

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	163	184	105	128	132	152	176	1,040	681	381	112	67
2	191	237	103	125	e133	137	202	849	742	374	108	66
3	170	215	101	125	134	139	224	698	888	360	104	65
4	151	193	e85	122	132	139	235	604	821	335	101	64
5	140	178	102	117	131	135	249	561	1,070	316	100	62
6	130	171	99	122	127	138	293	561	938	307	91	62
7	131	163	e79	144	121	140	468	601	822	319	89	62
8	133	156	e85	157	121	138	676	628	971	292	87	64
9	132	149	e95	150	116	135	716	585	946	272	87	64
10	127	144	e100	154	105	130	721	533	848	261	87	65
11	124	145	93	172	114	124	652	498	790	251	93	81
12	122	147	89	173	128	118	601	504	722	241	94	82
13	119	145	96	164	121	119	571	517	688	233	91	82
14	117	143	86	168	116	123	563	516	783	218	88	89
15	114	136	93	187	124	e123	622	551	1,120	206	85	97
16	112	132	91	174	102	e122	673	696	2,270	196	82	95
17	113	132	84	174	58	e121	562	942	2,140	189	83	96
18	123	129	74	171	77	120	484	1,150	1,570	183	81	94
19	124	126	71	158	141	e119	440	1,270	1,200	177	77	92
20	176	123	78	153	133	117	429	1,280	1,010	169	75	95
21	192	122	103	149	131	119	467	1,310	902	162	72	108
22	184	120	117	142	128	117	582	1,230	805	155	71	108
23	173	117	147	141	119	121	658	1,280	721	150	70	100
24	163	115	141	140	121	127	589	1,200	647	145	68	96
25	154	114	143	134	144	144	551	1,070	593	139	68	93
26	148	114	142	132	108	149	540	987	544	133	68	89
27	148	115	142	131	115	148	562	862	494	129	66	88
28	144	112	e135	128	145	145	625	749	458	123	63	87
29	142	102	130	125	---	144	700	716	427	119	62	85
30	141	104	127	126	---	144	903	710	401	117	62	84
31	140	---	127	132	---	156	---	685	---	114	65	---
Total	4,441	4,283	3,263	4,518	3,377	4,103	15,734	25,383	27,012	6,766	2,550	2,482
Mean	143	143	105	146	121	132	524	819	900	218	82.3	82.7
Max	192	237	147	187	145	156	903	1,310	2,270	381	112	108
Min	112	102	71	117	58	117	176	498	401	114	62	62
Ac-ft	8,810	8,500	6,470	8,960	6,700	8,140	31,210	50,350	53,580	13,420	5,060	4,920
Cfs/m	0.33	0.32	0.24	0.33	0.27	0.30	1.19	1.86	2.05	0.50	0.19	0.19
In.	0.38	0.36	0.28	0.38	0.29	0.35	1.33	2.15	2.28	0.57	0.22	0.21

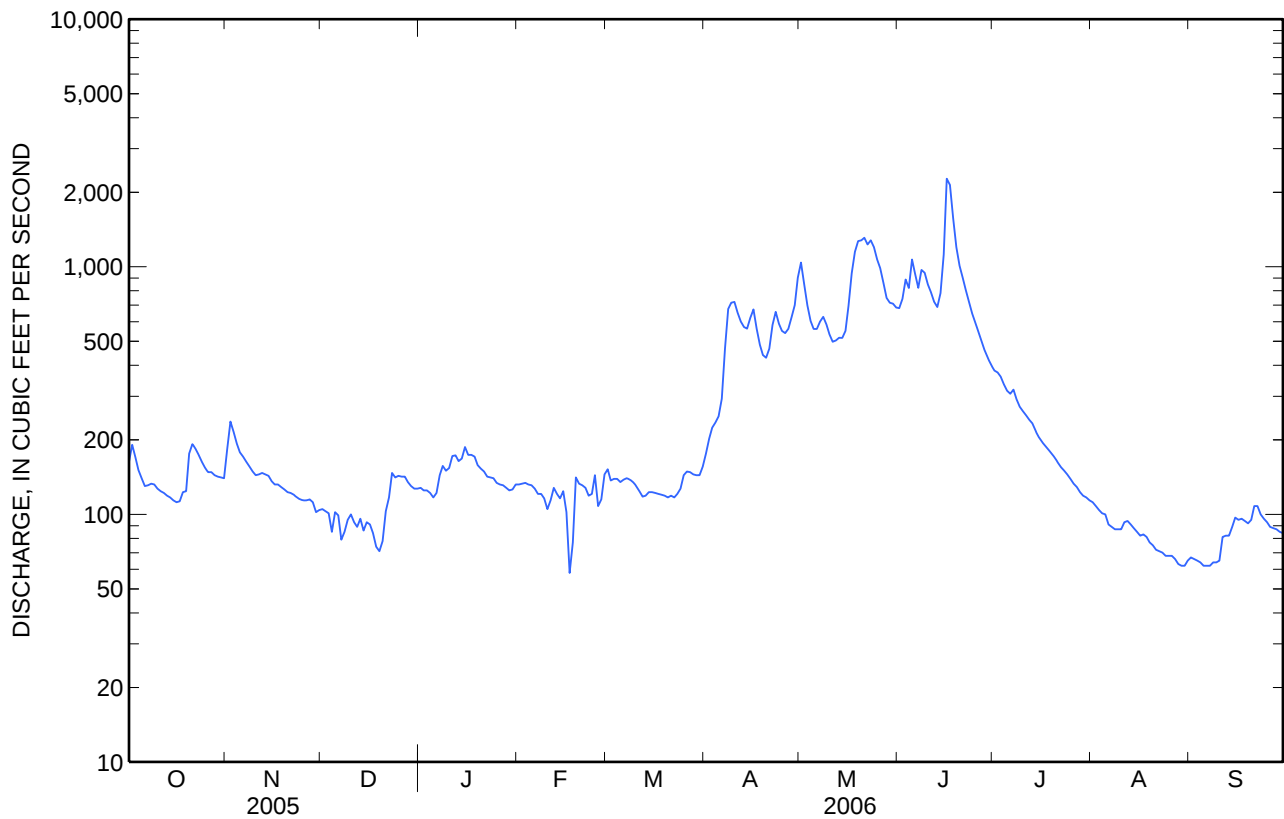
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	113	131	114	103	110	154	423	759	732	302	124	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 2005		Water Year 2006		Water Years 1959 - 2006	
Annual total	85,463		103,912			
Annual mean	234		285		265	
Highest annual mean					496	1996
Lowest annual mean					109	2001
Highest daily mean	888	Jun 9	2,270	Jun 16	2,510	May 13, 1991
Lowest daily mean	46	Sep 8	58	Feb 17	20	Jan 11, 1963
Annual seven-day minimum	48	Sep 3	63	Sep 3	23	Sep 6, 1988
Maximum peak flow			2,420	Jun 17	3,180	May 13, 1991
Maximum peak stage			6.15	Jun 17	7.16	May 13, 1991
Instantaneous low flow			^a 45	Feb 17	22	Feb 7, 2001
Annual runoff (ac-ft)	169,500		206,100		191,900	
Annual runoff (cfs)	0.532		0.647		0.602	
Annual runoff (inches)	7.23		8.79		8.18	
10 percent exceeds	541		721		698	
50 percent exceeds	163		139		132	
90 percent exceeds	82		84		67	

^a Gage height, 1.96 ft.

12301920 LAKE KOOCANUSA NEAR LIBBY, MTKootenai 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, 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 18, 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, 5,756,000 acre-ft, June 18, elevation, 2,459.17 ft; minimum, 3,484,000 acre-ft, Apr. 7, elevation, 2,403.52 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 2005 TO SEPTEMBER 2006
DAILY OBSERVATION AT 2400 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,436.93	2,445.82	2,433.85	2,411.75	2,412.29	2,411.18	2,404.00	2,415.34	2,450.24	2,456.90	2,452.96	2,442.82
2	2,437.32	2,445.87	2,433.04	2,411.61	2,412.33	2,411.17	2,403.93	2,416.68	2,450.64	2,457.08	2,452.71	2,442.54
3	2,437.76	2,445.89	2,432.17	2,411.45	2,412.33	2,411.17	2,403.83	2,417.77	2,451.54	2,457.15	2,452.44	2,442.36
4	2,438.01	2,445.89	2,431.40	2,411.36	2,412.28	2,411.12	2,403.72	2,418.66	2,452.55	2,457.22	2,452.12	2,442.15
5	2,438.22	2,445.89	2,430.44	2,411.31	2,412.28	2,411.12	2,403.61	2,419.41	2,453.48	2,457.22	2,451.81	2,442.00
6	2,438.47	2,445.82	2,429.32	2,411.30	2,412.28	2,411.12	2,403.57	2,420.28	2,454.17	2,457.25	2,451.50	2,441.81
7	2,438.67	2,445.75	2,428.15	2,411.34	2,412.26	2,410.85	2,403.56	2,421.18	2,454.84	2,457.38	2,451.19	2,441.62
8	2,438.89	2,445.66	2,427.08	2,411.41	2,412.24	2,410.62	2,403.79	2,422.10	2,455.70	2,457.44	2,450.82	2,441.45
9	2,439.07	2,445.54	2,426.24	2,411.43	2,412.26	2,410.32	2,404.14	2,423.08	2,456.58	2,457.46	2,450.53	2,441.24
10	2,439.24	2,445.48	2,425.60	2,411.56	2,412.21	2,410.06	2,404.46	2,423.87	2,457.05	2,457.46	2,450.24	2,441.04
11	2,439.40	2,445.34	2,425.00	2,411.66	2,412.17	2,409.88	2,404.86	2,424.60	2,457.35	2,457.44	2,449.95	2,440.84
12	2,439.60	2,445.24	2,424.05	2,411.75	2,412.07	2,409.58	2,405.26	2,425.40	2,457.51	2,457.38	2,449.66	2,440.63
13	2,439.72	2,445.13	2,422.90	2,411.80	2,412.00	2,409.30	2,405.54	2,426.24	2,457.61	2,457.29	2,449.42	2,440.40
14	2,439.95	2,444.68	2,421.90	2,411.91	2,412.00	2,409.00	2,405.87	2,426.99	2,457.47	2,457.18	2,449.15	2,440.26
15	2,440.02	2,444.14	2,421.12	2,411.96	2,411.93	2,408.68	2,406.37	2,427.66	2,457.94	2,457.03	2,448.84	2,440.11
16	2,440.15	2,443.55	2,420.54	2,412.07	2,411.82	2,408.36	2,406.90	2,428.29	2,458.69	2,456.84	2,448.50	2,439.92
17	2,440.30	2,442.96	2,420.10	2,412.12	2,411.77	2,407.99	2,407.20	2,429.23	2,459.06	2,456.62	2,448.15	2,439.75
18	2,440.90	2,442.22	2,419.80	2,412.14	2,411.67	2,407.77	2,407.50	2,431.04	2,459.10	2,456.38	2,447.85	2,439.61
19	2,441.56	2,441.70	2,419.00	2,412.14	2,411.57	2,407.53	2,407.80	2,433.35	2,458.62	2,456.14	2,447.52	2,439.40
20	2,442.30	2,441.16	2,418.14	2,412.19	2,411.42	2,407.31	2,408.08	2,435.85	2,458.02	2,455.88	2,447.19	2,439.16
21	2,442.90	2,440.38	2,417.20	2,412.24	2,411.31	2,406.93	2,408.45	2,438.34	2,457.47	2,455.60	2,446.81	2,439.03
22	2,443.30	2,439.83	2,416.41	2,412.19	2,411.31	2,406.58	2,408.87	2,440.56	2,456.94	2,455.30	2,446.56	2,438.92
23	2,443.72	2,439.20	2,415.93	2,412.19	2,411.31	2,406.23	2,409.34	2,442.64	2,456.58	2,454.96	2,446.10	2,438.56
24	2,444.14	2,438.56	2,415.40	2,412.26	2,411.26	2,405.96	2,409.75	2,444.36	2,456.44	2,454.75	2,445.73	2,438.36
25	2,444.53	2,437.86	2,414.80	2,412.24	2,411.24	2,405.61	2,410.11	2,446.05	2,456.31	2,454.38	2,445.32	2,438.12
26	2,444.83	2,437.20	2,414.30	2,412.24	2,411.15	2,405.30	2,410.59	2,447.42	2,456.22	2,454.23	2,444.96	2,437.97
27	2,445.00	2,436.52	2,413.83	2,412.24	2,411.12	2,405.03	2,411.12	2,448.33	2,456.30	2,454.08	2,444.57	2,437.73
28	2,445.26	2,435.87	2,413.37	2,412.24	2,411.10	2,404.78	2,411.83	2,448.95	2,456.48	2,453.88	2,444.30	2,437.55
29	2,445.47	2,435.25	2,412.82	2,412.24	---	2,404.64	2,412.70	2,449.35	2,456.59	2,453.68	2,443.92	2,437.45
30	2,445.75	2,434.55	2,412.40	2,412.24	---	2,404.39	2,413.83	2,449.60	2,456.73	2,453.42	2,443.43	2,437.38
31	2,445.86	---	2,412.07	2,412.30	---	2,404.21	---	2,449.92	---	2,453.20	2,443.07	---
Mean	2,441.20	2,442.30	2,421.56	2,411.90	2,411.82	2,408.19	2,407.02	2,432.02	2,456.14	2,456.07	2,448.30	2,440.01
Max	2,445.86	2,445.89	2,433.85	2,412.30	2,412.33	2,411.18	2,413.83	2,449.92	2,459.10	2,457.46	2,452.96	2,442.82
Min	2,436.93	2,434.55	2,412.07	2,411.30	2,411.10	2,404.21	2,403.56	2,415.34	2,450.24	2,453.20	2,443.07	2,437.38

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

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
5,154	4,669	3,787	3,795	3,751	3,508	3,852	5,334	5,634	5,482	5,032	4,788

CHANGE IN CONTENTS, IN ACRE-FEET

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
+398,000	-485,000	-882,000	+8,000	-44,000	-243,000	+344,000	+1,482,000	+309,000	-161,000	-450,000	-244,000
Calendar Year 2005		+49,000									
Water year 2006		+32,000									

Water-Data Report 2006

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, 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 is completely regulated by Lake Koocanusa since Mar. 21, 1972. Diversions for irrigation include about 13,000 acres from tributaries upstream from station in Canada and the United States. 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.--35 years, 11,060 ft³/s, 16.71 in/yr, 8,013,000 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, 54,000 ft³/s, June 18, gage height, 28.30 ft; minimum daily, 3,750 ft³/s, May 10.

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

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,130	9,260	20,600	9,970	4,020	4,030	6,710	3,830	24,600	19,000	14,100	12,700
2	5,610	9,280	20,600	8,030	4,020	3,990	6,720	3,830	24,500	19,000	14,000	10,800
3	4,920	9,280	20,700	7,090	4,040	4,000	6,640	3,820	24,500	18,900	14,000	8,990
4	4,620	9,280	20,800	6,220	4,050	4,010	6,600	3,840	24,400	18,700	14,000	8,920
5	4,620	9,280	24,500	5,560	4,070	4,010	6,650	3,790	24,400	18,500	14,000	8,980
6	4,600	9,270	26,500	4,910	4,050	4,010	6,610	3,820	24,300	18,700	14,100	8,960
7	4,570	9,280	26,600	4,380	4,060	7,640	6,590	3,810	24,300	18,600	14,000	8,980
8	4,690	9,430	26,700	3,920	4,060	9,210	4,080	3,810	26,300	17,300	14,000	9,000
9	4,690	9,730	21,200	3,920	4,060	9,230	3,940	3,780	34,200	17,300	13,900	8,990
10	4,690	9,800	15,900	3,930	4,060	9,180	4,110	3,750	37,200	17,300	13,800	8,940
11	4,690	9,780	15,800	3,970	4,040	7,690	4,330	3,830	37,300	17,300	13,900	9,000
12	4,710	9,770	23,800	4,050	4,040	7,210	4,340	3,860	37,000	17,300	13,900	8,990
13	4,700	9,760	26,800	4,050	4,030	8,540	4,110	3,840	36,900	17,300	13,900	8,960
14	4,740	16,100	25,500	4,050	4,040	9,450	3,940	4,590	37,400	17,400	14,000	8,950
15	4,770	19,900	20,800	4,050	4,040	9,460	3,910	8,770	37,500	17,400	13,900	8,930
16	4,770	19,800	15,100	4,050	4,040	9,480	3,870	18,200	40,400	17,400	14,000	8,950
17	4,730	19,900	12,400	4,050	4,040	9,410	3,910	25,100	50,600	17,400	14,000	8,960
18	4,670	20,000	9,970	4,240	4,040	7,220	4,010	24,200	53,100	17,300	14,000	8,970
19	4,700	20,000	17,800	4,040	4,030	7,220	4,150	22,200	52,800	17,300	14,000	9,040
20	4,690	20,100	20,800	4,040	4,030	8,600	3,880	23,800	51,600	17,200	14,000	9,040
21	4,680	20,200	20,900	4,040	4,020	9,510	3,900	23,600	47,000	17,200	14,100	8,950
22	4,640	20,000	20,100	4,040	4,000	9,630	3,900	25,000	41,600	17,300	14,100	8,920
23	4,630	19,500	15,700	4,040	4,000	9,580	3,880	25,400	36,100	17,400	14,200	8,910
24	4,620	20,200	15,600	4,050	4,000	9,600	3,880	25,200	30,900	17,400	14,200	8,950
25	4,660	20,300	15,700	4,060	3,970	9,590	3,890	24,900	29,700	17,000	14,200	8,960
26	4,650	20,400	15,700	4,110	4,000	9,570	3,880	25,000	28,600	14,100	14,200	8,970
27	4,660	20,400	15,700	4,080	4,120	9,560	3,860	24,800	24,700	14,100	14,200	8,870
28	4,630	19,600	15,500	4,070	4,040	7,630	3,860	24,800	23,600	14,000	14,200	7,960
29	4,630	20,500	15,600	4,080	---	7,540	3,850	24,700	23,700	13,900	14,200	7,040
30	4,610	20,600	13,800	4,030	---	7,590	3,860	24,700	23,400	13,900	14,300	6,120
31	8,220	---	12,000	4,000	---	6,670	---	24,700	---	14,000	14,200	---
Total	150,940	460,700	589,170	143,120	113,010	240,060	137,860	449,270	1,012,600	526,900	435,600	268,700
Mean	4,869	15,360	19,010	4,617	4,036	7,744	4,595	14,490	33,750	17,000	14,050	8,957
Max	8,220	20,600	26,800	9,970	4,120	9,630	6,720	25,400	53,100	19,000	14,300	12,700
Min	4,570	9,260	9,970	3,920	3,970	3,990	3,850	3,750	23,400	13,900	13,800	6,120
Ac-ft	299,400	913,800	1,169,000	283,900	224,200	476,200	273,400	891,100	2,008,000	1,045,000	864,000	533,000
Cfs/m	0.54	1.71	2.12	0.51	0.45	0.86	0.51	1.61	3.76	1.89	1.56	1.00
In.	0.62	1.91	2.44	0.59	0.47	0.99	0.57	1.86	4.19	2.18	1.80	1.11

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	12,940	14,640	15,050	13,080	10,470	6,044	5,133	6,810	12,580	11,680	11,110	10,390
Max	32,110	24,920	24,340	24,670	22,270	12,940	16,410	18,760	33,750	27,330	18,460	20,940
(WY)	(1973)	(1992)	(1991)	(1996)	(1990)	(1976)	(1996)	(1972)	(2006)	(1981)	(1976)	(1972)
Min	4,512	3,983	2,639	2,510	3,055	3,283	2,927	2,819	3,016	3,160	2,821	5,201
(WY)	(2004)	(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

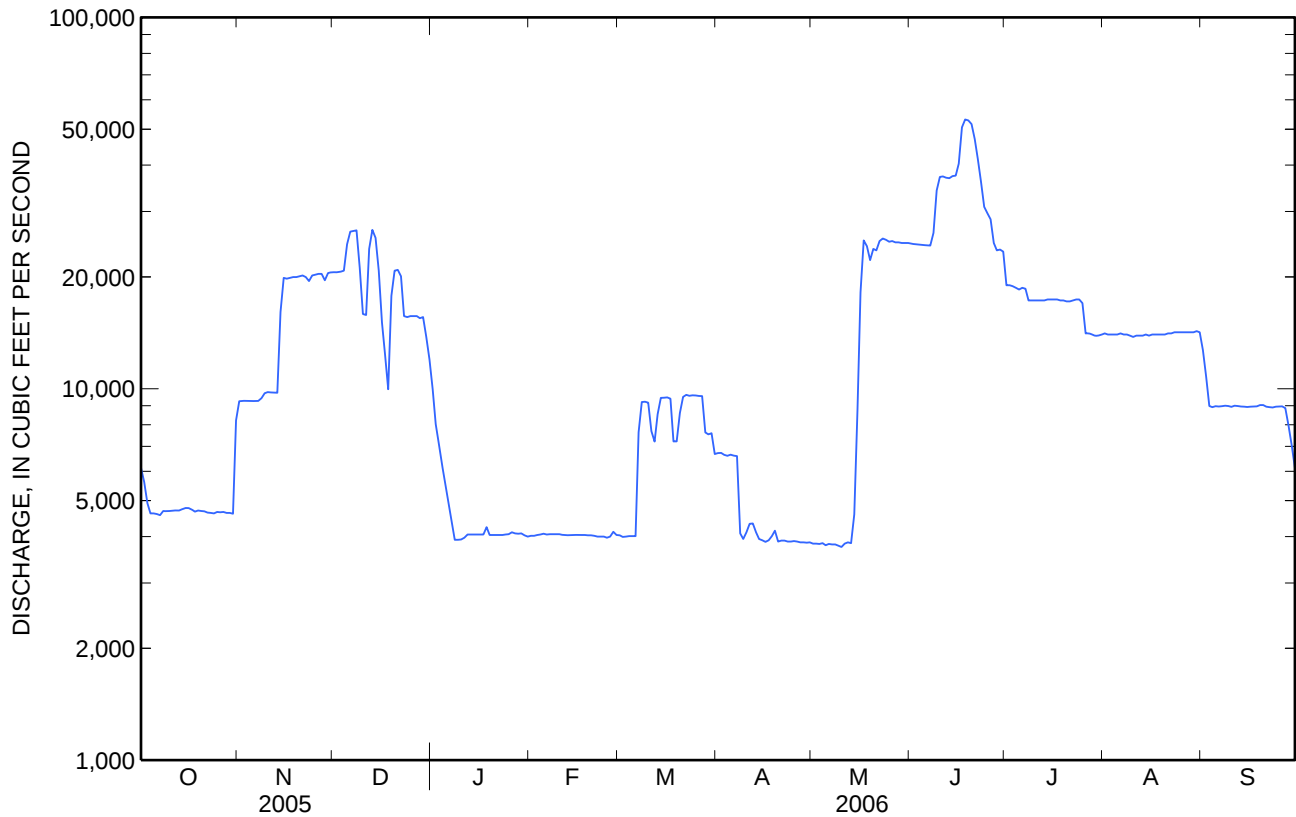
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11,340	7,206	4,668	4,747	3,245	3,793	10,380	35,590	38,940	14,380	6,733	4,857
Cfsm	1.26	.80	.50	.53	.36	.42	1.16	4.29	4.33	1.60	.75	.54
In	1.46	.89	.60	.61	.38	.49	1.29	4.95	4.84	1.84	.86	.60
Ac-ft	697,400	428,800	287,000	291,900	180,200	233,200	617,400	2,373,100	2,317,000	884,000	414,000	289,000

OBSERVED

Calendar Year 2005	Total	4,142,120	Mean	11,350	Max	26,800	Min	3,950	Ac-ft	8,216,000
Water Year 2006	Total	4,527,930	Mean	12,410	Max	53,100	Min	3,750	Ac-ft	8,981,000

ADJUSTED

Calendar year 2005	Total	4,167,129	Mean	11,420	Cfsm	1.27	In	17.25	Ac-ft	8,265,000
Water Year 2006	Total	4,543,988	Mean	12,450	Cfsm	1.39	In	18.81	Ac-ft	9,013,000



Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	134	132	118	e230	299	281	669	2,220	871	398	123	84
2	257	225	123	239	293	274	772	1,820	897	376	121	82
3	171	218	116	229	290	280	851	1,510	1,020	350	117	81
4	152	197	90	217	284	288	875	1,330	939	333	115	79
5	144	187	121	206	286	288	957	1,220	976	318	111	78
6	126	183	138	201	273	292	1,210	1,190	867	329	109	76
7	121	177	89	220	261	312	2,190	1,230	794	320	107	76
8	161	165	e75	241	254	331	2,480	1,290	898	299	105	75
9	149	153	e100	242	244	337	2,430	1,240	899	280	103	74
10	134	146	e120	267	217	331	2,310	1,130	824	262	100	74
11	123	144	e125	469	199	317	2,130	1,050	800	251	106	73
12	115	159	e120	510	204	304	1,990	1,040	728	238	106	73
13	110	157	e130	440	224	289	1,900	1,070	715	230	104	72
14	110	159	e125	511	227	293	1,930	1,070	873	221	102	73
15	107	154	e120	673	191	284	2,340	1,130	1,120	209	99	76
16	104	148	e120	623	195	269	2,360	1,420	1,410	199	98	89
17	103	145	e110	557	e130	265	2,030	1,750	1,540	191	102	88
18	101	140	e90	507	e120	262	1,740	1,960	1,250	184	101	84
19	101	137	e85	448	e150	259	1,540	2,020	1,010	179	97	85
20	103	135	e130	410	e170	256	1,430	2,130	890	174	94	93
21	144	132	e170	378	e180	254	1,420	1,850	795	168	91	94
22	132	130	e213	347	e200	258	1,580	1,560	721	164	89	96
23	123	127	e225	326	212	263	1,700	1,630	661	157	86	93
24	117	125	e220	306	199	284	1,600	1,490	611	151	84	91
25	112	125	e230	292	171	341	1,510	1,380	573	146	85	89
26	109	125	e250	279	188	449	1,430	1,230	541	141	86	87
27	109	124	e245	269	189	501	1,430	1,090	509	136	87	84
28	107	120	e240	264	226	508	1,510	974	479	133	84	84
29	107	116	e230	259	---	509	1,700	964	446	129	81	83
30	107	121	e225	261	---	524	2,190	957	417	126	79	82
31	110	---	e225	308	---	573	---	912	---	124	82	---
Total	3,903	4,506	4,718	10,729	6,076	10,276	50,204	42,857	25,074	6,916	3,054	2,468
Mean	126	150	152	346	217	331	1,673	1,382	836	223	98.5	82.3
Max	257	225	250	673	299	573	2,480	2,220	1,540	398	123	96
Min	101	116	75	201	120	254	669	912	417	124	79	72
Ac-ft	7,740	8,940	9,360	21,280	12,050	20,380	99,580	85,010	49,730	13,720	6,060	4,900
Cfs/m	0.15	0.18	0.18	0.41	0.26	0.40	2.00	1.65	1.00	0.27	0.12	0.10
In.	0.17	0.20	0.21	0.48	0.27	0.46	2.23	1.90	1.11	0.31	0.14	0.11

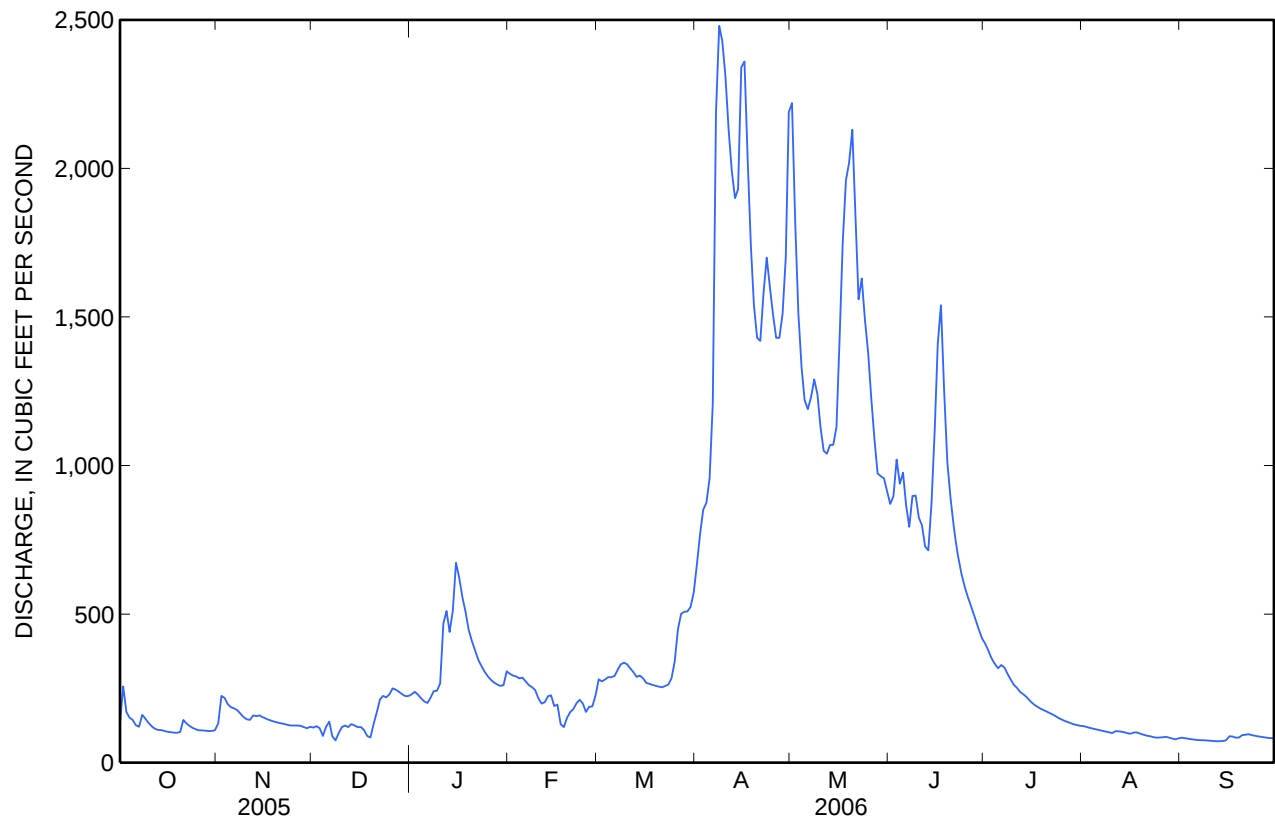
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	133	222	238	257	341	569	1,203	1,358	804	284	135	117
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 2005		Water Year 2006		Water Years 1968 - 2006	
Annual total	89,730		170,781			
Annual mean	246		468		471	
Highest annual mean					938	
Lowest annual mean					169	
Highest daily mean	933	Jan 22	2,480	Apr 8	7,790	Feb 9, 1996
Lowest daily mean	54	Sep 5	72	Sep 13	35	Jan 2, 1977
Annual seven-day minimum	55	Sep 3	73	Sep 8	50	Aug 18, 1994
Maximum peak flow			2,510	Apr 7	^a 12,000	Feb 9, 1996
Maximum peak stage			6.33	Apr 7	10.35	Feb 9, 1996
Instantaneous low flow					29	Jan 2, 1977
Annual runoff (ac-ft)	178,000		338,700		341,500	
Annual runoff (cfs)	0.293		0.558		0.563	
Annual runoff (inches)	3.98		7.58		7.64	
10 percent exceeds	513		1,420		1,230	
50 percent exceeds	182		225		206	
90 percent exceeds	70		89		96	

^a From indirect measurement.

Water-Data Report 2006

12304500 YAKK 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, 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. 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 YAKK RIVER NEAR TROY, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	287	297	153	e430	417	563	741	4,470	2,060	798	215	125
2	330	517	165	e430	407	539	867	3,710	2,210	769	211	125
3	268	417	167	e400	397	504	973	3,030	2,330	715	205	122
4	217	338	166	e380	396	481	999	2,630	2,100	667	199	118
5	192	306	223	338	394	462	1,100	2,470	2,280	626	192	114
6	177	288	e240	320	377	458	1,380	2,560	1,960	591	187	111
7	182	264	e205	443	363	479	2,020	2,740	1,810	701	185	108
8	204	246	e235	564	353	480	2,410	2,910	2,460	682	179	106
9	196	230	e285	494	343	480	2,560	2,700	2,620	587	173	104
10	181	223	e290	512	289	456	2,520	2,400	2,480	543	168	103
11	168	242	e290	e650	e250	425	2,360	2,280	2,290	524	188	101
12	160	268	e285	e690	e235	411	2,200	2,460	2,020	491	230	100
13	156	262	e305	692	e235	396	2,210	2,520	1,850	486	223	98
14	156	251	e275	723	e220	395	2,590	2,480	2,190	461	200	99
15	154	231	e285	823	e210	389	3,600	2,750	2,890	426	184	103
16	153	215	e265	730	e190	376	3,200	3,640	3,740	398	173	119
17	149	218	e220	650	e120	370	2,580	4,850	3,500	375	168	129
18	146	219	e205	589	e180	365	2,180	5,670	2,950	358	171	126
19	146	214	e205	535	e210	358	1,950	5,830	2,500	343	166	123
20	194	207	e265	500	e235	356	1,880	5,990	2,280	331	157	126
21	212	204	e290	459	e265	355	2,040	5,730	2,030	318	151	138
22	215	200	e335	423	e275	360	2,340	4,800	1,800	305	145	142
23	194	196	e350	406	e275	366	2,360	4,500	1,610	292	140	137
24	177	190	e370	394	e250	404	2,220	3,900	1,460	280	135	128
25	167	182	e395	382	e230	474	2,150	3,410	1,330	269	132	120
26	162	181	e400	375	e250	531	2,150	2,990	1,210	262	132	114
27	176	189	e410	365	e280	545	2,390	2,570	1,110	249	130	109
28	171	176	e420	358	387	547	2,690	2,260	1,020	239	127	106
29	176	160	e435	347	---	540	3,200	2,180	929	230	123	104
30	177	159	e450	365	---	564	4,390	2,120	857	221	122	101
31	180	---	e435	411	---	635	---	2,070	---	218	127	---
Total	5,823	7,290	9,019	15,178	8,033	14,064	66,250	104,620	61,876	13,755	5,238	3,459
Mean	188	243	291	490	287	454	2,208	3,375	2,063	444	169	115
Max	330	517	450	823	417	635	4,390	5,990	3,740	798	230	142
Min	146	159	153	320	120	355	741	2,070	857	218	122	98
Med	177	221	285	430	270	458	2,220	2,750	2,080	398	171	114
Ac-ft	11,550	14,460	17,890	30,110	15,930	27,900	131,400	207,500	122,700	27,280	10,390	6,860
Cfs/m	0.25	0.32	0.38	0.64	0.37	0.59	2.88	4.41	2.69	0.58	0.22	0.15
In.	0.28	0.35	0.44	0.74	0.39	0.68	3.22	5.08	3.00	0.67	0.25	0.17

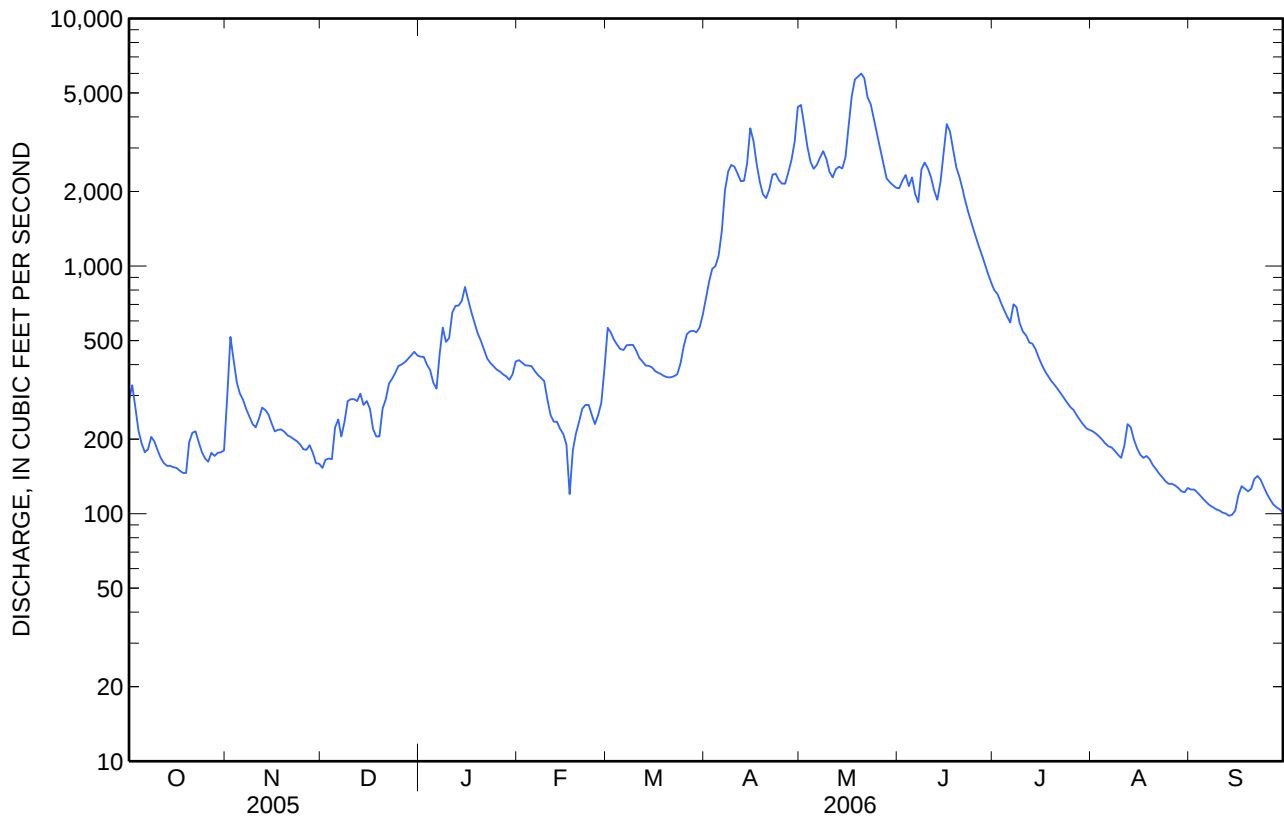
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	195	313	319	297	352	590	1,910	3,417	1,890	489	193	161
Max	833	1,192	1,630	1,552	1,626	1,872	3,754	6,463	4,992	970	373	506
(WY)	(1960)	(1996)	(1996)	(1974)	(1996)	(1972)	(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 YAKK RIVER NEAR TROY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1957 - 2006	
Annual total	203,402		314,605			
Annual mean	557		862		845	
Highest annual mean					1,562	1974
Lowest annual mean					278	1977
Highest daily mean	2,300	May 17	5,990	May 20	11,600	May 16, 1997
Lowest daily mean	103	Sep 9	98	Sep 13	49	Sep 19, 2001
Annual seven-day minimum	109	Sep 4	101	Sep 9	49	Sep 19, 2001
Maximum peak flow			6,600	May 18	^b 12,600	May 17, 1997
Maximum peak stage			7.90	May 18	^c 9.70	May 21, 1956
Instantaneous low flow			^a 95	Sep 14	47	Sep 22, 2001
Annual runoff (ac-ft)	403,400		624,000		612,300	
Annual runoff (cfs)	0.728		1.13		1.10	
Annual runoff (inches)	9.88		15.28		14.99	
10 percent exceeds	1,240		2,510		2,500	
50 percent exceeds	350		358		287	
90 percent exceeds	153		136		120	

^a Gage height, 2.91 ft.^b Gage height, 9.58 ft.^c Gage height in well, from outside gage.

Water-Data Report 2006

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. Formerly published as 4558531123026.

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

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
Oct 17...	0915	4.4	7.6	291	12.5	7.0	110	32.9	7.95	2.2	3.0	.08	E.04
Mar 20...	0930	4.9	7.8	299	-2.0	3.0	130	36.4	9.02	1.8	2.8	.06	.05
Apr 17...	1000	32	7.7	187	3.0	3.0	71	20.3	4.90	5.1	6.4	.05	.06
May 08...	0840	17	7.7	198	6.0	5.0	81	23.8	5.35	4.7	5.3	<.04	E.04
May 22...	0935	13	7.8	240	19.0	11.5	94	27.1	6.30	8.7	10.3	E.04	.04
Jun 08...	1550	13	7.8	247	23.0	15.5	96	27.9	6.43	8.2	11.4	E.03	.08
Jul 24...	0900	3.1	7.7	338	23.5	12.5	140	39.9	9.18	2.9	3.5	.05	E.02
Aug 23...	0950	2.7	7.8	359	18.0	10.5	140	40.9	10.2	2.1	2.5	E.03	.05

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

[Remark codes: <, less than.]

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
17...	2.3	4.4	121	426	.09	.46	26.5	38.1	2.9	5	85	7	.08
Mar													
20...	2.0	6.5	134	692	.10	1.45	54.0	73.6	3.3	8	89	10	.13
Apr													
17...	7.6	10.4	313	806	.37	1.07	24.9	33.5	5.5	6	69	10	.86
May													
08...	5.4	7.5	193	468	.14	.55	27.7	31.7	2.2	3	83	5	.23
22...	5.7	7.8	412	828	.23	.72	44.5	52.2	2.9	4	95	4	.14
Jun													
08...	5.2	10.9	640	1,640	.30	1.81	37.5	74.4	3.5	9	90	14	.49
Jul													
24...	1.3	2.0	52	223	<.08	.14	52.8	52.7	2.2	2	73	3	.03
Aug													
23...	1.2	2.0	32	157	<.08	.10	41.0	41.1	1.8	2	80	2	.01

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7.7	11	8.3	8.8	7.7	35	27	34	20	16	8.0	7.1
2	12	15	8.4	8.5	7.5	29	26	31	16	15	8.0	7.2
3	11	19	8.4	8.5	7.4	34	24	28	15	14	8.1	7.0
4	11	18	8.2	8.3	7.5	32	23	27	16	13	8.1	7.0
5	10	16	8.2	8.3	7.5	17	43	26	15	13	8.4	6.9
6	10	12	e8.0	8.3	7.5	14	90	25	15	22	8.3	6.9
7	10	11	e8.0	8.5	7.3	14	69	25	14	18	8.4	7.0
8	11	12	e8.0	8.4	7.3	12	53	25	28	14	8.3	7.4
9	10	10	8.4	8.4	7.2	12	50	24	32	12	8.6	7.9
10	11	9.7	7.9	8.5	7.1	9.8	47	22	59	11	8.8	6.8
11	10	10	8.0	8.8	e7.0	9.0	40	22	61	11	8.5	7.0
12	11	10	8.0	8.6	7.0	8.6	34	22	55	11	8.3	6.9
13	11	9.8	7.9	8.6	7.1	8.4	36	21	39	12	8.4	6.9
14	10	9.7	7.9	8.6	7.0	8.2	42	21	38	11	8.2	7.1
15	11	9.3	7.8	8.5	6.7	8.4	42	22	32	9.9	7.8	8.7
16	10	8.8	7.8	8.4	6.6	8.9	48	22	34	9.4	8.0	11
17	10	9.4	e7.5	8.4	e6.4	9.0	46	23	29	9.0	8.6	9.2
18	12	9.1	e7.5	8.2	e6.2	9.5	38	24	25	9.1	8.1	9.1
19	11	8.8	e7.5	8.0	e6.2	9.1	32	25	24	8.6	7.8	8.9
20	11	9.0	7.7	7.9	e6.3	9.2	32	29	23	9.4	7.5	8.8
21	11	8.9	7.8	8.0	6.3	9.4	33	24	21	8.2	7.5	9.1
22	11	8.9	9.1	7.8	6.2	9.9	35	19	21	8.0	7.3	9.0
23	10	8.7	10	7.9	6.5	11	38	17	20	8.0	7.3	9.5
24	10	8.6	9.1	7.9	6.5	12	37	19	17	7.8	7.2	9.4
25	10	8.4	8.7	7.9	6.3	15	33	17	16	7.6	7.2	8.6
26	10	8.6	8.5	7.9	7.1	25	31	18	15	7.7	7.4	8.2
27	11	8.3	8.4	7.7	16	26	31	27	14	7.7	7.8	8.2
28	11	8.3	8.7	7.7	22	19	30	30	15	7.3	7.0	8.7
29	11	8.1	10	7.7	---	26	30	33	16	7.4	7.2	8.3
30	10	8.3	8.6	7.8	---	29	34	31	17	7.6	7.2	8.3
31	10	---	9.3	7.8	---	28	---	25	---	7.8	7.3	---
Total	325.7	312.7	257.6	254.6	217.4	507.4	1,174	758	762	333.5	244.6	242.1
Mean	10.5	10.4	8.31	8.21	7.76	16.4	39.1	24.5	25.4	10.8	7.89	8.07
Max	12	19	10	8.8	22	35	90	34	61	22	8.8	11
Min	7.7	8.1	7.5	7.7	6.2	8.2	23	17	14	7.3	7.0	6.8
Ac-ft	646	620	511	505	431	1,010	2,330	1,500	1,510	661	485	480

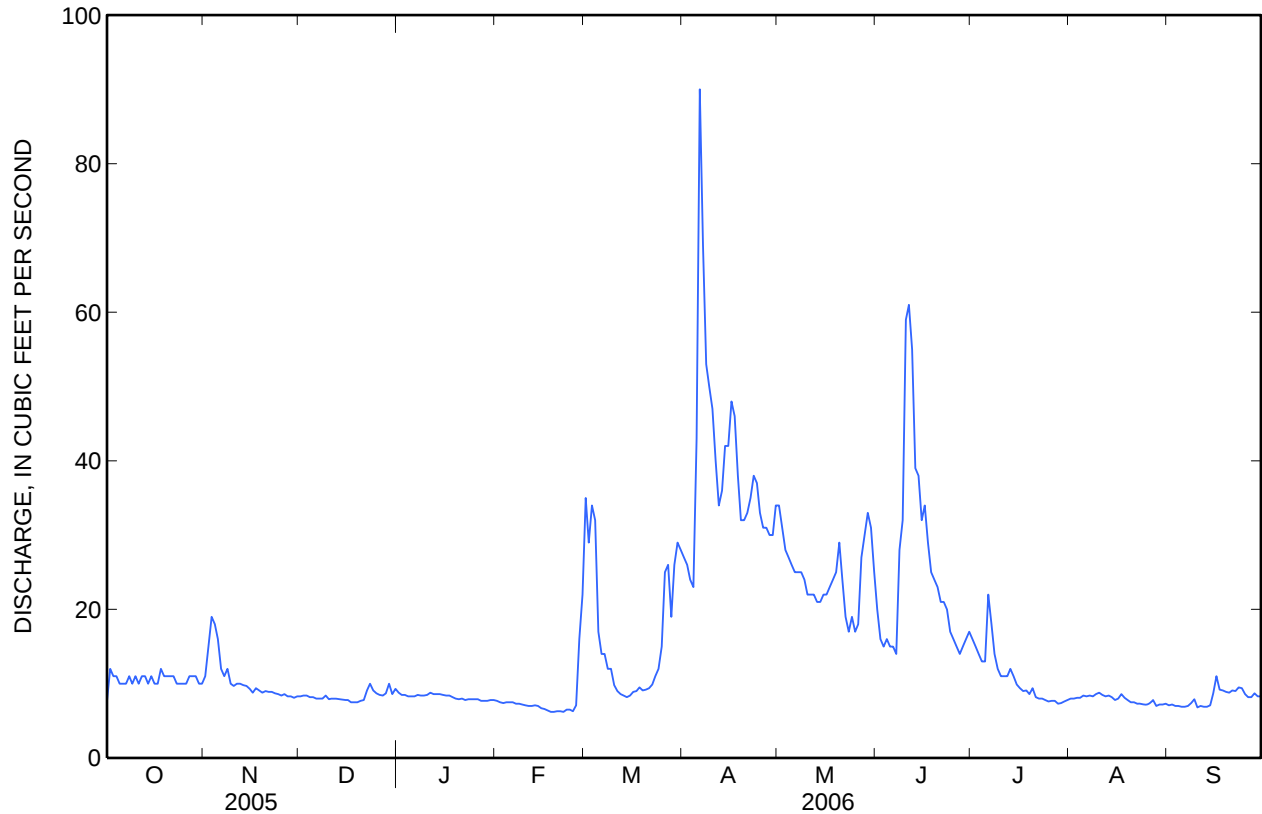
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9.70	9.63	8.80	8.66	10.3	14.1	17.3	19.5	19.7	11.2	9.26	8.71
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 2005		Water Year 2006		Water Years 1989 - 2006	
Annual total	3,839.8		5,389.6			
Annual mean	10.5		14.8		12.2	
Highest annual mean					19.9	
Lowest annual mean					7.57	
Highest daily mean	43	May 17	90	Apr 6	211	Feb 20, 1995
Lowest daily mean	4.8	Jul 22	6.2	Feb 18	4.2	Aug 22, 2000
Annual seven-day minimum	5.0	Jul 21	6.3	Feb 17	4.4	Aug 19, 2000
Maximum peak flow			128	Apr 5	^b 303	Feb 19, 1995
Maximum peak stage			3.17	Apr 5	5.28	Feb 19, 1995
Instantaneous low flow			^a 5.8	Sep 3	4.1	Jul 28, 2004
Annual runoff (ac-ft)	7,620		10,690		8,860	
10 percent exceeds	18		31		20	
50 percent exceeds	8.2		9.3		9.5	
90 percent exceeds	6.1		7.3		6.7	

^a Gage height, 0.71 ft.^b From indirect measurement.

