft)	15,100,000		13,030,000		14,470,000	
10 percent exceeds	49,600		34,500		40,200	
50 percent exceeds	14,200		14,200		14,900	
90 percent exceeds	7,020		7,410		7,240	