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	18	18	16	15	15	44	36	42	29	24	14	14
2	23	21	16	16	15	38	36	39	23	22	14	14
3	20	24	16	16	15	42	33	37	23	21	14	14
4	21	22	16	16	15	42	33	35	23	20	13	15
5	19	21	17	15	15	26	51	33	23	21	13	15
6	17	19	e16	15	16	23	109	33	21	35	13	14
7	17	19	e16	15	15	24	77	33	22	29	14	15
8	18	20	e16	15	14	20	58	33	42	22	14	14
9	17	18	16	15	14	20	56	32	43	20	14	15
10	17	18	16	15	15	18	53	30	76	19	14	15
11	17	18	15	16	16	16	47	29	72	19	14	15
12	17	18	16	15	14	16	40	30	64	20	14	14
13	17	18	15	15	14	16	42	29	48	21	14	14
14	17	18	16	15	14	15	48	28	51	18	14	15
15	16	17	16	16	15	15	48	30	43	17	14	19
16	17	17	16	15	15	16	55	30	43	16	14	23
17	16	18	e16	16	14	16	55	31	39	15	15	18
18	17	17	e15	16	15	17	45	32	34	16	15	17
19	17	17	e15	16	14	16	39	33	34	15	14	16
20	16	17	15	15	14	16	39	37	32	16	14	17
21	16	17	15	15	14	16	40	32	29	15	14	18
22	16	17	17	15	14	17	42	25	28	15	14	19
23	16	16	19	15	14	20	45	23	28	14	14	19
24	16	16	17	15	14	22	45	25	26	14	14	19
25	16	16	16	15	14	25	40	23	23	15	14	20
26	16	16	16	15	16	36	39	25	22	15	14	17
27	16	16	16	15	28	37	38	39	21	14	15	16
28	17	16	15	15	32	30	38	40	21	14	14	17
29	16	16	18	15	---	36	38	42	24	14	15	16
30	16	16	16	15	---	37	43	40	27	14	15	15
31	17	---	16	15	---	37	---	35	---	14	15	---
Total	532	537	497	473	440	769	1,408	1,005	1,034	564	437	489
Mean	17.2	17.9	16.0	15.3	15.7	24.8	46.9	32.4	34.5	18.2	14.1	16.3
Max	23	24	19	16	32	44	109	42	76	35	15	23
Min	16	16	15	15	14	15	33	23	21	14	13	14
Ac-ft	1,060	1,070	990	938	873	1,530	2,790	1,990	2,050	1,120	867	970

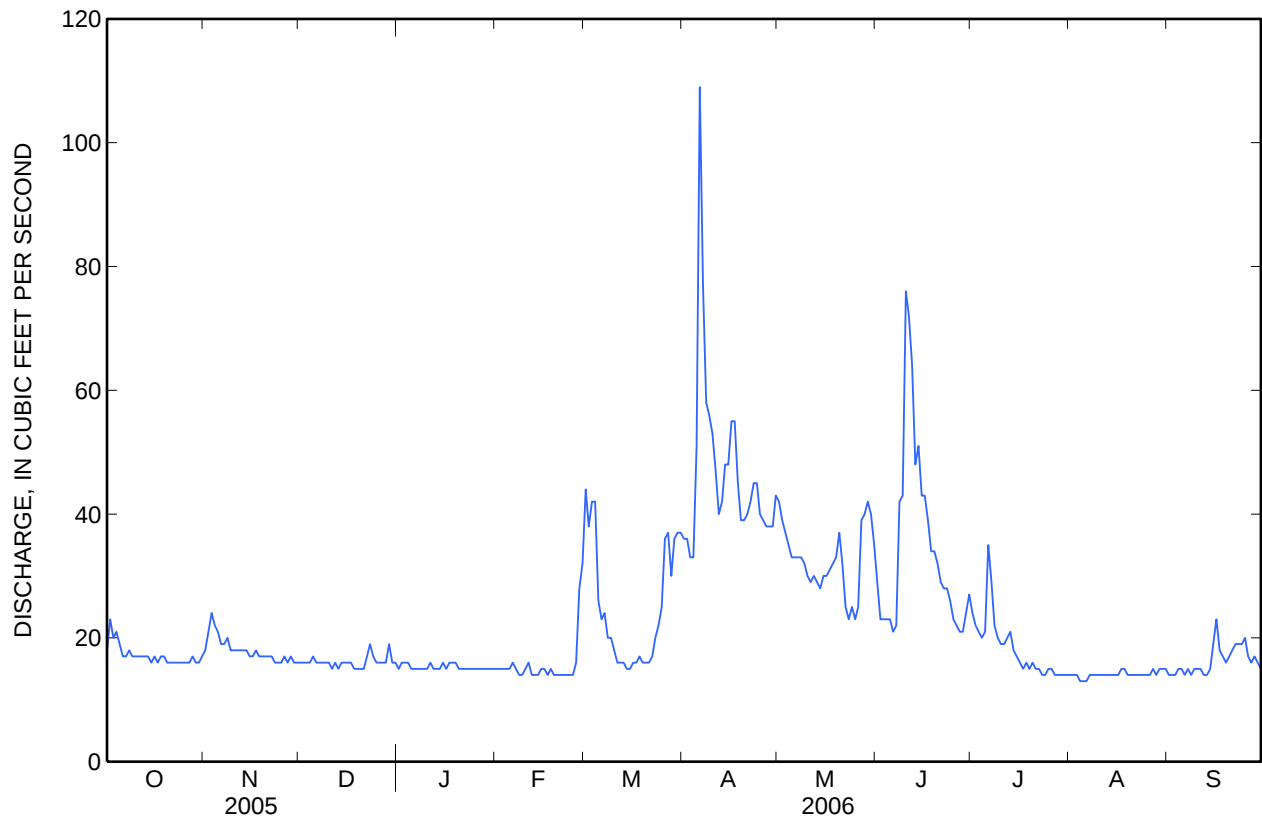
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	19.5	19.2	18.0	17.7	19.4	24.3	28.0	29.9	29.0	20.9	19.6	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 2005		Water Year 2006		Water Years 1984 - 2006	
Annual total	6,864		8,185			
Annual mean	18.8		22.4		22.0	
Highest annual mean					30.8	1995
Lowest annual mean					16.1	2004
Highest daily mean	55	May 17	109	Apr 6	258	Feb 20, 1995
Lowest daily mean	12	Jul 22	13	Aug 4	8.0	May 8, 1992
Annual seven-day minimum	13	Jul 18	14	Jul 31	11	May 2, 1992
Maximum peak flow			158	Apr 6	^b 447	Jul 30, 1998
Maximum peak stage			2.80	Apr 6	^c 8.11	Jul 30, 1998
Instantaneous low flow			^a 10	Feb 17	6.4	Aug 27, 1996
Annual runoff (ac-ft)	13,610		16,230		15,950	
10 percent exceeds	27		39		32	
50 percent exceeds	16		17		19	
90 percent exceeds	14		14		15	

^a Gage height, 1.44 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 2005 TO SEPTEMBER 2006**

Part 1 of 2

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water unfltrd, ug/L (01002)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)
Oct													
17...	1010	17	7.7	445	16.0	13.0	140	39.7	10.5	4.2	4.9	.13	.16
Mar													
20...	1100	19	7.6	532	1.0	4.5	160	46.0	11.1	3.1	4.0	.09	.20
Apr													
17...	1140	54	7.7	326	2.5	4.5	110	30.7	7.37	6.0	7.9	.11	.23
May													
08...	1000	36	7.7	363	12.0	7.0	120	35.0	7.88	5.0	6.2	.15	.25
22...	1055	27	7.8	408	24.0	13.5	140	39.3	9.15	7.6	9.7	.12	.23
Jun													
08...	1720	34	7.7	414	21.5	18.0	140	41.1	9.35	8.1	11.2	.13	.30
Jul													
24...	1020	15	7.6	520	31.0	17.0	160	45.3	11.2	5.2	5.7	.17	.21
Aug													
23...	1120	15	7.7	577	26.0	16.0	180	51.8	13.1	5.2	5.6	.11	.20

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
17...	7.7	14.1	35	248	.19	1.27	72.7	90.4	36.0	46	77	6	.28
Mar													
20...	5.2	22.6	53	338	.32	2.31	97.9	119	42.4	61	81	11	.56
Apr													
17...	14.4	22.5	219	685	.46	3.19	82.7	104	40.2	48	81	12	1.7
May													
08...	12.0	18.5	123	407	.22	1.34	91.5	94.6	45.8	56	84	7	.68
22...	13.4	20.4	194	615	.31	2.01	90.1	105	33.4	45	92	8	.58
Jun													
08...	12.7	27.1	187	928	.44	4.99	86.7	117	68.8	61	88	15	1.4
Jul													
24...	13.9	18.7	24	144	.23	.77	59.8	72.1	47.8	55	91	2	.08
Aug													
23...	5.8	15.1	31	135	.17	.64	69.6	81.4	41.8	57	77	4	.16

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	34	34	e32	e32	32	e60	68	147	82	44	19	16
2	41	38	e32	e30	30	e60	64	138	65	41	19	18
3	37	44	e32	e30	31	e60	63	127	64	40	17	18
4	41	44	e32	e30	29	e55	63	120	63	38	16	18
5	38	40	e30	e30	e28	50	91	113	63	36	15	19
6	37	38	e25	e32	e28	39	205	109	54	50	15	19
7	36	38	e23	e32	29	41	191	108	52	45	15	19
8	37	39	e24	e30	31	37	130	108	92	39	15	19
9	38	36	e25	e32	30	36	120	104	86	35	16	20
10	37	36	e28	e35	e28	33	115	97	172	32	16	19
11	37	36	e30	e35	e26	33	105	86	180	31	15	19
12	37	37	e32	e34	e28	33	95	85	152	31	13	20
13	36	35	e35	e32	e30	31	98	85	110	34	14	19
14	36	35	e30	e32	e28	31	111	83	89	31	13	19
15	35	e30	e28	32	e25	28	122	82	90	27	14	23
16	35	e31	e28	43	e22	29	127	89	84	25	14	33
17	35	e31	e25	42	e20	29	137	97	76	26	16	27
18	33	35	e23	35	e22	30	115	105	67	21	15	24
19	36	33	e25	e32	e24	31	100	113	67	20	14	25
20	35	34	e28	e32	e26	30	96	121	68	19	13	24
21	34	35	e30	32	e28	28	101	124	59	18	13	25
22	34	34	e32	33	e30	30	113	109	55	18	13	29
23	34	33	e35	36	e32	32	132	99	52	19	13	28
24	35	34	e40	32	e30	37	129	97	50	19	13	27
25	34	34	e35	32	e28	43	119	92	46	17	14	27
26	32	34	e32	32	e30	79	114	88	43	17	14	26
27	32	35	e32	32	e33	60	113	114	41	16	14	24
28	34	e30	e30	31	e50	55	115	124	41	16	15	24
29	35	e30	e30	33	---	64	119	129	41	17	15	23
30	34	e32	e32	35	---	81	139	115	53	18	16	22
31	34	---	e35	34	---	71	---	100	---	19	16	---
Total	1,103	1,055	930	1,024	808	1,356	3,410	3,308	2,257	859	460	673
Mean	35.6	35.2	30.0	33.0	28.9	43.7	114	107	75.2	27.7	14.8	22.4
Max	41	44	40	43	50	81	205	147	180	50	19	33
Min	32	30	23	30	20	28	63	82	41	16	13	16
Ac-ft	2,190	2,090	1,840	2,030	1,600	2,690	6,760	6,560	4,480	1,700	912	1,330

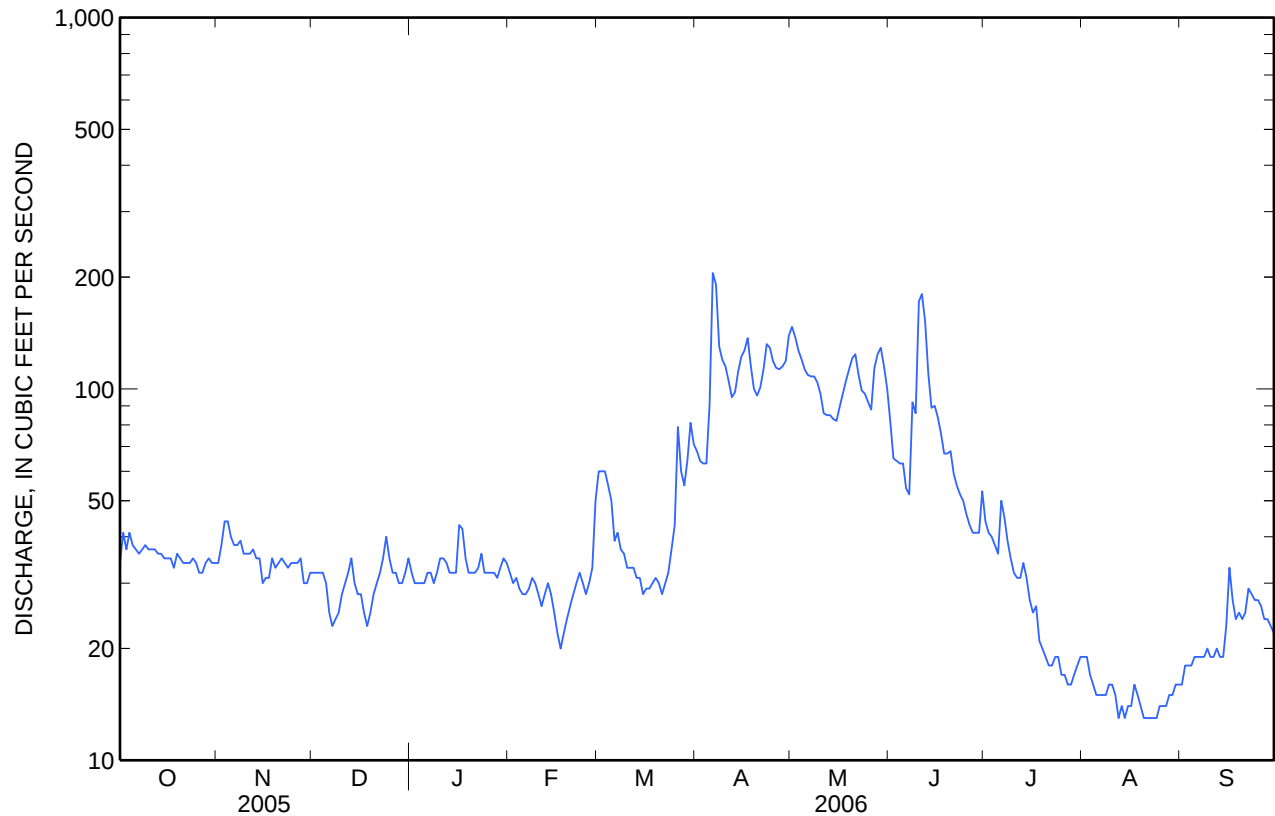
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	35.6	35.2	32.3	35.1	47.0	52.3	65.1	93.8	91.9	42.9	28.0	30.6
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 2005		Water Year 2006		Water Years 1988 - 2006	
Annual total	14,473		17,243			
Annual mean	39.7		47.2		50.1	
Highest annual mean					99.0	
Lowest annual mean					26.9	
Highest daily mean	175	May 17	205	Apr 6	^d 1,300	Feb 11, 1996
Lowest daily mean	17	Aug 16	13	Aug 12	11	Aug 2, 2003
Annual seven-day minimum	17	Aug 19	13	Aug 19	12	Jul 18, 2003
Maximum peak flow			^a 254	Apr 6	^d 1,300	Feb 11, 1996
Maximum peak stage			^b 4.98	Feb 28	^b 6.91	Feb 11, 1996
Instantaneous low flow			^c 11	Aug 9	^e 9.1	Aug 20, 2004
Annual runoff (ac-ft)	28,710		34,200		36,290	
10 percent exceeds	89		109		94	
50 percent exceeds	31		34		37	
90 percent exceeds	21		18		21	

^a Gage height, 4.10 ft.^b Backwater from ice.^c Gage height, 2.05 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 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 2005 TO SEPTEMBER 2006

Part 1 of 2

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/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, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
Oct													
18...	0735	34	8.2	512	11.0	8.0	180	53.3	12.2	11.4	18.9	.40	1.29
Mar													
20...	1540	26	8.4	534	3.0	6.5	190	54.5	11.8	11.4	14.9	.53	.87
Apr													
18...	0910	113	8.1	353	1.0	2.0	120	36.7	8.05	11.5	20.7	.85	1.52
May													
09...	0915	105	8.2	325	3.0	4.0	120	37.6	7.09	10.4	14.6	.34	.77
23...	0705	101	8.1	331	12.0	9.5	130	40.0	7.16	10.3	14.7	.24	.72
Jun													
13...	1050	114	8.2	348	24.5	15.5	130	38.9	7.80	15.0	24.2	.46	1.30
Jul													
25...	0830	18	8.3	589	21.0	16.5	210	61.5	13.2	18.2	20.6	.22	.71
Aug													
24...	0850	13	8.4	588	13.0	11.5	210	60.2	14.0	16.6	19.0	.20	.70

12323600 SILVER BOW CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	13.7	143	13	972	.44	30.0	210	346	148	320	92	26	2.4
Mar													
20...	25.2	78.4	21	628	.37	14.6	304	340	138	221	84	15	1.1
Apr													
18...	57.1	141	152	1,380	1.69	30.6	302	372	274	329	82	38	12
May													
09...	22.3	66.0	78	744	.76	15.2	167	194	99.3	162	85	20	5.7
23...	15.7	70.8	61	881	.54	18.0	123	200	62.4	142	87	29	7.9
Jun													
13...	38.9	146	139	1,420	2.22	33.4	170	275	98.3	245	84	38	12
Jul													
25...	20.8	69.5	22	467	.57	12.4	153	210	42.1	139	81	14	.68
Aug													
24...	19.3	70.8	28	434	.55	11.9	132	200	44.1	147	85	16	.56

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	12	14	e10	11	9.0	11	15	75	81	57	16	11
2	15	13	e10	10	8.9	9.8	15	71	90	50	15	11
3	14	13	e10	10	8.6	9.7	15	64	124	53	15	11
4	15	13	e10	9.9	8.7	9.5	19	58	120	49	14	10
5	14	12	e9.5	e10	e8.5	9.2	26	56	113	46	14	10
6	13	13	e8.0	9.9	e8.0	9.3	36	59	105	47	13	10
7	13	13	e7.5	9.9	e8.5	9.4	31	62	110	44	13	10
8	14	14	e7.5	9.5	8.6	9.2	31	62	154	40	13	10
9	14	13	e8.0	e9.0	8.4	e9.0	32	59	136	37	13	12
10	13	14	e9.0	e9.5	e8.0	e8.5	31	57	132	39	13	12
11	13	14	9.5	e9.5	e8.0	e8.0	30	57	128	37	12	11
12	13	13	9.3	e9.5	e8.0	e8.0	30	61	111	35	13	11
13	13	12	9.2	e9.5	e7.5	e8.5	35	68	118	34	13	10
14	13	12	9.0	9.6	e8.0	e8.5	40	78	117	31	12	11
15	13	e11	e9.0	9.5	e7.0	8.5	45	92	101	29	12	13
16	13	13	9.3	e9.5	e6.0	8.6	46	116	87	27	13	15
17	12	12	e8.5	e9.5	e5.5	8.6	41	148	83	26	14	13
18	12	12	e8.0	9.6	e6.0	8.8	36	167	78	25	14	12
19	12	11	e8.5	e9.0	e7.0	8.7	33	184	76	24	13	12
20	12	11	e9.0	e9.0	e8.0	8.6	33	196	71	23	12	13
21	12	11	9.9	e9.0	e8.0	8.6	37	188	64	22	11	14
22	12	11	15	e9.0	8.2	8.9	46	165	60	21	11	14
23	12	11	15	e9.0	8.3	8.9	59	159	58	20	11	14
24	12	11	11	8.8	8.1	9.5	50	150	56	20	11	13
25	12	11	10	8.8	7.9	11	46	143	55	19	12	12
26	12	11	10	e8.5	8.2	12	44	142	54	18	13	12
27	12	11	10	e8.0	10	10	45	127	54	17	12	12
28	13	e10	12	e8.5	14	11	47	112	54	16	11	11
29	13	e9.5	16	e9.0	---	13	55	98	56	16	10	11
30	12	e10	e11	9.1	---	14	72	88	70	16	11	11
31	12	---	12	8.9	---	15	---	82	---	16	11	---
Total	397	359.5	310.7	289.5	228.9	301.3	1,121	3,244	2,716	954	391	352
Mean	12.8	12.0	10.0	9.34	8.18	9.72	37.4	105	90.5	30.8	12.6	11.7
Max	15	14	16	11	14	15	72	196	154	57	16	15
Min	12	9.5	7.5	8.0	5.5	8.0	15	56	54	16	10	10
Ac-ft	787	713	616	574	454	598	2,220	6,430	5,390	1,890	776	698

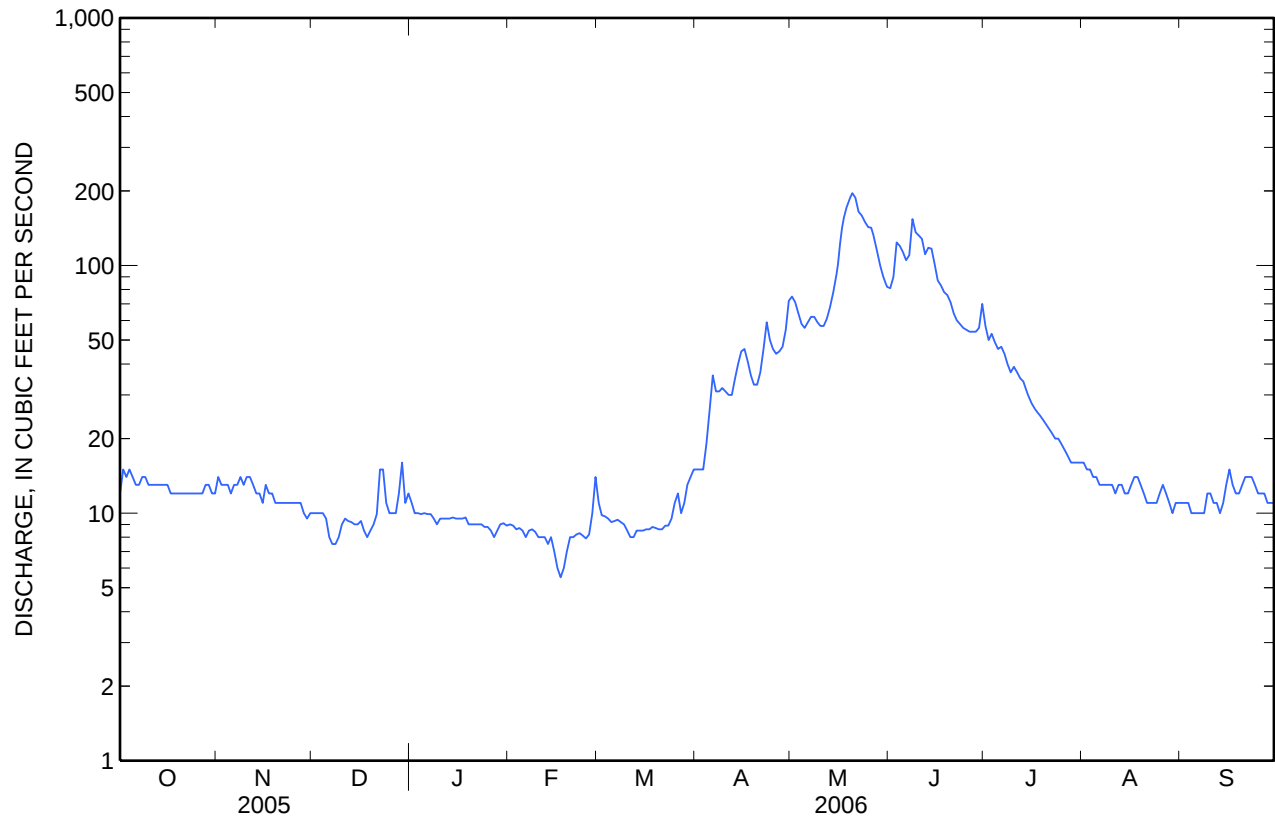
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	13.9	11.8	10.0	9.30	7.97	8.97	26.5	102	103	36.5	13.7	11.8
Max	14.9	12.0	10.0	9.34	8.18	9.72	37.4	105	115	42.3	14.7	11.8
(WY)	(2005)	(2006)	(2005)	(2006)	(2006)	(2006)	(2006)	(2006)	(2005)	(2005)	(2005)	(2005)
Min	12.8	11.7	10.0	9.27	7.76	8.22	15.6	98.8	90.5	30.8	12.6	11.7
(WY)	(2006)	(2005)	(2006)	(2005)	(2005)	(2005)	(2005)	(2005)	(2006)	(2006)	(2006)	(2006)

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2005 - 2006	
Annual total	10,942.8		10,664.9			
Annual mean	30.0		29.2		29.7	
Highest annual mean					30.1	2005
Lowest annual mean					29.2	2006
Highest daily mean	178	Jun 22	196	May 20	196	May 20, 2006
Lowest daily mean	7.0	Feb 16	5.5	Feb 17	5.5	Feb 17, 2006
Annual seven-day minimum	7.1	Feb 23	6.7	Feb 13	6.7	Feb 13, 2006
Maximum peak flow			204	May 20	^a 204	May 20, 2006
Maximum peak stage			3.60	May 20	^b 3.67	Dec 24, 2004
Annual runoff (ac-ft)	21,710		21,150		21,500	
10 percent exceeds	102		77		88	
50 percent exceeds	12		13		12	
90 percent exceeds	8.0		8.5		8.4	

^a Gage height, 3.60 ft.^b Backwater from ice.

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 to September 2006.

INSTRUMENTATION.--Turbidity monitor installed May 2006, but failed transmissions prevented reliable readings until June 13.

REMARKS.--Daily turbidity records are rated good to excellent except for 10 days that are rated poor due to sensor fouling. Missing daily turbidity values for June 23 and July 11-15 are due to equipment problems. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

TURBIDITY (seasonal records): Maximum, 10 formazin nephelometric units (fnu), July 10, 2006; minimum, 0.5 fnu, several days in July, August, and September 2006.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: During seasonal operation, maximum, 10 formazin nephelometric units (fnu), July 10; minimum, 0.5 fnu, several days in July, August, and September.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 3

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

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 unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)
Oct												
17...	1325	13	E.4	8.3	185	20.0	9.5	83	22.2	6.67	15.4	16.6
Mar												
20...	1240	9.1	<2.0	8.5	203	1.5	3.0	98	25.9	8.01	10.6	12.0
Apr												
17...	1425	42	5.5	8.1	129	6.5	5.0	49	13.7	3.66	27.3	30.1
May												
08...	1230	63	2.8	8.1	106	9.5	6.0	44	12.5	3.06	22.5	23.0
22...	1325	165	2.5	7.9	65	18.0	8.0	27	7.87	1.71	12.3	13.7
Jun												
09...	0845	136	<2.0	7.8	63	15.0	7.5	27	7.97	1.67	8.6	9.9
Jul												
24...	1240	20	2.4	8.2	147	28.5	16.0	65	18.3	4.75	23.0	24.2
Aug												
23...	1335	11	<2.0	8.4	180	30.5	15.5	79	21.5	6.09	21.0	22.6

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 3

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

Date	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)
Oct												
17...	E.04	.05	1.2	1.5	78	128	.09	.20	6.8	11.3	.78	E1
Mar												
20...	E.04	.05	.86	1.6	30	125	<.08	.28	6.7	13.8	.8	E1
Apr												
17...	.05	.10	4.7	6.8	67	291	.24	1.07	6.1	16.8	2.4	4
May												
08...	<.04	.09	3.3	5.1	41	178	.10	1.05	4.3	10.9	1.5	4
22...	E.03	.09	3.2	5.4	30	266	.09	1.12	3.6	15.4	1.8	4
Jun												
09...	E.03	.08	2.2	4.1	28	184	.08	.79	3.4	11.1	1.6	3
Jul												
24...	.05	.08	1.8	3.1	78	173	.18	.63	7.9	14.9	1.0	E2
Aug												
23...	.04	.06	1.3	2.2	83	159	.12	.45	7.8	14.1	.73	E1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO
SEPTEMBER 2006

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)
Oct			
17...	74	2	.07
Mar			
20...	68	2	.05
Apr			
17...	79	8	.91
May			
08...	53	9	1.5
22...	39	12	5.3
Jun			
09...	47	8	2.9
Jul			
24...	77	3	.16
Aug			
23...	80	1	.03

12323670 MILL CREEK NEAR ANACONDA, MT—Continued

FROM THE DCP
 TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU
 WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
June				July			August			September		
1				4.0	2.0	2.5	2.0	0.5	1.0	3.0	0.5	1.0
2				5.0	1.5	2.0	2.5	0.5	1.0	3.5	0.5	1.0
3				4.5	1.5	2.5	1.5	1.0	1.0	1.5	0.5	1.0
4				3.5	1.5	2.0	1.5	0.5	1.0	2.0	0.5	1.0
5				3.0	1.0	1.5	3.0	0.5	1.0	2.5	0.5	1.0
6				2.5	1.0	1.5	1.5	0.5	1.0	2.5	1.0	1.0
7				3.5	1.0	1.5	1.5	0.5	1.0	5.5	0.5	1.5
8				2.5	1.0	1.5	3.5	0.5	1.0	3.5	0.5	1.0
9				6.5	1.5	2.5	2.5	0.5	1.0	5.0	1.0	2.0
10				10	1.5	4.5	2.5	0.5	1.0	5.5	1.0	2.5
11				---	---	---	3.5	0.5	1.0	3.0	1.0	1.5
12				---	---	---	3.0	1.0	1.0	2.5	1.0	1.5
13	2.5	1.0	1.5	---	---	---	2.5	1.0	1.0	5.0	1.0	1.5
14	2.5	1.0	1.0	---	---	---	2.0	0.5	1.0	3.0	1.0	2.0
15	1.5	1.0	1.0	---	---	---	2.5	0.5	1.0	5.0	1.5	2.5
16	2.0	1.0	1.0	5.5	1.0	2.0	2.5	0.5	1.0	5.0	1.5	2.5
17	2.0	1.0	1.0	3.5	1.0	1.5	4.5	1.0	1.5	4.0	1.0	1.5
18	1.5	1.0	1.0	2.5	1.0	1.5	3.5	0.5	1.0	5.5	1.0	1.5
19	3.5	1.0	1.5	3.5	1.0	1.5	2.0	0.5	1.0	3.5	1.0	2.0
20	2.0	1.0	1.5	2.5	1.0	1.5	1.5	0.5	1.0	5.5	1.5	3.0
21	6.5	1.5	2.5	2.5	1.0	1.5	2.0	0.5	1.0	4.0	1.5	2.5
22	6.5	1.5	2.5	4.0	1.0	1.5	1.5	0.5	1.0	5.5	1.5	3.0
23	---	---	---	3.0	1.0	1.5	1.5	0.5	1.0	8.0	2.0	3.5
24	3.0	1.0	1.5	3.0	1.0	1.5	2.5	0.5	1.0	8.0	1.0	4.0
25	5.5	1.0	2.0	3.0	1.0	1.5	3.5	1.0	1.0	5.0	1.0	3.5
26	2.5	1.0	1.5	2.0	1.0	1.0	2.5	0.5	1.0	5.5	1.0	1.5
27	3.5	1.5	2.0	3.0	0.5	1.0	1.5	0.5	1.0	2.5	1.0	1.5
28	4.5	1.0	1.5	2.5	0.5	1.0	1.5	0.5	1.0	4.0	0.5	1.5
29	7.5	1.0	2.0	2.0	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0
30	5.5	2.0	3.5	1.5	0.5	1.0	1.5	1.0	1.0	2.0	0.5	1.0
31	---	---	---	1.5	0.5	1.0	1.5	0.5	1.0	---	---	---
Month	---	---	---	---	---	---	4.5	0.5	1.0	8.0	0.5	1.9

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12323700 MILL CREEK AT OPPORTUNITY, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION (REVISED).--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 to July 18, 2006, water-stage recorder at site 400 ft downstream at different datum.

REMARKS.--Records are good except those for May and June, which are fair, and 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.8	5.0	2.4	4.2	3.4	e4.0	3.0	35	46	23	e2.4	1.0
2	2.3	4.9	2.5	3.6	3.2	e3.5	3.1	35	52	19	e2.2	1.1
3	2.6	5.4	2.2	3.2	3.0	e3.0	2.8	32	85	20	e2.0	0.97
4	3.2	4.9	1.8	3.1	2.7	e2.5	3.7	26	92	e21	e1.8	0.92
5	3.0	4.4	e1.6	3.2	e2.6	e2.5	6.9	23	86	e20	e1.6	0.70
6	2.6	4.7	e1.5	3.3	e2.6	3.3	16	23	76	e19	e1.5	0.60
7	2.7	5.2	e1.2	3.2	e2.9	2.8	13	24	80	18	e1.4	0.69
8	3.0	5.5	e1.3	3.0	3.5	e2.2	14	24	116	16	1.3	0.65
9	3.5	3.4	e1.4	e3.0	2.9	e1.7	14	23	115	14	1.3	0.71
10	3.9	4.5	e1.8	4.3	e2.5	e1.5	14	21	115	15	1.4	0.82
11	3.7	5.3	e2.0	4.5	e2.5	e1.6	14	20	113	12	1.4	0.69
12	4.1	5.3	e1.8	e3.5	e3.0	e1.8	15	19	103	11	1.4	0.64
13	4.1	3.7	e1.8	e3.5	e3.3	e2.0	18	21	104	11	1.5	0.67
14	4.0	4.1	e1.7	3.6	e3.0	e2.2	19	24	93	10	1.5	0.78
15	3.7	3.1	e1.5	3.5	e2.5	2.2	24	28	95	9.9	1.5	0.95
16	3.8	3.6	e1.6	e3.0	e1.5	e2.0	28	36	62	9.4	1.8	1.3
17	3.8	4.0	e1.5	4.7	e1.0	e1.8	26	66	38	8.6	2.1	1.3
18	3.6	3.8	e1.3	4.4	e1.5	1.6	21	97	28	e7.5	2.2	1.2
19	3.5	3.5	e1.2	e3.5	e2.0	1.6	17	110	28	6.3	1.9	1.1
20	3.3	3.1	e1.4	e3.5	e3.0	1.6	14	131	26	5.6	1.7	1.2
21	3.8	3.3	e2.0	3.7	5.1	1.7	15	140	23	5.1	1.7	1.4
22	4.4	3.4	e2.4	3.7	5.0	1.6	18	125	24	4.4	1.5	1.5
23	4.4	3.4	e2.7	4.7	5.7	1.7	27	115	26	3.9	1.6	1.4
24	4.5	3.3	3.4	e3.5	5.2	1.8	24	108	25	3.7	1.2	1.4
25	4.4	3.4	3.7	e3.2	e4.0	2.1	21	104	21	3.6	1.4	1.4
26	4.3	3.5	3.8	e3.0	4.4	2.3	18	109	20	3.1	1.5	1.5
27	4.5	2.4	3.6	e3.0	3.6	2.1	16	106	20	3.0	1.4	1.6
28	5.1	e2.0	3.5	e3.0	4.9	2.3	16	92	19	3.0	1.4	1.3
29	5.1	2.2	e3.0	3.6	---	2.7	19	83	21	3.1	1.1	1.2
30	5.0	2.9	e3.0	3.3	---	3.0	27	65	29	2.7	0.96	1.3
31	4.6	---	4.3	3.5	---	2.9	---	49	---	2.5	0.95	---
Total	116.3	117.2	68.9	110.0	90.5	69.6	487.5	1,914	1,781	314.4	48.61	31.99
Mean	3.75	3.91	2.22	3.55	3.23	2.25	16.2	61.7	59.4	10.1	1.57	1.07
Max	5.1	5.5	4.3	4.7	5.7	4.0	28	140	116	23	2.4	1.6
Min	1.8	2.0	1.2	3.0	1.0	1.5	2.8	19	19	2.5	0.95	0.60
Ac-ft	231	232	137	218	180	138	967	3,800	3,530	624	96	63

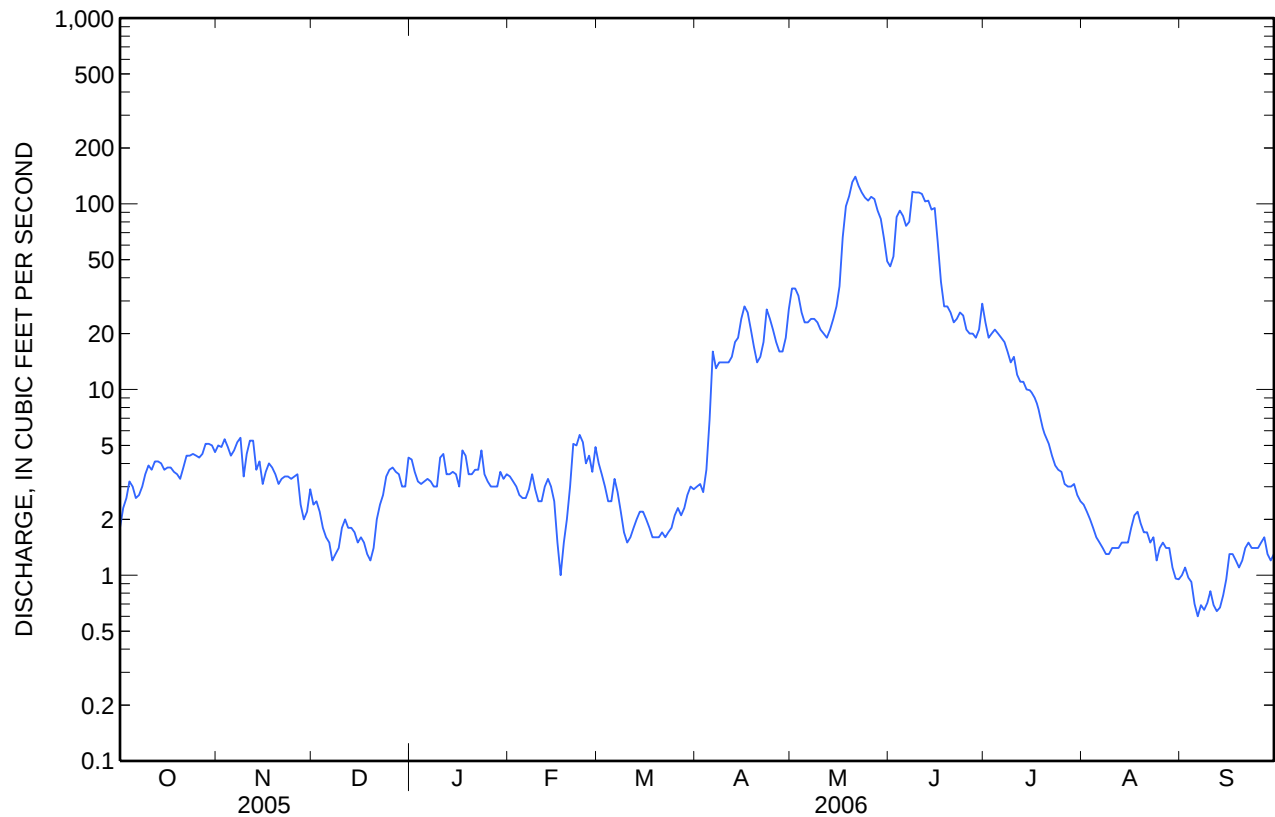
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.03	2.22	1.82	2.08	2.28	1.99	8.68	46.7	64.6	12.7	1.80	1.36
Max	3.75	3.91	2.22	3.55	3.23	3.15	16.2	61.7	85.7	22.4	2.27	1.58
(WY)	(2006)	(2006)	(2006)	(2006)	(2006)	(2004)	(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	7.83	1.57	1.07
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2004)	(2004)	(2004)	(2006)	(2006)

12323700 MILL CREEK AT OPPORTUNITY, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2003 - 2006	
Annual total	5,570.50		5,150.00			
Annual mean	15.3		14.1		11.4	
Highest annual mean					14.7	
Lowest annual mean					5.44	
Highest daily mean	128	May 21	140	May 21	260	Jun 1, 2003
Lowest daily mean	0.38	Apr 6	0.60	Sep 6	0.38	Apr 6, 2005
Annual seven-day minimum	0.39	Apr 5	0.69	Sep 6	0.39	Apr 5, 2005
Maximum peak flow			170	May 21	284	Jun 1, 2003
Maximum peak stage			2.68	May 21	3.34	Jun 1, 2003
Instantaneous low flow			^a 0.36	Sep 6	^b 0.34	Apr 6, 2005
Annual runoff (ac-ft)	11,050		10,220		8,270	
10 percent exceeds	69		30		32	
50 percent exceeds	1.9		3.5		1.9	
90 percent exceeds	0.45		1.4		0.92	

^a Gage height, 1.52 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 2005 TO SEPTEMBER 2006**

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 uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd, ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)
Oct													
17...	1550	4.0	8.1	211	22.5	11.0	91	25.1	6.89	23.9	25.3	.07	.09
Mar													
20...	1410	1.9	8.1	223	5.5	4.5	100	28.0	7.83	11.4	12.9	.05	.06
Apr													
18...	0745	22	8.0	145	-2.0	1.0	58	16.2	4.34	26.8	31.1	.07	.12
May													
08...	1525	24	8.1	120	12.5	10.5	49	13.9	3.39	28.6	30.5	E.03	.11
22...	1510	120	7.8	70	25.0	9.5	28	8.30	1.87	20.3	28.9	.07	.29
Jun													
09...	1215	113	7.8	69	13.5	9.5	28	8.10	1.77	16.2	19.7	.04	.14
Jul													
24...	1505	3.5	8.2	165	35.5	20.0	72	20.4	5.11	34.9	35.4	.05	.06
Aug													
23...	1600	1.5	8.2	199	29.0	17.5	86	23.9	6.29	32.2	34.1	E.03	.06

12323700 MILL CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

[Remark codes: <, less than.]

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
17...	1.9	2.5	90	140	.09	.15	11.0	12.0	2.8	3	82	2	.02
Mar													
20...	1.2	1.7	25	67	<.08	.07	9.1	10.4	2.7	3	80	1	.01
Apr													
18...	4.9	7.1	63	246	.20	.93	4.8	13.1	4.8	6	80	5	.30
May													
08...	3.9	6.1	38	199	.09	.86	4.8	13.0	2.1	4	78	5	.32
22...	5.8	18.9	36	774	.17	4.88	4.7	29.1	3.9	14	41	39	13
Jun													
09...	3.5	8.1	33	332	.13	1.79	3.2	15.8	2.9	7	43	18	5.5
Jul													
24...	2.4	3.3	72	128	.18	.38	9.5	11.8	1.8	2	88	1	.01
Aug													
23...	2.2	2.9	59	110	.10	.21	7.7	9.1	1.4	4	86	2	.01

Water-Data Report 2006

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 Mar. 30 to Apr. 11, which are fair. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.5	1.9	1.2	1.4	1.3	e1.4	2.9	23	12	5.8	2.1	1.2
2	2.1	2.0	1.3	1.4	1.3	e1.4	2.3	20	12	5.3	1.9	1.2
3	1.8	1.8	1.3	e1.3	1.3	e1.4	2.4	19	11	5.7	1.9	1.1
4	1.9	1.6	1.2	e1.4	1.2	e1.4	3.3	18	11	5.3	1.8	1.0
5	1.8	1.5	1.3	e1.4	1.2	e1.4	6.1	17	10	5.1	1.8	0.99
6	1.7	1.6	1.2	1.4	1.3	e1.5	11	17	9.7	5.1	1.7	0.99
7	1.7	1.6	e1.2	1.3	1.3	e1.4	10	18	9.7	4.8	1.6	0.99
8	1.7	1.6	e1.2	e1.3	1.3	e1.3	9.7	18	12	4.3	1.7	1.00
9	1.7	1.2	e1.2	e1.4	1.2	e1.3	9.8	18	11	4.5	1.8	1.1
10	1.7	1.6	1.3	e1.6	e1.2	e1.2	10	17	14	4.4	1.7	1.1
11	1.6	1.7	1.2	e1.6	e1.2	e1.2	9.0	17	12	4.1	1.5	1.0
12	1.7	1.6	1.2	e1.5	e1.2	e1.3	9.2	17	11	4.1	1.6	0.97
13	1.5	1.3	1.2	e1.3	e1.3	e1.3	12	18	10	4.0	1.6	0.96
14	1.5	1.5	1.2	e1.2	e1.2	e1.3	13	18	9.8	3.7	1.5	1.2
15	1.5	e1.2	1.3	1.3	e1.2	1.4	15	19	9.5	3.5	1.5	1.8
16	1.4	1.6	1.3	e1.3	e1.1	e1.4	17	22	9.0	3.4	1.6	2.2
17	1.4	1.5	e1.3	e1.3	e1.0	e1.4	15	27	8.8	3.2	2.0	1.8
18	1.4	1.4	e1.2	e1.2	e1.0	1.4	13	29	8.1	3.1	1.8	1.5
19	1.4	1.4	e1.2	1.2	e1.1	1.4	11	30	8.5	2.9	1.5	1.4
20	1.4	1.4	e1.3	1.2	e1.2	1.4	11	30	7.7	2.8	1.3	1.5
21	1.4	1.4	1.4	1.2	e1.3	e1.4	12	27	7.3	2.9	1.2	1.9
22	1.4	1.4	e1.5	1.2	e1.4	1.3	15	24	7.0	2.8	1.1	2.1
23	1.4	e1.3	e1.6	1.3	e1.5	1.4	18	22	6.6	2.7	1.1	1.9
24	1.4	e1.3	1.5	1.2	1.5	1.6	16	19	6.4	2.7	1.1	1.6
25	1.4	1.3	1.4	1.2	1.3	1.8	15	18	6.3	2.6	1.4	1.5
26	1.3	1.4	1.4	1.2	1.3	2.1	15	17	6.2	2.5	1.4	1.4
27	1.4	e1.2	e1.2	1.2	e1.6	e1.8	15	18	6.2	2.3	1.2	1.3
28	1.5	e1.2	e1.3	1.3	e1.5	1.8	16	18	6.0	2.1	1.1	1.3
29	1.5	e1.2	e1.3	1.3	---	2.1	18	16	5.9	2.0	1.0	1.3
30	1.4	1.2	e1.4	1.4	---	2.8	22	14	6.8	2.0	1.1	1.3
31	1.5	---	1.6	1.3	---	2.9	---	13	---	2.1	1.2	---
Total	48.0	43.9	40.4	40.8	35.5	48.2	354.7	618	271.5	111.8	46.8	40.60
Mean	1.55	1.46	1.30	1.32	1.27	1.55	11.8	19.9	9.05	3.61	1.51	1.35
Max	2.1	2.0	1.6	1.6	1.6	2.9	22	30	14	5.8	2.1	2.2
Min	1.3	1.2	1.2	1.2	1.0	1.2	2.3	13	5.9	2.0	1.0	0.96
Ac-ft	95	87	80	81	70	96	704	1,230	539	222	93	81

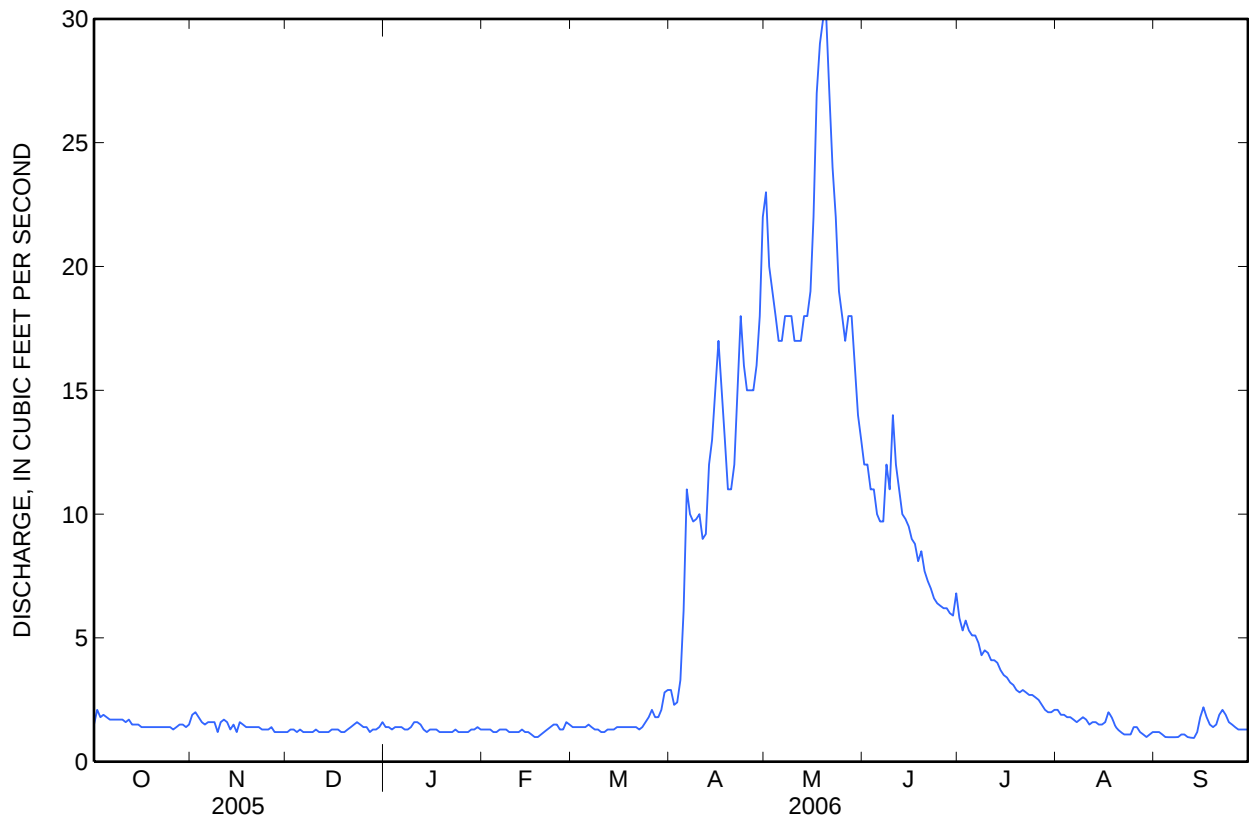
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.55	1.46	1.30	1.32	1.27	1.55	7.66	25.4	12.3	4.08	1.72	1.44
Max	1.55	1.46	1.30	1.32	1.27	1.55	11.8	30.8	15.6	4.55	1.94	1.53
(WY)	(2006)	(2006)	(2006)	(2006)	(2006)	(2006)	(2006)	(2005)	(2005)	(2005)	(2005)	(2005)
Min	1.55	1.46	1.30	1.32	1.27	1.55	3.50	19.9	9.05	3.61	1.51	1.35
(WY)	(2006)	(2006)	(2006)	(2006)	(2006)	(2006)	(2005)	(2006)	(2006)	(2006)	(2006)	(2006)

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

SUMMARY STATISTICS

	Water Year 2006		Water Years 2005 - 2006	
Annual total	1,700.20			
Annual mean	4.66		4.66	
Highest annual mean			4.66	2006
Lowest annual mean			4.66	2006
Highest daily mean	30	May 19	68	May 11, 2005
Lowest daily mean	0.96	Sep 13	0.96	Sep 13, 2006
Annual seven-day minimum	1.0	Sep 7	1.0	Sep 7, 2006
Maximum peak flow	^a 32	May 19	95	May 10, 2005
Maximum peak stage	^b 2.13	Mar 13	2.86	May 10, 2005
Instantaneous low flow	^c 0.60	Oct 25	^c 0.60	Oct 25, 2005
Annual runoff (ac-ft)	3,370		3,370	
10 percent exceeds	15		15	
50 percent exceeds	1.5		1.5	
90 percent exceeds	1.2		1.2	

^a Gage height, 2.10 ft.^b Result of backwater from ice.^c Gage height, 1.20 ft.

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 to September 2006.

INSTRUMENTATION.--Turbidity monitor installed June 2006.

REMARKS.--No chemical water-quality sample collected in March due to unsafe snow conditions preventing access to the site. Daily turbidity records are rated good to excellent. Missing daily turbidity values for June 9-15, 18, and 30; July 11; and Sept. 6, 12, 13, and 22-25 are due to equipment problems. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--

TURBIDITY: Seasonal records, maximum, 10 formazin nephelometric units (fnu), July 1, 2006; minimum, 1.0 fnu, many days June through September 2006.

EXTREMES FOR PERIOD OF DAILY RECORD.--

TURBIDITY: During seasonal operation, June to September, maximum, 10 formazin nephelometric units (fnu), July 1; minimum, 1.0 fnu, many days June through September.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water, unfltrd ug/L (01002)
Oct												
17...	1200	1.4	E.8	7.7	115	15.5	6.0	41	13.7	1.63	16.5	17.7
Apr												
17...	1315	15	12	7.6	93	6.0	3.5	33	11.2	1.25	19.2	20.5
May												
08...	1135	18	5.8	7.7	73	9.5	4.5	26	8.85	.987	14.7	15.6
22...	1215	25	7.1	7.7	66	23.0	8.0	22	7.56	.777	14.1	14.6
Jun												
09...	0735	10	2.5	7.8	92	10.0	7.5	34	11.8	1.18	13.3	13.9
Jul												
24...	1145	3.0	2.1	7.6	109	28.0	15.0	39	13.3	1.40	24.4	25.0
Aug												
23...	1235	1.3	2.1	7.7	111	29.5	13.0	39	13.2	1.48	24.9	25.9

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 3

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

Date	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)
Oct												
17...	.04	.04	1.6	2.1	74	145	.11	.20	10.2	22.4	1.2	E2
Apr												
17...	E.04	.06	3.9	5.0	154	474	.30	.94	13.4	27.3	2.6	4
May												
08...	<.04	.04	2.6	3.7	67	337	.12	.67	8.1	15.2	1.9	3
22...	<.04	.08	2.3	4.1	43	401	.13	1.25	8.2	21.7	1.7	4
Jun												
09...	E.03	.05	2.0	2.8	52	168	.12	.41	14.8	19.9	1.9	E2
Jul												
24...	.05	.05	1.4	16.8	80	190	.15	.43	20.7	33.8	1.2	E2
Aug												
23...	E.02	E.04	1.3	1.9	116	226	.14	.37	34.5	45.2	1.7	E1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO
SEPTEMBER 2006

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)
Oct			
17...	72	3	.01
Apr			
17...	78	12	.49
May			
08...	72	8	.39
22...	76	20	1.4
Jun			
09...	82	5	.14
Jul			
24...	91	4	.03
Aug			
23...	61	4	.01

12323710 WILLOW CREEK NEAR ANACONDA, MT—Continued

FROM THE DCP
 TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU
 WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
June				July			August			September		
1				10	5.0	6.5	4.0	1.5	2.0	6.0	1.5	2.0
2				8.0	3.5	5.0	5.5	1.5	2.0	6.0	1.0	2.0
3				6.5	3.0	4.0	4.5	1.5	2.0	4.5	1.0	1.5
4				9.5	4.0	4.0	5.0	1.0	2.5	4.0	1.0	2.0
5				9.5	3.0	4.5	6.0	1.5	2.5	3.5	1.0	2.0
6				8.5	2.5	3.5	6.5	1.5	3.0	---	---	---
7				5.5	2.0	3.0	5.5	1.5	2.5	2.0	1.0	1.5
8				7.5	2.0	3.0	5.5	1.5	2.5	3.5	1.0	1.5
9	---	---	---	4.5	2.0	2.5	6.5	2.0	3.5	3.5	1.0	2.0
10	---	---	---	4.0	2.0	2.5	6.0	1.5	3.0	4.5	1.0	1.5
11	---	---	---	---	---	---	7.0	1.5	3.0	2.5	1.0	2.0
12	---	---	---	7.0	2.0	2.5	6.5	1.5	2.5	---	---	---
13	---	---	---	4.5	1.5	2.5	6.0	2.0	3.0	---	---	---
14	---	---	---	4.5	1.5	2.0	6.5	2.0	3.0	9.0	1.5	3.0
15	---	---	---	2.5	1.5	2.0	7.0	2.0	3.0	9.0	1.5	3.5
16	5.0	2.0	2.5	4.0	1.5	2.0	7.0	2.0	3.5	5.5	1.5	3.0
17	5.5	1.5	2.5	5.0	1.5	2.0	5.5	1.5	3.0	4.0	1.5	2.5
18	---	---	---	3.0	1.5	2.0	6.0	1.5	2.5	2.5	1.0	1.5
19	3.0	2.0	2.0	3.5	1.5	2.0	3.5	1.5	2.0	3.5	1.5	2.0
20	4.0	1.5	2.0	3.5	1.0	2.0	4.5	1.0	2.0	4.5	1.5	2.0
21	3.5	1.5	2.0	4.0	1.5	2.0	3.0	1.5	1.5	7.0	2.5	3.5
22	5.0	1.5	2.5	5.0	1.0	2.0	4.0	1.5	2.0	---	---	---
23	5.5	1.5	2.5	6.0	1.0	2.0	3.0	1.0	1.5	---	---	---
24	5.0	1.5	2.5	4.0	1.0	2.0	3.0	1.5	2.0	---	---	---
25	5.0	1.5	2.0	6.5	1.0	2.0	4.0	1.5	2.5	---	---	---
26	4.0	1.0	2.0	3.0	1.0	1.5	4.0	1.5	2.0	2.0	1.5	1.5
27	2.5	1.5	2.0	4.0	1.0	2.0	3.0	1.5	1.5	4.5	1.5	2.0
28	5.0	1.0	2.0	6.5	1.5	2.0	4.5	1.0	2.0	3.5	1.5	2.0
29	3.5	1.0	1.5	4.0	1.0	2.0	2.0	1.5	1.5	4.0	1.5	1.5
30	---	---	---	5.0	1.0	2.0	3.0	1.0	1.5	4.0	1.5	2.0
31	---	---	---	3.5	1.5	2.0	3.5	1.0	2.0	---	---	---
Month	---	---	---	---	---	---	7.0	1.0	2.4	---	---	---

Water-Data Report 2006

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 except those from May to August, which are fair. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7.0	6.2	4.7	5.1	4.8	8.3	5.3	18	12	19	4.6	5.2
2	7.9	6.3	4.8	4.6	4.8	7.7	7.1	17	12	15	5.1	5.3
3	7.5	6.8	4.9	4.5	4.8	7.0	7.2	16	13	14	5.2	5.2
4	7.7	6.6	4.9	4.4	5.0	6.2	6.7	14	19	17	5.1	5.1
5	7.3	6.0	4.9	4.3	5.0	5.7	10	13	20	13	5.3	5.3
6	6.8	6.2	4.9	4.6	5.0	5.8	e26	13	16	16	4.4	5.2
7	6.7	6.5	4.7	4.6	4.9	6.4	15	14	17	16	4.8	4.9
8	6.9	6.5	4.5	4.6	5.0	5.7	11	15	41	13	5.1	5.0
9	7.0	5.9	4.4	4.5	5.1	5.4	9.4	14	30	10	4.9	5.1
10	6.8	6.0	4.3	4.5	5.1	5.1	9.3	14	63	11	4.9	5.5
11	6.8	6.5	4.3	6.0	5.0	4.9	8.6	14	33	9.8	4.9	5.4
12	7.0	6.2	4.2	5.0	5.1	5.0	8.1	14	19	7.9	5.2	5.6
13	6.7	5.6	4.1	4.7	5.1	4.9	8.3	14	13	8.1	5.0	5.4
14	6.7	5.7	4.3	4.8	5.1	4.8	9.0	15	10	7.4	4.8	5.7
15	6.5	5.3	4.3	4.9	5.0	5.0	9.9	15	11	7.0	4.6	6.4
16	6.2	5.5	4.3	4.7	e4.8	5.1	12	19	9.7	6.9	4.6	7.2
17	6.1	5.9	4.2	4.6	5.2	5.1	13	24	8.4	6.7	4.8	7.1
18	6.2	5.5	4.0	4.7	4.8	5.2	9.8	28	9.0	6.1	4.8	6.7
19	6.2	5.6	3.7	4.6	4.6	4.6	8.6	32	13	5.7	4.7	6.6
20	6.2	5.3	3.7	4.5	4.5	4.6	7.7	35	17	5.8	4.6	6.6
21	6.2	5.4	4.5	4.5	4.6	4.6	7.6	33	14	5.7	4.5	7.1
22	6.1	5.4	6.0	4.4	4.6	4.7	8.3	30	13	5.7	4.5	7.6
23	6.2	5.3	5.7	4.6	4.9	4.8	12	26	12	5.4	4.8	7.3
24	6.2	5.2	5.0	4.7	5.1	4.7	12	25	11	5.4	5.0	7.0
25	6.1	5.1	4.9	4.7	5.1	4.7	11	22	13	5.0	5.5	6.6
26	6.0	5.4	4.9	4.7	5.6	4.6	9.6	23	13	5.1	5.6	6.3
27	6.2	5.3	4.6	4.6	7.4	4.4	9.2	31	13	5.0	5.4	6.2
28	6.3	5.0	4.8	4.6	9.3	4.4	11	36	15	5.1	4.9	6.8
29	6.2	4.9	5.4	4.6	---	4.6	12	30	15	5.2	4.7	7.0
30	6.2	4.7	4.5	4.7	---	4.6	15	17	22	4.8	4.7	7.0
31	6.1	---	4.8	4.7	---	4.5	---	14	---	4.3	4.8	---
Total	204.0	171.8	143.2	145.0	145.3	163.1	309.7	645	527.1	272.1	151.8	183.4
Mean	6.58	5.73	4.62	4.68	5.19	5.26	10.3	20.8	17.6	8.78	4.90	6.11
Max	7.9	6.8	6.0	6.0	9.3	8.3	26	36	63	19	5.6	7.6
Min	6.0	4.7	3.7	4.3	4.5	4.4	5.3	13	8.4	4.3	4.4	4.9
Ac-ft	405	341	284	288	288	324	614	1,280	1,050	540	301	364

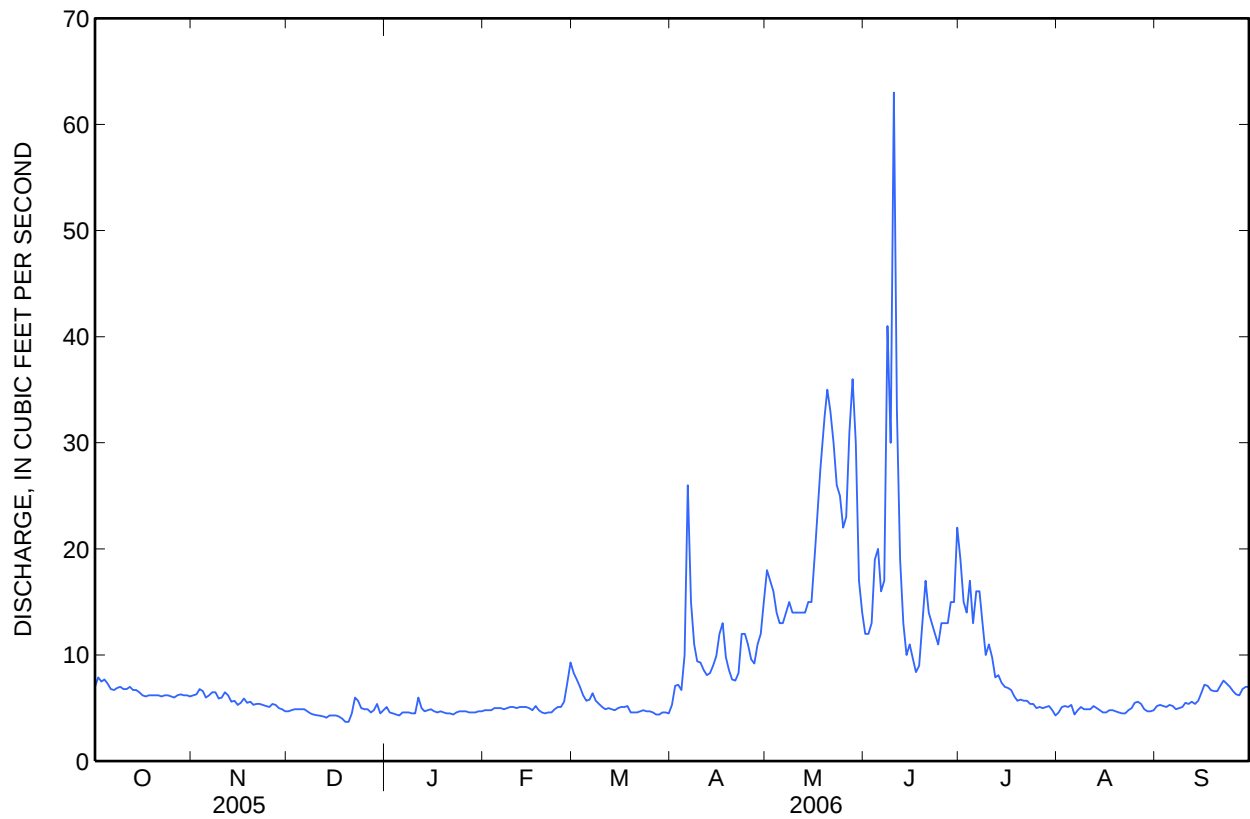
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.84	5.86	5.15	4.62	4.75	5.37	9.03	23.7	20.1	8.13	6.00	6.78
Max	7.75	6.54	5.65	4.99	5.19	6.14	14.5	30.2	26.9	8.78	6.72	7.43
(WY)	(2005)	(2005)	(2005)	(2005)	(2006)	(2004)	(2003)	(2003)	(2005)	(2006)	(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 2005		Water Year 2006		Water Years 2003 - 2006	
Annual total	3,509.8		3,061.5			
Annual mean	9.62		8.39		8.62	
Highest annual mean					9.87	2005
Lowest annual mean					7.61	2004
Highest daily mean	61	May 17	63	Jun 10	63	Jun 10, 2006
Lowest daily mean	3.7	Dec 19	3.7	Dec 19	3.7	Dec 19, 2005
Annual seven-day minimum	4.1	Dec 14	4.1	Dec 14	4.1	Jan 6, 2004
Maximum peak flow			95	Jun 10	95	Jun 10, 2006
Maximum peak stage			6.19	Jun 10	6.19	Jun 10, 2006
Instantaneous low flow			^a 3.0	Jan 28	^a 3.0	Jan 28, 2006
Annual runoff (ac-ft)	6,960		6,070		6,250	
10 percent exceeds	23		15		17	
50 percent exceeds	5.9		5.7		6.1	
90 percent exceeds	4.5		4.6		4.6	

^a 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 2005 TO SEPTEMBER 2006

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/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, ug/L (01000)	Arsenic water unfltrd, ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water unfltrd, ug/L (01027)
Oct 17...	1620	5.9	8.6	312	22.5	13.0	150	41.1	10.3	19.9	20.7	E.04	.04
Mar 20...	1445	4.5	8.2	324	4.5	9.5	150	42.8	10.4	12.1	13.5	E.03	.06
Apr 18...	0820	9.1	7.9	247	-0.5	1.5	100	29.7	6.42	34.0	38.3	.04	.12
May 08...	1600	16	8.2	116	10.5	10.0	67	20.5	3.73	40.9	43.5	<.04	.10
May 22...	1540	30	8.0	167	24.5	14.0	70	21.4	4.14	64.9	65.7	E.03	.15
Jun 09...	1245	25	8.1	304	13.0	13.5	140	40.6	9.25	112	117	.07	.11
Jul 24...	1540	5.6	8.5	324	33.0	17.0	150	42.4	10.5	33.3	33.4	E.03	E.04
Aug 23...	1620	5.1	8.2	331	31.0	16.5	150	41.0	10.5	21.6	22.7	E.02	.06

12323720 WILLOW CREEK AT OPPORTUNITY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

[Remark codes: E, estimated.]

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
17...	3.1	4.6	11	90	.10	.99	8.7	11.6	1.1	4	86	3	.05
Mar													
20...	2.0	4.8	11	144	.08	1.26	51.3	63.8	3.3	7	90	6	.07
Apr													
18...	7.9	14.0	88	339	.29	2.09	51.0	56.0	11.7	16	90	11	.27
May													
08...	9.3	16.3	60	282	.24	2.15	19.2	30.7	5.8	13	95	21	.91
22...	12.2	21.7	65	371	.38	2.94	20.3	37.3	6.7	17	89	15	1.2
Jun													
09...	10.1	14.8	77	199	.29	1.29	23.8	30.0	7.3	10	81	5	.34
Jul													
24...	3.5	4.4	8	44	E.05	.34	4.4	7.6	1.2	2	91	1	.02
Aug													
23...	2.3	5.4	12	108	.11	1.32	31.2	37.0	1.6	5	84	4	.06

Water-Data Report 2006

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, 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, area at site used prior to May 24, 1994, 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 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	41	61	58	59	40	45	46	175	148	78	24	29
2	46	62	58	56	40	42	67	176	136	75	26	31
3	49	67	57	56	39	45	70	173	143	74	30	30
4	59	70	54	54	40	41	56	169	149	77	31	28
5	61	69	50	53	40	41	75	173	139	73	34	26
6	60	67	e45	54	39	45	151	166	123	78	35	27
7	57	65	e38	51	41	41	143	158	99	75	35	26
8	56	72	e35	51	41	36	151	152	135	69	35	25
9	56	71	e35	47	40	33	150	151	152	66	34	25
10	56	66	e38	45	39	35	146	158	207	65	32	25
11	56	61	39	44	37	34	143	163	189	67	28	24
12	56	63	39	45	39	35	148	158	161	66	25	25
13	57	70	41	45	41	36	151	162	171	60	26	27
14	56	65	43	44	40	38	164	159	143	55	26	27
15	54	62	42	42	38	39	166	163	119	49	26	29
16	54	61	43	40	e35	37	165	172	107	45	26	34
17	54	63	e40	44	e30	37	170	196	93	43	26	36
18	52	65	e37	42	e30	37	164	225	86	45	28	37
19	53	66	e38	40	32	36	155	246	90	43	29	35
20	51	66	41	40	32	38	146	264	96	42	28	34
21	52	62	42	41	33	40	149	269	88	40	26	35
22	52	62	47	40	33	41	152	255	83	41	24	38
23	52	61	47	41	34	42	162	228	73	41	24	42
24	53	60	47	40	32	48	162	204	64	39	26	42
25	54	58	49	40	31	59	155	184	68	38	23	42
26	60	62	51	39	34	54	164	184	71	37	24	41
27	61	61	52	39	37	66	156	189	80	36	24	42
28	64	59	53	39	44	82	154	204	85	33	23	42
29	68	55	61	40	---	88	161	205	77	32	25	42
30	65	59	60	41	---	80	166	183	84	30	22	43
31	63	---	59	40	---	55	---	162	---	27	24	---
Total	1,728	1,911	1,439	1,392	1,031	1,426	4,208	5,826	3,459	1,639	849	989
Mean	55.7	63.7	46.4	44.9	36.8	46.0	140	188	115	52.9	27.4	33.0
Max	68	72	61	59	44	88	170	269	207	78	35	43
Min	41	55	35	39	30	33	46	151	64	27	22	24
Ac-ft	3,430	3,790	2,850	2,760	2,040	2,830	8,350	11,560	6,860	3,250	1,680	1,960

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	65.9	72.6	67.4	70.8	74.7	100	122	229	254	107	61.4	57.3
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

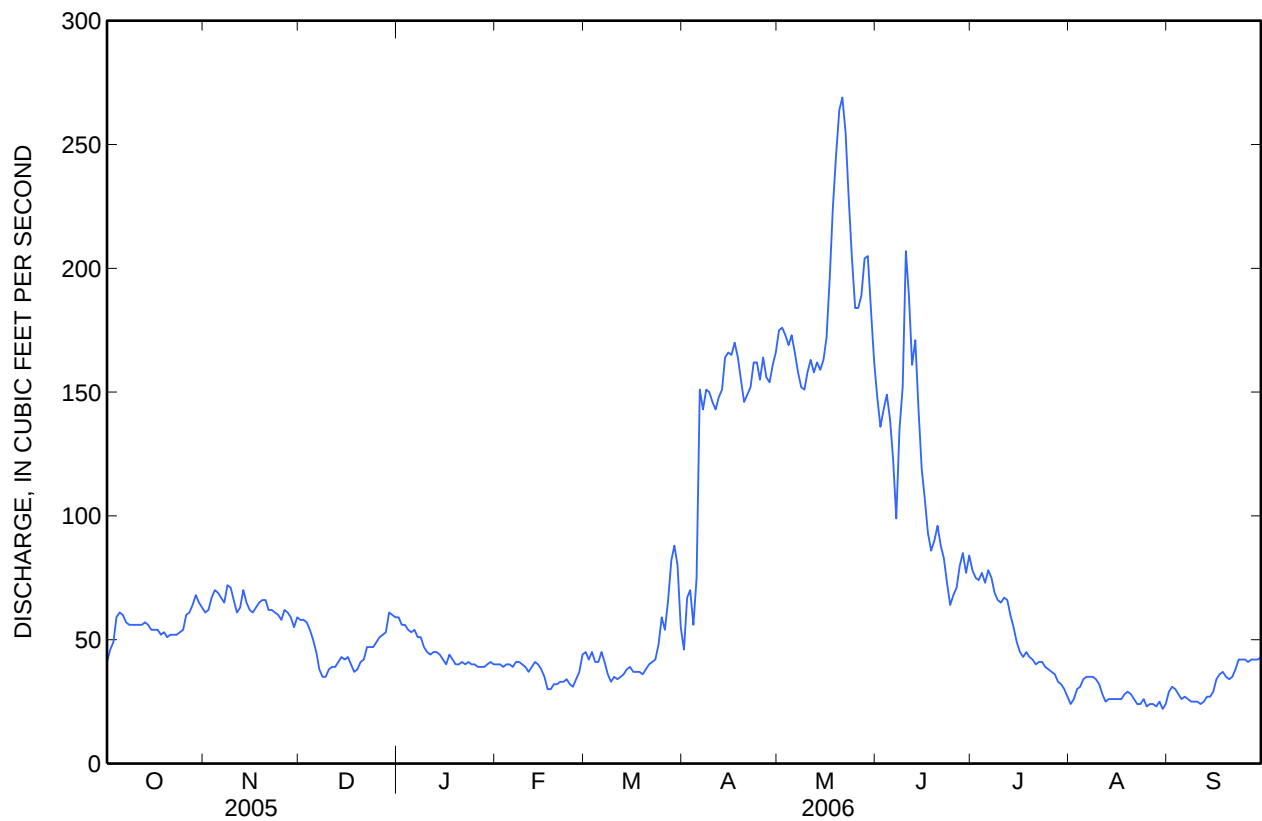
	Calendar Year 2005		Water Year 2006		Water Years 1972 - 2006*	
Annual total	24,632		25,897			
Annual mean	67.5		71.0		106	
Highest annual mean					228	
Lowest annual mean					40.9	
Highest daily mean	313	May 21	269	May 21	1,220	Jun 20, 1975
Lowest daily mean	20	Sep 9	22	Aug 30	15	Sep 12, 1973
Annual seven-day minimum	22	Sep 4	24	Aug 25	16	Aug 4, 2000
Maximum peak flow			274	May 21	^b 1,320	Jun 20, 1975
Maximum peak stage			2.87	May 21	^c 8.64	Jan 16, 1974
Instantaneous low flow			^a 21	Aug 23	15	Sep 12, 1973
Annual runoff (ac-ft)	48,860		51,370		76,590	
10 percent exceeds	178		162		210	
50 percent exceeds	40		52		72	
90 percent exceeds	31		29		31	

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

^a Gage height, 2.36 ft, algae.

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

^c 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 2005 TO SEPTEMBER 2006**

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water, unfltrd, ug/L (01002)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)
Oct 18...	0855	51	8.1	584	14.0	9.0	240	67.1	17.1	15.3	17.9	.04	.06
Mar 20...	1625	39	8.8	618	5.0	5.0	270	75.7	18.6	9.6	11.6	.06	.10
Apr 18...	1020	163	8.4	514	4.5	6.5	210	60.0	13.7	13.8	17.7	E.03	.09
May 09...	1020	145	9.0	432	6.0	9.5	180	54.1	11.0	24.4	26.6	<.04	.15
May 23...	0825	232	8.4	297	13.0	10.0	110	33.9	6.85	30.8	34.5	<.04	.15
Jun 13...	1155	169	8.5	307	25.5	15.5	120	35.7	7.37	29.1	33.0	E.02	.09
Jul 25...	0925	38	9.4	482	24.0	19.5	210	62.4	13.1	37.5	38.5	E.02	.05
Aug 24...	0945	25	9.3	535	18.0	15.0	230	66.7	14.7	32.9	35.5	E.02	.04

12323750 SILVER BOW CREEK AT WARM SPRINGS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	3.5	4.5	9	165	<.08	.68	125	177	3.8	6	80	3	.41
Mar													
20...	4.2	7.2	8	223	<.08	1.08	170	224	4.7	11	89	4	.42
Apr													
18...	5.0	9.5	24	286	.10	1.50	374	378	8.3	14	83	5	2.2
May													
09...	5.9	12.2	24	358	E.07	1.85	255	312	4.1	20	82	8	3.1
23...	5.7	13.0	40	472	.10	2.05	362	446	3.3	14	75	19	12
Jun													
13...	3.4	6.9	27	284	.10	1.21	149	179	2.6	7	82	7	3.2
Jul													
25...	3.1	5.2	6	70	<.08	.39	23.8	53.5	1.1	4	65	3	.31
Aug													
24...	2.3	4.0	E4	36	<.08	.15	12.8	24.0	E.59	2	71	1	.07

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	73	58	53	40	33	39	37	89	122	122	74	60
2	82	61	56	39	33	33	39	81	130	113	72	59
3	79	61	53	38	33	33	36	75	183	111	69	59
4	81	59	50	37	33	31	38	69	193	109	67	56
5	77	57	44	36	32	30	49	67	190	106	65	55
6	74	58	e40	36	29	30	70	72	175	110	65	57
7	75	58	e25	44	33	36	52	78	178	104	69	56
8	75	60	e15	36	33	46	49	77	291	95	61	57
9	74	54	e16	33	32	38	47	73	267	92	60	58
10	71	58	e17	42	25	32	48	70	259	95	57	60
11	70	58	e19	37	29	29	46	70	240	90	61	58
12	71	58	e20	35	35	32	45	75	203	87	61	57
13	68	54	e21	35	36	32	48	78	204	85	61	56
14	66	57	e25	36	35	32	51	91	201	79	59	61
15	66	51	e24	36	e32	33	54	121	197	74	57	70
16	65	57	e23	31	e26	32	57	156	174	70	66	77
17	67	56	e22	36	e18	32	53	210	167	68	73	73
18	64	58	e21	35	e13	33	47	260	157	68	71	67
19	64	56	e20	34	e20	33	43	310	153	63	66	63
20	65	57	e25	33	e30	32	44	359	149	64	64	65
21	65	57	29	33	40	30	46	327	141	63	65	65
22	63	60	34	32	41	28	54	265	149	62	62	66
23	62	56	40	33	41	27	63	258	146	61	59	63
24	62	56	37	32	38	29	58	239	144	58	59	60
25	67	58	39	31	35	30	54	224	138	59	67	59
26	66	64	41	32	34	32	53	226	115	77	69	57
27	63	60	43	31	40	32	56	196	112	77	64	57
28	63	55	44	31	45	34	58	171	112	75	59	56
29	57	e55	45	31	---	38	64	149	109	76	58	55
30	56	56	41	33	---	41	83	132	136	75	59	54
31	56	---	42	33	---	38	---	124	---	75	61	---
Total	2,107	1,723	1,024	1,081	904	1,027	1,542	4,792	5,135	2,563	1,980	1,816
Mean	68.0	57.4	33.0	34.9	32.3	33.1	51.4	155	171	82.7	63.9	60.5
Max	82	64	56	44	45	46	83	359	291	122	74	77
Min	56	51	15	31	13	27	36	67	109	58	57	54
Ac-ft	4,180	3,420	2,030	2,140	1,790	2,040	3,060	9,500	10,190	5,080	3,930	3,600

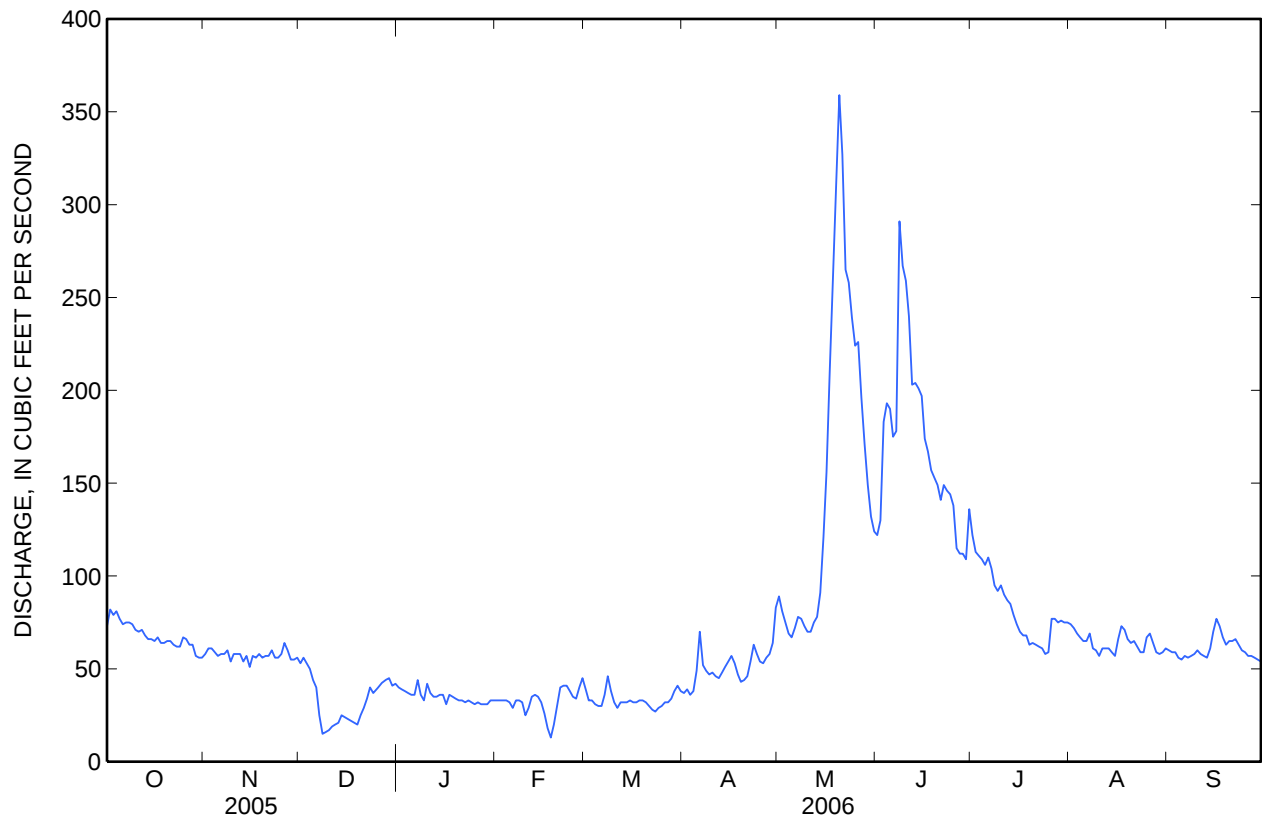
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	71.6	58.1	46.5	45.6	44.8	46.0	52.5	115	190	107	80.3	76.0
Max	113	99.5	78.6	71.0	68.0	67.3	66.5	159	266	196	99.0	95.1
(WY)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(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 2005		Water Year 2006		Water Years 1998 - 2006	
Annual total	27,855		25,694			
Annual mean	76.3		70.4		77.9	
Highest annual mean					112	1998
Lowest annual mean					61.5	2004
Highest daily mean	406	Jun 22	359	May 20	598	May 31, 2003
Lowest daily mean	15	Dec 8	13	Feb 18	13	Feb 18, 2006
Annual seven-day minimum	19	Dec 7	19	Dec 7	18	Jan 3, 2004
Maximum peak flow			391	May 21	^a 675	May 31, 2003
Maximum peak stage			3.65	May 21	^b 4.89	Dec 26, 1998
Instantaneous low flow					^c 10	Jan 6, 2004
Annual runoff (ac-ft)	55,250		50,960		56,440	
10 percent exceeds	168		139		128	
50 percent exceeds	58		58		63	
90 percent exceeds	27		31		36	

^a Gage height, 4.17 ft.^b Backwater from ice.^c 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 August 2006.

PERIOD OF DAILY RECORD.--

TURBIDITY: Seasonal records, May to September 2006.

INSTRUMENTATION.--Turbidity monitor installed May 2006.

REMARKS.--Daily turbidity 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.--

TURBIDITY: Seasonal records, maximum, 46 formazin nephelometric units (fnu), Aug. 16, 2006; minimum, 1.0 fnu, many days June through September 2006.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: During seasonal operation, maximum, 46 formazin nephelometric units (fnu), Aug. 16; minimum, 1.0 fnu, many days June through September.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 3

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)
Oct												
17...	1515	76	E.6	8.6	254	20.0	9.5	130	37.4	8.00	1.9	2.0
Apr												
17...	1605	52	<2.0	8.8	254	3.5	7.0	120	36.5	7.98	2.5	2.8
May												
08...	1410	76	<2.0	8.6	222	12.5	8.0	110	33.4	6.60	1.8	2.1
Jun												
09...	1100	268	<2.0	8.2	126	17.0	8.0	60	18.6	3.25	1.8	2.3
Jul												
24...	1425	59	<2.0	8.6	242	34.5	16.0	110	34.2	6.96	2.5	2.7
Aug												
23...	1435	60	<2.0	8.7	242	31.0	14.5	110	34.3	7.02	2.2	2.3

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 3

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

Date	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)
Oct												
17...	E.03	E.03	.68	1.2	10	48	<.08	.14	<.2	2.4	E.47	E1
Apr												
17...	E.02	E.03	1.3	2.4	7	77	<.08	.24	.9	3.1	.71	E2
May												
08...	<.04	E.03	1.2	2.5	7	73	<.08	.23	.7	3.1	E.40	E1
Jun												
09...	E.02	.05	1.3	4.1	10	194	<.08	.55	1.1	9.1	1.3	4
Jul												
24...	<.04	E.03	1.4	2.4	E6	75	E.05	.24	1.2	4.2	1.2	E2
Aug												
23...	<.04	E.02	.68	1.9	E6	75	<.08	.24	.8	3.7	E.30	E1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO
SEPTEMBER 2006

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)
Oct			
17...	80	3	.62
Apr			
17...	76	3	.42
May			
08...	66	4	.82
Jun			
09...	51	13	9.4
Jul			
24...	71	4	.64
Aug			
23...	68	4	.65

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	May			June			July			August		
1				14	2.0	3.0	3.0	2.0	2.5	3.0	2.0	2.0
2				3.0	2.0	2.5	3.0	2.0	2.5	3.0	2.0	2.0
3				5.0	3.0	4.0	34	2.0	3.5	3.0	2.0	2.0
4				6.0	2.0	3.5	4.0	2.0	2.5	4.0	1.0	2.0
5	3.0	2.0	2.5	4.0	2.0	2.5	4.0	2.0	2.5	3.0	1.0	2.0
6	3.0	2.0	2.5	3.0	2.0	2.5	6.0	2.0	3.0	7.5	2.0	2.0
7	5.0	2.0	3.0	5.0	2.0	2.5	3.0	2.0	2.5	7.0	2.0	3.0
8	3.0	2.0	2.5	24	5.0	8.5	3.0	2.0	2.5	3.0	2.0	2.0
9	5.0	2.0	2.5	25	3.0	4.5	4.0	2.0	2.5	3.0	2.0	2.0
10	3.0	2.0	2.0	27	3.0	5.0	16	2.0	3.0	3.0	1.0	2.0
11	3.0	2.0	2.0	4.0	2.0	3.0	5.0	2.0	2.5	4.0	2.0	2.0
12	3.0	2.0	2.5	3.0	2.0	2.5	3.0	2.0	2.5	3.0	2.0	2.0
13	4.0	2.0	3.0	3.0	2.0	2.5	3.0	2.0	2.5	4.0	2.0	2.0
14	6.0	3.0	4.0	3.0	2.0	2.5	3.0	2.0	2.5	3.0	2.0	2.0
15	14	5.0	9.5	3.0	2.0	2.5	6.0	2.0	2.5	4.0	2.0	2.0
16	18	7.0	12	2.0	1.0	2.0	6.0	2.0	2.5	46	2.0	4.0
17	26	8.0	15	2.0	1.0	2.0	3.0	1.0	2.5	23	2.0	4.5
18	26	8.0	16	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.5
19	19	8.0	12	3.0	2.0	2.0	3.0	1.0	2.5	3.0	2.0	2.0
20	22	10	14	2.0	1.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0
21	25	6.0	11	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.5
22	7.0	4.0	5.0	3.0	2.0	2.5	3.0	2.0	2.0	3.0	2.0	2.0
23	6.0	3.0	4.5	14	2.0	8.0	3.0	2.0	2.0	3.0	2.0	2.0
24	6.0	3.0	4.5	13	1.0	10	3.0	2.0	2.0	3.0	2.0	2.0
25	4.0	3.0	3.5	3.0	1.0	2.0	4.0	2.0	2.0	6.0	2.0	3.0
26	5.0	3.0	3.5	3.0	1.0	2.0	5.0	2.0	3.0	5.0	2.0	2.5
27	5.0	3.0	3.5	2.0	1.0	2.0	6.0	2.0	2.5	3.0	2.0	2.0
28	22	3.0	4.0	3.0	2.0	2.0	3.0	2.0	2.5	3.0	2.0	2.0
29	6.0	3.0	3.0	21	2.0	3.5	3.0	2.0	2.5	3.0	2.0	2.0
30	4.0	2.0	2.5	18	2.0	4.0	3.0	2.0	2.5	3.0	2.0	2.0
31	14	2.0	3.0	---	---	---	3.0	2.0	2.5	4.0	2.0	2.0
Month	---	---	---	27	1.0	3.3	34	1.0	2.5	46	1.0	2.3

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	47	37	e35	31	30	32	29	66	82	78	46	41
2	57	40	e40	30	30	27	32	61	86	73	44	43
3	58	42	e35	30	30	27	29	56	114	69	41	42
4	58	39	e30	29	30	26	31	53	127	69	38	40
5	54	38	e20	28	30	25	37	50	127	65	39	36
6	51	38	e15	29	e28	25	58	53	117	66	38	36
7	54	40	e10	34	e27	25	43	58	117	63	44	36
8	56	43	e12	30	30	32	40	58	180	56	37	36
9	57	39	e12	29	30	30	38	56	181	53	38	37
10	55	41	e14	35	e29	27	37	53	178	57	34	37
11	50	45	e16	33	e27	25	36	53	172	56	37	36
12	45	46	e16	31	e34	33	35	55	144	47	37	39
13	45	43	e14	31	e36	28	36	56	140	47	37	39
14	41	46	e13	32	31	25	38	64	141	42	38	44
15	40	42	e22	32	e25	26	39	80	138	38	34	50
16	38	46	e19	30	e10	23	42	101	122	34	39	58
17	39	45	e16	38	e5.0	23	43	127	115	33	49	56
18	40	45	e14	31	e8.0	24	39	159	108	35	49	47
19	39	44	e13	29	e8.0	26	36	189	103	30	45	34
20	40	46	e16	31	e8.0	25	36	226	100	31	43	35
21	44	46	e20	32	e9.0	25	36	227	94	31	43	37
22	44	48	e30	35	e9.0	23	41	183	96	32	40	38
23	44	45	e40	29	e14	23	47	175	91	31	38	37
24	42	45	e40	28	e20	22	46	157	89	29	39	36
25	45	46	e40	27	e29	23	44	144	84	27	42	35
26	46	49	34	28	e29	25	42	144	72	41	45	33
27	43	46	36	27	e35	26	42	131	69	39	42	34
28	41	42	36	38	37	27	44	117	69	37	38	33
29	34	e35	36	41	---	29	46	104	65	36	38	31
30	34	e40	31	29	---	31	58	94	84	36	39	31
31	34	---	33	30	---	30	---	84	---	45	41	---
Total	1,415	1,287	758	967	668.0	818	1,200	3,234	3,405	1,426	1,252	1,167
Mean	45.6	42.9	24.5	31.2	23.9	26.4	40.0	104	114	46.0	40.4	38.9
Max	58	49	40	41	37	33	58	227	181	78	49	58
Min	34	35	10	27	5.0	22	29	50	65	27	34	31
Ac-ft	2,810	2,550	1,500	1,920	1,320	1,620	2,380	6,410	6,750	2,830	2,480	2,310

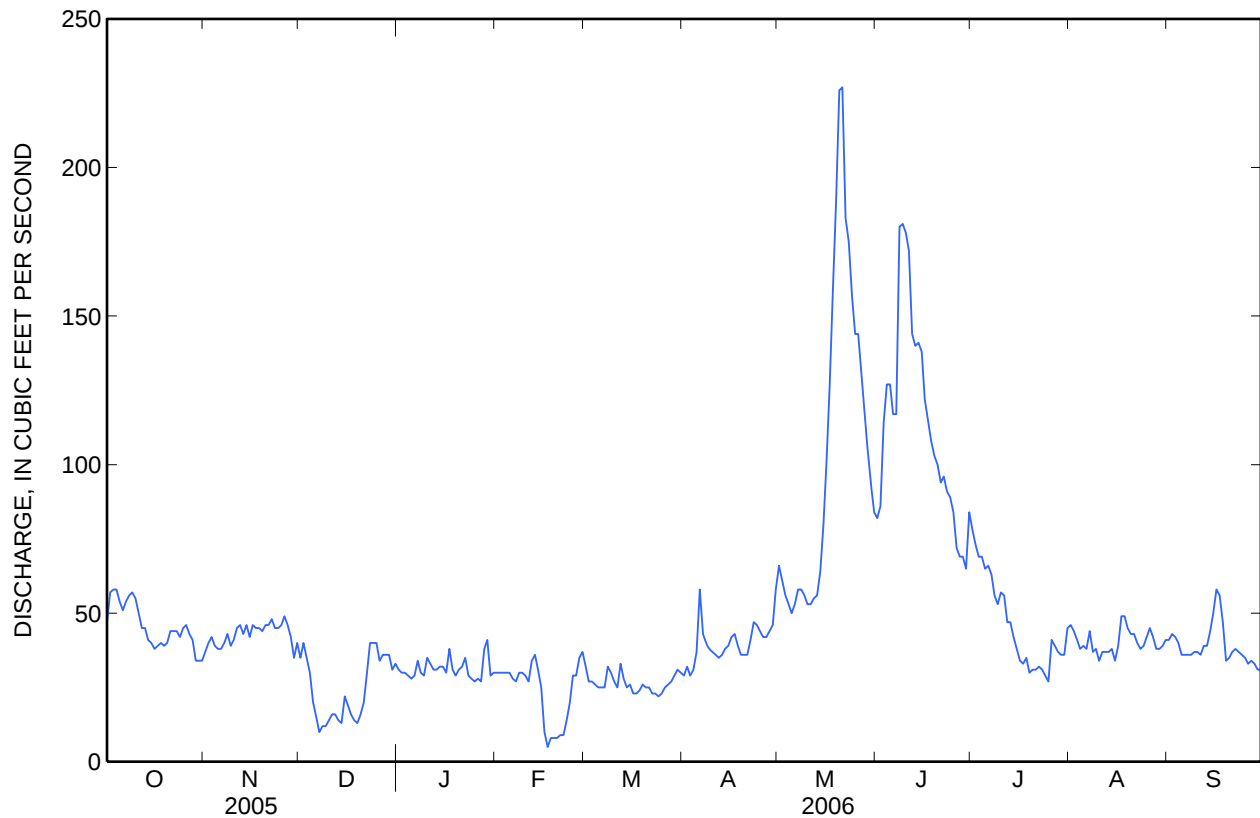
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	42.9	42.5	32.6	34.9	34.6	34.4	40.9	81.5	136	54.3	26.5	32.9
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 2005		Water Year 2006		Water Years 1984 - 2006	
Annual total	18,744		17,597.0			
Annual mean	51.4		48.2		49.4	
Highest annual mean					108	1997
Lowest annual mean					16.6	1992
Highest daily mean	292	Jun 22	227	May 21	475	Jun 6, 1997
Lowest daily mean	10	Dec 7	5.0	Feb 17	0.00	Aug 4, 1988
Annual seven-day minimum	13	Dec 7	8.1	Feb 16	0.05	Aug 3, 1988
Maximum peak flow			^a 253	May 21	^c 494	Jun 5, 1997
Maximum peak stage			^b 4.79	Dec 23	5.70	Feb 2, 1986
Instantaneous low flow					0.00	Aug 4, 1988
Annual runoff (ac-ft)	37,180		34,900		35,820	
10 percent exceeds	124		90		95	
50 percent exceeds	37		38		36	
90 percent exceeds	17		25		8.8	

^a Gage height, 4.44 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 excellent. Missing data for Sept. 24 due to equipment problems. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 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, 22.5°C, July 22; minimum 0.0°C, many days November through March.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
Oct													
18...	0835	37	8.2	356	13.5	8.0	170	51.2	10.5	4.9	5.5	.04	.07
Apr													
18...	1000	39	8.4	365	4.5	2.5	180	53.4	10.8	4.0	4.6	E.04	.06
May													
09...	1005	57	8.4	300	6.0	4.5	150	44.8	8.38	3.5	4.1	<.04	.05
23...	0735	183	7.8	156	13.0	7.5	73	23.1	3.79	3.6	6.2	<.04	.11
Jun													
13...	1020	147	8.1	186	22.5	11.5	89	27.6	4.77	4.2	5.5	E.03	.08
Jul													
25...	0905	29	8.2	336	23.0	14.5	160	50.2	9.07	6.2	6.6	E.02	.05
Aug													
24...	0925	40	8.3	321	17.0	11.0	150	46.1	8.67	4.2	12.8	E.02	.07

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concentra- tion mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	2.4	7.4	16	94	E.05	.50	176	222	1.5	3	72	6	.60
Apr													
18...	2.6	6.4	11	81	E.04	.40	164	190	1.9	3	71	4	.42
May													
09...	2.5	8.2	9	99	<.08	.56	77.6	117	1.6	3	69	5	.77
23...	3.7	24.7	14	440	<.08	2.34	33.9	110	1.8	10	68	23	11
Jun													
13...	3.2	13.1	12	214	E.07	1.13	75.2	119	1.4	5	64	11	4.4
Jul													
25...	2.5	6.8	10	68	E.05	.38	124	156	1.1	3	77	2	.16
Aug													
24...	1.8	11.1	9	80	<.08	.67	118	53.1	.83	10	67	3	.32

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued**TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

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

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

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

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

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued**TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

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

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	73	101	101	101	73	79	70	245	237	149	56	62
2	92	106	106	97	72	71	94	243	228	140	56	68
3	97	112	100	95	72	73	99	234	258	134	55	65
4	109	113	93	92	73	68	83	228	283	138	54	61
5	109	111	82	89	72	67	108	229	271	131	58	54
6	103	108	e70	91	e70	71	212	227	248	135	58	55
7	103	109	e50	92	e70	65	197	224	217	126	64	54
8	103	121	e52	88	e75	68	202	217	319	115	60	54
9	105	116	e55	79	71	64	199	207	355	109	61	55
10	105	112	e55	84	71	60	192	208	404	112	53	56
11	100	108	e55	81	65	62	188	215	389	114	51	53
12	96	113	e55	81	79	67	192	212	327	105	48	56
13	96	120	55	80	84	60	196	218	330	100	48	59
14	91	119	55	83	73	61	215	223	303	90	49	64
15	88	117	69	82	72	63	220	242	271	77	46	75
16	86	114	61	77	e55	59	218	270	241	60	53	92
17	88	117	e60	82	e35	59	224	319	211	56	65	90
18	87	121	e56	81	e38	59	214	375	190	64	69	82
19	87	120	e55	78	e40	60	201	425	186	57	64	65
20	86	120	e60	78	e40	61	189	489	193	57	62	64
21	90	117	68	78	e42	63	195	508	176	58	59	67
22	91	118	79	e78	42	62	200	446	171	67	54	73
23	91	113	92	77	51	63	218	415	156	66	52	76
24	91	114	90	75	63	68	221	374	143	52	54	72
25	95	112	94	74	e60	81	211	332	139	50	55	71
26	104	119	94	73	63	78	220	334	130	62	60	68
27	103	115	97	72	73	89	206	323	134	61	56	72
28	105	110	99	75	84	107	205	325	142	57	51	74
29	104	91	109	74	---	115	215	319	130	55	52	71
30	100	106	103	74	---	111	230	279	157	54	52	71
31	102	---	103	75	---	84	---	254	---	60	57	---
Total	2,980	3,393	2,373	2,536	1,778	2,218	5,634	9,159	6,939	2,711	1,732	1,999
Mean	96.1	113	76.5	81.8	63.5	71.5	188	295	231	87.5	55.9	66.6
Max	109	121	109	101	84	115	230	508	404	149	69	92
Min	73	91	50	72	35	59	70	207	130	50	46	53
Ac-ft	5,910	6,730	4,710	5,030	3,530	4,400	11,180	18,170	13,760	5,380	3,440	3,970

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2006, BY WATER YEAR (WY)

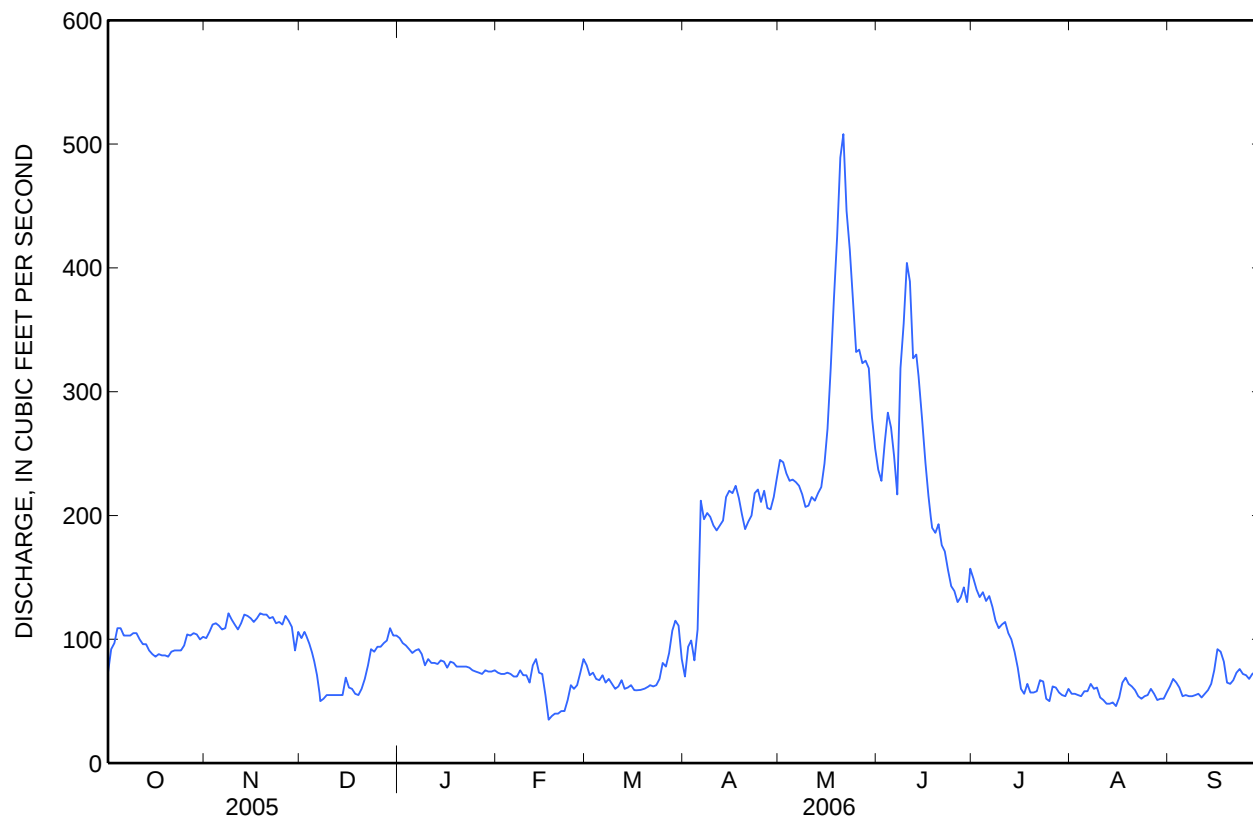
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	87.7	93.4	81.0	82.7	88.8	109	134	248	341	133	68.5	70.0
Max	170	159	132	169	174	167	257	668	974	381	233	184
(WY)	(1998)	(1998)	(1998)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1997)	(1997)	(1993)
Min	40.6	50.7	40.7	42.5	43.5	54.2	55.4	68.6	51.1	21.4	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 2005		Water Year 2006		Water Years 1988 - 2006	
Annual total	44,346		43,452			
Annual mean	121		119		129	
Highest annual mean					288	
Lowest annual mean					59.6	
Highest daily mean	545	Jun 18	508	May 21	1,210	Jun 7, 1997
Lowest daily mean	45	Apr 12	35	Feb 17	9.7	Aug 11, 1988
Annual seven-day minimum	49	Jan 5	41	Feb 17	9.8	Aug 15, 1988
Maximum peak flow			528	May 21	1,240	Jun 7, 1997
Maximum peak stage			3.40	May 21	5.07	Jun 7, 1997
Instantaneous low flow					^a 9.0	Aug 9, 1988
Annual runoff (ac-ft)	87,960		86,190		93,520	
10 percent exceeds	333		228		270	
50 percent exceeds	71		89		87	
90 percent exceeds	52		55		44	

^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 2005 TO SEPTEMBER 2006**

Part 1 of 3

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water, unfltrd, ug/L (01002)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)
Oct 18...	1025	85	8.4	480	16.0	9.0	220	63.0	14.7	10.5	11.8	.05	.06
Mar 21...	1120	62	8.4	538	9.0	2.5	250	73.3	16.3	6.4	7.9	.05	.10
Apr 18...	1200	216	8.4	490	7.5	6.5	190	55.7	12.8	11.7	15.7	.04	.11
May 09...	1140	204	8.9	401	8.5	9.0	170	50.8	10.4	18.9	21.0	<.04	.13
23...	0935	427	8.2	233	14.0	10.5	95	29.1	5.53	19.5	23.4	<.04	.17
Jun 13...	1250	337	8.4	253	27.5	15.5	100	31.5	6.28	18.2	21.2	E.02	.11
Jul 24...	1710	53	9.2	407	34.5	23.5	180	55.0	11.4	24.9	26.1	E.02	.06
Aug 24...	0755	53	8.5	417	11.0	13.5	190	55.6	11.6	16.8	17.2	E.02	.06

12323800 CLARK FORK NEAR GALEN, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 3

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	4.0	6.5	13	118	<.08	.51	99.7	130	2.6	5	82	3	.69
Mar													
21...	3.8	9.1	7	184	<.08	.99	169	232	4.8	11	78	4	.67
Apr													
18...	5.1	12.3	16	297	.08	1.70	279	333	6.7	15	76	7	4.1
May													
09...	5.5	13.6	15	323	E.06	1.75	174	251	3.0	17	81	7	3.9
23...	5.8	28.2	29	561	E.07	3.25	170	296	2.8	18	69	22	25
Jun													
13...	4.0	14.5	19	300	E.06	1.66	72.6	135	1.7	10	73	10	9.1
Jul													
24...	4.3	15.6	7	68	E.05	.47	29.9	62.8	1.2	4	80	3	.43
Aug													
24...	3.1	7.5	6	77	<.08	.51	41.9	88.7	1.1	4	78	3	.43

Water-Data Report 2006

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 are good except those for estimated daily discharges and those for Oct. 22 to Nov. 1 and May to June, which are fair and those for Aug. 11 to Sept. 30, 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.31	6.4	2.7	4.1	3.5	3.6	4.0	7.9	5.5	1.3	8.2	e0.00
2	0.39	6.1	3.2	4.0	3.5	3.3	4.1	7.4	7.7	0.92	7.8	e0.00
3	0.98	5.9	3.3	3.9	3.4	3.4	4.0	7.0	8.0	0.88	5.9	e0.00
4	3.5	5.5	3.2	3.8	3.5	3.2	4.5	6.1	8.2	1.7	2.4	e0.00
5	3.3	5.3	e3.0	3.8	3.4	3.1	5.5	5.8	8.3	2.0	1.6	e0.00
6	3.2	5.3	e2.5	3.9	e3.0	3.1	9.2	6.4	7.9	2.0	0.94	e0.00
7	3.2	5.3	e1.5	3.8	e3.0	3.1	5.8	6.8	7.6	1.3	0.54	e0.00
8	3.2	5.4	e2.0	3.8	3.7	3.0	5.1	5.2	15	0.76	0.38	e0.00
9	3.1	4.8	3.1	3.6	3.5	2.9	4.9	5.1	14	0.80	0.31	e0.00
10	3.0	5.3	4.0	4.1	e2.0	e2.6	4.7	5.6	22	0.98	0.15	e0.05
11	2.9	5.5	4.6	4.1	e1.8	e2.4	4.3	5.2	21	1.1	e0.10	e0.00
12	2.9	5.5	4.7	3.8	e2.0	e2.6	3.9	5.6	16	1.2	e0.10	e0.00
13	2.8	5.0	4.8	3.9	3.9	e2.6	4.1	5.9	13	1.5	e0.10	0.19
14	2.9	5.0	4.7	4.1	e3.0	e2.7	4.3	5.3	12	1.4	e0.10	0.13
15	2.8	3.7	4.4	3.9	e2.0	e3.0	4.5	4.3	11	1.2	e0.10	0.25
16	2.7	5.2	4.5	3.5	e1.5	3.2	4.7	5.3	9.7	0.91	e0.10	0.30
17	2.7	5.0	e4.0	4.0	e1.0	3.2	4.6	7.0	8.1	0.79	e0.10	e0.10
18	2.7	4.9	e3.0	3.8	e1.5	3.2	4.2	8.2	6.0	0.67	e0.05	e0.10
19	2.7	4.8	e3.5	3.7	e2.0	3.2	3.9	13	6.6	0.50	e0.05	e0.05
20	2.7	4.7	4.3	3.5	e2.5	3.2	3.9	14	7.8	0.51	e0.05	e0.05
21	2.7	4.7	4.6	3.7	3.2	3.3	4.2	13	5.6	0.55	e0.00	e0.05
22	5.6	4.6	4.9	3.5	3.4	3.5	4.9	10	5.1	0.76	e0.00	e0.05
23	6.8	4.6	5.1	3.7	3.6	3.6	5.6	11	5.4	6.0	e0.05	e0.05
24	7.3	4.4	4.8	3.7	3.6	3.6	5.1	8.4	5.2	8.9	e0.05	0.13
25	7.0	4.6	4.7	3.7	3.5	3.8	4.9	9.4	5.0	7.7	e0.05	0.13
26	6.3	4.7	4.5	3.7	3.6	3.8	4.7	11	4.6	8.3	e0.00	0.13
27	6.0	4.0	4.3	3.4	4.6	3.5	4.8	11	3.0	8.0	e0.00	0.13
28	6.7	2.9	4.2	3.6	4.2	3.6	5.0	11	1.6	7.1	e0.00	e0.05
29	6.3	2.0	5.0	3.7	---	4.2	5.8	9.8	1.4	7.4	e0.00	e0.00
30	6.5	3.1	4.3	3.9	---	4.4	7.5	8.4	2.4	7.8	e0.00	e0.00
31	6.3	---	4.3	3.7	---	4.1	---	7.0	---	8.2	e0.00	---
Total	119.48	144.2	121.7	117.4	83.4	102.0	146.7	247.1	254.7	93.13	29.22	1.94
Mean	3.85	4.81	3.93	3.79	2.98	3.29	4.89	7.97	8.49	3.00	0.94	0.06
Max	7.3	6.4	5.1	4.1	4.6	4.4	9.2	14	22	8.9	8.2	0.30
Min	0.31	2.0	1.5	3.4	1.0	2.4	3.9	4.3	1.4	0.50	0.00	0.00
Ac-ft	237	286	241	233	165	202	291	490	505	185	58	3.8

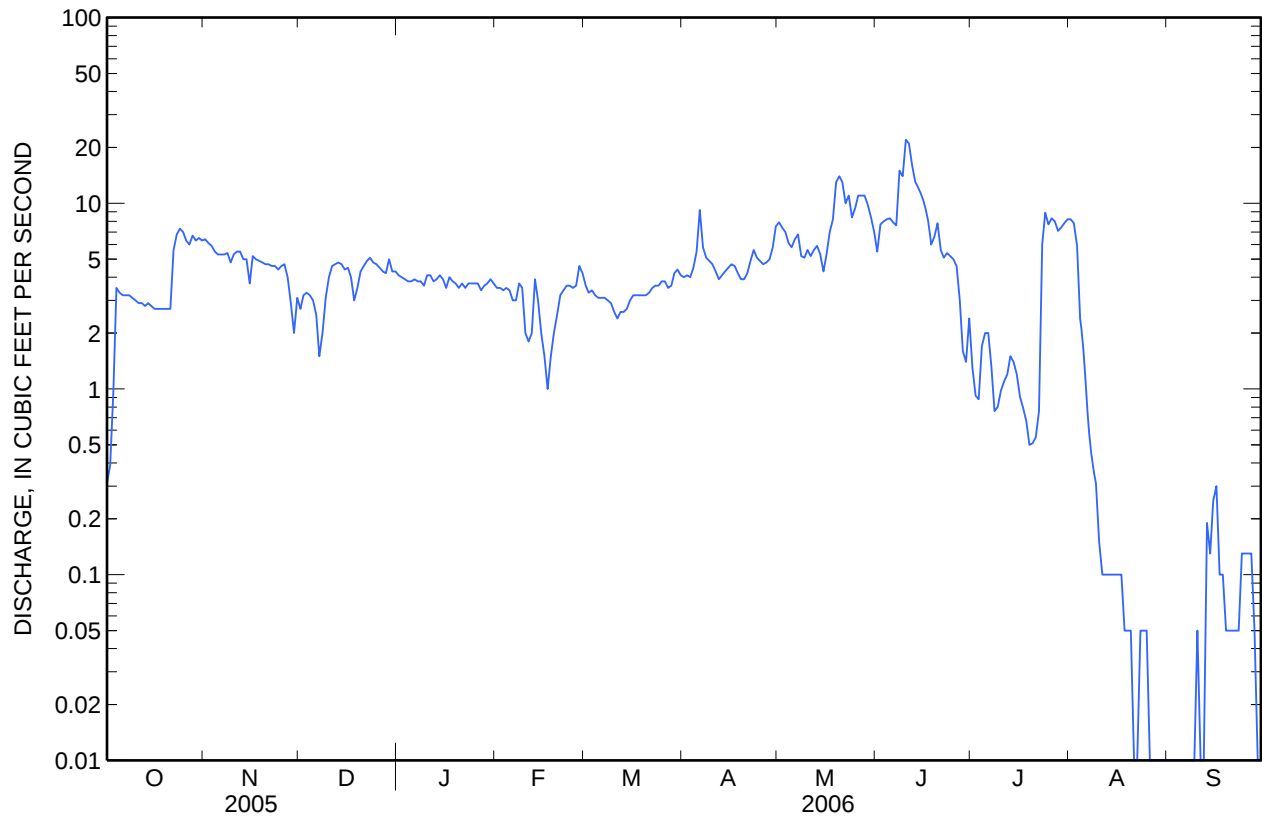
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3.14	4.58	4.06	3.74	3.19	3.14	4.18	7.95	13.4	3.84	4.23	0.25
Max	3.85	4.81	4.19	3.79	3.39	3.29	4.89	7.97	18.4	4.68	7.52	0.43
(WY)	(2006)	(2006)	(2005)	(2006)	(2005)	(2006)	(2006)	(2006)	(2005)	(2005)	(2005)	(2005)
Min	2.43	4.35	3.93	3.69	2.98	2.99	3.48	7.93	8.49	3.00	0.94	0.06
(WY)	(2005)	(2005)	(2006)	(2005)	(2006)	(2005)	(2005)	(2005)	(2006)	(2006)	(2006)	(2006)

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2005 - 2006	
Annual total	1,979.93		1,460.97			
Annual mean	5.42		4.00		4.65	
Highest annual mean					5.29	2005
Lowest annual mean					4.00	2006
Highest daily mean	28	Jun 6	22	Jun 10	28	Jun 6, 2005
Lowest daily mean	0.27	Sep 30	0.00	Aug 21	0.00	Aug 21, 2006
Annual seven-day minimum	0.34	Sep 26	0.00	Aug 26	0.00	Aug 26, 2006
Maximum peak flow			^a 27	June 10	^c 32	Jun 6, 2005
Maximum peak stage			^b 4.47	Feb 17	^b 4.47	Feb 17, 2006
Annual runoff (ac-ft)	3,930		2,900		3,370	
10 percent exceeds	13		7.8		10	
50 percent exceeds	3.7		3.7		3.7	
90 percent exceeds	0.94		0.10		0.43	

^a Gage height, 3.52 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 September 2006.

INSTRUMENTATION.--Turbidity monitor installed in May 2006.

REMARKS.--August sample was not collected due to no flow. Daily turbidity records are rated good. Missing daily turbidity data July 11 due to equipment problems and missing values for Aug. 13, 15-25, Aug. 28 to Sept. 7, Sept. 9-13, 24, 25, 29, and 30 are due to no flow or insufficient depth to submerge sensor. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

TURBIDITY (seasonal records): Maximum, 61 formazin nephelometric units (fnu), June 30, 2006; minimum, 0.5 fnu, several days in July, August, and September 2006.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: During seasonal operation, maximum, 61 formazin nephelometric units (fnu), June 30; minimum, 0.5 fnu, several days in July, August, and September.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 3

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

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 unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)
Oct												
17...	1410	2.7	E.2	8.3	253	22.0	10.0	120	37.1	7.11	8.7	9.0
Mar												
20...	1320	3.3	<2.0	8.3	216	3.0	2.5	110	32.6	6.82	2.4	2.5
Apr												
17...	1505	4.5	<2.0	8.4	205	6.5	5.0	98	29.3	6.01	2.9	3.3
May												
08...	1305	5.2	<2.0	8.3	187	12.5	7.5	92	28.0	5.41	3.0	3.2
22...	1400	9.1	6.6	8.1	136	26.5	9.5	62	19.1	3.58	5.7	8.1
Jun												
09...	1020	14	2.6	8.1	168	16.0	9.0	79	24.6	4.36	6.5	7.5
Jul												
24...	1325	9.6	3.9	8.3	224	36.0	13.5	110	32.6	6.14	5.1	5.8

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 3

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

Date	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)
Oct												
17...	.05	.04	2.0	2.9	E6	24	<.08	.10	<.2	1.9	1.1	E2
Mar												
20...	E.03	E.03	1.3	2.8	E4	43	<.08	.17	.6	1.7	1.0	E2
Apr												
17...	E.03	.04	2.0	4.2	7	88	<.08	.38	1.4	3.4	1.0	E2
May												
08...	<.04	E.04	1.8	4.1	8	98	<.08	.40	1.1	3.6	.80	E2
22...	E.02	.13	4.1	24.1	16	574	.09	2.76	3.5	14.5	2.0	10
Jun												
09...	E.02	.07	2.8	9.0	13	266	<.08	1.08	1.4	7.8	1.4	5
Jul												
24...	E.03	.07	1.9	9.9	9	311	E.05	1.32	1.5	10.3	.77	4

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO
SEPTEMBER 2006

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)
Oct			
17...	63	2	.01
Mar			
20...	63	2	.02
Apr			
17...	71	5	.06
May			
08...	60	6	.08
22...	66	39	.96
Jun			
09...	38	17	.64
Jul			
24...	47	19	.49

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/- 2.5 DEGREES, FNU
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
May			June			July			August			
1				7.5	2.0	2.5	4.0	2.0	2.5	3.0	2.0	2.5
2				12	2.0	3.5	3.0	1.5	2.0	3.5	1.5	2.5
3				6.0	2.0	3.0	4.5	1.5	2.0	5.0	2.0	2.5
4				7.5	2.0	3.0	3.5	1.0	2.0	5.5	1.5	2.5
5				10	2.0	3.5	2.5	1.0	1.5	2.0	1.0	1.5
6				11	2.0	3.5	3.5	1.0	1.5	2.0	1.0	1.0
7				12	2.0	3.0	2.0	1.0	1.0	2.0	0.5	1.0
8				24	5.0	11	3.0	1.0	1.0	1.0	0.5	0.5
9				7.5	3.5	4.5	1.5	1.0	1.0	1.5	0.5	1.0
10				57	4.0	21	7.0	1.0	2.0	1.0	0.5	0.5
11				13	5.0	8.0	---	---	---	1.5	0.5	0.5
12				13	4.0	5.0	3.0	1.0	1.5	1.5	0.5	0.5
13				7.0	3.5	4.5	2.5	1.0	1.0	---	---	---
14				7.0	2.5	3.5	2.5	1.0	1.0	2.0	0.5	1.0
15				5.5	2.0	2.5	2.0	1.0	1.0	---	---	---
16				4.5	1.5	2.5	1.5	0.5	1.0	---	---	---
17				6.5	2.0	3.0	1.0	0.5	1.0	---	---	---
18				5.0	2.0	2.5	1.0	0.5	1.0	---	---	---
19				6.5	1.5	2.5	2.0	0.5	1.0	---	---	---
20				5.5	1.5	2.5	1.5	0.5	1.0	---	---	---
21				3.0	1.5	2.0	1.5	0.5	1.0	---	---	---
22				3.0	1.5	2.0	4.0	0.5	1.0	---	---	---
23				3.5	1.5	2.0	23	1.5	6.5	---	---	---
24	12	3.0	5.0	3.0	1.5	2.0	6.0	3.0	4.0	---	---	---
25	8.5	2.5	4.5	5.0	1.5	2.0	4.0	2.0	3.0	---	---	---
26	9.0	3.0	5.0	8.0	1.5	2.5	5.5	2.5	3.0	1.0	0.5	1.0
27	6.5	2.5	4.0	11	1.5	3.0	3.0	2.0	2.5	1.0	0.5	1.0
28	13	2.5	5.0	4.5	1.5	2.0	4.0	2.0	2.5	---	---	---
29	7.5	2.5	3.5	30	1.0	2.0	3.5	2.0	2.5	---	---	---
30	9.5	2.0	3.5	61	3.5	11	6.0	2.0	2.5	---	---	---
31	8.5	2.0	3.0	---	---	---	3.5	1.5	2.5	---	---	---
Month	---	---	---	61	1.0	4.2	---	---	---	---	---	---

12323840 LOST CREEK NEAR ANACONDA, MT—Continued

**TURBIDITY, WATER, MONOCHROME
NEAR INFRA-RED LED LIGHT, 780-
900 NM, DETECTION ANGLE
90 +/- 2.5 DEGREES, FNU
WATER YEAR OCTOBER 2005 TO
SEPTEMBER 2006**

Day	Max	Min	Mean
September			
1	---	---	---
2	---	---	---
3	---	---	---
4	---	---	---
5	---	---	---
6	---	---	---
7	---	---	---
8	1.5	1.0	1.0
9	---	---	---
10	---	---	---
11	---	---	---
12	---	---	---
13	---	---	---
14	1.0	1.0	1.0
15	1.5	1.0	1.0
16	3.0	1.0	1.5
17	1.0	1.0	1.0
18	1.0	1.0	1.0
19	1.0	1.0	1.0
20	1.0	1.0	1.0
21	1.5	1.0	1.0
22	1.0	1.0	1.0
23	1.5	1.0	1.0
24	---	---	---
25	---	---	---
26	1.0	1.0	1.0
27	1.0	1.0	1.0
28	1.0	0.5	0.5
29	---	---	---
30	---	---	---
31	---	---	---
Month	---	---	---

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	34	36	e40	45	41	45	42	35	3.2	2.4	1.8	3.8
2	32	36	e40	44	40	43	44	33	1.8	2.3	1.8	3.7
3	34	39	e39	43	41	42	43	27	1.8	2.2	1.8	3.6
4	41	39	e38	42	41	41	43	25	1.8	2.2	1.8	3.6
5	37	40	e37	42	40	40	47	25	1.7	e2.2	1.9	3.6
6	39	43	e36	42	e39	40	100	25	1.7	e2.2	1.9	3.6
7	35	45	e35	42	e39	41	81	25	1.7	e2.2	2.4	3.8
8	35	49	e36	42	40	41	57	25	2.6	e2.2	3.1	3.7
9	35	47	e37	42	40	40	49	24	2.4	e2.1	3.2	3.9
10	35	45	e38	42	e39	e39	46	24	5.7	e2.1	3.3	4.1
11	35	46	e40	45	e39	e38	43	24	7.6	e2.0	3.2	4.0
12	35	45	e40	43	e40	e38	36	24	4.5	1.9	3.2	3.9
13	35	43	e40	42	e40	39	35	24	3.0	2.1	3.3	3.8
14	35	43	e39	43	39	39	33	26	2.3	1.9	3.2	4.0
15	34	e42	e38	43	e36	41	33	26	2.5	1.8	3.2	4.7
16	31	42	e37	41	e33	41	35	25	2.2	e1.8	3.7	5.9
17	33	43	e36	e40	e30	41	38	24	1.9	e1.7	4.9	5.0
18	34	43	e36	41	e32	42	36	24	1.8	e1.6	4.8	4.8
19	34	43	e38	42	e34	41	35	21	2.0	1.6	4.3	4.8
20	34	42	e42	e40	e36	41	34	8.5	2.1	1.6	3.9	14
21	34	41	e45	41	e38	41	34	2.4	2.0	1.6	3.8	15
22	34	41	e49	e40	e41	42	33	2.1	1.9	1.6	3.6	17
23	35	40	51	41	e44	42	36	1.9	1.9	1.7	3.6	20
24	35	40	47	42	e42	42	36	1.9	1.8	1.7	3.5	19
25	35	40	46	42	e40	42	35	1.8	1.8	1.7	3.8	19
26	35	40	45	42	e41	43	35	1.9	1.8	1.7	4.0	18
27	35	39	45	41	44	42	34	2.5	1.8	1.6	3.8	18
28	36	e38	45	e40	49	41	34	2.7	2.1	1.7	3.7	18
29	37	e38	49	e40	---	42	34	7.3	2.1	1.6	3.5	18
30	36	e39	45	42	---	44	34	5.0	2.9	1.7	3.6	16
31	36	---	44	41	---	43	---	4.3	---	1.8	3.8	---
Total	1,085	1,247	1,273	1,298	1,098	1,277	1,255	528.3	74.4	58.5	101.4	270.3
Mean	35.0	41.6	41.1	41.9	39.2	41.2	41.8	17.0	2.48	1.89	3.27	9.01
Max	41	49	51	45	49	45	100	35	7.6	2.4	4.9	20
Min	31	36	35	40	30	38	33	1.8	1.7	1.6	1.8	3.6
Ac-ft	2,150	2,470	2,520	2,570	2,180	2,530	2,490	1,050	148	116	201	536

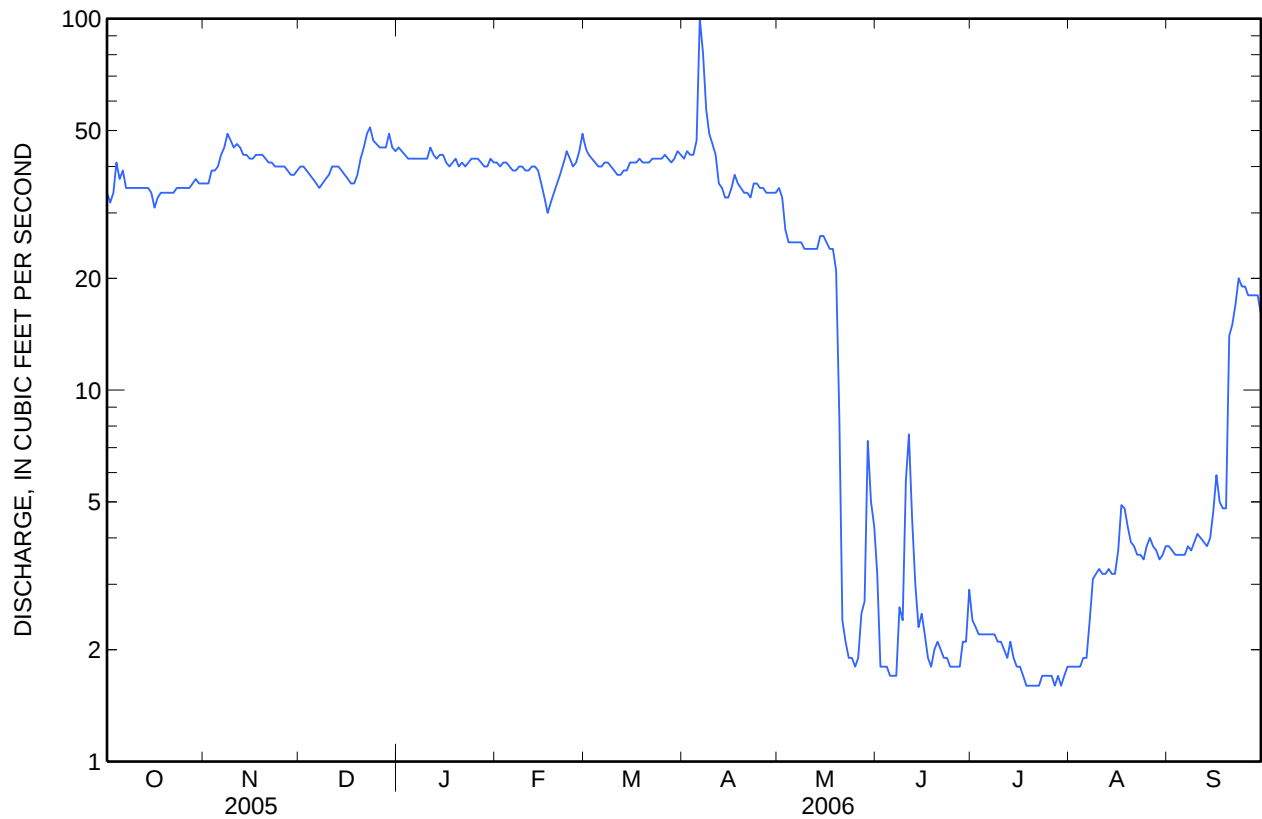
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	29.5	41.9	42.7	41.6	40.2	42.4	34.8	12.9	4.57	3.38	3.17	14.1
Max	35.0	46.5	44.8	41.9	42.4	46.3	41.8	18.6	8.25	6.06	3.80	18.6
(WY)	(2006)	(2004)	(2004)	(2006)	(2004)	(2004)	(2006)	(2003)	(2005)	(2005)	(2005)	(2004)
Min	24.9	37.6	41.1	41.3	38.9	39.7	26.8	2.58	1.53	1.55	2.75	9.01
(WY)	(2005)	(2005)	(2006)	(2004)	(2005)	(2005)	(2004)	(2004)	(2004)	(2004)	(2003)	(2006)

12323850 LOST CREEK NEAR GALEN, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2003 - 2006	
Annual total	9,810.8		9,565.9			
Annual mean	26.9		26.2		25.8	
Highest annual mean					26.2	
Lowest annual mean					25.3	
Highest daily mean	55	Jan 19	100	Apr 6	100	Apr 6, 2006
Lowest daily mean	1.5	Jun 25	1.6	Jul 18	1.4	Jul 30, 2003
Annual seven-day minimum	1.8	Jul 26	1.6	Jul 17	1.4	Jun 21, 2004
Maximum peak flow			^a 117	Apr 6	^a 117	Apr 6, 2006
Maximum peak stage			^b 3.24	Dec 20	^b 5.34	Jan 5, 2004
Instantaneous low flow			^c 1.5	Jun 4	^d 1.2	Jul 22, 2003
Annual runoff (ac-ft)	19,460		18,970		18,660	
10 percent exceeds	42		43		44	
50 percent exceeds	35		35		34	
90 percent exceeds	4.2		1.9		1.8	

^a Gage height, 2.53 ft.^b Backwater from ice.^c Gage height, 1.20 ft.^d 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 2005 TO SEPTEMBER 2006**

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
Oct													
18...	1000	34	8.2	650	15.5	8.5	320	90.6	21.6	11.7	12.2	E.03	E.04
Mar													
21...	1055	41	8.4	595	5.0	3.5	300	89.0	19.7	10.1	11.3	E.02	.07
Apr													
18...	1130	36	8.4	666	7.0	5.5	340	98.4	23.2	14.5	17.7	E.02	.09
May													
09...	1110	25	8.5	587	10.0	8.0	290	84.1	19.2	11.9	12.7	<.04	.04
23...	0910	2.0	8.1	645	14.0	13.5	260	68.3	21.6	23.1	23.2	<.04	E.04
Jun													
13...	1230	3.1	8.2	776	28.5	19.0	340	93.4	25.5	27.8	30.5	E.03	.04
Jul													
24...	1645	1.7	8.4	612	35.5	23.0	250	63.4	21.1	12.6	12.8	E.02	.05
Aug													
24...	0730	3.6	8.0	655	9.0	12.0	280	77.4	22.2	8.5	9.9	<.04	E.04

12323850 LOST CREEK NEAR GALEN, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concentra- tion mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	2.7	3.5	16	45	<.08	.16	6.7	7.3	1.4	2	27	22	2.0
Mar													
21...	1.7	7.9	7	226	<.08	.99	17.8	28.9	2.2	6	82	15	1.7
Apr													
18...	2.7	8.6	9	213	<.08	.84	21.4	30.2	2.5	5	74	28	2.7
May													
09...	2.2	4.4	8	68	<.08	.26	13.2	14.5	1.6	2	59	18	1.2
23...	2.9	5.6	30	107	<.08	.28	54.0	56.5	1.7	2	64	5	.03
Jun													
13...	2.8	6.3	22	77	E.04	.20	21.1	25.6	1.2	2	54	19	.16
Jul													
24...	1.9	4.7	9	82	E.05	.34	16.0	23.1	E.52	E2	66	13	.06
Aug													
24...	1.5	3.7	7	38	<.08	.12	6.2	7.9	.84	E2	35	11	.11

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	178	205	237	234	192	215	187	348	248	170	45	61
2	194	216	231	228	191	194	205	348	232	161	45	71
3	204	228	224	224	191	191	226	336	252	152	43	78
4	225	233	237	217	193	191	208	321	299	150	47	73
5	223	230	208	209	191	180	230	316	297	150	55	69
6	215	229	e150	213	179	183	446	316	278	149	43	65
7	210	227	e100	213	187	185	465	312	240	147	40	66
8	208	242	e110	215	200	173	368	310	307	135	44	69
9	212	243	e120	194	194	171	352	297	433	118	42	70
10	211	234	e140	208	168	157	333	289	547	116	41	70
11	209	238	e150	216	169	158	321	287	578	125	37	70
12	202	236	e150	208	185	160	309	276	440	123	38	68
13	201	234	e150	200	201	165	314	270	385	126	38	70
14	196	239	e150	214	197	163	317	270	362	115	36	76
15	194	228	e170	210	e150	173	332	277	318	102	39	88
16	190	233	e160	192	e130	164	338	304	287	84	37	114
17	189	239	e140	198	e80	167	351	355	247	65	45	122
18	189	238	e120	207	e110	170	333	412	224	60	58	123
19	189	242	e110	197	e130	168	317	441	214	56	57	113
20	188	239	e150	186	e140	167	302	495	225	46	55	118
21	189	235	e170	197	150	169	297	518	209	41	54	129
22	193	231	e250	183	154	171	303	455	195	39	51	138
23	195	230	307	199	165	166	325	406	179	44	46	142
24	195	225	249	191	e170	169	326	385	158	43	44	139
25	198	226	249	190	e160	181	317	334	145	37	46	139
26	205	238	238	191	188	191	317	328	143	35	49	152
27	208	232	234	184	210	184	309	335	135	41	52	152
28	210	229	241	169	232	202	303	349	150	43	52	154
29	212	207	311	189	---	224	305	361	144	39	51	149
30	207	234	243	197	---	235	325	318	164	36	51	151
31	206	---	238	195	---	217	---	282	---	36	55	---
Total	6,245	6,940	5,937	6,268	4,807	5,604	9,381	10,651	8,035	2,784	1,436	3,099
Mean	201	231	192	202	172	181	313	344	268	89.8	46.3	103
Max	225	243	311	234	232	235	465	518	578	170	58	154
Min	178	205	100	169	80	157	187	270	135	35	36	61
Ac-ft	12,390	13,770	11,780	12,430	9,530	11,120	18,610	21,130	15,940	5,520	2,850	6,150

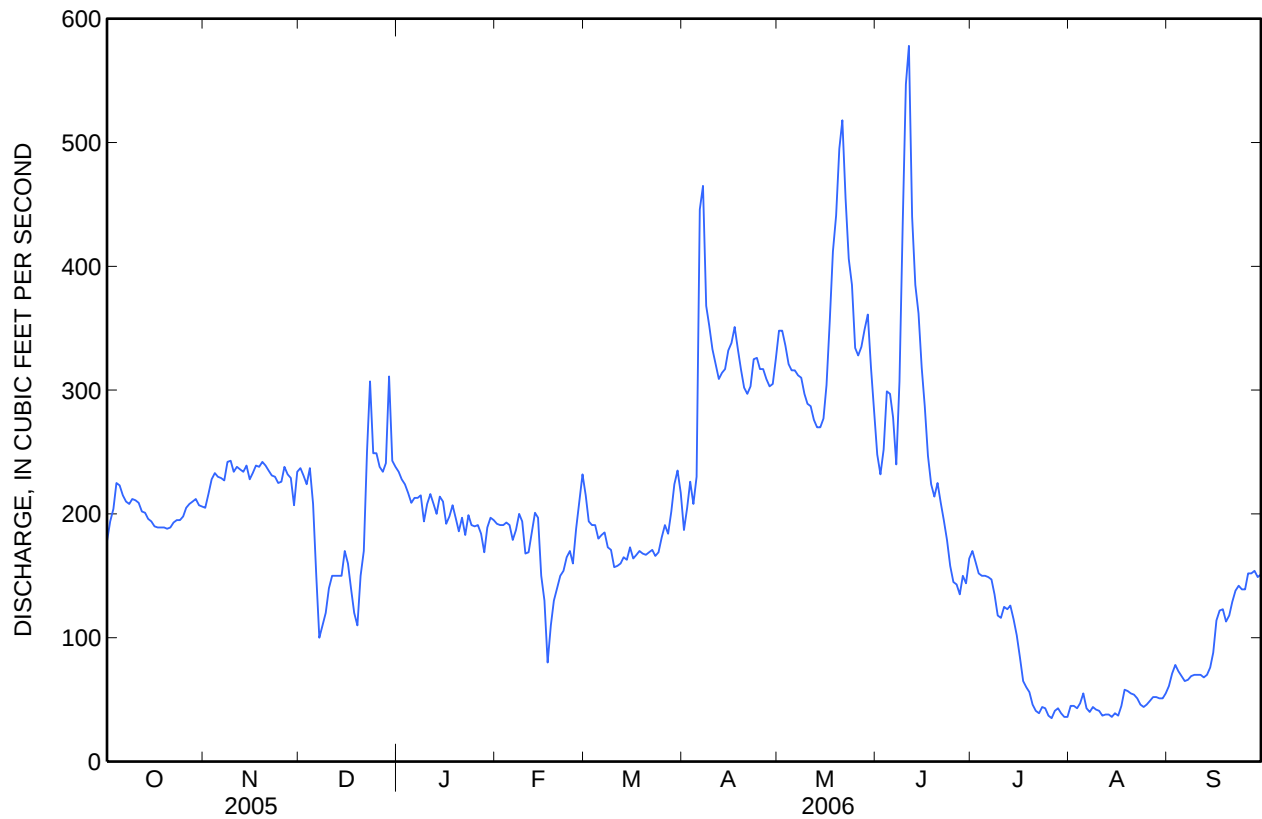
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	231	244	218	218	238	258	274	377	475	206	101	167
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 2005		Water Year 2006		Water Years 1979 - 2006	
Annual total	75,523		71,187			
Annual mean	207		195		250	
Highest annual mean					465	1997
Lowest annual mean					130	1992
Highest daily mean	785	Jun 18	578	Jun 11	2,390	May 23, 1981
Lowest daily mean	73	Aug 8	35	Jul 26	22	Aug 18, 1988
Annual seven-day minimum	81	Aug 5	38	Aug 10	23	Aug 9, 1991
Maximum peak flow			654	Jun 10	^b 2,500	May 23, 1981
Maximum peak stage			3.66	Jun 10	^c 5.92	Nov 1, 1991
Instantaneous low flow			^a 35	Jul 25	^d 21	Aug 6, 1991
Annual runoff (ac-ft)	149,800		141,200		181,300	
10 percent exceeds	414		319		399	
50 percent exceeds	160		194		212	
90 percent exceeds	96		52		89	

^a Gage height, 2.13 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.

SEDIMENT LOAD: Maximum daily, 2,840 tons, Feb. 24, 1986; minimum daily, 0.18 ton, Aug. 19, 2002.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 328 mg/L, Apr. 6; minimum daily mean, 4 mg/L, June 29.

SEDIMENT LOAD: Maximum daily, 395 tons, Apr. 6; minimum daily, 0.59 ton, Aug. 24.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 2

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/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, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
Oct													
18...	1150	189	8.5	540	21.0	10.0	240	69.0	16.4	10.6	12.4	.04	.12
Mar													
21...	1235	165	8.6	530	10.0	4.5	250	72.3	16.0	7.6	9.7	.06	.14
Apr													
18...	1315	331	8.4	521	7.0	6.5	230	67.3	15.3	12.5	19.2	.06	.26
May													
09...	1255	301	8.5	443	9.0	9.5	200	58.6	11.9	16.3	20.1	.04	.19
23...	1045	403	8.0	277	17.5	13.0	110	34.8	6.59	20.6	31.7	.04	.42
Jun													
13...	1400	381	8.2	347	30.0	19.0	140	42.5	8.73	19.8	27.1	.06	.28
Jul													
25...	0630	38	8.0	520	11.5	16.0	220	66.0	13.5	16.7	24.4	.06	.10
Aug													
24...	1055	44	8.3	530	21.0	14.0	220	66.9	13.7	12.4	--	.04	.06

12324200 CLARK FORK AT DEER LODGE, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	5.5	17.8	E3	231	<.08	1.65	27.0	74.5	4.0	18	60	23	12
Mar													
21...	5.3	21.3	23	340	E.05	2.63	76.9	117	5.6	21	78	13	5.8
Apr													
18...	8.3	42.1	10	741	E.08	5.50	69.0	192	8.6	37	68	28	25
May													
09...	9.0	30.5	7	461	E.05	3.61	54.6	142	4.5	27	79	17	14
23...	11.1	92.1	26	1,450	.17	11.8	34.5	286	7.1	70	72	58	63
Jun													
13...	10.6	59.6	17	851	.13	7.12	23.3	135	5.0	42	67	35	36
Jul													
25...	8.6	15.3	E6	104	E.07	.96	52.1	73.1	8.1	14	88	7	.72
Aug													
24...	6.5	--	E6	67	E.04	.33	30.9	162	4.9	--	63	5	.59

12324200 CLARK FORK AT DEER LODGE, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)
	October		November		December		January		February		March	
1	19	9.1	12	6.6	24	15	19	12	20	10	27	16
2	17	8.9	12	7.0	24	15	22	14	19	9.8	23	12
3	17	9.4	12	7.4	31	19	21	13	19	9.8	31	16
4	17	10	12	7.5	64	41	20	12	21	11	30	15
5	17	10	11	6.8	106	60	19	11	27	14	30	15
6	16	9.3	10	6.2	77	31	18	10	34	16	24	12
7	16	9.1	10	6.1	42	11	18	10	37	19	26	13
8	16	9.0	10	6.5	36	11	17	9.9	37	20	25	12
9	15	8.6	11	7.2	35	11	17	8.9	35	18	26	12
10	15	8.5	12	7.6	34	13	17	9.5	34	15	31	13
11	15	8.5	16	10	33	13	17	9.9	34	16	28	12
12	15	8.2	14	8.9	33	13	18	10	33	16	35	15
13	15	8.1	12	7.6	32	13	18	9.7	33	18	34	15
14	15	7.9	10	6.5	32	13	19	11	32	17	30	13
15	16	8.4	10	6.2	32	15	19	11	31	13	37	17
16	17	8.7	10	6.3	31	13	20	10	30	11	30	13
17	18	9.2	11	7.1	31	12	21	11	28	6.0	28	13
18	19	9.7	11	7.1	32	10	22	12	26	7.7	28	13
19	19	9.7	12	7.8	37	11	21	11	25	8.8	27	12
20	18	9.1	12	7.7	40	16	21	11	26	9.8	23	10
21	17	8.7	11	7.0	42	19	20	11	26	11	20	9.1
22	17	8.9	10	6.2	44	30	20	9.9	27	11	28	13
23	17	9.0	10	6.2	47	39	19	10	27	12	23	10
24	16	8.4	11	6.7	70	47	18	9.3	28	13	23	10
25	16	8.6	12	7.3	94	63	18	9.2	31	13	25	12
26	15	8.3	12	7.7	40	26	18	9.3	34	17	28	14
27	14	7.9	13	8.1	25	16	19	9.4	36	20	30	15
28	14	7.9	15	9.3	21	14	21	9.6	33	21	36	20
29	13	7.4	18	10	10	8.4	22	11	---	---	26	16
30	13	7.3	21	13	7	4.6	22	12	---	---	20	13
31	13	7.2	---	---	12	7.7	21	11	---	---	18	11
Total	---	269.0	---	225.6	---	630.7	---	328.6	---	383.9	---	412.1

12324200 CLARK FORK AT DEER LODGE, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	20	10	30	28	23	15	7	3.2	30	3.6	24	4.0
2	22	12	26	24	23	14	7	3.0	32	3.9	20	3.8
3	20	12	21	19	27	18	7	2.9	33	3.8	19	4.0
4	51	29	22	19	27	22	9	3.6	34	4.3	22	4.3
5	145	90	17	15	17	14	10	4.0	36	5.3	27	5.0
6	328	395	18	15	17	13	10	4.0	38	4.4	33	5.8
7	133	167	17	14	27	17	17	6.7	39	4.2	33	5.9
8	58	58	14	12	168	139	37	13	39	4.6	29	5.4
9	49	47	15	12	214	250	23	7.3	38	4.3	22	4.2
10	43	39	18	14	132	195	15	4.7	37	4.1	16	3.0
11	37	32	18	14	51	80	14	4.7	36	3.6	14	2.6
12	39	33	18	13	36	43	12	4.0	35	3.6	14	2.6
13	38	32	17	12	34	35	11	3.7	34	3.5	15	2.8
14	44	38	19	14	29	28	9	2.8	32	3.1	17	3.5
15	41	37	22	16	23	20	9	2.5	30	3.2	18	4.3
16	39	36	28	23	15	12	8	1.8	28	2.8	18	5.5
17	37	35	49	47	10	6.7	9	1.6	26	3.2	18	5.9
18	28	25	80	89	9	5.4	12	1.9	26	4.1	18	6.0
19	24	21	92	110	9	5.2	18	2.7	29	4.5	17	5.2
20	22	18	116	155	8	4.9	21	2.6	32	4.8	16	5.1
21	25	20	116	162	8	4.5	22	2.4	34	5.0	16	5.6
22	30	25	78	96	8	4.2	22	2.3	23	3.2	15	5.6
23	28	25	56	61	7	3.4	24	2.9	11	1.4	15	5.8
24	23	20	48	50	7	3.0	29	3.4	5	0.59	16	6.0
25	22	19	41	37	7	2.7	12	1.2	16	2.0	16	6.0
26	22	19	37	33	8	3.1	9	0.85	23	3.0	17	7.0
27	22	18	28	25	7	2.6	13	1.4	26	3.7	16	6.6
28	21	17	29	27	5	2.0	18	2.1	26	3.7	16	6.7
29	20	16	28	27	4	1.6	23	2.4	26	3.6	16	6.4
30	26	23	24	21	6	2.7	27	2.6	26	3.6	14	5.7
31	---	---	25	19	---	---	29	2.8	25	3.7	---	---
Total	---	1,368	---	1,223	---	967.0	---	105.05	---	112.39	---	150.3
Year	---	6,175.64										

Water-Data Report 2006

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, 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.

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 upper reaches of drainage. Diversions for irrigation include about 11,000 acres upstream from station. U.S. Geological Survey satellite telemeter 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	60	77	e45	92	65	e160	176	470	248	113	36	26
2	68	78	e45	87	64	e150	171	462	222	107	39	25
3	73	88	e45	82	64	143	149	428	221	99	39	24
4	77	84	e45	78	64	138	166	388	211	95	38	23
5	79	82	e40	74	63	92	202	344	204	94	34	25
6	85	81	e35	72	e60	81	395	346	186	111	31	22
7	78	80	e32	74	e62	86	355	352	172	118	35	21
8	76	85	e35	72	e62	95	301	354	254	107	32	21
9	72	78	e40	e70	61	84	299	334	297	101	28	23
10	68	77	e45	72	e55	e68	303	298	498	106	23	24
11	70	81	e45	135	e50	e65	279	280	527	102	21	24
12	68	86	e50	112	e55	e68	262	276	400	101	22	26
13	67	80	e50	88	e60	e66	300	269	336	115	22	22
14	67	82	e45	105	e50	e60	336	287	286	108	19	24
15	67	e70	e45	96	e40	62	385	310	269	97	21	23
16	71	74	e40	82	e35	58	423	337	249	90	23	29
17	87	76	e35	75	e30	61	405	387	235	84	23	30
18	85	74	e35	75	e32	73	356	433	216	74	24	30
19	84	74	e40	72	e40	68	323	453	214	69	24	28
20	83	72	e50	69	e50	62	307	466	220	71	25	31
21	81	71	e60	e65	e70	61	309	449	192	70	24	34
22	79	70	e70	68	e90	64	340	410	178	60	23	38
23	78	68	e70	67	e80	73	391	369	166	52	25	39
24	75	e65	e75	67	e80	86	387	329	153	54	26	37
25	74	e60	e80	66	e90	98	370	301	148	40	27	37
26	73	69	e75	66	e100	183	352	306	140	38	27	35
27	71	67	e70	e65	e120	132	346	326	119	36	25	35
28	72	e65	e80	e60	e180	129	351	375	107	34	22	34
29	74	e40	e120	e65	---	151	368	403	102	33	24	34
30	73	e45	e110	64	---	166	423	323	110	36	25	35
31	73	---	103	67	---	172	---	280	---	35	25	---
Total	2,308	2,199	1,755	2,402	1,872	3,055	9,530	11,145	6,880	2,450	832	859
Mean	74.5	73.3	56.6	77.5	66.9	98.5	318	360	229	79.0	26.8	28.6
Max	87	88	120	135	180	183	423	470	527	118	39	39
Min	60	40	32	60	30	58	149	269	102	33	19	21
Ac-ft	4,580	4,360	3,480	4,760	3,710	6,060	18,900	22,110	13,650	4,860	1,650	1,700

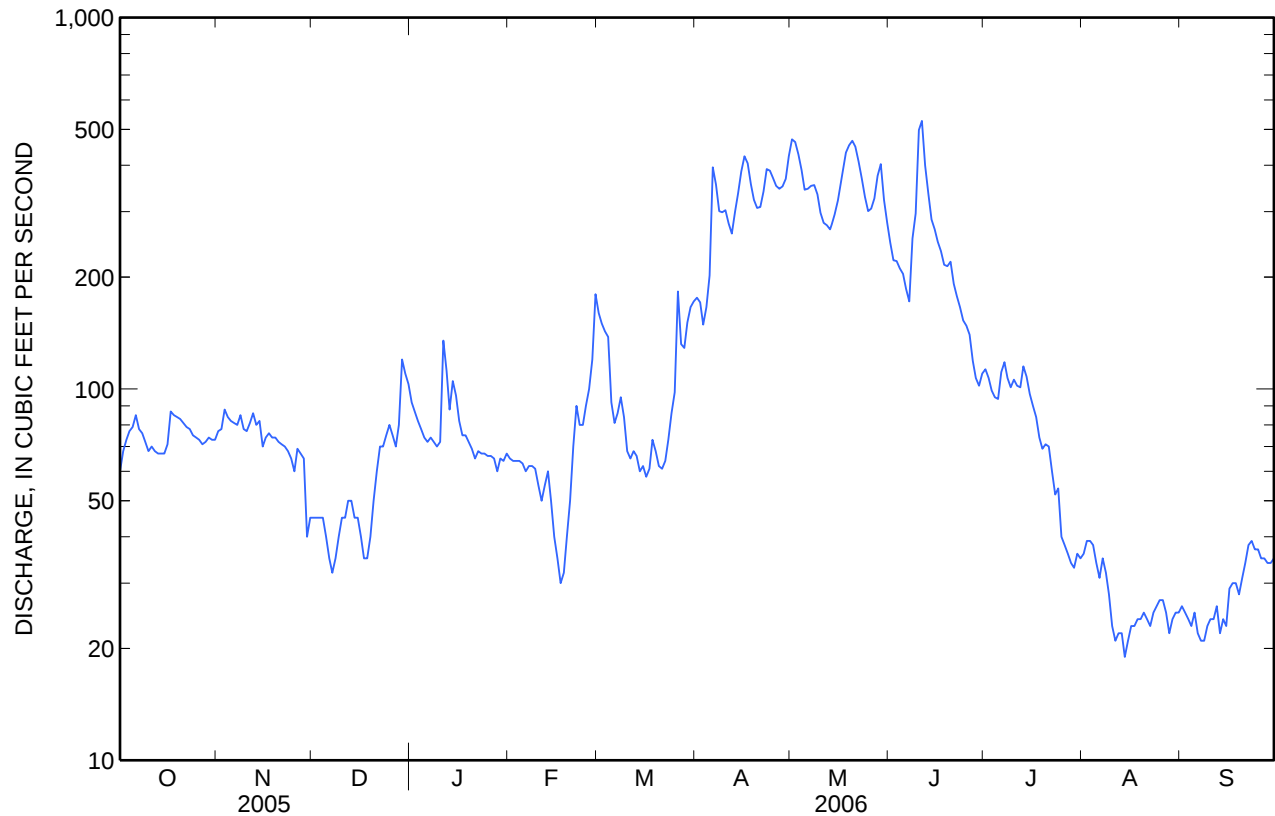
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	70.8	70.0	62.7	61.6	81.5	119	226	478	382	131	59.2	55.3
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)

12324590 LITTLE BLACKFOOT RIVER NEAR GARRISON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1972 - 2006	
Annual total	57,878		45,287			
Annual mean	159		124		150	
Highest annual mean					322	1975
Lowest annual mean					58.4	1973
Highest daily mean	1,440	Jun 4	527	Jun 11	6,280	May 22, 1981
Lowest daily mean	28	Sep 7	19	Aug 14	6.5	Aug 23, 1977
Annual seven-day minimum	32	Sep 2	22	Aug 10	6.7	Aug 22, 1977
Maximum peak flow			^a 649	Jun 10	8,650	May 21, 1981
Maximum peak stage			^b 3.39	Dec 29	^d 8.79	May 21, 1981
Instantaneous low flow			^c 18	Aug 14	^e 6.0	Aug 24, 1977
Annual runoff (ac-ft)	114,800		89,830		108,500	
10 percent exceeds	454		336		365	
50 percent exceeds	74		74		74	
90 percent exceeds	40		27		38	

^a Gage height, 3.32 ft.^b Ice jam.^c Gage height, 0.70 ft.^d Site and datum then in use.^e Gage height, 2.94 ft, site and datum then in use.

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	327	366	360	447	329	667	456	988	674	339	118	113
2	341	372	364	411	331	499	452	985	610	323	125	123
3	359	395	370	392	327	435	450	931	601	307	124	131
4	388	398	359	378	329	426	460	870	656	300	121	128
5	392	395	346	368	325	355	508	799	683	308	124	126
6	390	390	338	374	309	342	932	785	635	333	118	121
7	377	387	e180	371	311	346	1,070	780	571	334	116	116
8	370	407	e200	370	339	348	849	787	743	313	113	119
9	368	402	e250	351	339	335	812	752	1,040	295	106	123
10	361	391	e300	351	e285	295	793	709	1,510	282	100	129
11	362	400	e350	434	e280	285	755	676	1,780	287	93	129
12	356	406	e370	421	e290	281	715	674	1,310	294	89	127
13	350	394	e400	375	e310	297	753	645	1,090	316	90	123
14	348	404	e380	419	340	293	806	663	928	296	85	130
15	347	377	e360	409	292	304	871	696	856	271	86	144
16	349	388	e350	368	e250	293	930	762	755	250	88	179
17	360	397	e330	348	e100	297	945	891	671	228	99	197
18	355	390	e300	374	e90	315	870	1,040	602	201	114	200
19	356	394	e330	354	e140	310	804	1,130	573	185	119	190
20	356	387	e350	333	e220	295	763	1,210	576	178	114	187
21	353	384	e400	346	e270	299	751	1,230	511	172	114	200
22	352	378	e450	325	e300	307	784	1,130	473	157	117	214
23	353	381	e600	346	e330	316	863	1,020	430	144	115	221
24	355	393	e550	336	e350	331	882	944	384	145	113	224
25	352	409	e500	334	e340	351	852	892	359	131	115	223
26	354	e370	497	336	353	452	816	886	330	122	117	232
27	360	e350	454	329	392	397	807	918	301	118	117	234
28	364	e330	450	314	696	399	805	980	286	120	113	233
29	367	e300	663	324	---	438	820	1,020	289	120	113	231
30	362	e320	531	336	---	479	903	879	316	122	115	230
31	359	---	468	342	---	473	---	766	---	117	114	---
Total	11,143	11,455	12,150	11,316	8,567	11,260	23,277	27,438	20,543	7,108	3,405	5,077
Mean	359	382	392	365	306	363	776	885	685	229	110	169
Max	392	409	663	447	696	667	1,070	1,230	1,780	339	125	234
Min	327	300	180	314	90	281	450	645	286	117	85	113
Ac-ft	22,100	22,720	24,100	22,450	16,990	22,330	46,170	54,420	40,750	14,100	6,750	10,070

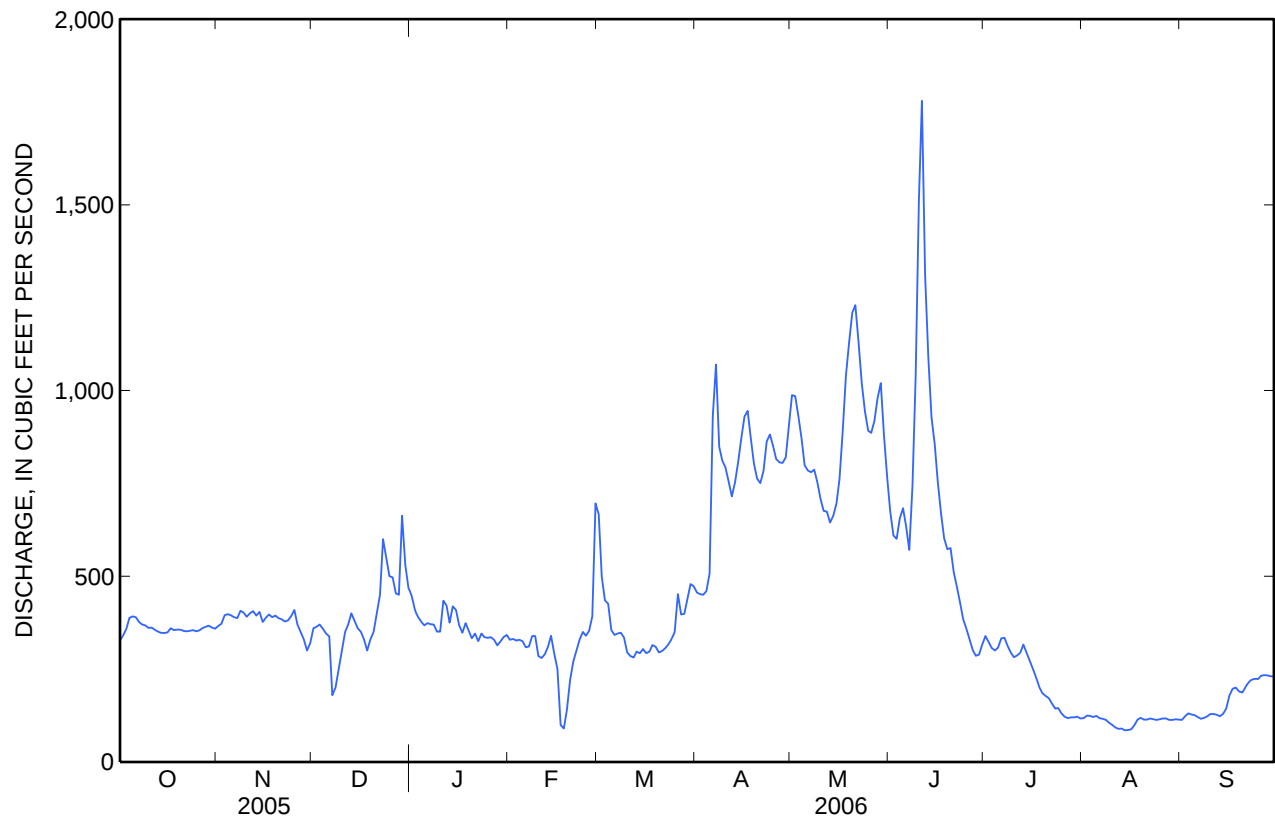
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	387	394	347	344	406	481	595	1,013	1,095	464	224	294
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 2005		Water Year 2006		Water Years 1978 - 2006	
Annual total	178,169		152,739			
Annual mean	488		418		503	
Highest annual mean					860	
Lowest annual mean					243	
Highest daily mean	3,000	Jun 4	1,780	Jun 11	9,100	May 23, 1981
Lowest daily mean	130	Jan 6	85	Aug 14	55	Sep 4, 1988
Annual seven-day minimum	153	Jan 1	90	Aug 11	58	Sep 3, 1988
Maximum peak flow			^a 2,030	Jun 10	^d 12,000	May 22, 1981
Maximum peak stage			^b 7.52	Dec 8	^b 12.50	Jan 2, 1997
Instantaneous low flow			^c 77	Feb 17	^e 54	Sep 3, 1988
Annual runoff (ac-ft)	353,400		303,000		364,600	
10 percent exceeds	1,250		832		903	
50 percent exceeds	341		353		368	
90 percent exceeds	203		121		188	

^a Gage height, 6.52 ft.^b Backwater from ice.^c Gage height, 3.80 ft, may have been less during period of ice-affected stage-discharge relation.^d 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.^e 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 2005 TO SEPTEMBER 2006**

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water, unfltrd, ug/L (01002)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)
Oct													
18...	1310	355	8.6	453	21.0	11.0	210	60.3	13.9	8.3	9.5	E.03	.08
Mar													
21...	1350	295	8.8	460	9.0	5.0	220	64.1	14.0	6.8	7.8	.05	.09
Apr													
18...	1430	854	8.4	367	8.0	6.5	160	47.5	10.7	7.5	11.9	.04	.19
May													
09...	1430	747	8.6	320	12.5	10.0	140	42.0	8.38	10.0	11.8	<.04	.16
23...	1250	1,010	8.3	256	18.0	13.5	110	32.8	6.56	13.0	19.4	E.03	.27
Jun													
13...	1535	1,060	8.3	310	29.5	19.0	130	39.5	8.19	12.8	17.8	.04	.23
Jul													
25...	1105	132	8.5	416	29.0	19.5	180	53.4	11.7	10.7	11.2	E.02	.04
Aug													
24...	1305	115	8.7	431	24.0	18.0	180	52.7	12.2	10.5	10.3	<.04	E.03

12324680 CLARK FORK AT GOLDCREEK, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concentra- tion mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	4.2	12.0	9	173	<.08	1.26	10.7	65.2	1.9	12	88	7	6.7
Mar													
21...	4.4	11.5	E4	184	E.06	1.16	33.1	58.0	2.9	11	77	8	6.4
Apr													
18...	5.8	30.2	29	835	.12	4.40	18.1	113	5.4	34	66	37	85
May													
09...	5.0	19.2	11	411	<.08	2.27	14.1	80.5	1.9	19	77	17	34
23...	7.5	56.3	22	1,100	.14	7.54	12.8	160	4.5	49	75	47	128
Jun													
13...	9.2	49.0	19	880	.13	5.69	12.8	103	7.6	39	65	38	109
Jul													
25...	4.9	6.4	E4	34	<.08	.29	13.2	26.2	1.6	4	81	3	1.1
Aug													
24...	4.3	6.1	8	33	<.08	.14	4.1	20.4	.97	3	82	2	.62

Water-Data Report 2006

12325500 FLINT CREEK NEAR SOUTHERN CROSS, MT

Pend 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.

12325500 FLINT CREEK NEAR SOUTHERN CROSS, MT—Continued

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

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				17	48	44	29	30	26	27		
2				17	48	33	29	32	27	27		
3				17	48	35	29	41	27	27		
4				18	50	35	29	42	27	27		
5				19	58	35	29	42	27	27		
6				23	58	35	29	42	27	27		
7				24	58	35	29	42	27	27		
8				24	58	34	29	42	27	27		
9				24	58	31	29	45	27	27		
10				24	58	32	29	56	27	27		
11				24	58	32	29	56	27	27		
12				24	58	32	29	56	27	27		
13				25	58	31	29	56	27	27		
14				29	57	31	29	57	27	27		
15				30	57	29	28	57	27	19		
16				30	57	29	28	57	27	13		
17				30	57	29	28	51	27	13		
18				29	57	29	29	32	27	12		
19				30	57	29	29	30	27	3.8		
20				34	57	29	29	27	27	8.2		
21				34	57	29	29	26	27	7.9		
22				35	57	29	30	26	27	7.9		
23				35	57	29	30	26	27	7.9		
24				35	55	29	29	26	27	7.9		
25				35	44	29	29	26	27	7.9		
26				35	44	29	29	26	27	7.9		
27				38	44	29	29	26	27	7.9		
28				47	44	29	29	26	26	7.9		
29				48	44	29	29	26	26	7.9		
30				48	44	29	29	26	27	7.9		
31				---	44	---	30	26	---	7.9		
Total				882	1,649	939	899	1,179	807	533.9		
Mean				29.4	53.2	31.3	29.0	38.0	26.9	17.2		
Max				48	58	44	30	57	27	27		
Min				17	44	29	28	26	26	3.8		
Ac-ft				1,750	3,270	1,860	1,780	2,340	1,600	1,060		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 – 1998 AND SEASONS 2000 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	18.5	19.9	22.1	25.1	32.5	56.7	45.7	33.4	30.9	25.0	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 (1941 to current year; seasonal records beginning 2000).

12325500 FLINT CREEK NEAR SOUTHERN CROSS, MT—Continued

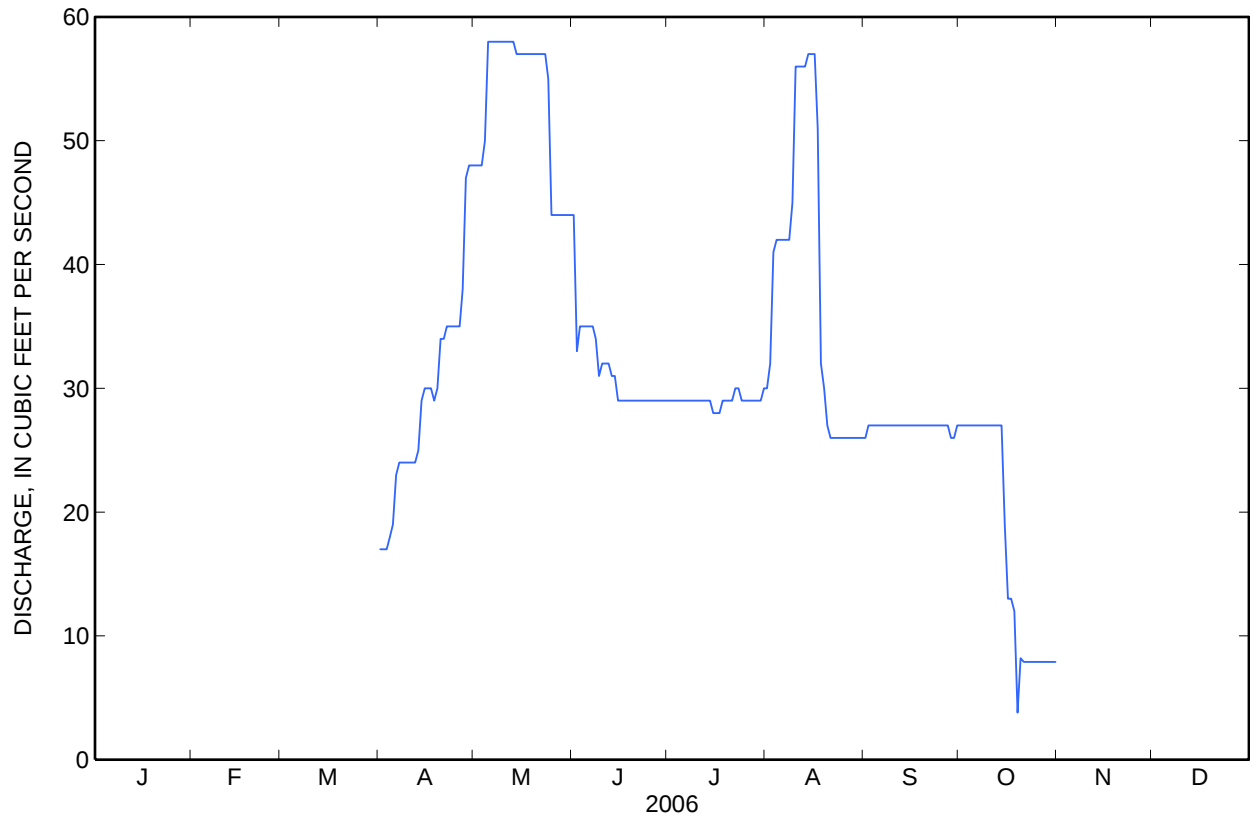
	FOR 2006 SEASON		Water Years 1941 - 1998		Seasons 2000 - 2006*	
Annual mean			29.5			
Highest annual mean			57.9	1976		
Lowest annual mean			13.2	1962		
Highest daily mean	58	May 6	172	Jun 19, 1980	135	May 13, 2003
Lowest daily mean	3.8	Oct 19	0.00	Nov 30, 1966 ^a	3.8	Oct 19, 2006
Annual seven-day minimum			1.4	Mar 8, 1941		
Maximum peak flow	59	May 6	^b 174	Jun 13, 1942	139	May 31, 2003
Maximum peak stage	1.33	May 6	^c 2.60	Jun 19, 1980	2.44	May 31, 2003
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 (1941 to current year; seasonal records beginning 2000).

^a Partial days of no flow in several years.

^b Gage height, 1.86 ft.

^c Maximum observed.



Water-Data Report 2006

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. 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 except those for estimated daily discharges, which are poor. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	90	64	e48	64	44	e80	72	144	79	79	102	61
2	104	65	e49	60	45	79	72	136	84	75	101	59
3	99	67	e48	59	45	68	66	126	112	77	97	53
4	114	67	e47	55	47	62	75	119	153	74	103	55
5	102	64	e46	54	e44	57	98	118	154	77	101	56
6	94	62	e36	55	e43	55	164	120	126	87	98	54
7	89	65	e30	55	e44	56	164	125	123	91	93	55
8	88	66	e34	54	e47	53	136	118	165	87	92	54
9	87	e58	e40	e48	e46	e47	127	104	179	88	94	54
10	83	e60	e45	e50	e45	e46	119	100	234	92	96	56
11	81	67	e46	58	e44	e44	109	90	248	97	99	56
12	80	67	e44	48	e47	e42	102	94	187	94	99	59
13	78	59	e43	52	e50	e44	108	91	156	95	98	62
14	76	61	e42	65	e48	e45	116	87	139	87	92	66
15	76	e56	e40	61	e44	e46	127	92	130	85	90	78
16	72	e58	e38	e45	e40	47	135	90	116	85	91	97
17	71	60	e34	e47	e37	49	136	88	106	86	95	89
18	69	58	e31	51	e34	52	120	99	92	93	90	74
19	68	58	e32	47	e37	53	111	105	88	90	82	64
20	70	e54	32	45	e40	49	110	108	86	85	79	65
21	68	e52	39	48	e43	51	109	102	78	77	76	70
22	66	e50	54	44	e42	51	118	86	70	73	73	74
23	65	e50	89	48	e44	53	129	95	63	86	73	80
24	63	e50	88	46	e50	55	125	88	49	96	75	73
25	63	54	78	e43	e48	65	119	82	46	98	86	70
26	62	57	75	e43	e50	77	114	97	51	96	90	70
27	66	54	67	45	e56	56	110	99	69	97	84	72
28	65	e50	64	45	e70	56	114	107	75	94	82	70
29	63	e45	e62	47	---	64	121	114	73	95	74	68
30	62	e47	63	48	---	74	137	99	90	95	70	66
31	62	---	65	45	---	74	---	94	---	95	66	---
Total	2,396	1,745	1,549	1,575	1,274	1,750	3,463	3,217	3,421	2,726	2,741	1,980
Mean	77.3	58.2	50.0	50.8	45.5	56.5	115	104	114	87.9	88.4	66.0
Max	114	67	89	65	70	80	164	144	248	98	103	97
Min	62	45	30	43	34	42	66	82	46	73	66	53
Ac-ft	4,750	3,460	3,070	3,120	2,530	3,470	6,870	6,380	6,790	5,410	5,440	3,930

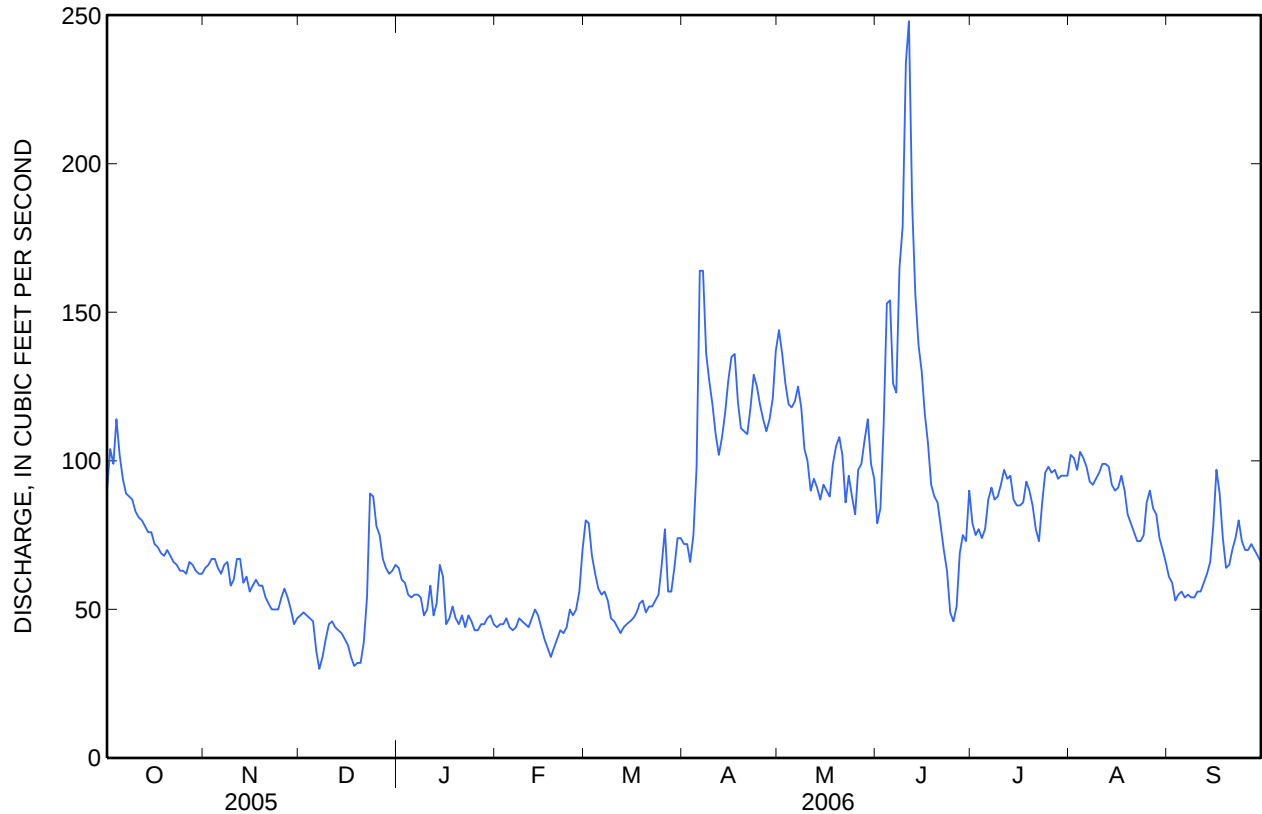
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	83.3	71.2	59.5	53.6	61.0	75.2	104	135	186	125	106	90.9
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

	Calendar Year 2005		Water Year 2006		Water Years 1942 - 2006	
Annual total	29,852		27,837			
Annual mean	81.8		76.3		96.0	
Highest annual mean					165	1976
Lowest annual mean					53.2	1992
Highest daily mean	303	Jun 18	248	Jun 11	933	Mar 29, 1943
Lowest daily mean	23	Jan 5	30	Dec 7	15	Feb 25, 1962
Annual seven-day minimum	26	Jan 1	35	Dec 15	19	Dec 31, 1957
Maximum peak flow			310	Jun 10	^a 1,680	Mar 28, 1943
Maximum peak stage			3.64	Jun 10	^b 8.08	Feb 4, 1963
Instantaneous low flow					15	Feb 25, 1962
Annual runoff (ac-ft)	59,210		55,210		69,560	
10 percent exceeds	148		116		164	
50 percent exceeds	66		70		79	
90 percent exceeds	38		45		43	

^a Gage height, 6.79 ft.^b Backwater from ice.

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	22	24	e17	e19	17	17	16	68	85	36	16	6.9
2	25	26	e18	e19	17	16	17	61	89	32	15	6.8
3	25	25	e18	e19	17	15	17	53	120	30	15	6.5
4	25	24	e17	19	17	15	17	49	114	29	15	6.2
5	24	23	e17	19	e16	14	19	46	107	29	15	6.1
6	24	23	e13	19	e15	14	26	51	94	35	15	6.0
7	24	23	e10	19	e17	14	29	54	95	36	15	5.9
8	25	e22	e13	19	17	14	28	53	151	33	15	6.1
9	25	e21	e16	e17	e16	14	27	49	138	31	15	6.4
10	24	e23	e17	19	e15	14	26	46	169	30	15	7.1
11	23	24	e18	e18	e14	15	25	48	157	29	15	6.7
12	23	24	e16	18	e15	15	25	54	125	29	14	6.4
13	23	22	e17	19	e18	16	29	66	108	31	14	6.1
14	24	e22	e16	19	e16	15	31	80	98	28	14	6.1
15	25	e20	e14	19	e15	14	34	116	90	26	14	7.2
16	24	e21	e13	e17	e13	14	36	180	81	25	14	9.6
17	23	22	e12	18	e11	e15	34	229	77	22	17	10
18	23	22	e11	18	e10	e15	32	251	67	14	17	12
19	22	22	e12	e17	e12	e15	30	270	64	13	16	15
20	24	21	e15	e17	e16	e14	30	273	61	12	15	17
21	23	21	e19	e17	e19	e14	32	239	53	12	15	18
22	23	21	e23	e16	e20	e16	37	208	49	11	14	20
23	22	e20	e22	17	e22	14	42	209	45	11	13	18
24	22	e19	20	17	e19	14	41	178	42	10	11	13
25	21	e19	20	e17	e16	14	40	156	39	9.8	13	13
26	21	e18	20	17	e18	15	39	162	38	9.3	12	12
27	22	e18	20	e16	e20	15	41	138	38	8.8	8.5	12
28	23	e16	e19	e16	e19	14	44	121	37	8.5	7.8	14
29	23	e16	e18	e16	---	15	50	107	35	12	7.3	15
30	22	e18	e19	17	---	15	63	95	42	15	7.0	15
31	22	---	e20	17	---	16	---	87	---	16	7.1	---
Total	721	640	520	551	457	457	957	3,797	2,508	673.4	416.7	310.1
Mean	23.3	21.3	16.8	17.8	16.3	14.7	31.9	122	83.6	21.7	13.4	10.3
Max	25	26	23	19	22	17	63	273	169	36	17	20
Min	21	16	10	16	10	14	16	46	35	8.5	7.0	5.9
Ac-ft	1,430	1,270	1,030	1,090	906	906	1,900	7,530	4,970	1,340	827	615

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

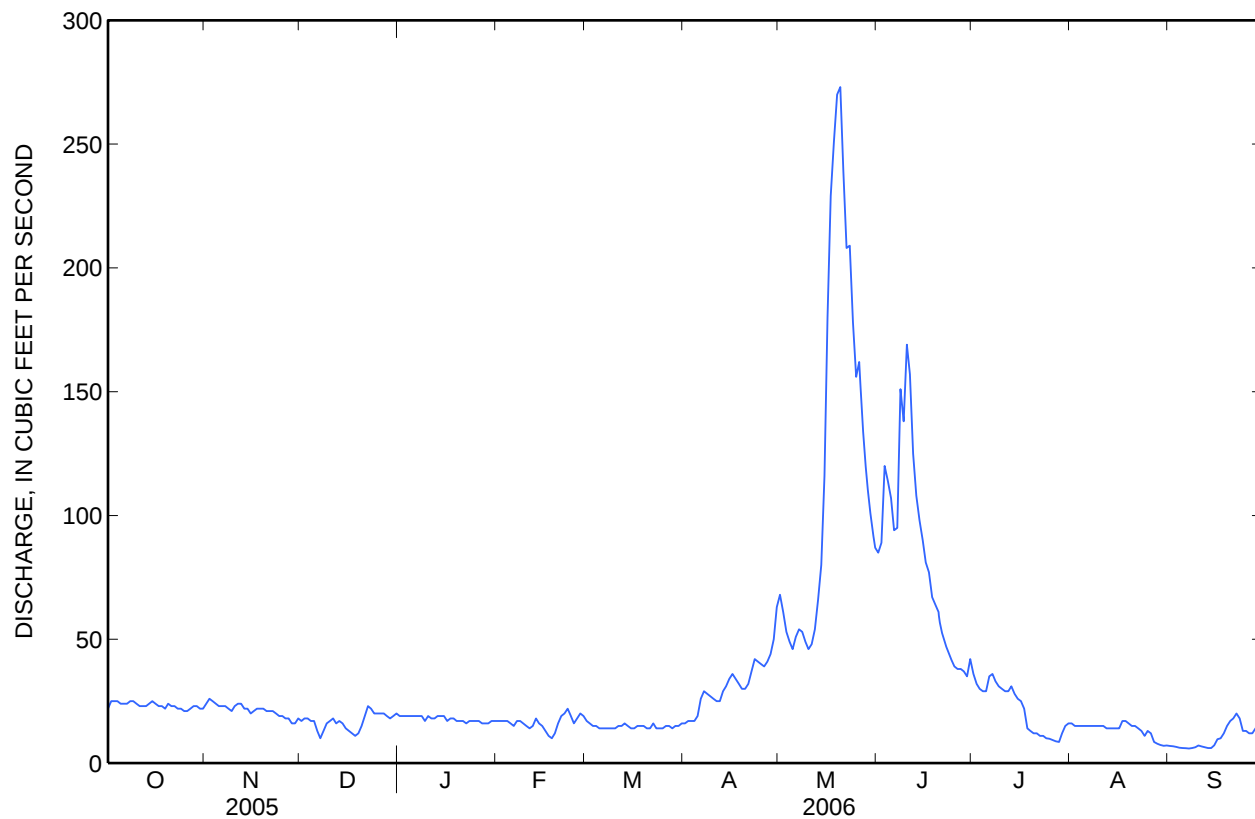
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	22.6	23.1	20.5	18.4	18.2	18.4	28.5	115	173	57.7	20.5	17.6
Max	51.1	44.8	39.0	32.4	30.5	28.6	56.3	261	376	244	68.4	54.1
(WY)	(1960)	(1976)	(1976)	(1976)	(1951)	(1976)	(1943)	(1976)	(1975)	(1975)	(1975)	(1965)
Min	3.59	11.8	11.0	8.49	10.0	12.3	10.4	54.7	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

	Calendar Year 2005		Water Year 2006		Water Years 1940 - 2006	
Annual total	15,769.7		12,008.2			
Annual mean	43.2		32.9		44.4	
Highest annual mean					82.2	
Lowest annual mean					20.4	
Highest daily mean	294	Jun 6	273	May 20	1,140	Jun 19, 1975
Lowest daily mean	7.0	Feb 16	5.9	Sep 7	2.8	Oct 13, 1991
Annual seven-day minimum	8.7	Feb 13	6.2	Sep 3	3.4	Oct 8, 1987
Maximum peak flow			296	May 20	1,460	Jun 19, 1975
Maximum peak stage			3.02	May 20	4.55	Jun 19, 1975
Instantaneous low flow			5.9	Sep 7	^a 2.8	Oct 13, 1991
Annual runoff (ac-ft)	31,280		23,820		32,160	
10 percent exceeds	152		67		108	
50 percent exceeds	19		19		21	
90 percent exceeds	12		12		12	

^a Result of upstream diversion.



Water-Data Report 2006

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, 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 telemeteris 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	523	562	480	658	478	1,130	625	1,340	771	448	179	176
2	562	561	502	639	472	798	615	1,390	693	439	180	179
3	582	582	470	615	467	644	606	1,320	678	430	175	182
4	654	591	462	595	468	619	620	1,240	747	416	169	183
5	643	583	463	556	467	539	673	1,140	849	414	173	181
6	630	575	451	534	446	503	1,010	1,090	790	456	176	180
7	617	578	193	555	422	502	1,490	1,090	709	480	171	171
8	596	599	166	558	446	507	1,200	1,090	837	467	174	171
9	601	589	182	520	476	487	1,100	1,030	1,300	444	173	178
10	616	580	297	531	415	451	1,070	955	1,690	432	163	182
11	609	583	371	709	378	421	1,030	904	2,560	428	160	181
12	603	598	379	666	377	414	990	870	1,970	431	165	182
13	584	583	388	558	416	431	986	812	1,560	466	163	178
14	579	588	434	592	457	432	1,060	808	1,280	448	162	175
15	574	563	405	612	395	441	1,120	798	1,170	415	152	192
16	571	563	395	547	349	433	1,200	863	1,040	381	153	271
17	568	574	384	514	171	430	1,250	984	928	356	163	297
18	565	571	347	524	145	447	1,200	1,120	831	326	181	286
19	563	567	313	511	198	460	1,110	1,220	748	294	182	288
20	568	561	352	492	287	433	1,050	1,320	751	269	181	294
21	561	553	405	486	340	436	1,020	1,370	683	271	176	329
22	557	547	446	481	374	438	1,040	1,280	613	261	175	351
23	554	539	566	481	397	449	1,120	1,150	577	241	174	364
24	553	519	687	485	426	466	1,200	1,040	534	235	169	364
25	548	494	623	471	406	485	1,180	969	503	229	183	364
26	545	562	627	475	419	573	1,140	950	466	189	190	365
27	559	543	604	467	486	568	1,120	1,000	442	178	192	374
28	560	517	599	456	729	534	1,110	1,090	417	173	186	393
29	557	446	683	448	---	571	1,120	1,110	417	172	182	392
30	550	467	770	478	---	626	1,190	1,030	438	176	181	383
31	546	---	683	504	---	638	---	892	---	175	178	---
Total	17,898	16,738	14,127	16,718	11,307	16,306	31,245	33,265	26,992	10,540	5,381	7,806
Mean	577	558	456	539	404	526	1,042	1,073	900	340	174	260
Max	654	599	770	709	729	1,130	1,490	1,390	2,560	480	192	393
Min	523	446	166	448	145	414	606	798	417	172	152	171
Ac-ft	35,500	33,200	28,020	33,160	22,430	32,340	61,970	65,980	53,540	20,910	10,670	15,480

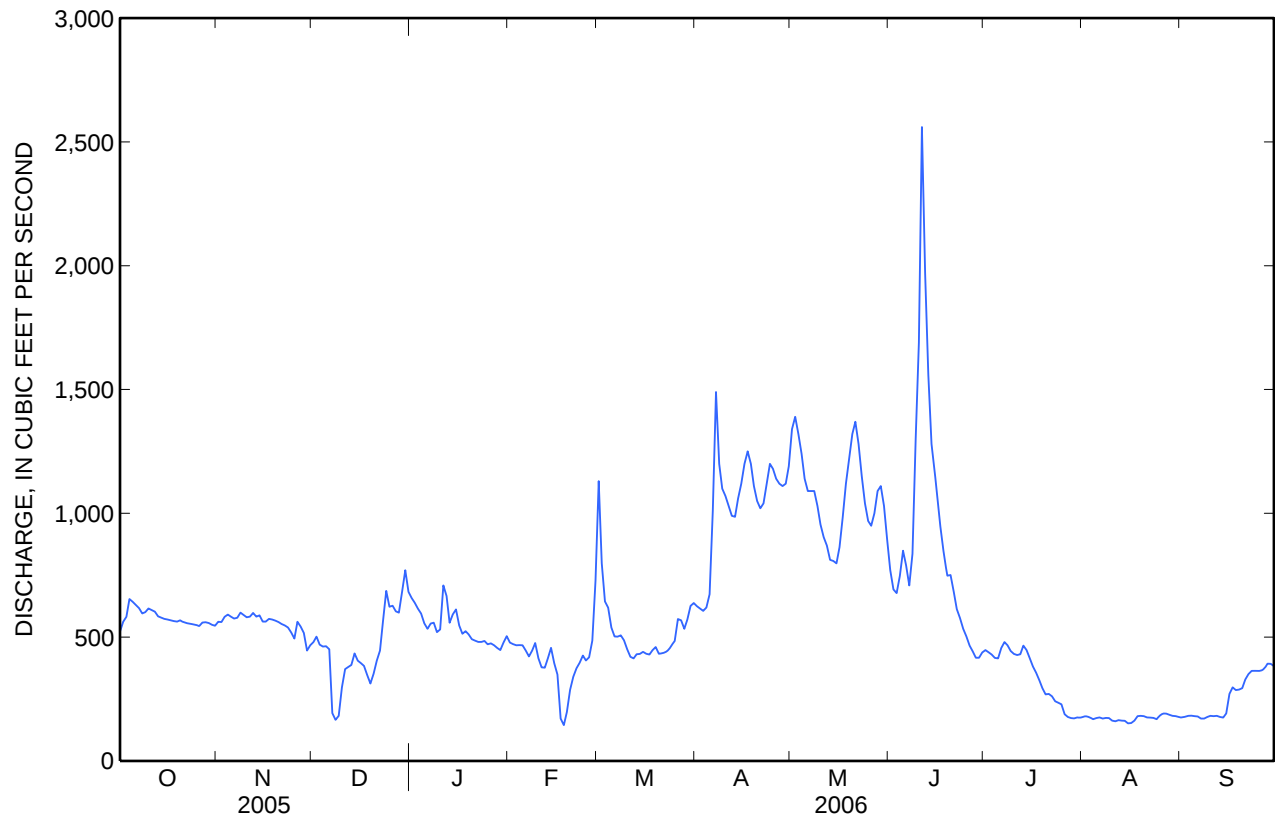
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	574	575	496	499	578	674	786	1,122	1,438	667	342	419
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	377	375	415	464	298	297	160	112	201
(WY)	(2003)	(2001)	(2001)	(2001)	(2001)	(2005)	(2005)	(2000)	(2000)	(2000)	(2000)	(1994)

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1993 - 2006	
Annual total	244,617		208,323			
Annual mean	670		571		673	
Highest annual mean					1,192	1997
Lowest annual mean					400	2000
Highest daily mean	3,350	Jun 5	2,560	Jun 11	8,430	Feb 9, 1996
Lowest daily mean	166	Dec 8	145	Feb 18	77	Jul 31, 2000
Annual seven-day minimum	194	Jan 2	160	Aug 10	83	Jul 29, 2000
Maximum peak flow			2,710	Jun 11	9,800	Feb 9, 1996
Maximum peak stage			6.08	Jun 11	10.03	Feb 9, 1996
Instantaneous low flow			^a 121	Feb 18	^b 75	Jul 30, 2000
Annual runoff (ac-ft)	485,200		413,200		487,700	
10 percent exceeds	1,680		1,090		1,180	
50 percent exceeds	470		511		531	
90 percent exceeds	271		180		267	

^a Gage height, 2.17 ft, result of freezeup.^b 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 2005 TO SEPTEMBER 2006

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/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, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
Oct 18...	1420	563	8.5	479	23.0	12.5	230	63.5	16.4	8.3	9.3	E.04	.08
Mar 21...	1450	443	8.6	475	10.5	7.0	230	64.3	15.8	7.3	8.5	.04	.09
Apr 18...	1600	1,180	8.3	368	7.0	7.5	170	47.6	11.3	7.8	13.9	.05	.26
May 09...	1545	1,020	8.4	337	13.0	10.5	150	45.2	10.1	8.9	11.6	<.04	.16
May 23...	1415	1,150	8.2	294	20.5	15.5	130	38.5	8.18	13.7	19.3	E.04	.31
Jun 14...	0730	1,300	8.2	366	15.0	17.0	160	46.6	10.6	13.3	20.6	.04	.33
Jul 25...	1205	232	8.4	522	32.5	21.5	240	65.2	17.8	12.2	12.1	E.02	E.04
Aug 24...	1410	172	8.5	577	27.0	19.5	270	74.1	19.9	10.2	10.4	<.04	.05

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct													
18...	3.8	8.8	9	176	<.08	1.35	7.9	61.4	2.1	12	76	11	17
Mar													
21...	3.9	10.8	E4	233	E.06	1.78	25.2	59.1	2.9	15	72	14	17
Apr													
18...	6.4	38.3	30	1,140	.18	7.12	15.7	150	7.1	49	65	63	201
May													
09...	5.2	19.9	9	537	E.04	3.54	12.4	78.2	3.0	25	70	27	74
23...	9.2	58.3	17	1,160	.14	8.35	10.7	170	4.8	58	78	55	171
Jun													
14...	8.8	52.5	15	1,120	.13	8.80	8.6	184	5.0	59	74	53	186
Jul													
25...	4.1	6.1	<6	27	<.08	.21	7.0	15.2	1.5	3	58	8	5.0
Aug													
24...	3.3	5.3	<6	30	<.08	.22	6.8	19.3	2.2	4	67	7	3.3

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. Monthly discharges only January to March 1938, published in Water 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 except those for estimated daily discharges, which are poor. A few small diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	39	40	e34	e35	e27	e26	e54	227	306	149	52	38
2	42	44	e32	e34	e27	e25	e54	226	330	136	51	37
3	41	42	e32	e34	e26	e27	e58	210	446	143	50	36
4	42	40	e29	e34	e26	e28	e62	195	457	131	49	35
5	41	38	e29	e34	e26	e30	e80	190	448	123	47	35
6	40	38	e23	e36	e25	e30	e84	200	420	124	47	35
7	39	e40	e21	e34	e26	e29	e78	211	421	123	46	35
8	39	e40	e23	e31	e29	e28	e76	204	545	113	46	35
9	40	e43	e29	e29	e24	e27	e74	193	537	106	46	35
10	39	e45	e33	e31	e22	e26	e72	185	500	101	45	35
11	38	43	e34	e29	e22	e25	e74	190	435	99	44	34
12	39	41	e32	e28	e23	e26	e76	209	374	94	45	34
13	38	39	e31	e28	e26	e26	e82	236	369	92	45	33
14	37	e37	e31	e30	e23	e28	e82	274	361	87	43	34
15	36	e35	e29	e27	e21	e29	89	350	327	83	42	35
16	36	e36	e26	e27	e20	e28	94	494	288	80	44	42
17	36	40	e25	e31	e17	e31	83	662	273	77	47	42
18	35	e38	e23	e28	e16	e33	75	805	250	75	46	40
19	35	e37	e25	e28	e18	e32	71	915	246	72	45	40
20	37	e38	e30	e28	e22	e29	74	1,010	232	69	43	41
21	36	e38	e32	e27	e24	e30	83	977	211	68	42	42
22	36	e37	e36	e27	e25	e32	100	835	196	66	41	45
23	36	e36	e36	e31	e26	e38	114	791	185	64	39	47
24	35	e36	e39	e29	e23	e40	110	698	176	63	39	44
25	35	e37	e36	e26	e22	e39	107	601	168	61	40	42
26	34	e37	e34	e27	e26	e38	107	586	165	59	42	40
27	35	e35	e32	e27	e28	e39	114	515	165	57	41	39
28	36	e32	e32	e28	e28	e46	122	450	157	56	40	38
29	36	e32	e30	e28	---	e46	141	379	153	55	38	37
30	36	e35	e30	e29	---	e50	200	337	167	54	38	37
31	35	---	e34	e28	---	e51	---	311	---	53	39	---
Total	1,159	1,149	942	923	668	1,012	2,690	13,666	9,308	2,733	1,362	1,142
Mean	37.4	38.3	30.4	29.8	23.9	32.6	89.7	441	310	88.2	43.9	38.1
Max	42	45	39	36	29	51	200	1,010	545	149	52	47
Min	34	32	21	26	16	25	54	185	153	53	38	33
Ac-ft	2,300	2,280	1,870	1,830	1,320	2,010	5,340	27,110	18,460	5,420	2,700	2,270
Cfs/m	0.30	0.31	0.25	0.24	0.19	0.27	0.73	3.58	2.52	0.72	0.36	0.31
In.	0.35	0.35	0.28	0.28	0.20	0.31	0.81	4.13	2.82	0.83	0.41	0.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	49.1	42.5	36.2	32.1	32.5	36.2	74.4	333	473	174	69.3	51.4
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)

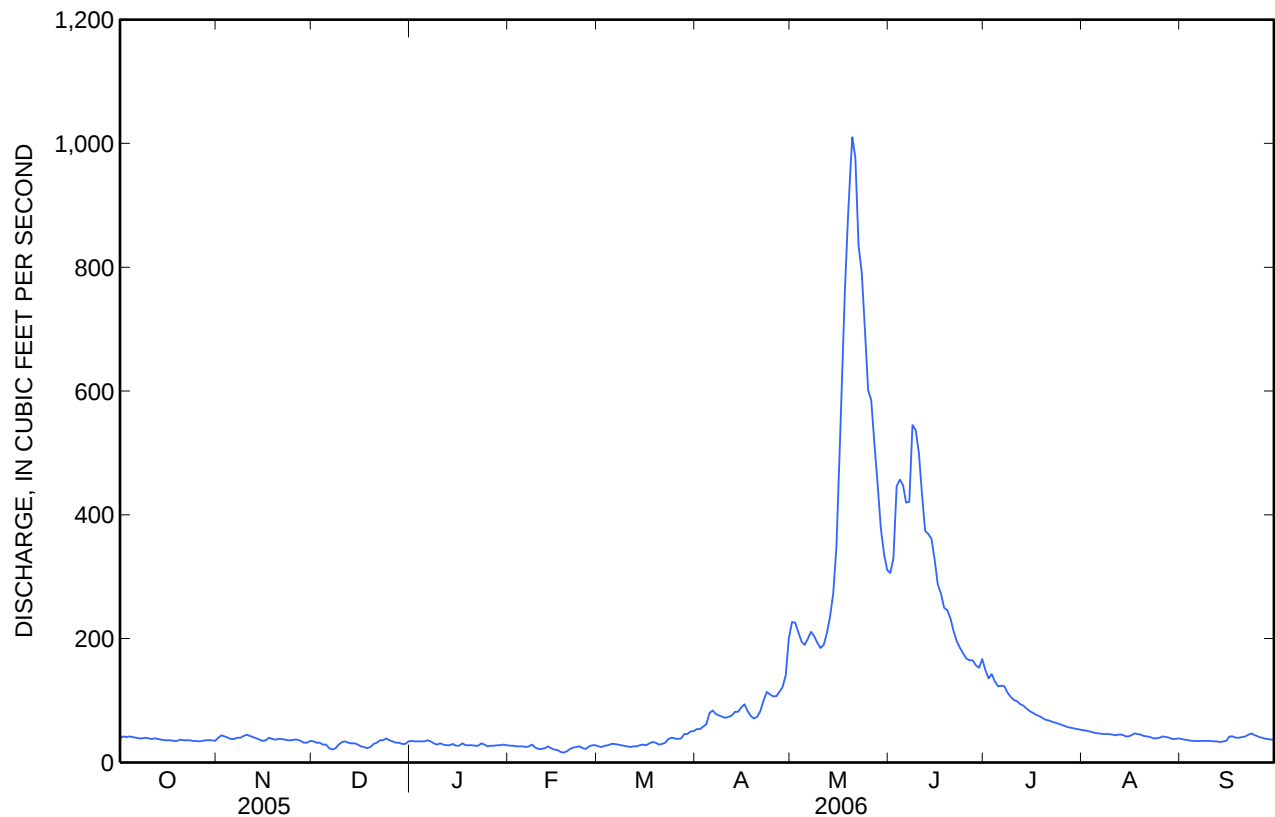
12332000 MIDDLE FORK ROCK CREEK NEAR PHILIPSBURG, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1938 - 2006	
Annual total	29,488.0		36,754			
Annual mean	80.8		101		117	
Highest annual mean					183	1997
Lowest annual mean					62.3	1940
Highest daily mean	469	May 20	1,010	May 20	1,480	Jun 16, 1974
Lowest daily mean	9.0	Feb 16	16	Feb 18	5.3	Feb 9, 1953
Annual seven-day minimum	10	Feb 14	20	Feb 14	10	Feb 14, 2005
Maximum peak flow			1,100	May 21	1,680	Jun 16, 1974
Maximum peak stage			^a 3.77	May 21	^b 5.58	Jun 16, 1974
Instantaneous low flow					5.3	Feb 9, 1953
Annual runoff (ac-ft)	58,490		72,900		84,880	
Annual runoff (cfsm)	0.657		0.819		0.953	
Annual runoff (inches)	8.92		11.12		12.94	
10 percent exceeds	267		248		318	
50 percent exceeds	38		39		47	
90 percent exceeds	27		26		28	

^a Recorded, may have been higher during period of no gage-height record, Nov. 22 to Apr. 14.

^b Site and datum then in use.



Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	213	207	147	244	182	271	274	1,410	1,190	553	239	175
2	225	227	157	229	181	221	284	1,340	1,150	512	224	171
3	230	241	154	219	180	204	269	1,230	1,270	479	211	168
4	252	228	147	209	178	202	301	1,130	1,410	480	213	162
5	244	216	146	196	179	182	414	1,070	1,420	464	200	158
6	234	213	e120	189	165	172	723	1,100	1,310	469	192	159
7	226	214	e60	194	143	181	784	1,150	1,250	538	193	159
8	221	222	e50	197	161	178	688	1,150	1,370	488	193	161
9	219	200	e70	185	180	172	652	1,080	1,490	442	200	159
10	219	176	e100	179	154	158	630	1,010	1,530	425	188	163
11	214	208	e130	223	125	143	591	1,010	1,490	422	187	162
12	212	225	e120	219	123	143	557	1,050	1,310	409	183	159
13	208	217	e150	198	145	150	599	1,110	1,180	422	179	156
14	207	219	177	210	170	150	708	1,200	1,110	415	176	162
15	205	210	158	225	148	159	795	1,400	1,050	391	173	173
16	199	188	141	202	122	156	884	1,710	978	385	174	202
17	196	211	130	190	e100	156	851	2,200	916	367	182	203
18	193	206	e100	202	e40	171	747	2,810	870	358	189	193
19	191	202	e90	195	e80	170	664	3,250	819	342	187	190
20	193	198	142	183	e100	160	624	3,510	817	331	180	191
21	194	190	174	187	e150	163	637	3,460	741	320	173	200
22	194	189	211	181	158	169	747	3,080	691	309	171	209
23	193	176	233	181	162	172	879	2,830	645	298	169	203
24	190	159	231	184	165	181	898	2,660	617	289	165	198
25	189	157	226	166	141	197	842	2,270	595	282	181	191
26	190	195	225	161	148	232	804	2,200	574	275	191	187
27	195	198	227	177	162	213	811	2,110	563	267	187	182
28	200	177	219	178	207	206	869	1,910	555	261	180	178
29	200	136	243	176	---	233	969	1,710	531	253	175	182
30	196	133	253	180	---	256	1,190	1,480	551	245	173	189
31	196	---	238	187	---	263	---	1,320	---	242	175	---
Total	6,438	5,938	4,969	6,046	4,149	5,784	20,685	55,950	29,993	11,733	5,803	5,345
Mean	208	198	160	195	148	187	690	1,805	1,000	378	187	178
Max	252	241	253	244	207	271	1,190	3,510	1,530	553	239	209
Min	189	133	50	161	40	143	269	1,010	531	242	165	156
Ac-ft	12,770	11,780	9,860	11,990	8,230	11,470	41,030	111,000	59,490	23,270	11,510	10,600
Cfsm	0.23	0.22	0.18	0.22	0.17	0.21	0.78	2.04	1.13	0.43	0.21	0.20

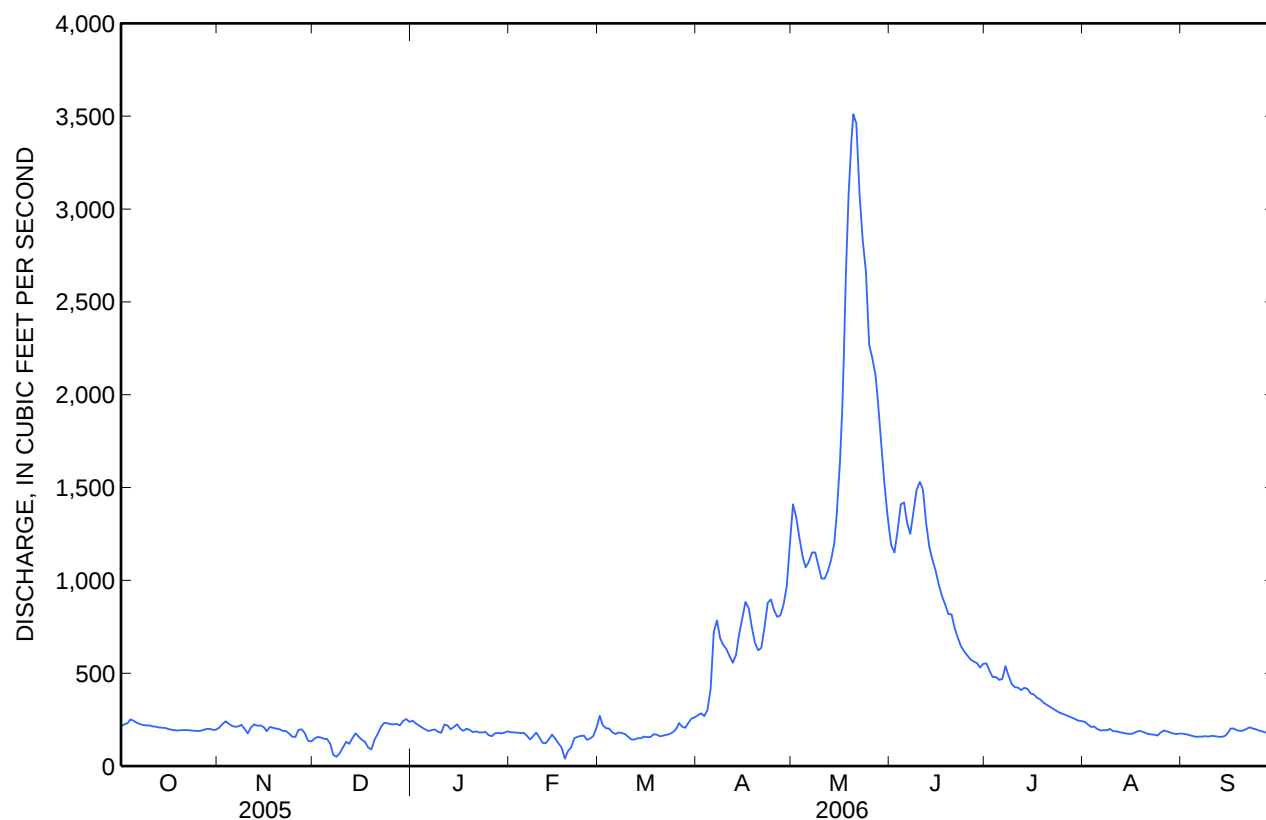
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	249	223	194	183	189	241	504	1,454	1,655	654	303	258
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 2005		Water Year 2006		Water Years 1973 - 2006	
Annual total	142,026		162,833			
Annual mean	389		446		510	
Highest annual mean					966	
Lowest annual mean					258	
Highest daily mean	2,150	May 20	3,510	May 20	5,480	May 18, 1997
Lowest daily mean	40	Jan 5	40	Feb 18	38	Dec 22, 1998
Annual seven-day minimum	86	Jan 2	93	Dec 6	65	Jan 3, 1974
Maximum peak flow			3,620	May 20	^a 5,530	May 18, 1997
Maximum peak stage			6.94	May 20	8.05	Jun 9, 1997
Instantaneous low flow					^b 37	Dec 23, 1998
Annual runoff (ac-ft)	281,700		323,000		369,200	
Annual runoff (cfs)	0.440		0.504		0.576	
10 percent exceeds	1,130		1,150		1,200	
50 percent exceeds	212		206		260	
90 percent exceeds	145		154		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 (mixed seasonal and water year records).

REMARKS.--Water temperature records are rated good. 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, July 22 and 24; minimum for seasonal period April through September, 3.0°C, Apr. 19.

TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2006 TO SEPTEMBER 2006

Season A: Apr. 2000 to Oct. 2000												
Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
April			May			June			July			
1	6.0	4.5	5.0	8.5	5.5	7.0	13.0	9.5	11.5	19.5	14.5	17.0
2	8.0	3.5	5.0	8.0	5.5	6.5	14.5	10.5	12.5	19.5	14.5	17.0
3	7.5	4.0	5.5	7.0	4.5	6.0	13.0	11.5	12.0	19.5	15.0	17.0
4	7.0	5.0	6.0	9.0	4.0	6.5	12.0	10.0	11.0	20.5	14.0	17.0
5	7.0	5.0	6.0	10.0	5.5	8.0	14.0	9.5	11.5	18.0	15.5	17.0
6	6.5	4.0	5.0	9.5	6.5	8.0	15.0	11.0	13.0	19.0	13.5	16.0
7	7.0	3.5	5.0	8.0	7.0	7.5	13.5	11.5	12.5	19.5	14.0	16.5
8	8.0	4.5	6.0	8.5	6.0	7.0	13.0	11.5	12.0	20.0	14.0	16.5
9	9.0	5.0	6.5	8.5	5.0	6.5	12.0	11.0	11.5	20.0	14.0	16.5
10	8.0	5.0	6.0	10.0	5.5	8.0	12.0	10.5	11.0	18.5	14.5	16.0
11	8.0	4.0	6.0	10.0	7.0	8.5	13.5	10.5	12.0	20.0	13.5	16.5
12	9.0	4.5	6.5	11.0	7.0	9.0	14.5	11.0	12.5	17.5	15.0	16.5
13	8.0	6.5	7.0	11.5	7.0	9.0	16.5	13.0	14.5	19.0	13.0	15.5
14	9.0	5.0	7.0	12.0	8.0	10.0	15.0	12.5	14.0	20.5	14.0	17.0
15	9.0	5.5	7.0	12.5	8.5	10.5	12.5	11.0	12.0	21.5	15.5	18.0
16	7.0	5.5	6.0	12.5	9.0	10.5	14.0	10.0	12.0	21.0	15.0	18.0
17	6.5	4.0	5.0	11.5	9.0	10.5	15.0	11.0	13.0	21.5	15.0	18.0
18	6.5	3.5	4.5	11.5	9.0	10.5	15.5	10.5	13.0	21.0	15.0	18.0
19	9.0	3.0	5.5	11.0	9.5	10.0	14.0	11.5	12.5	20.5	14.0	17.0
20	10.5	4.5	7.0	10.5	9.0	10.0	14.5	10.5	12.5	21.0	15.0	18.0
21	11.5	6.0	8.5	10.0	8.5	9.5	15.5	10.5	13.0	21.5	15.0	18.0
22	9.5	7.5	8.0	10.0	8.5	9.5	16.5	11.0	13.5	22.5	16.0	19.0
23	10.0	6.5	8.0	11.0	9.0	10.0	17.0	11.5	14.0	22.0	17.0	19.5
24	7.0	4.5	5.5	11.0	8.5	9.5	18.0	12.0	15.0	22.5	17.0	19.5
25	8.5	4.0	6.0	11.5	9.0	10.5	19.0	13.0	16.0	21.5	16.0	18.5
26	10.0	5.0	7.5	10.5	9.0	10.0	19.5	14.0	16.5	21.5	16.0	18.5
27	11.0	7.0	8.5	9.0	7.5	8.0	19.0	14.0	16.0	21.0	15.5	18.0
28	11.0	6.0	8.5	8.5	6.5	7.5	19.0	13.5	16.0	21.0	15.5	18.5
29	12.0	7.0	9.5	9.0	7.0	8.0	17.0	14.5	15.5	21.5	16.0	18.5
30	10.0	7.5	9.0	11.0	7.5	9.0	19.5	13.5	16.0	20.0	15.5	17.5
31	---	---	---	12.5	8.0	10.5	---	---	---	19.0	13.5	16.0
Month	12.0	3.0	6.5	12.5	4.0	9.0	19.5	9.5	13.5	22.5	13.0	17.5

12334510 ROCK CREEK NEAR CLINTON, MT—Continued**TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2006 TO SEPTEMBER 2006**

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

Water-Data Report 2006

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, 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 April 3 to August 24, which are fair, and 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	795	847	696	980	727	1,350	1,030	3,000	2,090	1,150	452	407
2	835	856	e720	950	710	1,190	1,040	3,020	1,990	1,110	447	401
3	870	875	708	913	705	988	1,010	2,840	2,030	1,070	437	403
4	943	884	717	884	702	929	1,010	2,640	2,170	1,050	418	393
5	952	862	730	832	706	851	1,140	2,500	2,270	1,040	410	382
6	928	848	e670	787	680	773	1,800	2,480	2,180	1,060	411	377
7	913	849	e400	812	621	766	2,590	2,530	2,070	1,100	405	377
8	884	879	e210	818	644	777	2,300	2,530	2,130	1,030	402	372
9	873	858	e250	784	705	752	2,130	2,420	2,540	965	416	374
10	893	814	e350	757	662	708	2,070	2,280	2,850	928	395	387
11	882	841	e530	907	581	647	2,000	2,210	3,510	910	382	389
12	875	870	e570	1,020	565	630	1,910	2,210	3,160	899	379	393
13	860	866	e550	871	604	632	1,930	2,210	2,720	916	378	390
14	841	864	e600	850	668	650	2,100	2,260	2,420	899	376	390
15	836	854	e630	927	632	657	2,250	2,440	2,260	853	364	412
16	830	801	e600	866	569	657	2,430	2,760	2,120	813	364	490
17	819	838	e570	797	e350	646	2,450	3,280	1,980	775	380	563
18	819	840	e530	800	e280	677	2,330	3,790	1,860	736	395	555
19	806	822	e500	795	e230	700	2,160	4,180	1,760	692	396	551
20	815	821	e470	754	e400	679	2,040	4,560	1,730	660	391	550
21	811	795	e570	739	e470	660	2,020	4,550	1,640	642	379	578
22	815	795	e650	732	e600	671	2,100	4,130	1,540	627	370	607
23	820	777	e750	716	609	684	2,260	3,740	1,460	604	368	616
24	813	744	e1,100	738	618	705	2,380	3,510	1,390	580	369	614
25	805	715	e1,000	702	601	739	2,320	3,120	1,320	563	390	601
26	802	786	925	681	603	823	2,240	3,030	1,250	537	427	591
27	815	796	913	707	659	906	2,190	2,990	1,200	511	421	589
28	823	766	878	701	820	831	2,230	2,880	1,170	488	416	597
29	821	712	938	685	---	873	2,320	2,750	1,120	471	404	606
30	805	676	1,080	701	---	967	2,600	2,520	1,130	459	399	610
31	808	---	1,010	742	---	1,010	---	2,260	---	453	405	---
Total	26,207	24,551	20,815	24,948	16,721	24,528	60,380	91,620	59,060	24,591	12,346	14,565
Mean	845	818	671	805	597	791	2,013	2,955	1,969	793	398	486
Max	952	884	1,100	1,020	820	1,350	2,600	4,560	3,510	1,150	452	616
Min	795	676	210	681	230	630	1,010	2,210	1,120	453	364	372
Ac-ft	51,980	48,700	41,290	49,480	33,170	48,650	119,800	181,700	117,100	48,780	24,490	28,890

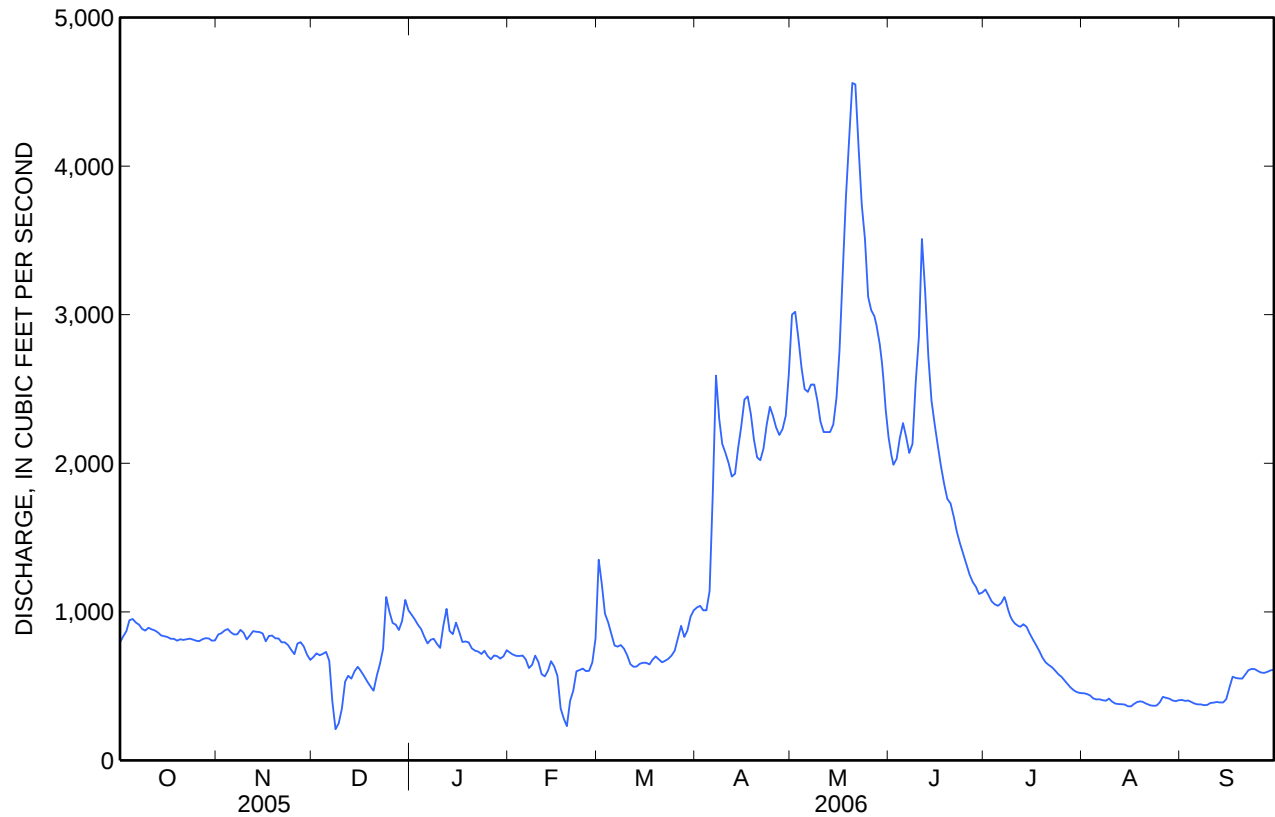
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	836	825	717	704	820	1,016	1,476	2,508	2,790	1,205	610	671
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 2005		Water Year 2006		Water Years 1986 - 2006	
Annual total	419,893		400,332			
Annual mean	1,150		1,097		1,181	
Highest annual mean					2,219	
Lowest annual mean					686	
Highest daily mean	4,970	Jun 5	4,560	May 20	9,530	Jun 2, 1997
Lowest daily mean	210	Dec 8	210	Dec 8	200	Dec 21, 1998 ^c
Annual seven-day minimum	303	Jan 2	375	Aug 11	224	Aug 15, 1992
Maximum peak flow			^a 4,810	May 20	12,400	Feb 9, 1996
Maximum peak stage			^b 10.87	Dec 17	^b 10.87	Dec 17, 2005
Annual runoff (ac-ft)	832,900		794,100		855,900	
10 percent exceeds	3,010		2,350		2,340	
50 percent exceeds	777		812		826	
90 percent exceeds	519		401		500	

^a Gage height, 6.67 ft.^b Backwater from ice.^c Also Dec. 7, 2001.

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.--Supplemental sampling was conducted this year as part of an expanded sampling program for the lower Clark Fork basin and during the removal of Stimson Dam on the Blackfoot River at Bonner. 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 1.1 tons, Sep. 12, 1987.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 250 mg/L, Apr. 7; minimum daily mean, 2 mg/L, July 26.

SEDIMENT LOAD: Maximum daily, 1,750 tons, Apr. 7; minimum daily, 2.9 tons, July 26, Aug. 15 and 16.

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

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Total nitrogen, water, unfltrd mg/L (62855)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water, unfltrd ug/L (01002)
Oct													
18...	1535	824	8.7	394	22.0	12.0	180	49.3	13.7	--	--	6.3	6.7
Mar													
21...	1610	660	8.7	389	9.5	6.5	180	52.0	13.3	--	--	5.4	6.1
Apr													
*05...	1100	1,120	8.2	334	11.0	8.0	150	41.3	10.9	.48	.087	4.7	7.5
19...	0820	2,180	8.2	280	0.0	5.0	120	35.8	8.53	--	--	5.0	8.2
*19...	0945	2,150	8.2	277	5.0	6.0	120	35.6	8.61	.48	.073	5.1	7.9
May													
*02...	1130	2,970	8.1	201	11.0	7.5	93	26.9	6.35	.44	.094	4.7	8.2
10...	0800	2,280	8.1	221	6.5	7.5	96	27.6	6.67	--	--	4.5	5.5
*16...	1100	2,680	8.3	180	23.0	12.0	82	23.6	5.55	.36	.066	4.3	5.6
*19...	0930	4,090	7.9	139	11.5	17.0	61	17.3	4.33	.60	.116	4.3	6.6
24...	0750	3,560	7.9	149	9.0	10.5	66	18.8	4.62	.38	.072	4.9	6.8
*31...	1130	2,240	8.1	213	19.0	11.0	93	26.7	6.50	.31	.047	5.8	6.6
Jun													
*05...	1130	2,250	8.4	214	24.0	11.5	94	26.8	6.67	.27	.049	5.1	6.1
13...	1100	2,710	8.2	250	23.0	15.0	110	30.8	7.64	.49	.090	9.2	12.9
*19...	1100	1,740	8.3	268	14.0	13.0	120	33.1	8.43	.22	.030	6.2	4.1
*26...	1100	1,230	8.4	292	26.0	17.0	130	37.6	9.35	.15	.023	5.8	6.0
Jul													
25...	1320	556	8.6	312	37.0	20.5	140	37.3	11.0	--	--	5.3	5.4
Aug													
24...	1525	375	8.7	350	27.5	18.0	160	42.0	12.6	--	--	5.2	5.2
Sep													
*26...	1200	590	8.3	414	18.0	12.0	190	54.0	13.6	.23	.019	6.7	7.1
Oct													
*17...	1100	840	8.5	401	7.0	7.0	190	54.0	13.2	.32	.041	6.7	7.9

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

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

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 2 of 3

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

Date	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)
Oct												
18...	E.03	.05	2.9	5.8	E4	112	E.05	.73	3.7	31.5	1.2	8
Mar												
21...	E.03	.06	3.3	7.8	<6	157	E.05	1.03	8.0	34.3	2.0	11
Apr												
*05...	E.02	.16	4.9	21.4	12	674	.22	4.22	9.2	97.4	5.1	35
19...	E.03	.17	4.3	24.1	33	708	.14	4.31	6.8	96.1	5.5	32
*19...	E.03	.14	6.0	21.8	15	664	.20	4.20	6.8	87.3	9.5	30
May												
*02...	<.04	.16	5.6	21.2	22	796	.30	4.67	7.1	95.1	6.3	33
10...	<.04	.08	2.8	10.9	15	349	<.08	1.87	6.6	43.3	2.9	15
*16...	<.04	.08	3.0	10.3	22	485	<.08	1.85	6.2	50.6	2.4	16
*19...	E.03	.17	3.8	22.1	30	1,050	.12	4.40	8.5	98.9	3.3	33
24...	<.04	.12	4.2	20.0	34	644	.08	2.99	7.9	68.7	3.4	24
*31...	E.03	.10	4.1	13.2	19	344	E.07	1.80	9.7	46.0	3.0	16
Jun												
*05...	E.02	.07	4.5	10.4	18	289	.22	1.46	6.5	39.5	4.5	13
13...	E.03	.21	8.0	37.4	16	813	.15	6.06	7.8	105	7.5	43
*19...	E.02	.13	3.4	14.9	12	500	E.06	2.25	8.4	36.1	3.0	29
*26...	E.02	.04	3.0	6.1	9	82	E.05	.41	7.3	17.0	1.9	5
Jul												
25...	<.04	E.03	2.3	3.8	E3	42	<.08	.21	4.6	12.4	1.0	3
Aug												
24...	<.04	E.03	1.8	3.1	E3	33	<.08	.31	3.6	8.9	.97	3
Sep												
*26...	<.04	.05	2.5	5.7	E3	96	.09	.63	3.2	27.6	2.3	9
Oct												
*17...	<.04	.14	2.0	13.6	E5	296	<.12	2.31	2.9	84.1	2.6	26

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

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

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

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)
Oct			
18...	83	7	16
Mar			
21...	77	10	18
Apr			
*05...	72	40	121
19...	76	37	218
*19...	77	33	192
May			
*02...	63	53	425
10...	72	18	111
*16...	63	36	260
*19...	57	91	1,000
24...	63	41	394
*31...	69	19	115
Jun			
*05...	66	17	103
13...	78	42	307
*19...	71	11	52
*26...	75	4	13
Jul			
25...	84	4	6.0
Aug			
24...	76	3	3.0
Sep			
*26...	85	6	9.6
Oct			
*17...	89	18	41

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Stimson Dam Removal**

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. conduc- tance, wat unf uS/cm 25 degC (00095)	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, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Copper, water, fltrd, ug/L (01040)
Oct													
11...	1330	883	8.3	392	8.0	180	50.1	13.9	6.2	6.7	E.04	.06	3.6
18...	1145	816	8.4	392	11.0	190	52.6	14.0	6.0	6.5	E.03	.06	3.4
25...	1100	808	8.3	400	8.0	190	52.7	14.3	5.7	6.3	.04	.05	3.1
Nov													
02...	1015	857	8.2	388	7.0	180	49.3	13.1	5.7	5.3	<.04	.05	2.4
08...	1300	891	8.5	392	4.5	180	49.6	12.9	5.6	5.6	E.02	.05	2.4
15...	1315	857	8.2	397	2.5	180	50.2	13.2	5.7	5.7	E.02	.05	2.5

** Supplemental samples collected by depth-integration at a single vertical by an observer to monitor conditions during the removal of Stimson Dam on the Blackfoot River.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Stimson Dam Removal**

Part 2 of 2

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

Date	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct										
11...	6.8	10	116	.08	.86	2.6	10	84	8	19
18...	7.3	7	136	E.05	.89	1.9	10	83	8	18
25...	5.5	<6	99	E.04	.73	2.8	9	82	6	13
Nov										
02...	5.9	E4	124	<.08	.92	2.4	10	81	9	21
08...	5.0	<6	99	E.05	.71	2.4	8	80	7	17
15...	4.9	<6	100	E.06	.73	2.8	8	78	7	16

** Supplemental samples collected by depth-integration at a single vertical by an observer to monitor conditions during the removal of Stimson Dam on the Blackfoot River

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

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)
	October		November		December		January		February		March	
1	12	26	8	18	4	7.5	18	48	9	18	108	394
2	14	32	9	21	4	7.8	18	46	8	15	82	263
3	14	33	8	19	7	13	15	37	7	13	50	133
4	13	33	8	19	9	17	13	31	6	11	27	68
5	13	33	7	16	9	18	16	36	4	7.6	18	41
6	12	30	7	16	9	16	16	34	5	9.2	14	29
7	11	27	7	16	8	8.6	16	35	5	8.4	13	27
8	10	24	7	17	8	4.5	16	35	5	8.7	12	25
9	8	19	7	16	7	4.7	16	34	5	9.5	11	22
10	8	19	6	13	7	6.6	17	35	5	8.9	8	15
11	8	19	7	16	9	13	38	93	5	7.8	7	12
12	8	19	8	19	11	17	61	168	4	6.1	7	12
13	8	19	8	19	11	16	24	56	4	6.5	6	10
14	8	18	7	16	10	16	18	41	4	7.2	6	11
15	8	18	7	16	8	14	19	48	5	8.5	8	14
16	8	18	7	15	6	9.7	16	37	7	11	7	12
17	8	18	6	14	6	9.2	11	24	8	7.6	8	14
18	8	18	6	14	5	7.2	10	22	8	6.0	11	20
19	7	15	6	13	7	9.4	10	21	8	5.0	11	21
20	7	15	7	16	9	11	10	20	8	8.6	9	16
21	7	15	7	15	11	17	10	20	7	8.9	10	18
22	7	15	7	15	21	37	8	16	7	11	9	16
23	7	15	7	15	37	75	8	15	6	9.9	10	18
24	6	13	7	14	34	101	8	16	6	10	12	23
25	6	13	7	14	27	73	9	17	6	9.7	14	28
26	7	15	6	13	24	60	9	17	6	9.8	22	49
27	8	18	6	13	15	37	10	19	6	11	32	78
28	8	18	6	12	12	28	8	15	16	35	22	49
29	8	18	6	12	18	46	7	13	---	---	22	52
30	8	17	5	9.1	33	96	8	15	---	---	26	68
31	8	17	---	---	20	55	10	20	---	---	31	85
Total	---	627	---	461.1	---	851.2	---	1,084	---	288.9	---	1,643

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

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	30	83	80	648	16	90	6	19	4	4.9	3	3.3
2	27	76	59	481	17	91	7	21	4	4.8	4	4.3
3	27	74	48	368	17	93	6	17	4	4.7	5	5.4
4	31	85	36	257	18	105	5	14	3	3.4	8	8.5
5	44	135	30	202	19	116	4	11	3	3.3	9	9.3
6	137	666	28	187	20	118	5	14	3	3.3	9	9.2
7	250	1,750	27	184	14	78	7	21	4	4.4	10	10
8	113	702	24	164	16	92	5	14	4	4.3	10	10
9	69	397	25	163	43	295	4	10	4	4.5	10	10
10	59	330	19	117	60	462	4	10	4	4.3	10	10
11	50	270	19	113	146	1,380	4	9.8	4	4.1	8	8.4
12	46	237	18	107	85	725	4	9.7	3	3.1	5	5.3
13	53	276	20	119	45	330	4	9.9	3	3.1	3	3.2
14	55	312	22	134	36	235	5	12	3	3.0	3	3.2
15	62	377	27	178	28	171	5	12	3	2.9	3	3.3
16	68	446	48	358	22	126	5	11	3	2.9	7	9.3
17	57	377	95	841	17	91	5	10	3	3.1	8	12
18	52	327	126	1,290	14	70	5	9.9	3	3.2	7	10
19	36	210	114	1,290	11	52	5	9.3	3	3.2	6	8.9
20	32	176	113	1,390	9	42	5	8.9	4	4.2	5	7.4
21	33	180	96	1,180	8	35	4	6.9	5	5.1	6	9.4
22	36	204	69	769	7	29	4	6.8	5	5.0	9	15
23	43	262	50	505	6	24	5	8.2	3	3.0	9	15
24	44	283	44	417	7	26	5	7.8	3	3.0	9	15
25	35	219	37	312	5	18	3	4.6	4	4.2	9	15
26	32	194	34	278	4	14	2	2.9	6	6.9	8	13
27	28	166	32	258	4	13	3	4.1	5	5.7	9	14
28	28	169	30	233	4	13	5	6.6	5	5.6	12	19
29	30	188	32	238	4	12	5	6.4	4	4.4	13	21
30	53	372	29	197	4	12	5	6.2	4	4.3	13	21
31	---	---	18	110	---	---	4	4.9	3	3.3	---	---
Total	---	9,543	---	13,088	---	4,958	---	318.9	---	125.2	---	308.4

Total load for year: 33,296.7

12335100 BLACKFOOT RIVER ABOVE NEVADA CREEK, NEAR HELMVILLE, MTPend 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. 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.--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. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	161	182	e120	150	125	e150	221	761	881	478	190	147
2	166	182	e120	144	125	e140	237	808	857	454	187	148
3	164	171	e120	141	125	e135	233	798	886	432	183	144
4	163	166	e110	139	124	e135	219	777	941	425	180	143
5	161	161	e120	138	124	e130	226	747	996	412	170	142
6	161	161	e100	e135	123	130	316	732	973	413	168	141
7	163	161	e90	136	126	119	412	749	946	396	167	140
8	163	169	e100	136	127	116	349	773	979	376	164	139
9	162	160	e110	134	121	116	316	763	1,010	363	161	141
10	161	156	e120	132	e115	116	299	731	1,070	351	159	140
11	161	157	e120	137	e110	115	295	715	1,150	338	157	138
12	160	161	e120	138	e115	e115	324	714	1,130	325	157	138
13	159	161	e120	136	e120	e115	359	720	1,070	328	156	140
14	158	171	e120	135	e120	114	433	748	1,020	318	154	140
15	158	e160	e110	136	e110	111	506	792	1,000	303	150	149
16	159	156	e110	134	e100	111	584	875	963	290	150	166
17	158	155	e110	134	e90	111	643	1,020	914	279	156	173
18	158	154	e100	135	e85	113	629	1,200	869	270	164	164
19	159	153	e100	131	e90	114	576	1,340	814	261	160	162
20	161	152	e110	131	e100	112	531	1,460	779	256	155	164
21	161	e150	e120	130	e110	112	512	1,510	720	246	150	164
22	159	e150	e140	129	e130	113	529	1,510	680	236	147	165
23	159	e150	e160	128	e140	116	586	1,430	632	232	145	166
24	159	e140	e160	128	e120	120	624	1,320	595	222	144	162
25	158	e130	e150	e125	e110	124	621	1,280	568	220	152	159
26	158	e140	e150	e120	e120	139	604	1,260	547	217	156	158
27	161	148	e160	e120	e140	148	592	1,260	532	209	152	156
28	161	151	e170	e120	e160	148	593	1,200	514	203	147	155
29	159	e140	e180	125	---	163	604	1,140	501	198	146	154
30	158	e120	e170	125	---	189	667	1,050	492	192	146	152
31	160	---	e160	126	---	211	---	942	---	189	147	---
Total	4,969	4,668	3,950	4,108	3,305	4,001	13,640	31,125	25,029	9,432	4,920	4,550
Mean	160	156	127	133	118	129	455	1,004	834	304	159	152
Max	166	182	180	150	160	211	667	1,510	1,150	478	190	173
Min	158	120	90	120	85	111	219	714	492	189	144	138
Ac-ft	9,860	9,260	7,830	8,150	6,560	7,940	27,050	61,740	49,650	18,710	9,760	9,020

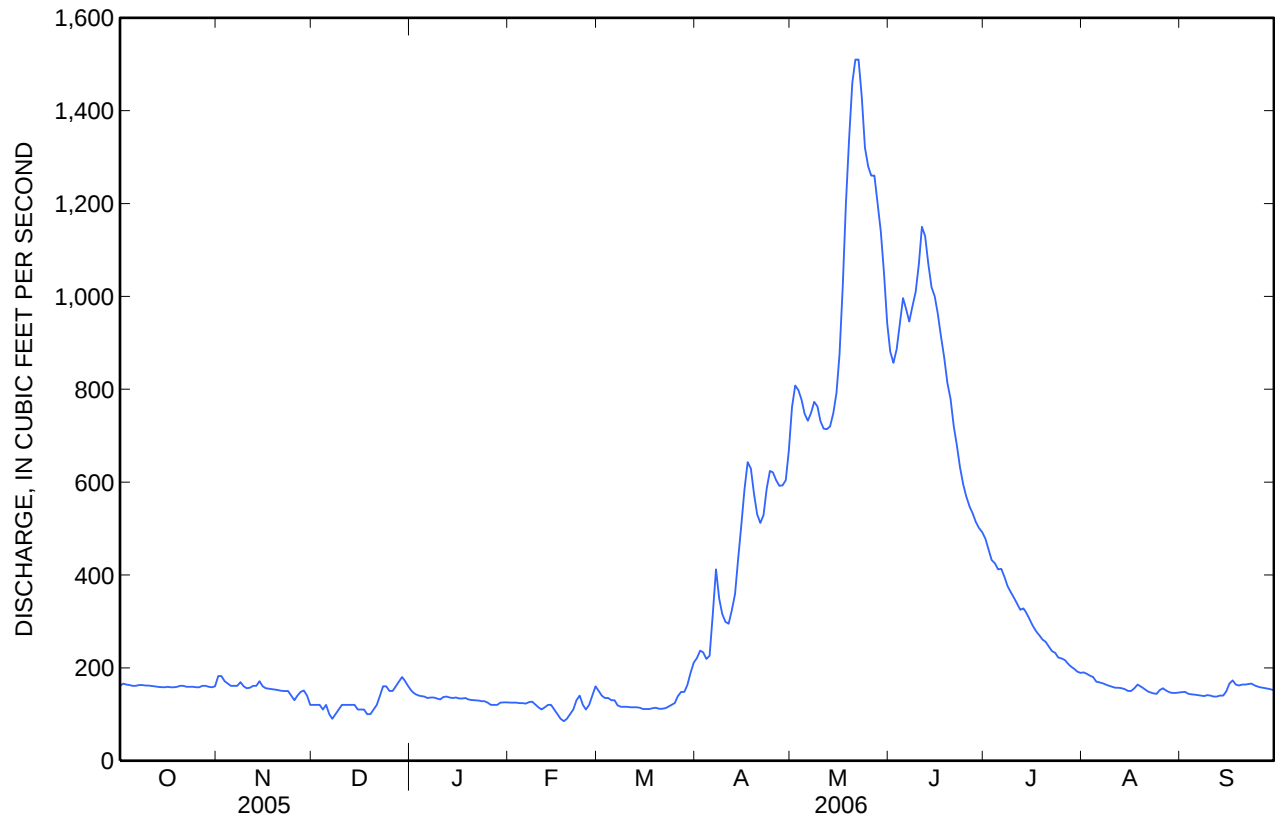
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	163	156	140	137	128	141	275	726	846	335	178	162
Max	180	180	165	152	151	183	455	1,004	1,457	538	242	199
(WY)	(2005)	(2000)	(2000)	(2000)	(2003)	(2003)	(2006)	(2006)	(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)

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

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2000 - 2006	
Annual total	109,417		113,697			
Annual mean	300		311		283	
Highest annual mean					328	2002
Lowest annual mean					215	2001
Highest daily mean	1,800	May 12	1,510	May 21	1,820	Jun 18, 2002
Lowest daily mean	60	Jan 5	85	Feb 18	60	Jan 5, 2005
Annual seven-day minimum	69	Jan 3	98	Feb 15	69	Jan 3, 2005
Maximum peak flow			1,530	May 22	1,890	Jun 19, 2002
Maximum peak stage			6.40	May 22	6.91	Jun 19, 2002
Annual runoff (ac-ft)	217,000		225,500		204,800	
10 percent exceeds	870		802		658	
50 percent exceeds	160		160		162	
90 percent exceeds	120		116		125	



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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	19	21	e20	e22	22	e80	63	86	46	21	14	7.1
2	21	18	e20	e20	22	e60	56	84	45	18	14	6.8
3	19	17	e18	e18	20	e50	48	76	47	18	14	6.5
4	21	16	e20	e18	19	e40	54	67	46	17	13	6.4
5	19	16	e15	e16	18	e20	66	59	49	17	13	6.3
6	16	16	e10	e16	e15	e20	234	53	43	20	13	6.0
7	14	16	e8.0	e20	e13	e30	140	54	40	17	12	6.1
8	14	17	e10	e22	e14	e35	92	62	67	15	12	6.2
9	14	18	e15	e18	e15	e30	81	64	59	14	12	6.2
10	13	18	e20	e20	e12	e25	76	59	118	16	12	6.2
11	13	20	e20	e22	e12	e25	70	52	109	14	12	5.7
12	13	19	e20	e30	e12	e22	63	53	108	14	12	5.8
13	13	17	e20	e25	e12	e20	69	51	88	16	10	5.7
14	13	17	e20	e22	e12	e22	74	57	74	13	9.8	5.9
15	13	e15	e18	e25	e10	25	75	65	68	11	6.0	6.9
16	13	19	e16	e22	e9.0	20	83	88	63	11	6.5	11
17	12	18	e14	e20	e7.9	29	86	105	58	15	19	9.7
18	13	20	e12	e20	e7.0	62	75	131	47	15	14	8.7
19	13	18	e10	e20	e6.0	50	62	144	49	14	9.8	8.4
20	13	17	e15	e20	e6.0	33	55	150	46	13	8.7	9.1
21	12	18	e20	e20	e7.0	32	53	133	39	13	8.3	9.5
22	12	17	e25	21	e10	43	58	116	35	12	7.8	11
23	12	17	e30	23	e30	79	66	100	32	11	7.7	11
24	13	17	e25	23	e25	104	66	87	31	11	7.8	9.3
25	13	19	e22	e18	e20	144	60	78	30	12	8.3	8.9
26	12	23	e20	e16	e20	102	54	78	25	12	8.7	8.7
27	13	21	e20	e14	e25	69	52	75	22	12	8.2	8.5
28	13	21	e18	e16	e40	87	52	75	20	12	7.9	8.4
29	13	e20	e18	e20	---	76	55	79	20	15	7.7	8.1
30	12	e20	e20	23	---	78	69	61	24	14	7.8	7.7
31	12	---	e22	24	---	69	---	49	---	15	8.0	---
Total	436	546	561.0	634	440.9	1,581	2,207	2,491	1,548	448	325.0	231.8
Mean	14.1	18.2	18.1	20.5	15.7	51.0	73.6	80.4	51.6	14.5	10.5	7.73
Max	21	23	30	30	40	144	234	150	118	21	19	11
Min	12	15	8.0	14	6.0	20	48	49	20	11	6.0	5.7
Ac-ft	865	1,080	1,110	1,260	875	3,140	4,380	4,940	3,070	889	645	460

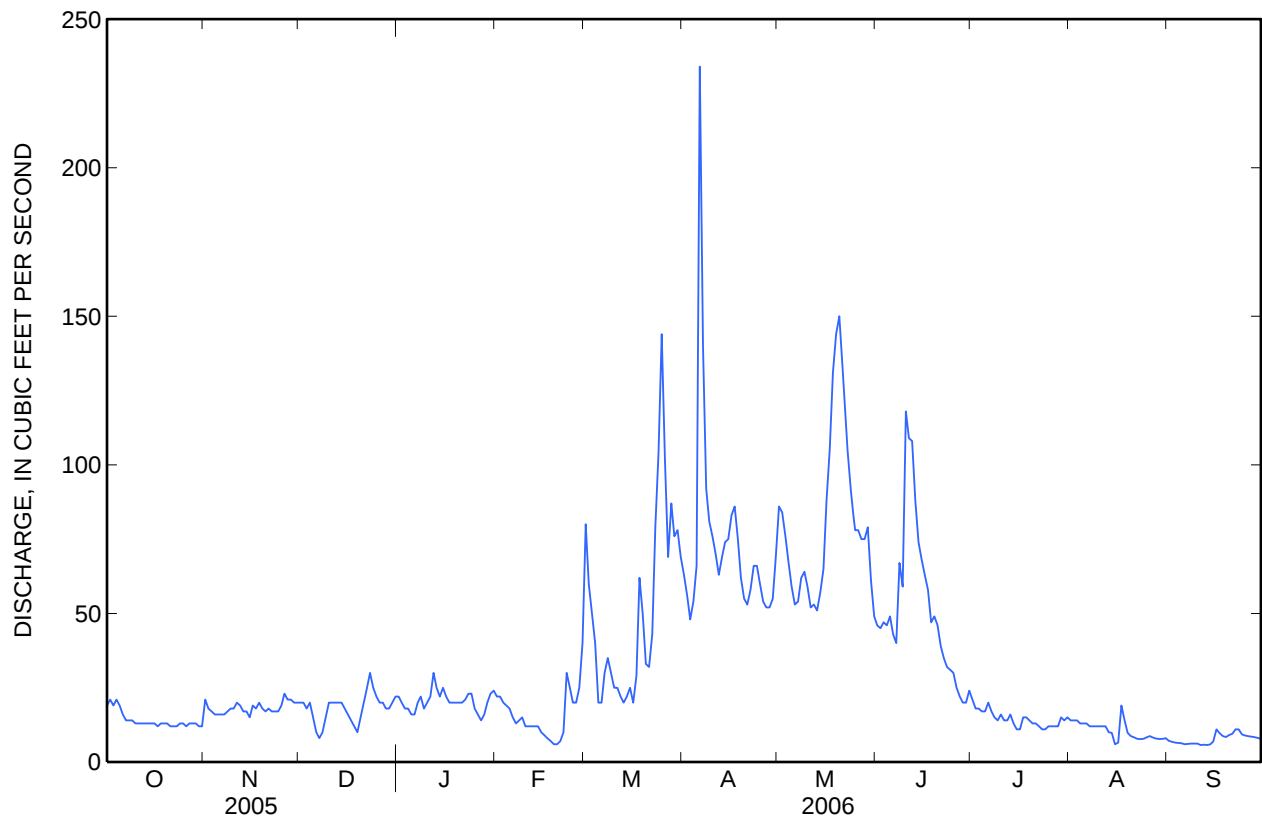
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2006, BY WATER YEAR (WY)

	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	65.8	110	88.5	27.0	14.1	10.2
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

	Calendar Year 2005		Water Year 2006		Water Years 1939 - 2006	
Annual total	10,974.1		11,449.7			
Annual mean	30.1		31.4		35.1	
Highest annual mean					77.2	
Lowest annual mean					11.8	
Highest daily mean	257	Jun 4	234	Apr 6	1,240	May 22, 1981
Lowest daily mean	5.0	Jan 5	5.7	Sep 11	2.0	Jan 11, 1944
Annual seven-day minimum	5.2	Sep 3	6.0	Sep 8	2.0	Feb 9, 1944
Maximum peak flow			^a 282	Apr 6	^c 1,800	Jun 2, 1953
Maximum peak stage			^b 3.54	Feb 28	^d 7.40	May 29, 1953
Instantaneous low flow			5.2	Sep 13	^e 2.0	Aug 20, 1944
Annual runoff (ac-ft)	21,770		22,710		25,400	
10 percent exceeds	78		75		86	
50 percent exceeds	17		19		15	
90 percent exceeds	8.0		8.4		6.5	

^a Gage height, 3.24 ft.^b Backwater from ice.^c 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.^d Site and datum then in use; backwater from diversion dam.^e Probably less than 2.0 ft³/s in several years.

Water-Data Report 2006

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.

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.--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

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	29	38	e18	e35	e18	e50	108	109	71	48	20	34
2	31	49	e20	e30	18	e100	126	101	71	44	23	37
3	33	40	e19	e25	18	e90	98	96	76	41	24	38
4	33	36	e18	e22	18	e70	84	95	76	36	23	36
5	34	34	e20	e20	20	e50	98	90	84	33	23	32
6	33	33	e18	e20	e18	e45	265	80	80	34	21	29
7	30	34	e15	e22	e17	40	354	84	65	36	21	26
8	29	35	e16	e20	e17	e45	245	90	79	30	20	26
9	33	32	e17	e18	17	e50	157	89	119	24	21	26
10	37	e30	e18	e19	e16	e45	151	73	197	23	19	25
11	35	35	e18	e20	e15	e45	153	69	261	24	19	25
12	31	35	e18	e25	e16	e40	143	71	168	30	18	25
13	29	31	e18	e35	e16	e35	138	69	102	31	15	23
14	29	31	e18	e32	e16	e30	147	53	79	29	17	22
15	29	e25	e17	e30	e15	31	155	46	78	27	20	23
16	28	28	e16	e30	e14	e30	195	42	83	25	22	31
17	28	27	e16	e28	e13	33	209	39	81	24	26	38
18	28	e25	e15	e25	e12	48	207	43	72	23	28	32
19	27	e24	e15	e25	e14	49	171	47	61	25	27	31
20	26	e23	e20	e25	e16	e45	155	57	54	23	27	29
21	27	e22	e25	25	e20	e42	146	63	51	20	28	30
22	28	e21	e30	e24	e25	49	138	67	47	19	30	33
23	27	e20	e35	23	e30	78	125	61	50	23	31	34
24	27	e19	e40	24	e28	102	118	63	58	22	30	31
25	26	e17	e35	e22	e25	121	112	60	56	20	33	29
26	26	e18	e35	e20	e27	222	94	63	49	23	40	28
27	28	e19	e35	e20	e28	203	106	71	43	25	39	26
28	30	e18	e40	e19	29	129	109	86	42	23	36	24
29	31	e17	e35	e18	---	138	100	90	43	22	36	23
30	29	e17	e35	18	---	165	99	86	47	22	32	22
31	29	---	e35	18	---	130	---	76	---	20	31	---
Total	920	833	730	737	536	2,350	4,506	2,229	2,443	849	800	868
Mean	29.7	27.8	23.5	23.8	19.1	75.8	150	71.9	81.4	27.4	25.8	28.9
Max	37	49	40	35	30	222	354	109	261	48	40	38
Min	26	17	15	18	12	30	84	39	42	19	15	22
Ac-ft	1,820	1,650	1,450	1,460	1,060	4,660	8,940	4,420	4,850	1,680	1,590	1,720

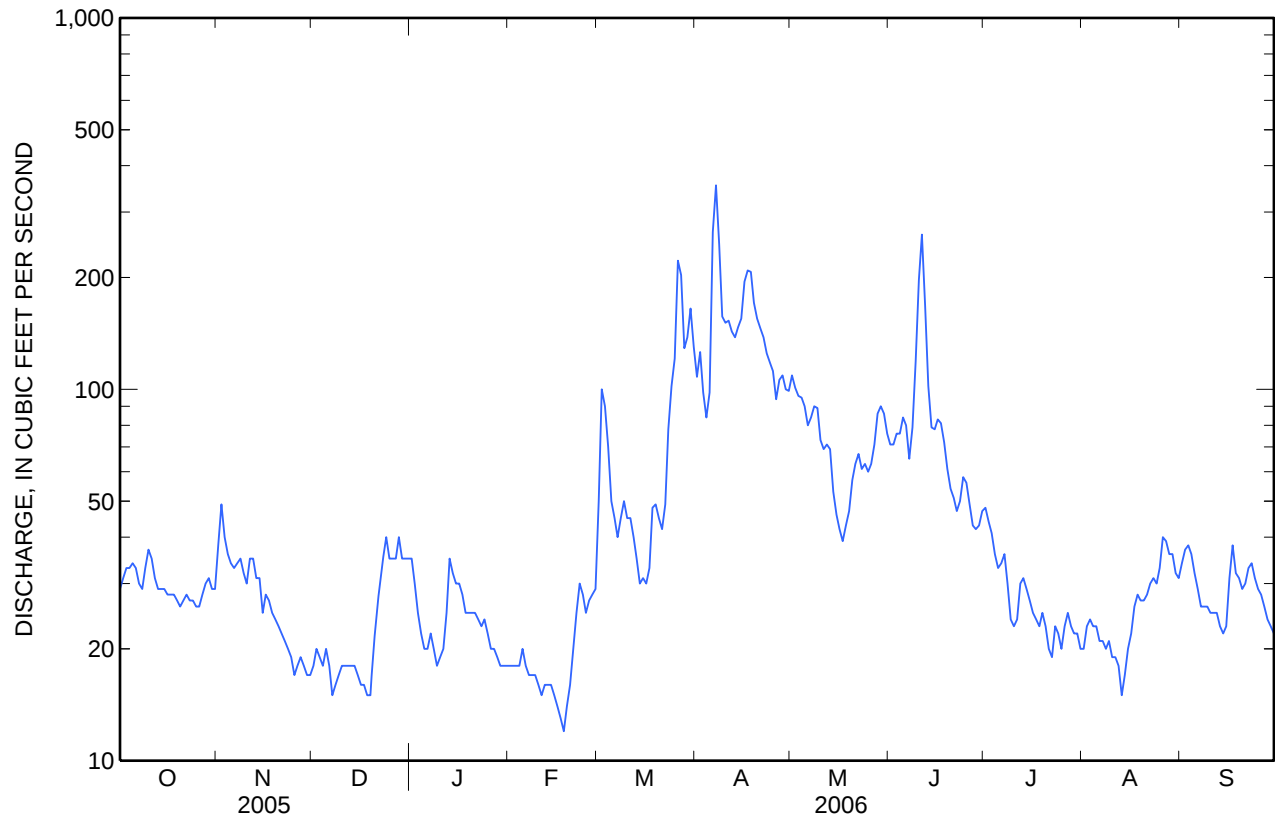
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	23.4	24.7	22.5	23.4	25.5	57.8	77.2	62.7	96.3	34.1	24.5	29.9
Max	29.7	27.8	24.5	28.2	47.8	102	150	135	190	49.0	27.7	37.8
(WY)	(2006)	(2006)	(2003)	(2005)	(2003)	(2003)	(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	25.5
(WY)	(2003)	(2004)	(2005)	(2004)	(2004)	(2002)	(2005)	(2004)	(2004)	(2004)	(2004)	(2003)

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

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 2001 - 2006	
Annual total	16,105		17,801			
Annual mean	44.1		48.8		41.8	
Highest annual mean					55.7	2003
Lowest annual mean					26.6	2004
Highest daily mean	312	Jun 8	354	Apr 7	500	Mar 14, 2003
Lowest daily mean	13	Jan 15	12	Feb 18	6.0	Jan 6, 2004
Annual seven-day minimum	15	Jan 3	14	Feb 13	9.6	Jan 5, 2004
Maximum peak flow			384	Apr 7	^a 500	Mar 14, 2003
Maximum peak stage			4.27	Apr 7	^b 5.86	Feb 2, 2003
Annual runoff (ac-ft)	31,940		35,310		30,260	
10 percent exceeds	77		104		80	
50 percent exceeds	29		31		26	
90 percent exceeds	18		18		18	

^a Estimated daily discharge during period of ice effect.^b Backwater from ice.

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.

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

REMARKS.--Water temperature record is 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, 27.5°C, July 13, 2002; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.5°C, July 4, 9, 22, and 24; minimum, 0.0°C, many days November to March.

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

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

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

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

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

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

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

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

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	141	137	102	103	96	73	94	1,320	1,170	447	228	175
2	144	134	102	102	95	73	101	1,210	1,270	426	224	174
3	145	131	102	102	95	73	102	1,030	1,490	412	219	172
4	144	129	101	101	94	74	105	902	1,510	401	209	173
5	143	129	102	100	94	73	117	883	1,470	386	207	171
6	142	128	99	98	93	73	172	1,010	1,380	396	206	166
7	140	127	e95	100	90	74	199	1,140	1,360	380	203	164
8	139	129	96	100	90	74	215	1,070	1,380	364	201	166
9	138	123	95	98	93	73	227	954	1,360	352	199	165
10	138	123	95	99	89	73	229	885	1,450	343	196	162
11	137	124	95	103	85	73	224	899	1,340	332	195	161
12	136	124	95	100	84	73	220	977	1,210	321	194	160
13	135	123	95	100	84	73	245	1,100	1,200	323	195	159
14	133	126	97	100	84	73	284	1,250	1,230	313	192	159
15	132	119	97	101	83	73	385	1,570	1,140	302	190	163
16	132	120	98	100	e80	73	486	2,080	1,050	298	195	168
17	129	121	98	99	e75	73	462	2,560	993	294	208	164
18	126	122	96	99	e70	73	407	3,090	903	288	206	163
19	127	123	97	98	e70	73	376	2,980	828	282	197	162
20	128	122	93	99	76	73	381	3,040	761	278	191	164
21	128	120	95	99	76	73	446	3,000	697	270	185	163
22	128	120	96	97	76	74	641	2,740	652	266	181	162
23	127	117	99	98	75	75	697	2,460	616	262	178	162
24	127	114	101	97	74	75	654	2,340	582	260	181	161
25	127	110	101	94	73	76	612	2,120	556	256	186	158
26	126	113	101	91	73	79	631	2,170	541	252	187	156
27	129	113	102	92	73	78	683	1,910	524	246	182	153
28	128	111	103	95	74	78	738	1,560	498	242	179	151
29	127	106	106	95	---	84	991	1,400	481	237	178	152
30	127	104	103	95	---	87	1,410	1,270	469	233	176	151
31	130	---	103	95	---	89	---	1,190	---	233	176	---
Total	4,133	3,642	3,060	3,050	2,314	2,331	12,534	52,110	30,111	9,695	6,044	4,880
Mean	133	121	98.7	98.4	82.6	75.2	418	1,681	1,004	313	195	163
Max	145	137	106	103	96	89	1,410	3,090	1,510	447	228	175
Min	126	104	93	91	70	73	94	883	469	233	176	151
Ac-ft	8,200	7,220	6,070	6,050	4,590	4,620	24,860	103,400	59,730	19,230	11,990	9,680

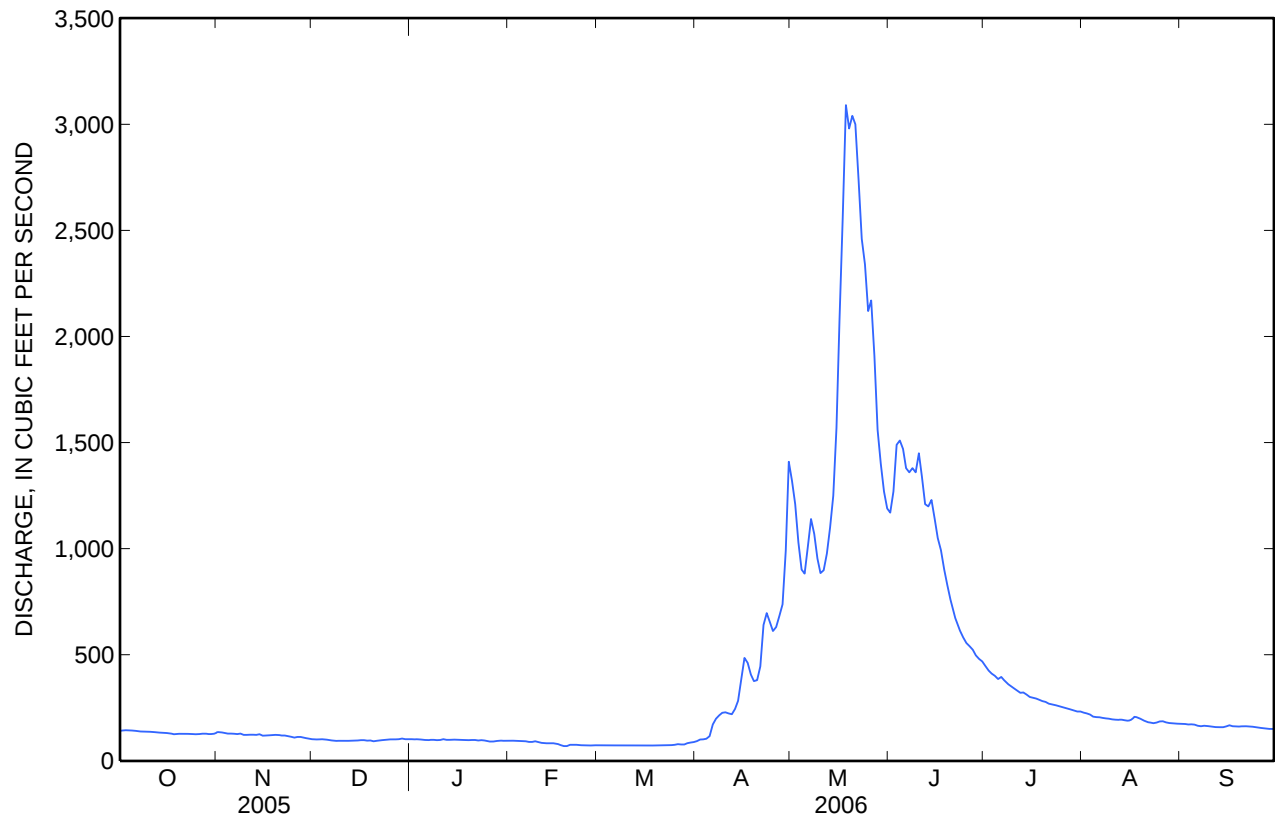
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	155	139	119	105	99.2	103	359	1,223	1,164	407	216	171
Max	186	168	151	148	154	147	542	1,681	1,940	626	280	197
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2004)	(2006)	(1999)	(1999)	(1999)	(1999)
Min	119	114	98.7	88.3	82.3	75.2	121	801	766	265	167	128
(WY)	(2002)	(2002)	(2006)	(2004)	(2001)	(2006)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)

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

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1998 - 2006	
Annual total	111,168		133,904			
Annual mean	305		367		356	
Highest annual mean					456	
Lowest annual mean					242	
Highest daily mean	1,790	May 17	3,090	May 18	3,870	May 26, 1999
Lowest daily mean	93	Dec 20	70	Feb 18	70	Feb 18, 2006
Annual seven-day minimum	95	Dec 7	73	Mar 9	73	Mar 9, 2006
Maximum peak flow			3,240	May 21	^a 4,280	May 26, 1999
Maximum peak stage			5.58	May 21	5.92	May 20, 2003
Instantaneous low flow					^b 69	Mar 18, 2001
Annual runoff (ac-ft)	220,500		265,600		257,900	
10 percent exceeds	883		1,140		962	
50 percent exceeds	160		142		162	
90 percent exceeds	112		76		90	

^a Gage height, 5.75 ft.^b Gage height, 2.35 ft.

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	509	557	418	e488	504	518	1,230	4,780	3,920	1,630	651	511
2	514	584	443	e512	503	576	1,340	4,660	3,820	1,540	633	511
3	518	574	455	e529	505	586	1,370	4,380	4,150	1,460	623	510
4	538	549	412	e537	499	586	1,430	4,040	4,480	1,410	606	506
5	532	528	e420	e545	494	561	1,730	3,830	4,490	1,340	596	500
6	524	532	e440	e545	481	541	2,830	3,790	4,320	1,350	586	488
7	521	527	e180	e542	453	517	3,550	3,910	4,150	1,400	577	481
8	516	552	e280	e538	465	513	3,480	3,940	4,150	1,310	571	475
9	511	547	e300	e530	499	512	3,390	3,800	4,310	1,250	562	469
10	514	529	e380	535	446	492	3,330	3,590	4,440	1,180	557	465
11	517	539	e400	560	397	478	3,280	3,460	4,730	1,140	551	458
12	516	549	e400	561	398	464	3,210	3,460	4,390	1,090	537	462
13	511	552	e420	563	455	449	3,360	3,570	4,150	1,080	535	468
14	510	576	e470	562	491	459	3,650	3,740	4,040	1,050	533	466
15	504	544	e430	571	424	473	3,960	4,100	3,860	987	523	476
16	500	536	e420	549	402	453	4,240	4,880	3,720	946	541	526
17	500	535	e400	553	337	461	4,280	5,990	3,530	912	574	539
18	494	520	e370	555	279	474	4,040	7,100	3,370	881	589	536
19	490	514	e358	537	359	510	3,700	7,860	3,130	855	585	518
20	493	502	e329	540	443	509	3,440	8,180	2,920	837	566	522
21	499	487	e321	538	495	505	3,340	8,170	2,720	811	547	525
22	497	484	e373	528	523	516	3,560	7,780	2,540	783	529	525
23	493	480	e351	522	504	551	3,790	7,280	2,390	767	517	521
24	488	464	e380	519	497	611	3,820	6,950	2,250	754	513	520
25	482	446	e373	507	524	682	3,720	6,490	2,140	732	525	511
26	478	473	e365	479	505	799	3,610	6,310	2,030	714	558	503
27	492	482	e402	502	484	900	3,600	6,120	1,940	704	547	498
28	498	466	e395	500	502	872	3,670	5,590	1,840	688	530	488
29	490	443	e432	497	---	908	3,910	5,090	1,750	674	514	482
30	487	468	e432	497	---	1,080	4,500	4,680	1,700	666	504	475
31	492	---	e458	506	---	1,160	---	4,220	---	661	514	---
Total	15,628	15,539	12,007	16,447	12,868	18,716	98,360	161,740	101,370	31,602	17,294	14,935
Mean	504	518	387	531	460	604	3,279	5,217	3,379	1,019	558	498
Max	538	584	470	571	524	1,160	4,500	8,180	4,730	1,630	651	539
Min	478	443	180	479	279	449	1,230	3,460	1,700	661	504	458
Ac-ft	31,000	30,820	23,820	32,620	25,520	37,120	195,100	320,800	201,100	62,680	34,300	29,620
Cfs/m	0.22	0.23	0.17	0.23	0.20	0.26	1.43	2.28	1.48	0.45	0.24	0.22
In.	0.25	0.25	0.20	0.27	0.21	0.30	1.60	2.63	1.65	0.51	0.28	0.24

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	651	648	603	554	597	779	2,069	4,872	4,857	1,833	828	668
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

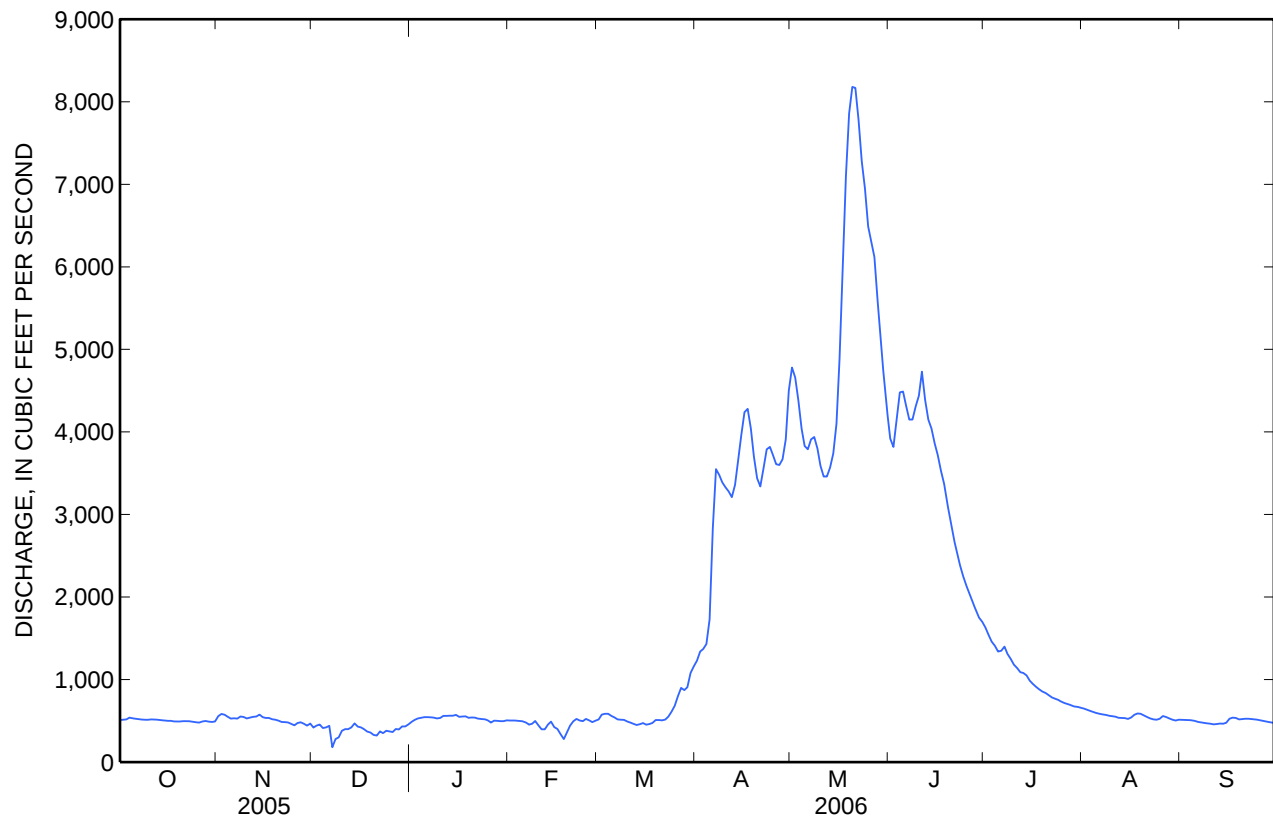
	Calendar Year 2005		Water Year 2006		Water Years 1898 – 2006*	
Annual total	432,904		516,506			
Annual mean	1,186		1,415		1,565	
Highest annual mean					2,480	1976
Lowest annual mean					558	1941
Highest daily mean	5,200	May 18	8,180	May 20	18,000	Jun 10, 1964
Lowest daily mean	180	Dec 7	180	Dec 7	180	Dec 7, 2005
Annual seven-day minimum	337	Dec 7	337	Dec 7	239	Dec 21, 1983
Maximum peak flow			8,340	May 20	^a 19,200	Jun 10, 1964
Maximum peak stage			7.54	May 20	^b 16.00	Feb 9, 1996
Instantaneous low flow					^c 156	Feb 2, 1989
Annual runoff (ac-ft)	858,700		1,024,000		1,134,000	
Annual runoff (cfsm)	0.518		0.618		0.684	
Annual runoff (inches)	7.03		8.39		9.29	
10 percent exceeds	3,220		4,040		4,070	
50 percent exceeds	610		537		727	
90 percent exceeds	445		443		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.

SUSPENDED-SEDIMENT DISCHARGE: July 1986 to April 1987, June 1988 to September 1995, October 2005 to September 2006.

REMARKS.--Supplemental sampling was conducted this year as part of an expanded sampling program for the lower Clark Fork basin. Daily water temperature records are rated excellent. Missing water temperature data for Dec. 6-8, Feb. 15-20, and Aug. 17 to Sept. 29 are 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, 22.5°C, July 19, 2003, and July 22-24, 2006; 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, 22.5°C, July 22-24; minimum, 0.0°C on many days November through March.

SEDIMENT CONCENTRATION: Maximum daily mean, 145 mg/L, May 19; minimum daily mean, 1 mg/L on many days October through February.

SEDIMENT LOAD: Maximum daily, 3,080 tons, May 19; minimum daily, 0.49 ton, Dec. 7.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 1 of 3

[Remark codes: <, less than.]

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrcd NTRU (63676)	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 uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
Oct 2005													
19...	0800	489	<2.0	677	9.2	91	8.4	272	5.0	9.0	140	34.4	13.2
Apr 2006													
*05...	1400	1,760	--	--	--	--	8.4	202	10.0	5.0	99	25.7	8.42
19...	1050	3,710	--	--	--	--	8.2	175	5.5	5.0	86	22.9	7.08
*19...	1230	3,680	--	--	--	--	8.5	174	5.5	8.5	87	23.0	7.18
May													
*02...	1330	4,670	--	--	--	--	8.6	158	11.0	7.5	83	22.0	6.88
10...	0945	3,610	--	--	--	--	8.3	174	6.0	7.5	86	22.5	7.15
*16...	1300	5,020	--	--	--	--	8.2	156	29.0	11.5	81	21.7	6.58
*19...	1530	8,170	--	--	--	--	8.2	142	20.0	11.0	67	17.9	5.37
24...	1020	7,040	--	--	--	--	8.1	146	15.5	10.5	72	19.1	5.85
*31...	1400	4,210	--	--	--	--	8.4	175	22.0	11.0	87	22.9	7.29
Jun													
*05...	1330	4,550	--	--	--	--	8.4	163	19.5	12.0	80	20.7	6.76
*13...	1300	4,160	--	--	--	--	8.4	185	29.5	14.5	87	22.5	7.46
*19...	1300	3,110	--	--	--	--	8.4	185	15.5	13.5	89	23.0	7.68
*26...	1230	2,030	--	--	--	--	8.2	208	29.0	18.0	110	27.4	8.86
Jul													
25...	1455	729	--	--	--	--	8.6	254	34.0	22.5	130	31.6	11.8
Aug													
25...	0800	517	--	--	--	--	8.5	263	14.0	15.5	130	31.9	12.4
Sep													
*26...	1330	511	--	--	--	--	8.5	270	12.0	20.0	130	33.3	12.1
Oct													
*17...	1230	517	--	--	--	--	8.5	266	9.0	7.0	140	35.4	12.3

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 2 of 3

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

Date	Ammonia water, flt'd, mg/L as N (00608)	Nitrite + nitrate water flt'd, mg/L as N (00631)	Nitrite water, flt'd, mg/L as N (00613)	Total nitro- gen, water, unflt'd mg/L (62855)	Ortho- phos- phate, water, flt'd, mg/L as P (00671)	Phos- phorus, water, unflt'd mg/L (00665)	Alum- inum, water, flt'd, ug/L (01106)	Arsenic water, flt'd, ug/L (01000)	Arsenic water unflt'd ug/L (01002)	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)
Oct 2005													
19...	<.010	<.016	<.002	.10	<.006	.007	2	1.1	1.1	<.04	<.04	.52	E.5
Apr 2006													
*05...	--	--	--	.56	--	.107	--	1.0	1.4	<.04	<.04	2.1	2.0
19...	--	--	--	--	--	--	--	.86	1.2	<.04	<.04	1.8	3.5
*19...	--	--	--	.33	--	.050	--	.82	1.1	<.04	<.04	1.7	1.8
May													
*02...	--	--	--	.24	--	.055	--	.66	1.1	<.04	<.04	.95	1.7
10...	--	--	--	--	--	--	--	.72	.96	<.04	<.04	1.3	3.7
*16...	--	--	--	.32	--	.053	--	.89	1.1	<.04	E.03	.76	1.9
*19...	--	--	--	.49	--	.123	--	.81	2.2	<.04	<.04	2.1	5.2
24...	--	--	--	.23	--	.049	--	.78	1.2	<.04	<.04	1.2	4.3
*31...	--	--	--	.20	--	.017	--	.85	1.1	<.04	<.04	--	1.3
Jun													
*05...	--	--	--	.21	--	.019	--	.86	1.0	<.04	<.04	1.2	1.5
*13...	--	--	--	.16	--	.028	--	.92	1.2	<.04	<.04	2.0	1.4
*19...	--	--	--	.12	--	.017	--	.92	1.0	<.04	E.03	.64	1.2
*26...	--	--	--	.11	--	.013	--	.98	1.2	<.04	<.04	.62	.8
Jul													
25...	--	--	--	--	--	--	--	1.2	1.4	<.04	<.04	.45	1.3
Aug													
25...	--	--	--	--	--	--	--	1.3	1.3	<.04	<.04	E.38	.9
Sep													
*26...	--	--	--	.11	--	.005	--	1.3	1.6	<.04	<.04	.85	E.5
Oct													
*17...	--	--	--	.17	--	<.008	--	1.1	1.3	<.04	<.02	.50	1.2

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 3 of 3

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

Date	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct 2005											
19...	6	35	<.08	.06	1.0	4.2	E.37	<2	84	2	2.6
Apr 2006											
*05...	26	600	.18	.68	6.8	39.1	3.3	3	79	39	185
19...	44	387	E.06	.48	3.9	28.2	1.3	3	88	22	220
*19...	19	372	E.07	.43	3.9	28.5	2.0	3	89	21	209
May											
*02...	16	375	<.08	.46	2.8	28.8	1.1	3	83	25	315
10...	12	174	<.08	.27	2.2	15.0	1.0	2	83	13	127
*16...	14	525	<.08	.62	3.4	38.9	.64	3	78	48	651
*19...	13	1,670	.14	2.30	4.7	97.2	2.3	8	78	168	3,710
24...	18	626	<.08	.85	2.4	37.3	.67	4	82	57	1,080
*31...	11	242	.29	.37	3.4	18.2	--	E2	86	18	205
Jun											
*05...	10	302	E.07	.39	2.2	20.0	1.2	2	83	24	295
*13...	11	259	.09	.39	2.0	17.6	--	E2	86	19	213
*19...	10	131	<.08	.18	2.0	10.9	.67	E1	84	9	76
*26...	11	72	E.04	.12	1.9	8.4	.84	<2	80	5	27
Jul											
25...	E4	36	<.08	.06	2.3	8.0	E.46	<2	84	3	5.9
Aug											
25...	<6	27	<.08	E.04	.9	5.1	E.47	<2	69	2	2.8
Sep											
*26...	E5	25	E.07	E.04	1.2	2.8	1.9	<2	79	1	1.4
Oct											
*17...	7	30	<.12	<.06	1.0	3.4	E.42	<2	87	1	1.4

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

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

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

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

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

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

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

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

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

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)
	October		November		December		January		February		March	
1	2	2.7	2	3.0	4	4.5	2	2.6	3	4.1	4	5.6
2	2	2.8	2	3.2	4	4.8	2	2.8	3	4.1	2	3.1
3	2	2.8	1	1.5	3	3.7	2	2.9	4	5.5	4	6.3
4	2	2.9	1	1.5	2	2.2	2	2.9	4	5.4	7	11
5	2	2.9	1	1.4	2	2.3	2	2.9	4	5.3	7	11
6	2	2.8	1	1.4	2	2.4	1	1.5	4	5.2	6	8.8
7	2	2.8	1	1.4	1	0.49	1	1.5	3	3.7	4	5.6
8	2	2.8	1	1.5	1	0.76	1	1.5	3	3.8	4	5.5
9	2	2.8	1	1.5	1	0.81	1	1.4	2	2.7	4	5.5
10	2	2.8	1	1.4	1	1.0	1	1.4	2	2.4	3	4.0
11	2	2.8	1	1.5	2	2.2	2	3.0	2	2.1	2	2.6
12	2	2.8	1	1.5	2	2.2	2	3.0	2	2.1	2	2.5
13	2	2.8	1	1.5	2	2.3	2	3.0	2	2.5	3	3.6
14	2	2.8	1	1.6	2	2.5	2	3.0	1	1.3	4	5.0
15	2	2.7	1	1.5	2	2.3	3	4.6	1	1.1	2	2.6
16	1	1.4	1	1.4	1	1.1	3	4.4	1	1.1	2	2.4
17	1	1.4	1	1.4	1	1.1	2	3.0	1	0.91	3	3.7
18	1	1.3	1	1.4	1	1.0	2	3.0	1	0.75	3	3.8
19	2	2.6	1	1.4	1	0.97	2	2.9	2	1.9	4	5.5
20	2	2.7	1	1.4	1	0.89	2	2.9	2	2.4	4	5.5
21	1	1.3	1	1.3	1	0.87	2	2.9	2	2.7	5	6.8
22	1	1.3	1	1.3	1	1.0	3	4.3	2	2.8	6	8.4
23	2	2.7	1	1.3	1	0.95	3	4.2	2	2.7	6	8.9
24	3	4.0	1	1.3	2	2.1	3	4.2	1	1.3	8	13
25	2	2.6	1	1.2	3	3.0	3	4.1	1	1.4	14	26
26	2	2.6	1	1.3	3	3.0	2	2.6	1	1.4	20	43
27	2	2.7	1	1.3	3	3.3	2	2.7	1	1.3	23	56
28	2	2.7	1	1.3	3	3.2	2	2.7	2	2.7	24	57
29	2	2.6	2	2.4	4	4.7	2	2.7	---	---	22	54
30	1	1.3	2	2.5	2	2.3	2	2.7	---	---	28	82
31	1	1.3	---	---	2	2.5	2	2.7	---	---	32	100
Total	---	76.5	---	47.6	---	66.44	---	90.0	---	74.66	---	558.7

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	28	93	38	490	18	191	6	26	3	5.3	2	2.8
2	29	105	26	327	17	175	6	25	3	5.1	2	2.8
3	28	104	22	260	23	258	6	24	3	5.0	2	2.8
4	22	85	17	185	26	314	5	19	3	4.9	3	4.1
5	36	168	17	176	24	291	5	18	3	4.8	3	4.0
6	85	649	16	164	22	257	5	18	3	4.7	3	4.0
7	86	824	14	148	18	202	6	23	3	4.7	3	3.9
8	60	564	14	149	19	213	5	18	3	4.6	3	3.8
9	32	293	14	144	20	233	5	17	3	4.6	3	3.8
10	24	216	13	126	22	264	5	16	3	4.5	3	3.8
11	20	177	10	93	27	345	5	15	2	3.0	2	2.5
12	16	139	10	93	22	261	5	15	2	2.9	2	2.5
13	19	172	13	125	20	224	5	15	2	2.9	2	2.5
14	23	227	13	131	20	218	4	11	2	2.9	2	2.5
15	28	299	18	199	17	177	5	13	2	2.8	2	2.6
16	35	401	46	606	14	141	5	13	2	2.9	2	2.8
17	36	416	115	1,860	12	114	5	12	2	3.1	2	2.9
18	28	305	141	2,700	12	109	5	12	2	3.2	2	2.9
19	21	210	145	3,080	9	76	5	12	2	3.2	2	2.8
20	19	176	132	2,920	9	71	4	9.0	2	3.1	2	2.8
21	25	225	117	2,580	8	59	4	8.8	2	3.0	2	2.8
22	26	250	98	2,060	7	48	4	8.5	2	2.9	2	2.8
23	24	246	68	1,340	7	45	5	10	2	2.8	2	2.8
24	22	227	57	1,070	7	43	5	10	2	2.8	2	2.8
25	19	191	46	806	7	40	4	7.9	2	2.8	2	2.8
26	16	156	44	750	5	27	2	3.9	2	3.0	2	2.7
27	15	146	39	644	6	31	3	5.7	2	3.0	2	2.7
28	16	159	31	468	7	35	5	9.3	2	2.9	3	4.0
29	18	190	26	357	6	28	4	7.3	2	2.8	3	3.9
30	38	462	24	303	6	28	4	7.2	2	2.7	3	3.8
31	---	---	19	216	---	---	4	7.1	2	2.8	---	---
Total	---	7,875	---	24,570	---	4,518	---	416.7	---	109.7	---	93.7

Total load for year: 38,497.00 tons

Water-Data Report 2006

465224113525501 Blackfoot River at Milltown, MT

Pend Oreille Basin
Blackfoot Subbasin

LOCATION.--Lat 46°52'24", long 113°52'55" referenced to North American Datum of 1927, Missoula County, MT, Hydrologic Unit 17010203.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2005 to November 2005.

GAGE.--None. Elevation at sampling location is 3,280 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Samples were collected by an observer using a depth-integrated sampler at a midstream location.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, 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, ug/L (01000)	Arsenic water, unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
Oct												
11...	1545	507	8.2	267	7.5	140	33.5	13.2	1.1	1.2	E.02	E.03
18...	1330	486	8.3	267	11.5	140	34.1	13.3	1.2	1.1	<.04	E.02
25...	1345	472	8.1	270	7.5	140	35.1	13.3	1.1	1.1	<.04	<.04
Nov												
02...	1200	573	8.3	258	5.0	130	32.7	11.9	1.1	1.0	<.04	<.04
08...	1445	536	8.4	270	3.5	130	33.5	12.1	1.0	1.2	<.04	<.04
15...	1445	570	8.2	263	1.5	130	32.5	12.0	1.1	.98	<.04	<.04

465224113525501 Blackfoot River at Milltown, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 2

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

Date	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct											
11...	1.8	2.1	10	51	.27	.82	1.6	3	76	3	4.1
18...	1.3	3.7	11	83	.18	.65	1.4	2	92	6	7.9
25...	1.2	1.2	11	100	.09	.25	1.1	9	83	5	6.4
Nov											
02...	.7	1.4	E5	247	<.08	.47	E.4	E2	77	18	28
08...	.8	2.1	E6	334	E.05	.65	3.5	7	66	11	16
15...	.7	.8	<6	49	E.04	.18	.7	<2	53	13	20

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,280	1,390	1,160	1,520	1,220	1,730	2,170	7,700	6,040	2,590	1,110	891
2	1,290	1,430	1,170	1,450	1,200	1,660	2,200	7,550	5,800	2,470	1,080	885
3	1,330	1,440	1,150	1,440	1,200	1,530	2,410	7,150	6,110	2,350	1,060	885
4	1,410	1,430	e1,100	1,440	1,180	1,480	2,370	6,590	6,640	2,290	1,020	880
5	1,530	1,390	e1,130	1,350	1,180	1,440	2,880	6,200	6,730	2,200	992	866
6	1,490	1,380	e1,100	1,230	1,150	1,310	4,560	6,060	6,470	2,230	978	849
7	1,480	1,370	e550	1,300	1,060	1,260	6,110	6,200	6,170	2,410	966	844
8	1,420	1,420	e500	1,330	1,050	1,260	5,800	6,280	6,210	2,290	959	833
9	1,390	1,410	e530	1,290	1,160	1,270	5,470	6,070	6,800	2,150	954	815
10	1,420	1,350	e800	1,240	1,130	1,240	5,330	5,680	7,260	2,060	932	822
11	1,390	1,370	e950	1,410	961	1,060	5,210	5,470	8,230	2,010	910	818
12	1,400	1,410	e1,000	1,580	869	1,070	5,020	5,430	7,700	1,970	891	821
13	1,380	1,420	e1,000	1,430	972	1,080	5,130	5,560	6,940	1,980	885	840
14	1,360	1,430	e1,100	1,370	1,130	1,080	5,600	5,750	6,510	1,970	894	830
15	1,350	1,420	e1,030	1,490	1,020	1,110	6,090	6,270	6,140	1,870	864	850
16	1,330	1,330	e1,030	1,420	1,010	1,110	6,550	7,380	5,840	1,780	872	970
17	1,310	1,360	e1,000	1,330	700	1,100	6,650	9,140	5,480	1,720	936	1,060
18	1,300	1,360	e900	1,340	678	1,110	6,260	10,800	5,170	1,650	963	1,070
19	1,290	1,330	e850	1,340	737	1,180	5,750	12,000	4,790	1,590	963	1,040
20	1,310	1,330	e900	1,300	925	1,210	5,320	12,600	4,550	1,540	938	1,050
21	1,300	1,300	e1,000	1,280	1,030	1,200	5,160	12,700	4,250	1,490	918	1,080
22	1,300	1,280	e1,100	1,250	1,130	1,220	5,430	12,000	3,920	1,450	887	1,120
23	1,310	1,270	e1,300	1,210	1,160	1,260	5,870	11,200	3,670	1,400	871	1,120
24	1,290	1,220	e1,500	1,230	1,140	1,310	6,060	10,700	3,440	1,360	863	1,120
25	1,280	1,160	e1,430	1,200	1,140	1,400	5,890	9,750	3,250	1,330	877	1,110
26	1,270	1,230	e1,450	1,130	1,070	1,590	5,720	9,400	3,070	1,280	954	1,090
27	1,290	1,310	e1,400	1,170	1,120	1,820	5,640	9,280	2,910	1,250	945	1,080
28	1,320	1,230	e1,350	1,170	1,220	1,710	5,690	8,610	2,790	1,200	923	1,080
29	1,310	1,170	e1,550	1,200	---	1,750	6,030	7,900	2,650	1,160	894	1,080
30	1,290	1,070	1,660	1,140	---	2,000	6,880	7,290	2,620	1,140	877	1,080
31	1,300	---	1,600	1,220	---	2,170	---	6,490	---	1,120	885	---
Total	41,720	40,010	34,290	40,800	29,542	42,720	155,250	251,200	158,150	55,300	29,061	28,879
Mean	1,346	1,334	1,106	1,316	1,055	1,378	5,175	8,103	5,272	1,784	937	963
Max	1,530	1,440	1,660	1,580	1,220	2,170	6,880	12,700	8,230	2,590	1,110	1,120
Min	1,270	1,070	500	1,130	678	1,060	2,170	5,430	2,620	1,120	863	815
Ac-ft	82,750	79,360	68,010	80,930	58,600	84,740	307,900	498,300	313,700	109,700	57,640	57,280

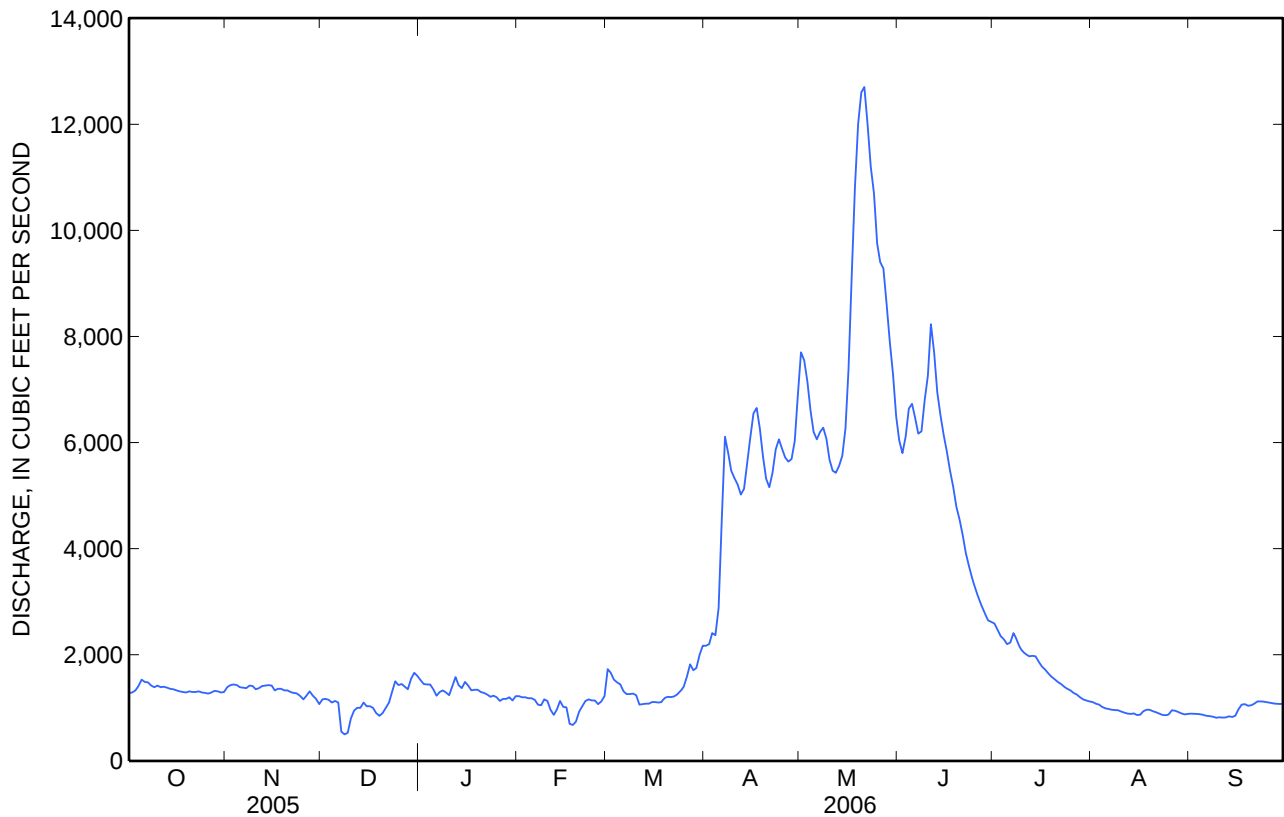
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,549	1,545	1,405	1,321	1,460	1,852	3,721	7,828	8,155	3,115	1,469	1,390
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 2005		Water Year 2006		Water Years 1929 - 2006	
Annual total	821,674		906,922			
Annual mean	2,251		2,485		2,908	
Highest annual mean					5,071	1976
Lowest annual mean					1,344	1941
Highest daily mean	9,170	May 20	12,700	May 21	30,800	Jun 21, 1975
Lowest daily mean	500	Jan 5	500	Dec 8	340	Sep 27, 1937
Annual seven-day minimum	620	Jan 2	761	Dec 7	446	Jan 7, 1937
Maximum peak flow			12,900	May 20	32,300	Jun 21, 1975
Maximum peak stage			8.43	May 20	13.75	Jun 21, 1975
Instantaneous low flow			^a 351	Feb 17	^b 115	Oct 25, 1943
Annual runoff (ac-ft)	1,630,000		1,799,000		2,107,000	
10 percent exceeds	5,870		6,200		6,810	
50 percent exceeds	1,350		1,330		1,650	
90 percent exceeds	956		898		1,000	

^a Gage height, 1.61 ft.^b 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.

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

REMARKS.--Supplemental sampling was conducted this year as part of an expanded sampling program for the lower Clark Fork basin and during the removal of Stimson Dam on the Blackfoot River at Bonner. 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.

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.--

SEDIMENT CONCENTRATION: Maximum daily mean, 216 mg/L, June 11; minimum daily mean, 3 mg/L, on several days in January and February.

SEDIMENT LOAD: Maximum daily, 4,800 tons, June 11; minimum daily, 7.6 tons, Feb. 17.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 1 of 3

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrdctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Total nitrogen, water, unfltrd mg/L (62855)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic, water, fltrd, ug/L (01000)
Oct 2005													
19...	0945	1,290	8.5	8.4	348	10.5	10.0	170	44.2	13.4	--	--	4.2
Mar 2006													
22...	0800	1,180	3.5	8.5	331	-1.0	5.0	160	43.6	12.4	--	--	3.7
Apr													
*05...	1530	3,060	--	8.4	257	11.0	7.0	120	32.4	9.05	.38	.060	2.5
19...	1250	5,710	14	8.2	214	10.5	5.5	99	27.4	7.52	--	--	2.4
*19...	1430	5,670	--	8.4	211	11.5	6.5	99	27.4	7.54	.42	.060	2.5
May													
*02...	1600	7,530	--	8.4	176	15.0	8.5	86	23.7	6.45	.36	.063	2.4
10...	1045	5,670	6.9	8.3	194	13.0	8.0	91	24.7	7.08	--	--	2.2
*16...	1500	7,890	--	8.1	169	30.0	13.0	83	22.7	6.39	.37	.061	2.1
*19...	1400	12,300	--	8.1	144	26.5	12.5	68	18.4	5.29	.53	.129	2.2
24...	1145	10,700	28	8.1	149	20.0	10.5	71	19.3	5.47	.32	.066	2.2
*31...	1530	6,270	--	8.2	188	25.5	12.0	91	24.8	7.09	.22	.029	2.7
Jun													
*05...	1500	6,920	--	8.3	181	20.0	13.0	84	22.4	6.68	.26	.031	2.5
13...	1430	6,900	18	8.3	213	27.0	16.5	99	26.9	7.72	.47	.102	4.7
*19...	1500	4,720	--	8.4	215	19.5	14.5	98	26.3	7.85	.21	.046	3.1
*26...	1400	3,050	--	8.3	238	30.0	19.0	110	30.2	8.74	.21	.033	3.2
Jul													
25...	1615	1,320	3.8	8.6	278	37.5	22.0	130	33.7	11.3	--	--	3.6
Aug													
25...	0910	873	3.4	8.5	298	15.0	17.0	140	36.3	12.3	--	--	3.0
Sep													
*26...	1500	1,090	--	8.4	352	17.0	12.0	160	42.1	12.7	.30	.028	4.8
Oct													
*17...	1400	1,350	--	8.4	349	9.5	7.5	170	45.9	12.7	.33	.056	4.8

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 2 of 3

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

Date	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)
Oct 2005													
19...	6.3	<.04	.24	2.2	24.6	8	585	E.06	3.90	23.8	66.5	1.4	43
Mar 2006													
22...	4.0	<.04	.07	2.2	7.3	9	189	E.05	.97	27.2	39.8	2.0	11
Apr													
*05...	3.7	<.04	.07	2.5	8.3	18	418	E.06	1.48	15.8	35.9	2.5	15
19...	3.7	<.04	.08	2.3	11.5	42	555	.11	1.89	15.4	51.8	2.4	15
*19...	3.6	<.04	.07	2.5	9.7	19	512	E.07	1.82	16.8	52.6	2.9	14
May													
*02...	4.0	<.04	.09	2.1	10.9	19	596	E.04	2.37	13.1	57.5	2.0	18
10...	2.9	<.04	.05	1.8	6.5	14	295	<.08	1.11	11.0	29.8	1.3	9
*16...	3.0	--	.06	2.4	8.3	16	555	E.06	1.73	10.3	46.8	4.0	14
*19...	4.3	<.04	.12	2.1	17.8	24	1,460	E.07	3.73	11.7	109	1.7	28
24...	3.2	<.04	.07	2.2	9.5	24	699	E.04	1.85	8.1	51.1	1.5	14
*31...	3.0	<.04	E.04	2.0	5.3	14	267	E.04	.80	8.5	27.8	3.3	7
Jun													
*05...	3.4	<.04	.08	1.9	10.0	13	485	E.06	1.70	15.3	44.2	1.6	18
13...	8.6	<.04	.35	3.3	42.1	14	1,350	.12	6.89	17.0	99.2	2.6	91
*19...	6.6	<.04	.08	1.8	9.9	12	216	.08	1.25	10.8	31.9	3.2	12
*26...	4.0	<.04	.10	1.6	17.7	12	314	.10	1.60	11.3	28.7	2.0	19
Jul													
25...	4.2	E.03	.11	2.0	14.6	6	192	.08	1.98	12.8	27.3	1.2	21
Aug													
25...	3.3	<.04	.07	1.7	8.1	7	155	E.04	.97	9.9	24.0	2.8	12
Sep													
*26...	6.2	<.04	.15	2.0	17.7	10	436	.13	2.73	21.2	49.0	1.7	36
Oct													
*17...	7.4	<.04	.27	3.0	27.9	7	674	.12	5.18	15.2	80.7	4.0	60

* Sample collected as part of a supplemental sampling program for the lower Clark Fork basin.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

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)
Oct 2005			
19...	74	41	143
Mar 2006			
22...	83	9	29
Apr			
*05...	53	30	248
19...	86	28	432
*19...	87	27	413
May			
*02...	80	36	732
10...	85	16	245
*16...	76	40	852
*19...	74	139	4,620
24...	79	56	1,620
*31...	88	15	254
Jun			
*05...	72	38	710
13...	39	117	2,180
*19...	40	47	599
*26...	61	26	214
Jul			
25...	81	12	43
Aug			
25...	85	11	26
Sep			
*26...	78	27	79
Oct			
*17...	70	47	171

* Sample collected as part of a
supplemental sampling program for
the lower Clark Fork basin.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Stimson Dam Removal**

Part 1 of 2

[Remark codes: <, less than.]

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	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, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Copper, water, fltrd, ug/L (01040)
Oct													
11...	1215	1,400	8.1	344	8.0	170	44.8	13.6	4.4	5.4	<.04	.11	2.0
18...	1530	1,300	8.4	344	12.0	170	45.5	13.8	4.8	6.2	<.04	.17	2.4
25...	1545	1,290	8.4	339	9.0	170	45.1	13.8	4.3	5.2	<.04	.09	2.0
Nov													
02...	1430	1,430	8.3	335	6.5	160	43.3	12.7	4.0	4.3	<.04	.10	1.6
08...	1115	1,410	8.4	346	4.0	160	43.7	12.6	3.9	4.5	<.04	.09	1.6
15...	1130	1,430	8.2	342	2.0	160	44.7	12.8	3.8	4.3	<.04	.08	1.8

** Supplemental samples collected by depth-integration at a single vertical by an observer to monitor conditions during the removal of Stimson Dam on the Blackfoot River.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Stimson Dam Removal**

Part 2 of 2

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

Date	Copper, water, unfltrd recover -able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover -able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover -able, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct										
11...	12.6	14	312	.10	2.05	2.8	24	88	19	72
18...	19.4	17	536	.12	3.17	1.7	37	77	34	119
25...	10.0	8	267	E.08	1.60	2.1	20	69	17	59
Nov										
02...	11.6	E4	288	E.05	1.77	2.1	20	70	19	73
08...	9.7	<6	268	E.06	1.63	2.4	19	55	24	91
15...	8.6	E4	233	E.06	1.47	3.0	17	67	17	66

** Supplemental samples collected by depth-integration at a single vertical by an observer to monitor conditions during the removal of Stimson Dam on the Blackfoot River.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)	Mean concen- tration (mg/l)	Sediment discharge (tons/ day)
	October		November		December		January		February		March	
1	4	14	16	60	22	69	13	53	6	20	29	135
2	4	14	18	69	23	73	64	251	6	19	36	161
3	5	18	24	93	21	65	28	109	7	23	19	78
4	5	19	29	112	20	59	17	66	5	16	12	48
5	6	25	28	105	18	55	11	40	4	13	11	43
6	6	24	21	78	17	50	14	46	5	16	8	28
7	7	28	18	67	15	22	10	35	4	11	8	27
8	8	31	22	84	14	19	10	36	4	11	7	24
9	9	34	16	61	12	17	11	38	5	16	6	21
10	13	50	15	55	11	24	10	33	4	12	4	13
11	19	71	14	52	9	23	11	42	4	10	5	14
12	23	87	13	49	7	19	19	81	4	9.4	4	12
13	26	97	13	50	5	14	9	35	3	7.9	5	15
14	30	110	14	54	5	15	8	30	3	9.2	5	15
15	34	124	17	65	5	14	9	36	3	8.3	6	18
16	38	136	18	65	5	14	29	111	3	8.2	6	18
17	41	145	17	62	5	14	7	25	4	7.6	6	18
18	35	123	15	55	5	12	6	22	5	9.2	7	21
19	38	132	13	47	5	11	5	18	6	12	8	25
20	32	113	12	43	8	19	4	14	8	20	7	23
21	25	88	10	35	19	51	4	14	9	25	8	26
22	22	77	9	31	34	101	5	17	8	24	10	33
23	20	71	10	34	50	176	4	13	6	19	14	48
24	18	63	10	33	39	158	5	17	5	15	13	46
25	16	55	10	31	26	100	4	13	4	12	20	76
26	16	55	10	33	42	164	3	9.2	3	8.7	25	107
27	19	66	10	35	46	174	3	9.5	4	12	30	147
28	20	71	10	33	57	208	3	9.5	8	26	20	92
29	19	67	10	32	47	197	8	26	---	---	18	85
30	18	63	11	32	27	121	4	12	---	---	25	135
31	17	60	---	---	17	73	5	16	---	---	26	152
Total	---	2,131	---	1,655	---	2,131	---	1,277.2	---	400.5	---	1,704

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	25	146	47	977	16	261	38	266	10	30	8	19
2	21	125	40	815	16	251	36	240	10	29	8	19
3	30	195	36	695	22	363	40	254	10	29	8	19
4	22	141	28	498	33	592	50	309	10	28	7	17
5	30	233	23	385	37	672	51	303	10	27	7	16
6	65	800	20	327	32	559	44	265	11	29	7	16
7	90	1,480	21	352	40	666	41	267	12	31	7	16
8	68	1,060	22	373	66	1,110	37	229	12	31	7	16
9	49	724	20	328	126	2,310	31	180	13	33	7	15
10	40	576	17	261	163	3,200	26	145	13	33	6	13
11	34	478	16	236	216	4,800	24	130	12	29	6	13
12	32	434	15	220	170	3,530	22	117	10	24	6	13
13	31	429	16	240	108	2,020	21	112	8	19	6	14
14	34	514	16	248	89	1,560	22	117	7	17	6	13
15	40	658	20	339	83	1,380	26	131	7	16	6	14
16	48	849	39	777	73	1,150	22	106	8	19	8	21
17	48	862	79	1,950	58	858	18	84	11	28	8	23
18	40	676	123	3,590	57	796	15	67	11	29	9	26
19	29	450	139	4,500	50	647	14	60	10	26	9	25
20	26	373	121	4,120	36	442	14	58	10	25	10	28
21	25	348	116	3,980	35	402	14	56	10	25	10	29
22	23	337	92	2,980	40	423	12	47	10	24	11	33
23	30	475	68	2,060	39	386	12	45	10	24	13	39
24	31	507	55	1,590	38	353	15	55	10	23	16	48
25	24	382	48	1,260	37	325	13	47	10	24	24	72
26	22	340	43	1,090	27	224	10	35	12	31	30	88
27	24	365	39	977	24	189	11	37	10	26	23	67
28	20	307	30	697	26	196	12	39	7	17	31	90
29	26	423	27	576	28	200	11	34	7	17	41	120
30	33	613	26	512	34	241	10	31	6	14	45	131
31	---	---	17	298	---	---	10	30	7	17	---	---
Total	---	15,300	---	37,251	---	30,106	---	3,896	---	774	---	1,073

Total load for year: 97,698.7 tons.

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 good. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	74	73	71	67	66	66	71	285	648	233	350	229
2	74	73	71	67	66	66	71	460	641	215	347	228
3	74	73	71	67	66	66	71	869	709	208	346	225
4	74	73	71	67	66	66	72	808	756	201	346	224
5	74	73	71	67	66	66	73	759	755	193	363	221
6	75	73	71	67	66	66	74	768	715	197	385	221
7	76	73	69	67	66	66	75	808	686	202	383	176
8	76	72	69	67	66	66	76	817	718	190	382	143
9	76	71	69	67	66	66	77	759	753	177	378	143
10	76	71	69	67	66	66	80	700	729	170	378	143
11	76	71	69	68	66	66	80	666	682	131	377	140
12	76	72	69	67	66	66	81	682	628	112	374	140
13	76	71	69	67	66	66	112	756	587	134	373	131
14	76	73	69	67	66	66	138	860	548	137	371	116
15	76	73	69	67	66	67	140	1,010	517	132	373	117
16	76	73	69	67	66	67	143	1,260	484	128	369	117
17	76	73	69	67	66	67	144	1,510	459	155	369	115
18	76	73	69	67	66	67	145	1,680	423	163	365	115
19	76	73	69	67	66	67	146	1,770	402	162	360	115
20	76	73	69	67	66	67	175	1,820	383	162	358	115
21	76	73	69	67	66	67	194	1,690	352	162	355	115
22	76	73	69	67	66	67	197	1,510	328	162	351	91
23	74	72	69	67	66	67	199	1,450	306	162	349	64
24	74	71	69	67	66	68	200	1,310	289	212	345	71
25	74	71	67	67	66	68	203	1,180	274	259	342	71
26	74	71	67	67	66	69	204	1,110	263	258	338	71
27	74	71	67	67	66	69	243	1,020	255	309	283	71
28	73	71	68	66	66	69	275	967	241	351	236	71
29	73	71	68	67	---	69	278	855	234	351	236	71
30	73	71	67	66	---	69	282	763	248	351	233	71
31	73	---	67	66	---	70	---	689	---	351	232	---
Total	2,323	2,165	2,139	2,075	1,848	2,078	4,319	31,591	15,013	6,330	10,647	3,941
Mean	74.9	72.2	69.0	66.9	66.0	67.0	144	1,019	500	204	343	131
Max	76	73	71	68	66	70	282	1,820	756	351	385	229
Min	73	71	67	66	66	66	71	285	234	112	232	64
Ac-ft	4,610	4,290	4,240	4,120	3,670	4,120	8,570	62,660	29,780	12,560	21,120	7,820

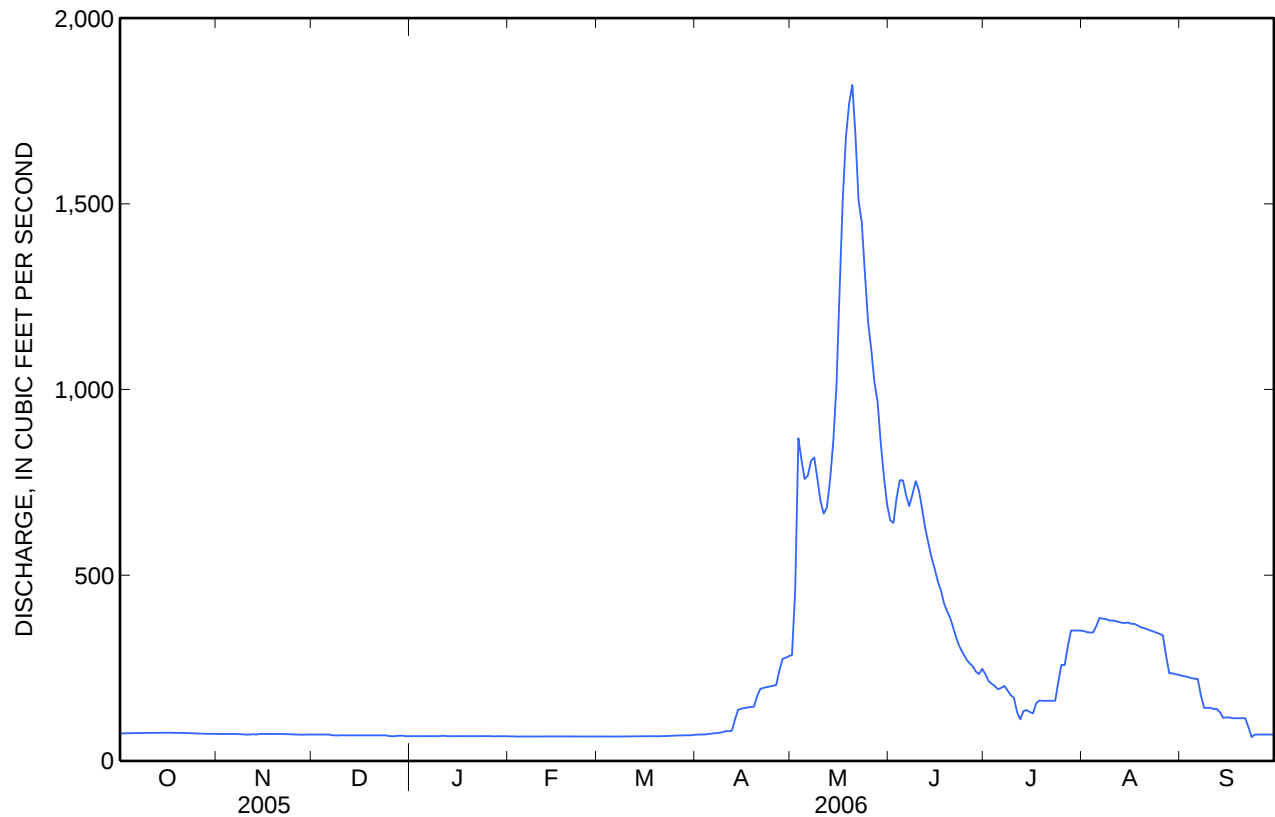
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	152	110	89.6	82.7	79.3	92.4	201	803	895	263	207	177
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 2005		Water Year 2006		Water Years 1941 - 2006	
Annual total	59,166		84,469			
Annual mean	162		231		264	
Highest annual mean					457	1976
Lowest annual mean					120	1977
Highest daily mean	972	May 21	1,820	May 20	3,900	May 9, 1947
Lowest daily mean	60	Jan 1	64	Sep 23	0.60	May 3, 1954 ^a
Annual seven-day minimum	61	Jan 1	66	Jan 30	0.66	May 1, 1954
Maximum peak flow			1,870	May 20	4,060	May 9, 1947
Maximum peak stage			4.28	May 20	6.18	May 9, 1947
Instantaneous low flow					^b 0.20	Nov 25, 1952
Annual runoff (ac-ft)	117,400		167,500		191,500	
10 percent exceeds	340		682		625	
50 percent exceeds	74		76		114	
90 percent exceeds	63		66		58	

^a May 3-7, 1954.^b Dam shutdown.

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.

WATER-QUALITY RECORDS

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

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

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 5

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrite + nitrate 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 unf 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)
Feb 22...	1245	121	7.8	133	6.0	3.0	.034	E.001	.06	.13	E.003	.013	.4
Apr 19...	1430	423	8.2	100	8.0	6.0	.027	E.001	.08	.23	.010	.038	1.0
May 24...	1430	1,480	7.5	49	23.5	9.5	.031	<.002	.12	.22	.010	.029	1.3
Jun 14...	1430	672	7.9	70	17.5	12.0	<.016	<.002	.06	.14	.012	.023	.8

12343400 EAST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 5

[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, flttd, 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)
Feb 22...	<.1	.4	1.2	20	8	2.6
Apr 19...	<.1	1.0	4.9	65	9	10
May 24...	<.1	1.3	4.7	49	20	80
Jun 14...	<.1	.8	3.4	59	8	15

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 3 of 5

[Remark codes: E, estimated.]

Date	Time	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, flttd, mg/L (00915)	Magnes- ium, water, flttd, mg/L (00925)	Potas- sium, water, flttd, mg/L (00935)	Sodium adsorp- tion ratio (00931)	Sodium, water, flttd, mg/L (00930)	Alka- linity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chlor- ide, water, flttd, mg/L (00940)	Fluor- ide, water, flttd, mg/L (00950)	Silica, water, flttd, mg/L (00955)	Sulfate water, flttd, mg/L (00945)	Residue water, flttd, sum of consti- tuents mg/L (70301)
Apr 19...	1430	39	12.5	1.90	1.14	.2	3.54	44	1.67	.16	15.5	4.49	67
Jun 14...	1430	29	9.34	1.31	.75	.2	2.38	34	.60	E.08	11.6	1.90	48

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 4 of 5

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

Date	Residue water, flttd, tons/ acre-ft (70303)	Residue water, dis- solved, tons/d (70302)	Arsenic water, flttd, ug/L (01000)	Arsenic water unflttd ug/L (01002)	Cadmium water, flttd, ug/L (01025)	Cadmium water, unflttd ug/L (01027)	Chrom- ium, water, flttd, ug/L (01030)	Chrom- ium, water, unflttd recover- able, ug/L (01034)	Copper, water, flttd, ug/L (01040)	Copper, water, unflttd recover- able, ug/L (01042)	Lead, water, flttd, ug/L (01049)	Lead, water, unflttd recover- able, ug/L (01051)
Apr 19...	.09	77.1	.35	.43	.05	<.04	.08	.50	1.1	1.1	.11	.53
Jun 14...	.07	87.8	.33	.44	<.04	.06	.09	.31	E.3	.9	<.08	.20

12343400 EAST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 5 of 5

[Remark codes: E, estimated.]

Date	Nickel, water, unfltrd recover -able, ug/L (01065)		Zinc, water, unfltrd recover -able, ug/L (01090)	
	Nickel, water, fltrd, ug/L (01067)		Zinc, water, fltrd, ug/L (01092)	
Apr				
19...	.93	.31	2.2	E2
Jun				
14...	.10	.23	.7	E1

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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 May and June, which are fair, and those for estimated daily discharges, which are poor. 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	218	240	200	332	244	313	519	2,730	2,370	1,000	505	331
2	246	275	228	306	240	275	524	2,500	2,530	902	497	326
3	242	265	232	284	235	264	519	2,650	3,280	900	492	319
4	241	248	208	269	230	271	572	2,440	3,240	852	485	317
5	232	233	e180	250	230	253	780	2,320	3,120	820	488	314
6	223	242	e160	243	201	255	1,150	2,420	3,030	816	519	312
7	219	255	e130	257	219	263	1,120	2,560	2,980	876	519	301
8	220	260	e140	254	219	253	1,050	2,480	3,340	751	521	242
9	225	208	e150	223	232	252	1,020	2,280	3,270	671	516	247
10	218	210	e170	258	183	230	1,000	2,110	3,180	635	508	250
11	214	257	e180	369	163	232	984	2,070	2,870	611	505	240
12	220	282	e190	313	203	228	941	2,190	2,490	530	497	234
13	215	249	218	283	231	228	1,070	2,470	2,550	529	488	230
14	209	274	217	277	235	229	1,380	2,800	2,470	507	482	211
15	206	209	182	276	207	235	1,530	3,400	2,160	478	484	214
16	203	244	e170	243	193	224	1,630	4,410	1,890	456	494	231
17	200	260	e160	260	e120	231	1,470	5,530	1,940	447	502	238
18	199	227	e140	275	e110	243	1,260	6,330	1,780	458	496	231
19	198	234	e170	251	e150	238	1,120	6,980	1,690	434	481	229
20	202	215	213	244	e170	235	1,070	7,370	1,640	418	470	241
21	203	216	225	246	227	243	1,170	6,650	1,470	402	460	249
22	202	217	257	224	232	244	1,410	5,730	1,350	391	454	263
23	201	214	342	245	231	251	1,660	5,610	1,280	381	454	209
24	198	204	302	223	230	274	1,670	4,990	1,220	389	446	202
25	196	221	279	209	218	321	1,530	4,390	1,180	458	461	197
26	194	258	281	224	227	390	1,430	4,320	1,170	454	473	194
27	199	236	291	225	247	365	1,480	3,700	1,160	463	441	189
28	204	199	312	222	299	388	1,650	3,480	1,080	528	353	178
29	202	166	415	233	---	433	1,930	2,980	1,050	523	340	174
30	197	203	355	249	---	474	2,610	2,650	1,140	518	336	172
31	200	---	343	255	---	490	---	2,430	---	511	334	---
Total	6,546	7,021	7,040	8,022	5,926	8,825	37,249	114,970	63,920	18,109	14,501	7,285
Mean	211	234	227	259	212	285	1,242	3,709	2,131	584	468	243
Max	246	282	415	369	299	490	2,610	7,370	3,340	1,000	521	331
Min	194	166	130	209	110	224	519	2,070	1,050	381	334	172
Ac-ft	12,980	13,930	13,960	15,910	11,750	17,500	73,880	228,000	126,800	35,920	28,760	14,450

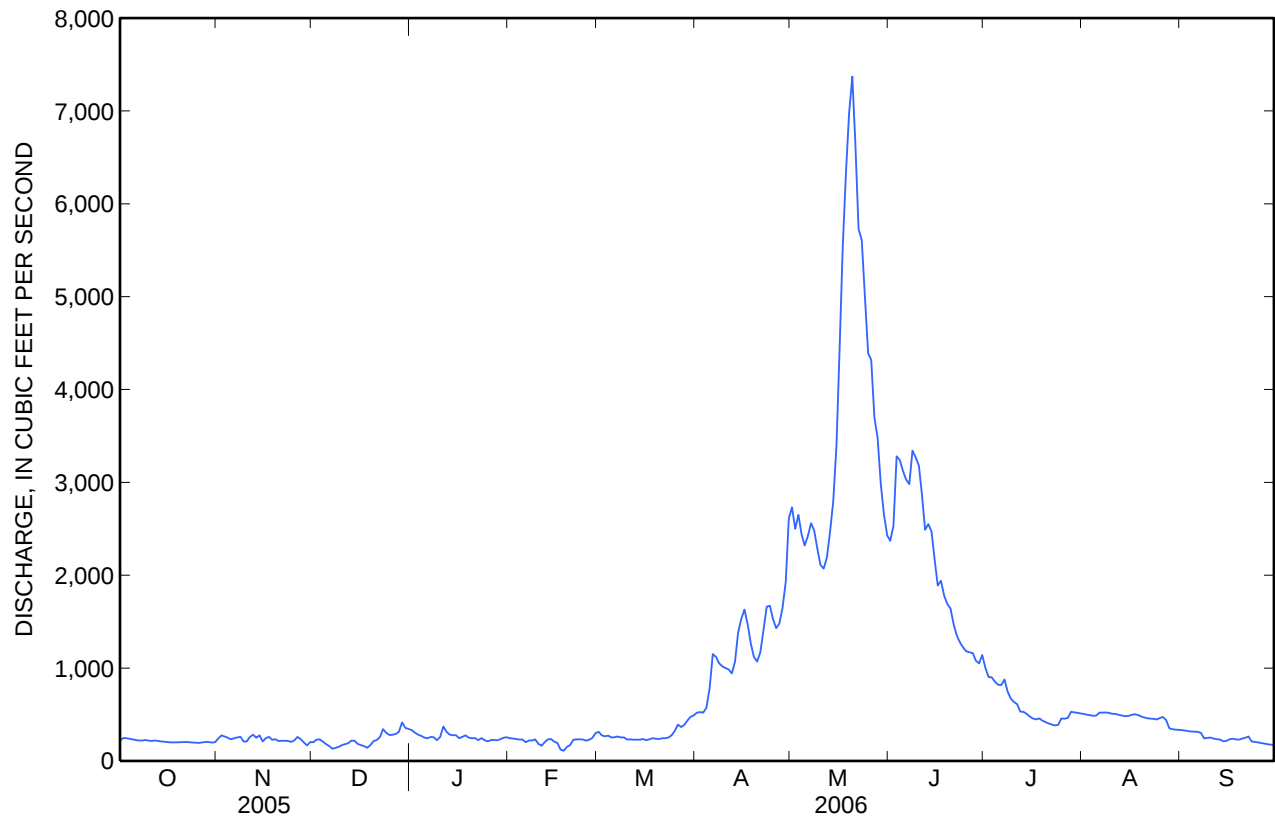
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	351	311	277	250	268	353	971	2,862	3,012	962	412	348
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 2005		Water Year 2006		Water Years 1937 - 2006	
Annual total	203,257		299,414			
Annual mean	557		820		871	
Highest annual mean					1,423	1976
Lowest annual mean					454	1987
Highest daily mean	3,280	May 20	7,370	May 20	11,000	May 9, 1947
Lowest daily mean	130	Jan 5	110	Feb 18	80	Feb 9, 1939
Annual seven-day minimum	159	Dec 5	159	Dec 5	98	Jan 1, 1988
Maximum peak flow			7,970	May 20	^a 11,500	May 9, 1947
Maximum peak stage			7.48	May 20	8.45	May 31, 2003
Instantaneous low flow					^b 71	Feb 9, 1939
Annual runoff (ac-ft)	403,200		593,900		631,100	
10 percent exceeds	1,450		2,470		2,340	
50 percent exceeds	294		282		366	
90 percent exceeds	200		200		195	

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

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued**WATER-QUALITY RECORDS**

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Seasonal records, April 2001 to current year (records collected for entire water year in 2006).

INSTRUMENTATION.--Temperature probe installed Mar. 27, 2001.

REMARKS.--Daily water temperature records are rated poor. Missing daily water temperature data on Feb. 18 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 (seasonal records): Maximum, 24.5°C, Aug. 8, 2001; minimum, 0.5°C, Apr. 2, 3, 2002 (0.0°C during winter months).

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 21.5°C, July 17, 22, and 23; minimum, 0.0°C, many days from November through March.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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 uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrite + nitrate 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)
Feb												
22...	1400	229	7.7	88	2.5	0.5	.042	<.002	.03	.13	E.003	.009
Apr												
19...	1530	1,090	7.9	79	16.5	6.5	E.009	E.001	.11	.27	E.004	.058
May												
24...	1500	4,840	7.4	36	25.0	10.0	.018	E.001	.05	.20	E.003	.031
Jun												
14...	1300	2,410	7.5	41	18.0	10.5	<.016	<.002	.07	.11	.006	.013

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 5

[Remark codes: <, less than.]

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)
Feb 22...	.3	<.1	.3	1.2	65	2	1.2
Apr 19...	1.7	<.1	1.7	4.7	35	41	121
May 24...	.6	<.1	.6	4.1	46	27	353
Jun 14...	.6	<.1	.6	2.9	55	5	33

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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)	Residue water, fltrd, sum of consti-tuents mg/L (70301)
Apr 19...	1530	30	9.35	1.55	.96	.3	3.29	34	1.15	.18	14.7	3.70	55
Jun 14...	1300	15	4.96	.721	.50	.2	1.58	20	.29	E.09	8.2	1.27	29

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 4 of 5

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

Date	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis-solved, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd, ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)	Chrom-ium, water, fltrd, ug/L (01030)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)
Apr 19...	.07	162	.27	.38	E.02	<.04	.10	.60	.9	1.6	.09	.53
Jun 14...	.04	191	.18	.24	<.04	<.04	.07	.22	1.5	.8	<.08	.13

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 5 of 5

[Remark codes: E, estimated.]

Date	Nickel, water, unfltrd recover -able, ug/L (01065)		Zinc, water, unfltrd recover -able, ug/L (01090)	
	Nickel, water, unfltrd recover -able, ug/L (01067)		Zinc, water, unfltrd recover -able, ug/L (01092)	
Apr 19...	.17	.53	1.5	3
Jun 14...	.09	.18	E.5	E1

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

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

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

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

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

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	11.5	8.0	9.5	17.5	12.0	14.5	17.5	11.5	14.5	16.5	10.5	13.5
2	12.0	8.0	10.0	18.0	12.5	15.0	18.0	11.0	14.5	17.0	10.5	14.0
3	10.5	8.0	9.5	18.5	13.5	15.5	18.0	11.0	14.5	17.5	12.0	15.0
4	10.0	7.0	8.5	19.0	12.5	16.0	18.0	11.5	14.5	16.5	12.0	14.5
5	12.5	7.0	9.5	17.0	13.5	14.5	18.0	11.5	15.0	17.0	12.5	15.0
6	11.5	8.0	10.0	17.5	12.0	14.5	18.0	11.5	15.0	16.0	13.0	14.5
7	12.0	8.5	10.0	18.0	12.0	15.0	16.0	12.0	14.0	17.0	13.0	15.0
8	11.0	9.0	10.0	18.5	12.0	15.5	16.5	12.0	14.5	16.5	13.0	14.5
9	11.0	9.0	9.5	19.0	12.5	15.5	19.0	12.5	15.5	16.5	12.5	14.5
10	11.0	8.5	9.5	18.0	13.0	15.5	19.0	12.5	16.0	17.0	12.0	14.5
11	11.0	8.0	9.5	18.5	13.0	16.0	18.5	12.5	15.5	17.0	11.0	14.0
12	13.0	8.5	10.5	16.5	13.5	14.5	17.5	12.0	15.0	17.5	11.5	14.5
13	14.0	9.0	11.5	19.0	12.0	15.5	18.5	11.5	15.0	17.0	12.0	14.5
14	12.0	10.0	10.5	20.5	13.5	17.0	18.0	11.5	15.0	15.0	12.0	13.0
15	11.5	8.5	10.0	20.5	14.5	17.5	16.5	12.0	15.0	13.0	10.5	11.5
16	14.0	8.5	11.0	21.0	15.0	18.0	16.0	13.0	14.5	11.5	9.5	10.5
17	14.0	9.5	11.5	21.5	14.5	18.0	16.0	12.5	14.5	12.5	8.5	10.5
18	14.0	8.0	11.0	20.5	14.5	17.5	18.5	11.5	15.0	13.5	7.5	10.5
19	13.0	9.5	11.5	20.0	13.5	17.0	19.0	12.0	16.0	12.5	9.5	11.0
20	14.0	9.0	11.5	20.5	14.0	17.5	19.0	12.5	16.0	12.5	10.0	11.5
21	14.0	8.5	11.5	21.0	14.5	17.5	18.5	13.0	16.0	12.0	9.5	10.5
22	15.0	9.0	12.0	21.5	15.0	18.0	19.0	14.5	16.5	13.0	9.0	11.0
23	16.0	9.5	12.5	21.5	15.5	18.5	17.5	13.5	16.0	13.0	7.5	10.0
24	16.0	10.0	13.0	21.0	16.0	18.5	18.0	12.5	15.5	13.0	7.5	10.5
25	17.0	10.5	14.0	19.5	14.0	17.0	16.5	14.0	14.5	14.0	8.0	11.0
26	18.0	11.5	14.5	20.0	14.0	17.0	19.0	12.5	16.0	14.0	9.0	11.5
27	17.5	12.0	15.0	20.0	13.5	17.0	19.5	13.0	16.5	14.0	8.5	11.5
28	18.0	12.0	15.0	19.5	12.5	16.5	19.5	13.5	16.5	14.5	9.0	12.0
29	16.0	13.0	14.5	19.0	13.0	16.0	18.5	14.0	16.5	15.0	9.0	12.0
30	17.5	12.0	14.5	18.5	12.5	15.5	16.5	13.0	14.5	14.5	9.0	12.0
31	---	---	---	16.5	11.0	14.0	16.5	11.0	13.5	---	---	---
Month	18.0	7.0	11.5	21.5	11.0	16.5	19.5	11.0	15.2	17.5	7.5	12.5

Water-Data Report 2006

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 2006
DAILY MEAN VALUES

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1							1,610	300	264			
2							1,390	304	256			
3							1,260	303	252			
4							1,180	301	243			
5							1,110	291	239			
6							1,140	291	244			
7							1,220	304	268			
8							1,030	307	266			
9							876	316	237			
10							799	323	230			
11							786	324	228			
12							692	327	224			
13							621	323	217			
14							548	317	236			
15							528	315	260			
16							492	325	313			
17							471	355	339			
18							432	374	367			
19							385	360	382			
20							356	342	408			
21							336	323	438			
22							320	304	441			
23							e297	292	442			
24							e285	290	416			
25							e280	301	400			
26							e283	329	388			
27							e273	328	374			
28							e270	304	368			
29							e280	260	355			
30							e283	256	353			
31							294	265	---			
Total							20,127	9,654	9,448			
Mean							649	311	315			
Max							1,610	374	442			
Min							270	256	217			
Ac-ft							39,920	19,150	18,740			

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1987 - 2006

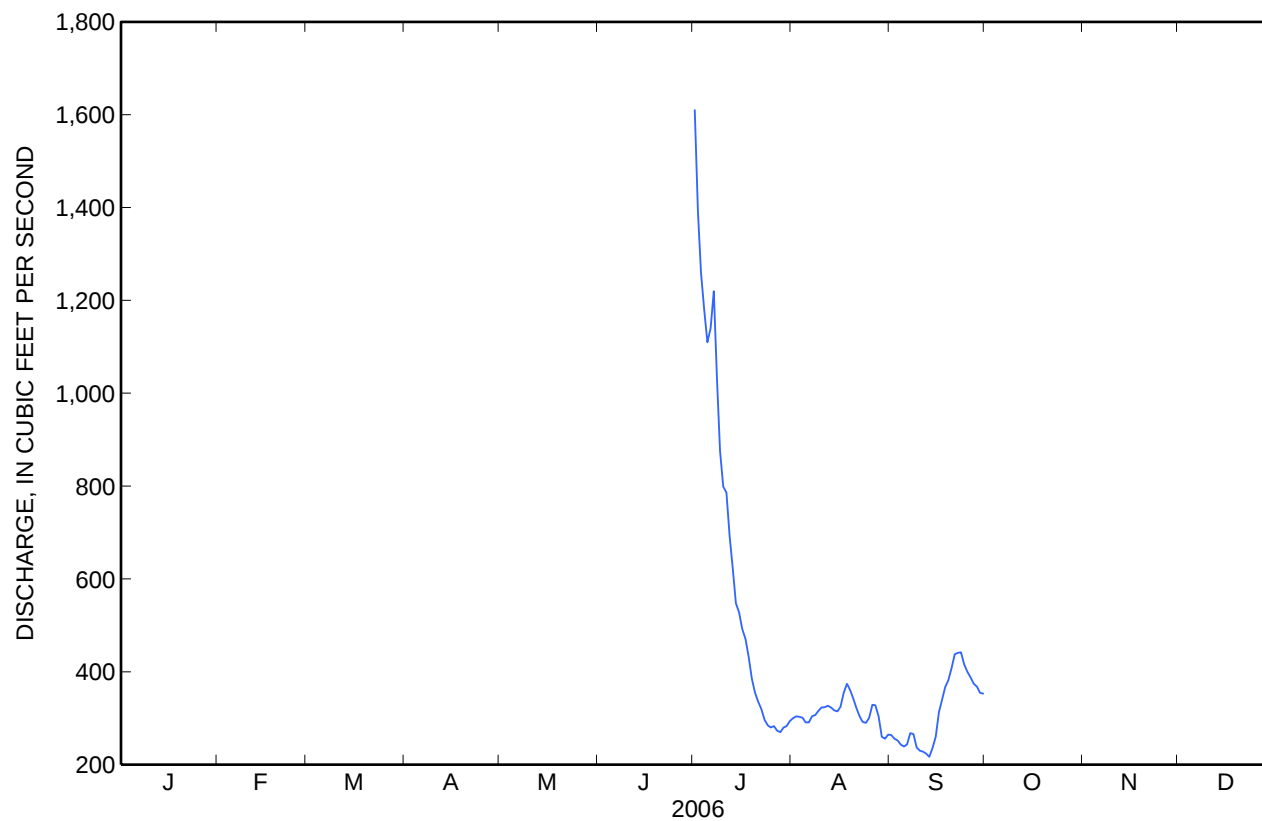
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean							1,139	376	396			
Max							2,665	670	890			
(WY)							(1996)	(1993)	(2004)			
Min							207	95.8	145			
(WY)							(1987)	(1988)	(1987)			

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

SUMMARY STATISTICS

	2006 Season		Seasons 1987 - 2006	
Highest daily mean	1,610	Jul 1	17,500	Jun 9, 1996
Lowest daily mean	217	Sep 13	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 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	661	651	682	1,040	809	790	979	6,510	5,430	2,420	487	512
2	704	719	692	989	791	781	1,020	5,810	5,810	2,140	492	498
3	754	785	718	934	777	756	1,010	5,260	7,890	1,930	496	494
4	792	776	710	891	768	755	1,070	4,960	8,570	1,810	493	486
5	747	753	680	855	769	742	1,300	4,480	8,340	1,700	486	476
6	734	759	e600	820	741	727	2,060	4,560	7,880	1,710	484	468
7	718	772	e450	810	707	732	2,700	4,920	7,850	1,830	501	480
8	701	804	e270	809	723	732	2,530	4,960	8,180	1,670	503	485
9	701	781	e300	786	731	722	2,430	4,450	8,770	1,430	509	462
10	694	729	e350	786	705	701	2,410	3,930	8,190	1,270	516	457
11	682	735	e450	944	613	678	2,390	3,640	8,530	1,170	513	443
12	671	790	e550	1,030	584	669	2,300	3,750	7,580	1,060	523	435
13	670	803	e600	938	663	660	2,420	4,340	7,360	952	523	424
14	661	793	682	925	729	665	3,090	5,120	7,890	874	516	432
15	650	791	e630	942	675	673	3,530	6,360	6,950	807	524	464
16	640	741	e570	907	e550	670	3,930	8,460	5,740	751	551	531
17	630	769	e470	871	e400	660	3,770	11,300	5,320	704	592	562
18	620	767	e370	904	e350	669	3,280	13,400	5,150	658	618	580
19	612	747	e400	889	e400	672	2,890	14,500	4,520	613	612	597
20	615	735	e500	856	e470	669	2,590	15,600	4,180	560	591	627
21	625	718	656	833	e570	666	2,570	15,400	3,840	525	572	661
22	627	720	679	816	682	668	3,020	13,400	3,420	508	546	678
23	626	718	812	796	709	668	3,670	12,500	3,100	483	530	684
24	619	703	946	794	724	671	3,870	12,200	2,940	469	524	653
25	610	686	905	764	679	698	3,570	10,500	2,820	452	552	625
26	603	741	869	750	677	756	3,240	9,980	2,790	455	591	608
27	617	773	872	762	685	806	3,120	9,460	2,780	441	608	588
28	630	728	901	754	727	806	3,370	8,760	2,620	430	593	579
29	631	656	1,100	758	---	850	3,930	7,640	2,430	461	539	565
30	627	642	1,140	775	---	924	5,210	6,420	2,460	459	511	557
31	627	---	1,050	817	---	952	---	5,680	---	476	517	---
Total	20,499	22,285	20,604	26,545	18,408	22,588	83,269	248,250	169,330	31,218	16,613	16,111
Mean	661	743	665	856	657	729	2,776	8,008	5,644	1,007	536	537
Max	792	804	1,140	1,040	809	952	5,210	15,600	8,770	2,420	618	684
Min	603	642	270	750	350	660	979	3,640	2,430	430	484	424
Ac-ft	40,660	44,200	40,870	52,650	36,510	44,800	165,200	492,400	335,900	61,920	32,950	31,960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,128	1,030	929	809	918	978	2,304	6,124	7,974	1,945	709	948
Max	3,025	2,019	1,604	1,365	1,795	1,450	3,599	9,886	13,180	4,060	1,288	2,012
(WY)	(1960)	(1960)	(1959)	(1965)	(1963)	(2003)	(1965)	(1958)	(1964)	(1964)	(1965)	(1965)
Min	566	585	561	561	607	644	1,157	4,321	4,091	935	399	537
(WY)	(1961)	(2003)	(2003)	(2004)	(2004)	(1964)	(2005)	(1960)	(2005)	(1961)	(1961)	(2006)

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

12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

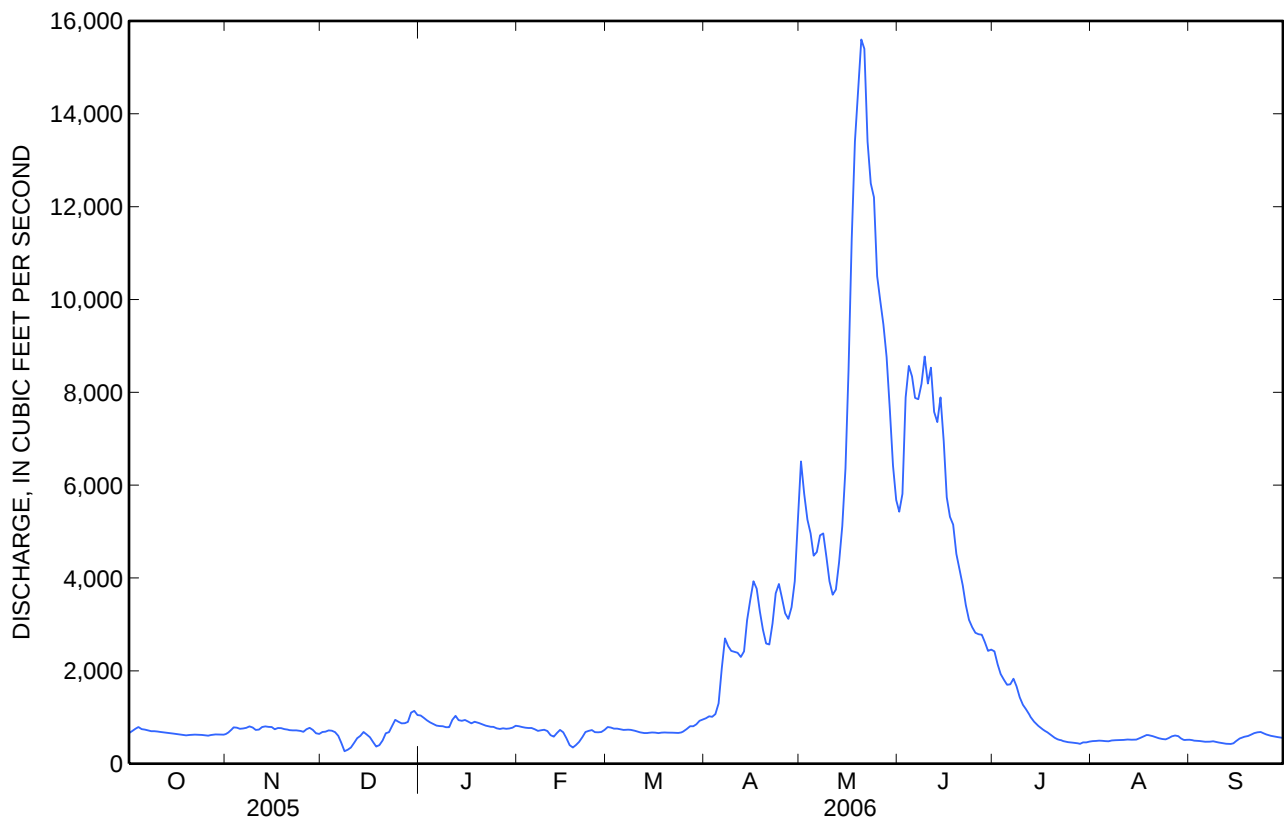
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1957 – 2006*	
Annual total	500,891		695,720			
Annual mean	1,372		1,906		2,142	
Highest annual mean					3,070	
Lowest annual mean					1,420	
Highest daily mean	8,180	May 20	15,600	May 20	19,600	Jun 9, 1964
Lowest daily mean	270	Dec 8	270	Dec 8	270	Dec 8, 2005
Annual seven-day minimum	424	Dec 6	424	Dec 6	372	Aug 17, 1961
Maximum peak flow			16,100	May 20	^a 20,300	Jun 9, 1964
Maximum peak stage			12.56	May 20	13.43	Jun 1, 2003
Instantaneous low flow					^b 365	Aug 20, 1961
Annual runoff (ac-ft)	993,500		1,380,000		1,552,000	
10 percent exceeds	3,820		5,280		5,660	
50 percent exceeds	735		741		960	
90 percent exceeds	515		490		568	

* During period 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 2005 TO SEPTEMBER 2006

Part 1 of 5

[Remark codes: E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC uS/cm (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrite + nitrate 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 unf 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)
Feb 22...	1600	686	7.7	121	4.5	1.5	.102	E.001	.09	.25	E.005	.027	.8
Apr 19...	1745	2,820	7.7	80	8.5	9.0	E.014	E.001	.06	.24	E.003	.031	.9
May 25...	0815	10,600	7.3	43	19.5	10.0	.033	E.001	.24	.27	.007	.086	2.9
Jun 15...	0800	7,080	7.4	45	18.0	11.0	.019	<.002	.07	.17	.008	.021	.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 5

[Remark codes: <, less than.]

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)
Feb 22...	<.1	.8	1.4	75	4	7.4
Apr 19...	<.1	.9	3.5	69	13	99
May 25...	<.1	2.8	3.9	46	84	2,400
Jun 15...	<.1	.6	3.1	48	25	478

12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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 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)	Residue water, fltrd, sum of consti- tuents mg/L (70301)
Apr 19...	1745	29	8.91	1.69	1.01	.3	3.22	35	1.24	.17	12.6	3.13	53
Jun 15...	0800	18	5.36	1.02	.62	.2	1.77	22	.54	E.06	7.6	1.30	32

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 4 of 5

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

Date	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis- solved, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, fltrd, ug/L (01030)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover- able, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)
Apr 19...	.07	403	.28	.36	.04	<.04	.06	.23	.8	1.4	E.07	.34
Jun 15...	.04	605	.26	.35	.04	<.04	.07	.30	.6	.9	E.04	.28

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 5 of 5

[Remark codes: E, estimated.]

Date	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)
Apr 19...	.16	.24	1.7	E2
Jun 15...	.13	.32	E.6	E2

Water-Data Report 2006

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 excellent except those for June 3 to July 17, which are fair, and 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	706	715	711	1,210	938	877	1,180	6,980	6,300	2,980	567	570
2	746	782	735	1,170	908	905	1,240	6,560	6,470	2,680	572	558
3	805	858	742	1,090	889	873	1,250	5,930	8,200	2,410	576	552
4	883	868	746	1,030	877	867	1,310	5,630	9,640	2,280	571	546
5	838	842	725	978	874	850	1,560	5,180	9,410	2,110	564	534
6	814	832	684	932	846	833	2,440	5,110	9,010	2,090	554	524
7	794	851	e500	914	787	843	3,390	5,430	9,030	2,260	566	525
8	772	883	e270	909	802	845	3,270	5,610	9,380	2,170	575	532
9	765	863	e300	889	826	832	3,160	5,180	10,100	1,820	579	521
10	765	805	e350	878	798	808	3,100	4,670	9,420	1,590	584	511
11	755	795	e470	1,030	696	774	3,070	4,330	9,640	1,450	582	500
12	740	852	e550	1,220	644	758	2,960	4,330	8,810	1,340	585	494
13	728	873	e600	1,120	695	743	3,010	4,780	8,240	1,210	589	484
14	722	875	e650	1,110	801	746	3,620	5,480	8,700	1,110	583	482
15	713	863	e630	1,170	759	760	4,220	6,560	8,180	1,030	582	508
16	700	813	e550	1,110	e630	757	4,670	8,350	6,930	953	603	570
17	693	830	e450	1,050	e400	746	4,620	10,900	6,170	871	649	620
18	684	829	e370	1,060	e300	752	4,080	13,300	6,100	814	686	636
19	675	809	e400	1,060	e370	762	3,630	15,100	5,430	765	688	660
20	674	787	e530	1,010	e450	755	3,290	16,500	5,000	712	667	695
21	675	763	656	976	e570	751	3,180	17,300	4,680	668	642	732
22	680	762	735	947	e650	756	3,500	16,000	4,230	646	616	769
23	677	755	846	919	e730	751	4,150	14,100	3,830	616	590	777
24	673	742	1,070	910	815	764	4,470	13,900	3,600	595	581	753
25	667	724	1,080	873	767	793	4,290	12,200	3,420	576	594	713
26	657	759	1,030	840	750	865	3,960	11,100	3,320	561	632	694
27	667	829	989	862	759	931	3,790	10,800	3,300	553	659	674
28	686	787	1,000	851	798	946	3,970	10,000	3,220	535	655	660
29	692	703	1,170	857	---	993	4,420	8,990	3,020	544	613	644
30	684	664	1,310	865	---	1,090	5,470	7,610	2,970	546	570	629
31	680	---	1,210	924	---	1,140	---	6,710	---	551	568	---
Total	22,410	24,113	22,059	30,764	20,129	25,866	100,270	274,620	195,750	39,036	18,642	18,067
Mean	723	804	712	992	719	834	3,342	8,859	6,525	1,259	601	602
Max	883	883	1,310	1,220	938	1,140	5,470	17,300	10,100	2,980	688	777
Min	657	664	270	840	300	743	1,180	4,330	2,970	535	554	482
Ac-ft	44,450	47,830	43,750	61,020	39,930	51,310	198,900	544,700	388,300	77,430	36,980	35,840

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	978	1,040	959	890	967	1,236	2,774	6,691	8,115	2,943	982	880
Max	1,570	2,211	3,141	1,791	3,030	2,021	4,944	13,430	21,880	14,510	3,412	1,623
(WY)	(1904)	(1996)	(1996)	(1997)	(1996)	(1997)	(1996)	(1997)	(1899)	(1899)	(1899)	(1899)
Min	568	614	530	542	477	801	1,336	4,039	2,397	980	503	455
(WY)	(1905)	(1905)	(1905)	(1993)	(1994)	(2002)	(2001)	(1990)	(1992)	(1994)	(2000)	(1904)

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

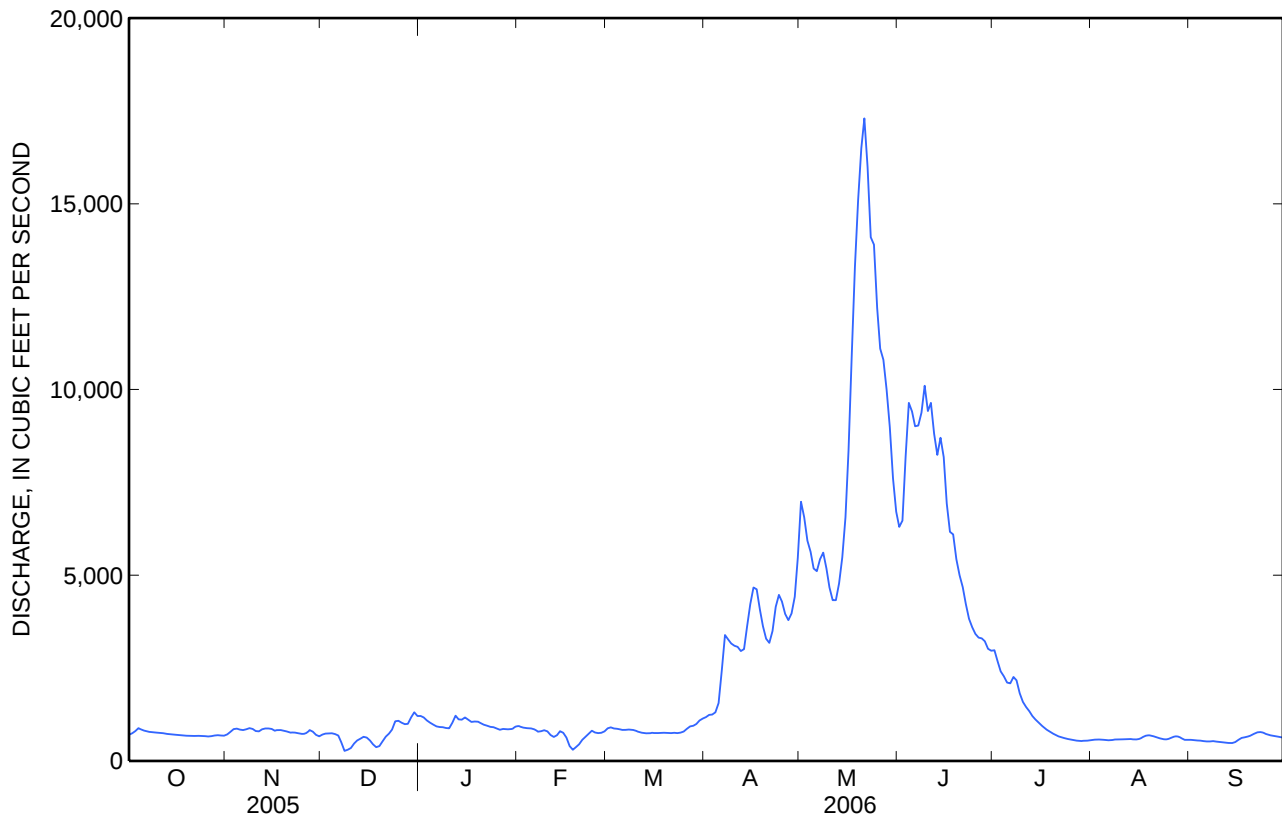
12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1898 – 2006*	
Annual total	568,477		791,726			
Annual mean	1,557		2,169		2,363	
Highest annual mean					4,864	
Lowest annual mean					1,366	
Highest daily mean	8,650	May 20	17,300	May 21	37,400	Jun 20, 1899
Lowest daily mean	270	Dec 8	270	Dec 8	270	Dec 8, 2005
Annual seven-day minimum	434	Dec 7	434	Dec 7	370	Sep 16, 1904
Maximum peak flow			17,500	May 21	^a 38,300	Jun 20, 1899
Maximum peak stage			11.24	May 21	13.11	May 18, 1997
Instantaneous low flow					300	Feb 9, 1994
Annual runoff (ac-ft)	1,128,000		1,570,000		1,712,000	
10 percent exceeds	4,450		6,130		6,020	
50 percent exceeds	830		830		1,070	
90 percent exceeds	543		563		625	

* During period 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 (seasonal records only for 2003), October 2004 to current year.

REMARKS.--Additional sampling was conducted this year as part of an expanded sampling program for the lower Clark Fork basin. Daily water temperature records are rated good to excellent. Missing daily water temperature data for December 18, 19, and 21-29 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, 26.0°C, July 23, 2006; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.0°C, July 23; minimum, 0.0°C, several days in December and February.

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 1 of 4

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, water unfiltered, uS/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)	Potassium, water, mg/L fltrd, (00935)	Sodium, adsorption ratio (00931)	Sodium, water, mg/L fltrd, (00930)
Feb												
22...	1730	809	8.0	139	6.0	1.0	--	--	--	--	--	--
Apr												
06...	0900	2,200	7.8	95	7.6	4.0	40	11.8	2.53	--	--	--
19...	1145	3,640	7.7	83	8.0	6.0	32	9.50	2.09	1.00	.2	3.26
20...	0800	3,320	7.7	84	3.5	9.0	35	10.4	2.19	--	--	--
May												
03...	0745	5,930	7.8	58	3.0	7.0	24	7.17	1.46	--	--	--
17...	0800	10,500	7.4	40	14.0	11.0	16	4.72	.954	--	--	--
19...	1130	15,200	7.4	41	25.5	11.5	15	4.43	.980	--	--	--
24...	1530	13,800	7.4	44	31.0	11.5	16	4.81	1.04	--	--	--
25...	0700	12,600	7.4	46	12.0	11.0	--	--	--	--	--	--
Jun												
01...	0800	6,260	7.6	62	13.0	12.0	25	7.44	1.57	--	--	--
06...	0800	8,970	7.6	48	17.5	12.5	19	5.56	1.17	--	--	--
14...	0700	8,450	7.5	48	12.0	15.0	19	5.57	1.19	--	--	--
14...	1730	8,990	7.6	44	23.0	14.5	17	5.20	1.07	.62	.2	1.73
20...	0730	5,000	7.7	63	13.0	13.5	25	7.32	1.62	--	--	--
27...	0730	3,290	7.7	70	18.0	18.0	28	8.11	1.76	--	--	--
Sep												
27...	0800	670	7.8	172	13.0	13.5	70	20.4	4.55	--	--	--
Oct												
18...	0800	657	8.2	178	6.5	8.5	78	22.9	5.08	--	--	--

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 2 of 4

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

Date	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)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, dis- solved, tons/d (70302)	Nitrite + nitrate 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)	Phos- phorus, water, unfltrd mg/L (00665)
Feb 22...	--	--	--	--	--	--	--	--	.137	E.001	.28	E.005	.021
Apr 06...	--	--	--	--	--	--	--	--	--	--	.58	--	.099
19...	37	1.44	.14	13.0	2.99	56	.08	546	.049	E.001	.32	<.006	.037
20...	--	--	--	--	--	--	--	--	--	--	.32	--	.036
May 03...	--	--	--	--	--	--	--	--	--	--	.29	--	.051
17...	--	--	--	--	--	--	--	--	--	--	.70	--	.121
19...	--	--	--	--	--	--	--	--	--	--	.48	--	.088
24...	--	--	--	--	--	--	--	--	--	--	.28	--	.047
25...	--	--	--	--	--	--	--	--	.032	E.001	.24	.007	.034
Jun 01...	--	--	--	--	--	--	--	--	--	--	.25	--	.019
06...	--	--	--	--	--	--	--	--	--	--	.21	--	.021
14...	--	--	--	--	--	--	--	--	--	--	.17	--	.025
14...	22	.53	<.10	7.5	1.26	31	.04	754	.017	<.002	.21	.007	.033
20...	--	--	--	--	--	--	--	--	--	--	.16	--	.021
27...	--	--	--	--	--	--	--	--	--	--	.13	--	.015
Sep 27...	--	--	--	--	--	--	--	--	--	--	.18	--	.011
Oct 18...	--	--	--	--	--	--	--	--	--	--	.18	--	E.008

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 3 of 4

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

Date	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, flttd, mg/L (00681)	Arsenic water, flttd, ug/L (01000)	Arsenic water, unflttd ug/L (01002)	Cadmium water, flttd, ug/L (01025)	Cadmium water, unflttd ug/L (01027)	Chrom- ium, water, flttd, ug/L (01030)	Chrom- ium, water, unflttd recover- able, ug/L (01034)	Copper, water, flttd, ug/L (01040)	Copper, water, unflttd recover- able, ug/L (01042)	Iron, water, flttd, ug/L (01046)
Feb													
22...	.5	<.1	.5	1.3	--	--	--	--	--	--	--	--	--
Apr													
06...	--	--	--	--	.26	.63	<.04	<.04	--	--	1.2	1.9	28
19...	1.7	<.1	1.7	3.8	.30	.38	E.04	<.04	.09	.29	1.4	1.6	--
20...	--	--	--	--	.28	.44	<.04	<.04	--	--	.75	1.1	28
May													
03...	--	--	--	--	.27	.48	<.04	<.04	--	--	--	1.3	34
17...	--	--	--	--	.27	.62	<.04	E.03	--	--	1.4	4.0	60
19...	--	--	--	--	.31	.51	<.04	E.03	--	--	1.1	3.2	71
24...	--	--	--	--	.27	.42	<.04	<.04	--	--	2.9	2.1	47
25...	1.7	<.1	1.7	4.0	--	--	--	--	--	--	--	--	--
Jun													
01...	--	--	--	--	.34	.43	<.04	<.04	--	--	.69	1.4	40
06...	--	--	--	--	.29	.39	<.04	<.04	--	--	.78	1.4	39
14...	--	--	--	--	.29	.38	<.04	<.04	--	--	1.3	1.1	45
14...	1.0	<.1	.9	2.6	.25	.34	<.04	<.04	.06	.45	.58	1.1	--
20...	--	--	--	--	.28	.40	<.04	<.04	--	--	.65	.9	43
27...	--	--	--	--	.32	.36	<.04	<.04	--	--	.64	.9	35
Sep													
27...	--	--	--	--	.57	.55	E.03	<.04	--	--	.78	.7	30
Oct													
18...	--	--	--	--	.49	.58	<.04	<.02	--	--	.66	E1.0	23

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 4 of 4

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

Date	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, unfltrd recover- able, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Nickel, water, unfltrd recover- able, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Zinc, water, unfltrd recover- able, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Feb												
22...	--	--	--	--	--	--	--	--	--	79	4	8.7
Apr												
06...	1,020	E.06	.88	6.4	73.6	--	--	2.4	4	76	64	380
19...	--	.23	.36	--	--	.19	.35	1.9	2	65	18	177
20...	351	<.08	.27	7.2	22.7	--	--	.79	E1	68	16	143
May												
03...	553	.27	.49	4.8	27.9	--	--	--	3	53	38	608
17...	2,010	E.06	1.89	6.7	75.3	--	--	2.1	8	43	226	6,410
19...	1,460	.10	1.57	7.4	52.3	--	--	.92	7	38	177	7,260
24...	741	.18	.74	6.4	23.3	--	--	4.4	3	47	80	2,980
25...	--	--	--	--	--	--	--	--	--	40	93	3,160
Jun												
01...	405	<.08	.36	8.6	19.0	--	--	E.60	E2	60	27	456
06...	567	E.04	.48	6.0	18.9	--	--	1.6	3	54	41	993
14...	355	.08	.32	5.0	14.2	--	--	1.4	3	53	29	662
14...	--	E.05	.42	--	--	.14	.39	.76	E2	45	46	1,120
20...	238	E.04	.21	7.1	13.3	--	--	1.0	E1	69	12	162
27...	133	E.04	.12	3.4	7.7	--	--	1.1	<2	80	5	44
Sep												
27...	73	<.08	E.05	3.8	10.5	--	--	.70	<2	79	2	3.6
Oct												
18...	63	<.12	<.06	2.5	8.5	--	--	.91	<2	80	1	1.8

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

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

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

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

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

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

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,020	2,180	1,880	2,890	2,240	2,420	3,450	15,400	13,400	5,450	1,650	1,410
2	2,070	2,270	1,920	2,790	2,190	2,690	3,520	15,200	13,200	5,090	1,650	1,400
3	2,170	2,360	1,930	2,710	2,180	2,480	3,730	14,100	15,100	4,730	1,630	1,400
4	2,330	2,370	1,870	2,680	2,130	2,460	3,760	13,300	17,300	4,500	1,590	1,390
5	2,400	2,320	1,840	2,500	2,130	2,410	4,350	12,300	17,300	4,280	1,550	1,370
6	2,370	2,300	1,750	2,270	2,100	2,270	6,470	11,900	16,700	4,240	1,530	1,340
7	2,330	2,300	1,260	2,290	1,970	2,210	9,420	12,400	16,200	4,520	1,530	1,330
8	2,280	e2,350	953	2,360	1,920	2,210	9,460	12,700	16,500	4,410	1,540	1,330
9	2,220	e2,400	818	2,340	2,050	2,200	9,020	12,100	17,800	3,990	1,550	1,310
10	2,240	2,270	1,100	2,210	2,030	2,170	8,790	11,200	17,900	3,710	1,540	1,300
11	2,220	2,250	1,330	2,480	1,800	2,010	8,620	10,500	19,100	3,480	1,520	1,290
12	2,210	2,340	1,490	2,870	1,560	1,910	8,300	10,400	18,000	3,320	1,490	1,280
13	2,180	2,390	1,570	2,720	1,690	1,930	8,360	10,900	16,300	3,190	1,480	1,290
14	2,160	2,410	1,770	2,580	1,980	1,920	9,410	11,900	16,200	3,090	1,480	1,290
15	2,150	2,400	1,750	2,770	1,910	1,940	10,600	13,600	15,400	2,900	1,450	1,340
16	2,110	2,260	1,660	2,690	1,630	1,940	11,600	16,600	14,100	2,720	1,460	1,510
17	2,090	2,280	1,570	2,510	1,260	1,920	11,800	21,000	12,600	2,590	1,560	1,650
18	2,060	2,290	1,370	2,520	939	1,900	11,000	25,000	12,000	2,450	1,620	1,690
19	2,040	2,240	1,240	2,520	1,080	1,980	9,940	28,000	10,800	2,320	1,620	1,710
20	2,040	2,220	1,340	2,420	1,280	2,020	9,070	30,300	9,940	2,200	1,570	1,760
21	2,050	2,160	1,620	2,360	1,520	2,020	8,680	31,400	9,190	2,100	1,520	1,810
22	2,050	2,140	1,840	2,310	1,770	2,020	9,170	29,800	8,340	2,030	1,460	1,890
23	2,060	2,120	2,110	2,230	1,870	2,070	10,400	27,100	7,640	1,930	1,410	1,900
24	2,040	2,070	2,410	2,230	1,960	2,110	11,000	26,300	7,120	1,870	1,390	1,890
25	2,030	1,990	2,590	2,180	1,900	2,230	10,800	23,800	6,740	1,810	1,410	1,830
26	2,000	2,030	2,560	2,080	1,860	2,450	10,200	22,100	6,450	1,760	1,510	1,800
27	2,020	2,220	2,570	2,110	1,940	2,750	9,970	21,700	6,250	1,720	1,540	1,770
28	2,070	2,120	2,560	2,120	2,020	2,760	10,100	20,200	5,980	1,670	1,530	1,750
29	2,070	1,930	2,710	2,150	---	2,810	11,000	18,400	5,600	1,650	1,460	1,730
30	2,050	1,820	2,970	2,080	---	3,090	12,900	16,400	5,460	1,640	1,400	1,720
31	2,050	---	2,950	2,200	---	3,370	---	14,500	---	1,640	1,400	---
Total	66,180	66,800	57,301	75,170	50,909	70,670	264,890	560,500	374,610	93,000	47,040	46,480
Mean	2,135	2,227	1,848	2,425	1,818	2,280	8,830	18,080	12,490	3,000	1,517	1,549
Max	2,400	2,410	2,970	2,890	2,240	3,370	12,900	31,400	19,100	5,450	1,650	1,900
Min	2,000	1,820	818	2,080	939	1,900	3,450	10,400	5,460	1,640	1,390	1,280
Ac-ft	131,300	132,500	113,700	149,100	101,000	140,200	525,400	1,112,000	743,000	184,500	93,300	92,190

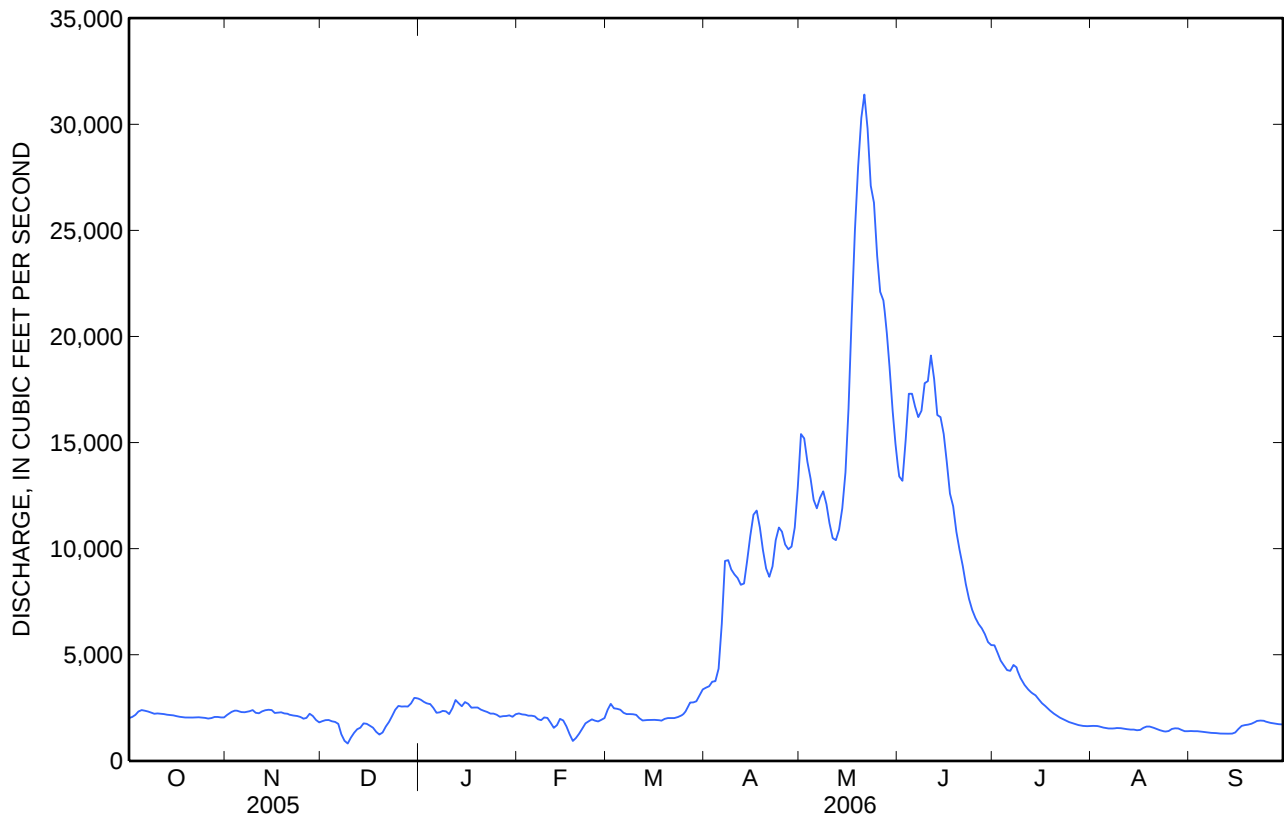
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,693	2,707	2,453	2,238	2,472	3,078	6,404	14,730	16,520	5,736	2,272	2,273
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 2005		Water Year 2006		Water Years 1930 - 2006	
Annual total	1,452,911		1,773,550			
Annual mean	3,981		4,859		5,301	
Highest annual mean					8,832	
Lowest annual mean					2,582	
Highest daily mean	18,400	May 20	31,400	May 21	54,100	May 18, 1997
Lowest daily mean	818	Dec 9	818	Dec 9	580	Jan 19, 1933
Annual seven-day minimum	1,220	Dec 7	1,220	Dec 7	660	Dec 8, 1932
Maximum peak flow			31,500	May 21	55,100	May 18, 1997
Maximum peak stage			9.21	May 21	12.18	May 18, 1997
Instantaneous low flow			^a 736	Dec 9	^b 388	Jan 18, 1933
Annual runoff (ac-ft)	2,882,000		3,518,000		3,841,000	
10 percent exceeds	11,100		13,200		13,200	
50 percent exceeds	2,270		2,220		2,770	
90 percent exceeds	1,560		1,470		1,620	

^a Gage height, 0.18 ft, result of freezeup.^b Gage height, 0.58 ft, result of freezeup.

12354000 ST. REGIS RIVER NEAR ST. REGIS, MTPend 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.-- WSP 1246: 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 fair 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 2005 TO SEPTEMBER 2006, DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	365	227	124	204	231	329	643	2,220	1,460	420	159	107
2	261	331	123	200	226	305	727	1,920	1,490	393	156	105
3	176	239	120	192	221	305	751	1,720	1,570	371	152	104
4	195	214	107	186	221	307	807	1,620	1,530	358	149	101
5	186	201	107	177	217	304	942	1,600	1,510	336	146	99
6	156	197	106	173	206	310	1,180	1,650	1,390	376	144	97
7	151	188	e85	173	198	331	1,480	1,710	1,350	395	141	96
8	160	178	e65	174	199	336	1,440	1,790	1,460	324	138	96
9	145	167	e75	166	193	339	1,450	1,680	1,340	298	136	96
10	136	161	76	192	168	328	1,440	1,600	1,270	280	135	95
11	129	166	75	339	149	317	1,370	1,580	1,210	267	140	94
12	124	176	76	317	160	298	1,310	1,610	1,110	258	137	92
13	122	168	80	291	176	295	1,410	1,640	1,070	250	135	91
14	129	178	80	386	175	300	1,550	1,680	1,200	244	132	93
15	123	164	73	486	150	298	1,760	1,930	1,160	235	129	98
16	119	162	75	443	156	288	1,750	2,560	1,040	222	129	97
17	116	158	70	411	e120	286	1,600	3,320	1,020	208	136	96
18	113	154	e50	379	e100	282	1,420	3,580	929	203	135	94
19	111	150	e45	337	e130	280	1,300	3,540	865	200	127	97
20	120	146	e50	315	e170	278	1,240	3,180	809	195	123	109
21	127	143	57	289	e200	278	1,310	2,790	755	189	120	108
22	121	141	76	265	e220	283	1,500	2,490	704	185	117	113
23	117	138	162	251	241	289	1,600	2,450	661	182	114	105
24	115	136	165	239	236	309	1,580	2,200	621	177	113	100
25	112	133	174	231	214	368	1,540	2,030	586	174	112	98
26	111	137	209	225	224	484	1,500	1,940	554	174	112	96
27	116	132	213	218	237	488	1,560	1,760	525	171	110	94
28	114	127	212	215	316	501	1,680	1,740	494	168	108	93
29	118	116	218	211	---	511	1,950	1,700	466	165	106	92
30	121	125	206	219	---	522	2,550	1,570	454	162	104	91
31	127	---	203	242	---	566	---	1,490	---	161	108	---
Total	4,436	5,053	3,557	8,146	5,454	10,715	42,340	64,290	30,603	7,741	4,003	2,947
Mean	143	168	115	263	195	346	1,411	2,074	1,020	250	129	98.2
Max	365	331	218	486	316	566	2,550	3,580	1,570	420	159	113
Min	111	116	45	166	100	278	643	1,490	454	161	104	91
Ac-ft	8,800	10,020	7,060	16,160	10,820	21,250	83,980	127,500	60,700	15,350	7,940	5,850
Cfs/m	0.47	0.56	0.38	0.87	0.64	1.14	4.66	6.84	3.37	0.82	0.43	0.32
In.	0.54	0.62	0.44	1.00	0.67	1.32	5.20	7.89	3.76	0.95	0.49	0.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	138	219	205	267	291	409	1,225	2,096	1,452	378	159	127
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

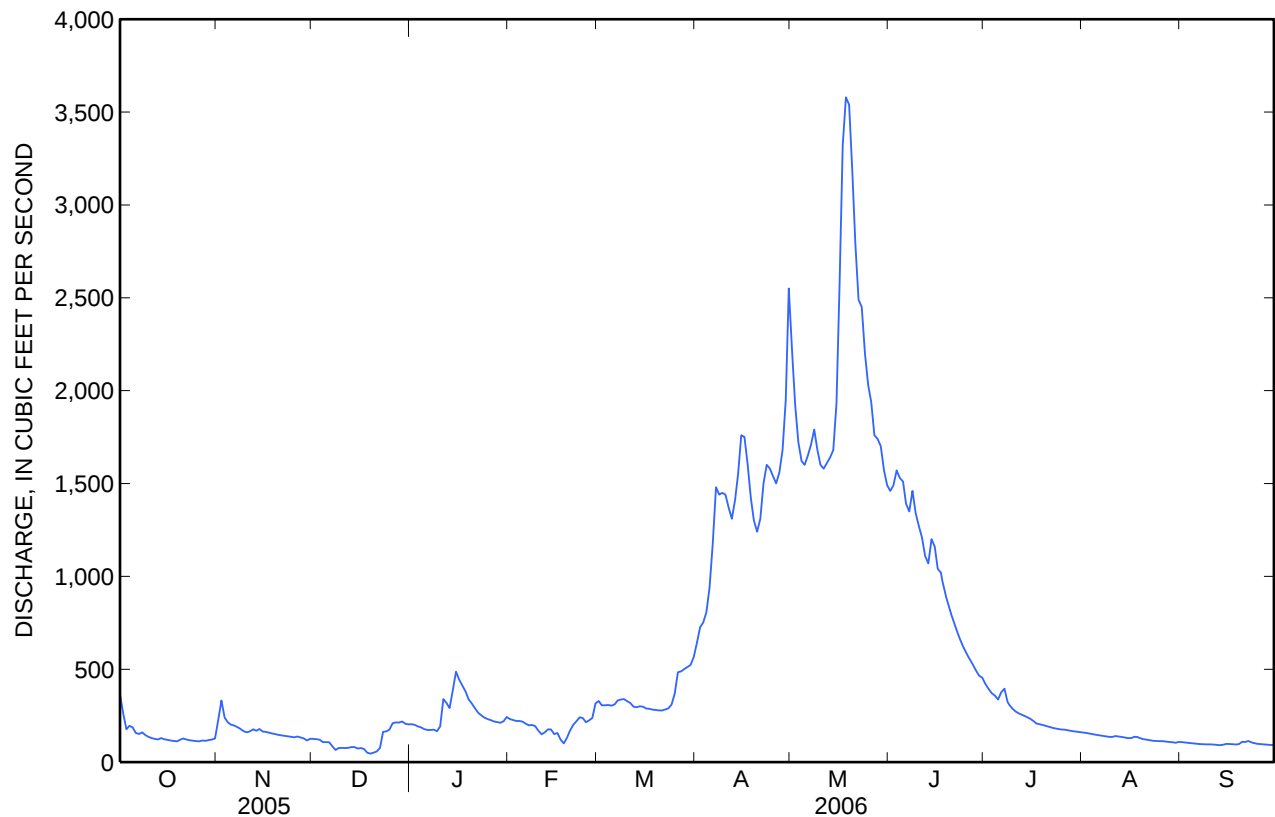
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1910 – 2006*	
Annual total	123,062		189,285			
Annual mean	337		519		547	
Highest annual mean					938	
Lowest annual mean					256	
Highest daily mean	1,410	May 10	3,580	May 18	8,500	Jan 16, 1974
Lowest daily mean	45	Dec 19	45	Dec 19	45	Dec 11, 1961
Annual seven-day minimum	60	Dec 15	60	Dec 15	59	Dec 5, 1972
Maximum peak flow			4,030	May 18	^a 9,640	Jan 16, 1974
Maximum peak stage			7.09	May 18	7.54	Apr 14, 2002
Instantaneous low flow					^b 41	Dec 30, 2001
Annual runoff (ac-ft)	244,100		375,400		396,400	
Annual runoff (cfsm)	1.11		1.71		1.81	
Annual runoff (inches)	15.11		23.24		24.54	
10 percent exceeds	810		1,580		1,500	
50 percent exceeds	201		206		212	
90 percent exceeds	76		99		97	

* 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, 7.38 ft.

^b Result of freezeup.



Water-Data Report 2006

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

12354500 CLARK FORK AT ST. REGIS, MT—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,860	2,820	2,440	3,970	3,260	3,040	4,920	20,000	18,300	7,590	2,460	2,000
2	2,800	3,080	2,490	3,890	3,280	3,450	5,160	20,600	17,800	7,400	2,440	2,010
3	2,730	3,070	2,510	3,720	3,210	3,570	5,290	19,200	18,700	6,940	2,420	2,000
4	2,970	3,110	2,490	3,600	3,190	3,440	5,610	17,900	21,200	6,590	2,380	1,990
5	3,010	3,090	2,420	3,500	3,140	3,420	6,030	16,800	22,100	6,310	2,320	1,970
6	3,030	3,070	2,400	3,370	3,100	3,350	7,630	16,100	21,600	6,150	2,270	1,940
7	3,000	3,040	e1,870	3,200	3,040	3,260	12,100	16,400	20,800	6,270	2,240	1,920
8	2,970	3,060	e1,410	3,200	2,910	3,220	13,600	16,900	20,800	6,300	2,210	1,900
9	2,890	3,060	1,230	3,200	2,860	3,200	12,900	16,600	21,400	5,990	2,220	1,890
10	2,830	3,030	1,350	3,220	2,910	3,180	12,500	15,400	22,100	5,580	2,230	1,870
11	2,830	2,940	1,400	3,500	2,800	3,120	12,200	14,500	22,400	5,200	2,210	1,840
12	2,810	2,950	1,680	3,760	2,610	2,930	11,800	14,100	22,500	4,910	2,170	1,840
13	2,790	3,020	2,030	4,020	2,460	2,830	11,800	14,300	20,800	4,700	2,150	1,820
14	2,780	3,130	2,320	4,060	2,560	2,840	12,700	15,200	20,500	4,560	2,130	1,830
15	2,750	3,110	2,320	4,200	2,740	2,840	14,400	17,000	20,100	4,400	2,110	1,850
16	2,720	3,070	2,410	4,290	2,680	2,850	15,600	20,700	18,400	4,180	2,100	1,950
17	2,670	2,940	2,290	4,140	e2,400	2,840	15,900	26,200	16,900	3,980	2,160	2,100
18	2,630	2,940	e2,000	3,950	e2,000	2,810	15,200	31,600	15,800	3,800	2,240	2,220
19	2,610	2,940	1,950	3,850	1,470	2,810	13,900	35,700	14,900	3,640	2,280	2,290
20	2,600	2,890	1,910	3,790	1,780	2,870	12,800	38,000	13,600	3,500	2,270	2,380
21	2,610	2,850	2,090	3,660	2,100	2,900	12,100	39,300	12,800	3,350	2,220	2,420
22	2,610	2,800	2,430	3,540	2,390	2,900	12,400	38,700	11,900	3,220	2,170	2,510
23	2,600	2,770	2,860	3,450	2,670	2,910	13,500	36,000	11,000	3,120	2,090	2,560
24	2,600	2,740	3,200	3,340	2,840	2,990	14,500	33,500	10,200	3,010	2,030	2,570
25	2,590	2,680	3,530	3,310	2,780	3,130	14,700	31,700	9,660	2,900	2,020	2,550
26	2,570	2,620	e3,700	3,230	2,780	3,460	14,200	28,800	9,220	2,810	2,040	2,490
27	2,560	2,650	3,840	3,110	2,700	3,730	13,800	27,400	8,870	2,730	2,120	2,450
28	2,580	2,800	3,830	3,120	2,890	4,050	14,000	26,300	8,570	2,670	2,150	2,420
29	2,630	2,680	3,870	3,120	---	4,070	15,000	24,400	8,140	2,570	2,120	2,380
30	2,620	2,540	3,900	3,150	---	4,220	17,500	22,100	7,780	2,500	2,060	2,370
31	2,620	---	4,080	3,180	---	4,580	---	19,900	---	2,470	2,000	---
Total	84,870	87,490	78,250	110,640	75,550	100,810	363,740	731,300	488,840	139,340	68,030	64,330
Mean	2,738	2,916	2,524	3,569	2,698	3,252	12,120	23,590	16,290	4,495	2,195	2,144
Max	3,030	3,130	4,080	4,290	3,280	4,580	17,500	39,300	22,500	7,590	2,460	2,570
Min	2,560	2,540	1,230	3,110	1,470	2,810	4,920	14,100	7,780	2,470	2,000	1,820
Med	2,720	2,940	2,410	3,500	2,780	3,130	12,900	20,600	18,000	4,180	2,170	2,000
Ac-ft	168,300	173,500	155,200	219,500	149,900	200,000	721,500	1,451,000	969,600	276,400	134,900	127,600
Cfsm	0.26	0.27	0.24	0.33	0.25	0.30	1.13	2.20	1.52	0.42	0.20	0.20
In.	0.29	0.30	0.27	0.38	0.26	0.35	1.26	2.54	1.70	0.48	0.24	0.22

12354500 CLARK FORK AT ST. REGIS, MT—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,381	3,533	3,409	3,108	3,449	4,271	9,244	20,080	21,240	7,540	3,114	2,958
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.

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1930 - 2006*	
Annual total	1,910,710		2,393,190			
Annual mean	5,235		6,557		7,115	
Highest annual mean					11,560	
Lowest annual mean					3,420	
Highest daily mean	22,200	May 21	39,300	May 21	68,500	May 18, 1997
Lowest daily mean	1,230	Dec 9	1,230	Dec 9	800	Feb 3, 1989
Annual seven-day minimum	1,570	Dec 7	1,570	Dec 7	1,130	Jan 31, 1936
Maximum peak flow			39,600	May 21	68,900	May 18, 1997 ^b
Maximum peak stage			15.59	May 21	20.27	May 18, 1997
Instantaneous low flow			^a 1,080	Dec 9	^c 702	Jan 6, 2004
Annual runoff (ac-ft)	3,790,000		4,747,000		5,155,000	
Annual runoff (cfs)	0.489		0.612		0.664	
Annual runoff (inches)	6.64		8.31		9.03	
10 percent exceeds	13,300		17,600		17,600	
50 percent exceeds	3,070		3,070		3,660	
90 percent exceeds	2,050		2,100		2,190	

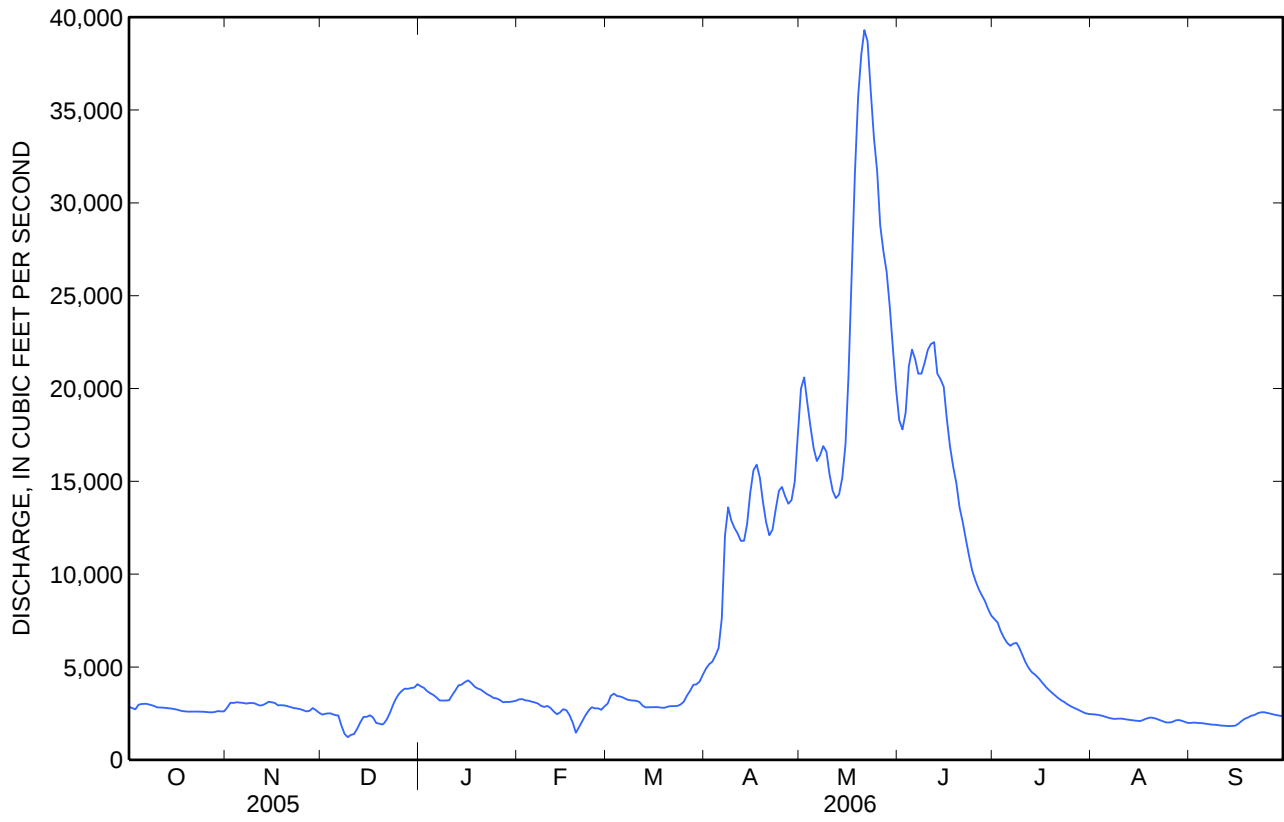
* Statistics not computed prior to 1930 because the 1924-29 period of record was estimated.

^a Gage height, 4.02 ft.

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

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

12354500 CLARK FORK AT ST. REGIS, MT—Continued



12354500 CLARK FORK AT ST. REGIS, MT—Continued**WATER-QUALITY RECORDS**

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 2002 to September 2002.

REMARKS.--Sampling was conducted 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 (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
OCTOBER 2005 TO OCTOBER 2006**

Part 1 of 3

[Remark codes: E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Total nitrogen, water, unfltrd g/L (62855)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water, unfltrd ug/L (01002)
Apr													
07...	0800	11,800	8.2	174	6.0	4.0	76	20.9	5.74	1.27	.226	1.5	3.8
21...	0830	12,200	8.1	175	11.5	4.5	79	21.9	5.84	.38	.050	1.5	2.2
May													
04...	0800	18,000	8.4	133	1.0	4.0	61	17.2	4.33	.30	.049	1.2	2.0
17...	1500	26,900	7.9	104	30.0	8.5	47	13.2	3.48	.62	.135	1.2	2.8
20...	1030	38,000	8.0	95	15.0	8.0	43	12.1	3.05	.57	.166	1.3	3.0
25...	1130	32,000	7.9	103	21.5	8.5	45	12.5	3.38	.29	.070	1.1	1.9
Jun													
01...	1500	18,100	8.0	144	31.0	10.5	62	17.1	4.64	.26	.029	1.4	1.8
06...	1500	21,500	8.0	115	33.0	11.0	50	13.8	3.75	.24	.027	1.2	1.7
14...	1430	20,800	8.0	131	22.0	12.0	57	15.7	4.34	.25	.057	2.2	3.2
20...	1400	13,600	8.2	152	22.5	11.0	65	17.6	5.08	.18	.023	1.7	1.9
27...	1400	8,900	8.6	166	31.0	15.5	75	20.7	5.79	.18	.011	1.8	1.9
Sep													
27...	1400	2,450	8.4	273	20.0	13.0	120	33.0	9.54	.20	.011	2.3	2.9
Oct													
18...	1245	2,620	8.3	284	9.0	8.0	130	35.5	9.87	.24	E.008	2.8	2.8

12354500 CLARK FORK AT ST. REGIS, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 2 of 3

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

Date	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)
Apr												
07...	<.04	.19	1.3	23.5	25	2,230	E.06	5.63	4.6	183	1.2	50
21...	E.03	.05	2.2	6.7	14	399	E.08	1.13	4.1	36.4	3.3	9
May												
04...	<.04	.05	1.7	6.0	16	527	E.05	1.38	2.4	41.8	2.4	11
17...	<.04	.12	1.4	13.8	20	1,860	<.08	4.18	3.5	100	1.4	28
20...	<.04	.12	1.9	17.5	28	2,200	E.06	4.62	2.0	120	1.5	30
25...	<.04	.06	1.6	6.9	21	892	E.06	1.70	3.2	46.4	1.5	11
Jun												
01...	<.04	E.04	1.6	4.2	19	385	E.05	.83	6.0	28.1	1.8	6
06...	<.04	.04	1.6	5.0	17	530	E.05	1.02	3.1	29.6	1.6	9
14...	<.04	.10	2.5	13.2	17	648	.15	2.47	2.5	48.5	2.6	19
20...	<.04	E.04	1.3	4.5	18	243	E.07	.72	3.9	18.9	1.7	7
27...	<.04	E.02	1.4	2.4	13	76	E.06	.29	1.7	8.4	.90	3
Sep												
27...	<.04	E.03	1.5	3.5	8	68	.08	.36	2.9	15.3	1.2	4
Oct												
18...	<.04	.03	3.0	3.9	7	88	.16	.46	1.6	17.1	3.5	6

12354500 CLARK FORK AT ST. REGIS, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

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)
Apr			
07...	80	154	4,910
21...	76	23	758
May			
04...	60	42	2,040
17...	50	188	13,700
20...	47	282	28,900
25...	58	103	8,900
Jun			
01...	81	27	1,320
06...	65	47	2,730
14...	70	49	2,750
20...	82	14	514
27...	83	4	96
Sep			
27...	82	5	33
Oct			
18...	91	4	28

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA

Pend Oreille Basin

LOCATION.--Lat 49°00'06", long 114°28'27" referenced to North American Datum of 1927, Hydrologic Unit is unknown, 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). 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. October 1999 to current year gage re-established and operated by USGS 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 at site on left bank 155 ft upstream at 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,050	650	292	300	254	e240	220	3,950	2,940	993	353	220
2	2,430	715	e260	291	249	e220	237	2,970	3,340	944	346	214
3	1,590	633	e255	287	243	e230	239	2,460	3,980	892	339	208
4	1,220	603	e250	282	244	e230	243	2,190	3,680	846	332	202
5	989	577	e240	275	240	e220	265	2,180	3,240	817	322	197
6	861	553	e220	288	236	e230	305	2,480	2,970	789	315	193
7	944	517	e200	316	232	231	402	2,810	2,750	792	305	191
8	1,050	504	e190	307	230	218	502	2,760	3,920	748	297	189
9	889	481	e200	295	222	216	593	2,420	3,750	707	311	187
10	796	467	e220	304	193	e195	664	2,220	3,280	684	302	184
11	735	496	e210	305	196	e180	718	2,210	2,980	684	320	181
12	684	499	e200	290	214	e170	729	2,440	2,520	650	334	179
13	664	477	e210	293	e200	e160	743	2,630	2,310	632	328	177
14	661	470	e220	309	e180	e180	786	2,770	2,460	605	305	187
15	624	434	e210	328	e170	e200	906	3,430	2,760	572	292	197
16	590	428	e200	309	e150	202	853	4,790	4,720	547	296	194
17	596	415	e180	304	e120	199	788	6,330	3,930	524	306	191
18	1,250	407	e150	294	e130	198	750	7,390	3,050	504	283	186
19	1,210	397	e130	287	e150	194	750	7,880	2,550	492	272	185
20	1,320	384	e140	287	e170	191	819	7,630	2,270	478	263	199
21	1,580	376	e200	279	e180	192	995	7,560	2,020	459	256	208
22	1,320	367	e230	272	e190	191	1,370	7,290	1,800	445	250	222
23	1,110	340	e300	270	e200	190	1,380	6,730	1,650	435	244	210
24	989	315	e330	265	e170	193	1,350	6,100	1,520	428	238	199
25	901	315	e360	260	e150	199	1,380	5,430	1,410	416	236	192
26	832	330	e400	259	e160	202	1,460	4,820	1,330	400	233	185
27	789	336	e500	257	e180	198	1,650	4,040	1,260	389	227	180
28	748	330	e450	258	e230	196	2,000	3,290	1,190	381	221	178
29	704	314	e380	257	---	197	2,560	2,940	1,120	371	216	175
30	653	296	e320	264	---	201	3,620	2,860	1,040	364	215	172
31	628	---	305	259	---	206	---	2,890	---	362	220	---
Total	32,407	13,426	7,952	8,851	5,483	6,269	29,277	127,890	77,740	18,350	8,777	5,782
Mean	1,045	448	257	286	196	202	976	4,125	2,591	592	283	193
Max	3,050	715	500	328	254	240	3,620	7,880	4,720	993	353	222
Min	590	296	130	257	120	160	220	2,180	1,040	362	215	172
Ac-ft	64,280	26,630	15,770	17,560	10,880	12,430	58,070	253,700	154,200	36,400	17,410	11,470
Cfs/m	2.45	1.05	0.60	0.67	0.46	0.47	2.29	9.66	6.07	1.39	0.66	0.45
In.	2.82	1.17	0.69	0.77	0.48	0.55	2.55	11.14	6.77	1.60	0.76	0.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	335	345	241	197	178	203	919	3,474	3,055	969	381	293
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 period of operation (no winter records prior to 1952).

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1929 – 2006*	
Annual total	329,886		342,204			
Annual mean	904		938		898	
Highest annual mean					1,376	1974
Lowest annual mean					377	2001
Highest daily mean	4,850	May 17	7,880	May 19	^a 16,800	Jun 7, 1995
Lowest daily mean	130	Dec 19	120	Feb 17	62	Jan 2, 1977
Annual seven-day minimum	173	Dec 15	153	Feb 14	71	Dec 31, 1976
Maximum peak flow			8,410	May 19	^b 16,300	Jun 8, 1964
Maximum peak stage			9.71	May 19	^c 10.00	May 31, 2002
Instantaneous low flow					^d 59	Feb 23, 2003
Annual runoff (ac-ft)	654,300		678,800		650,400	
Annual runoff (cfsm)	2.12		2.20		2.10	
Annual runoff (inches)	28.74		29.81		28.57	
10 percent exceeds	2,390		2,760		2,670	
50 percent exceeds	479		330		300	
90 percent exceeds	265		190		136	

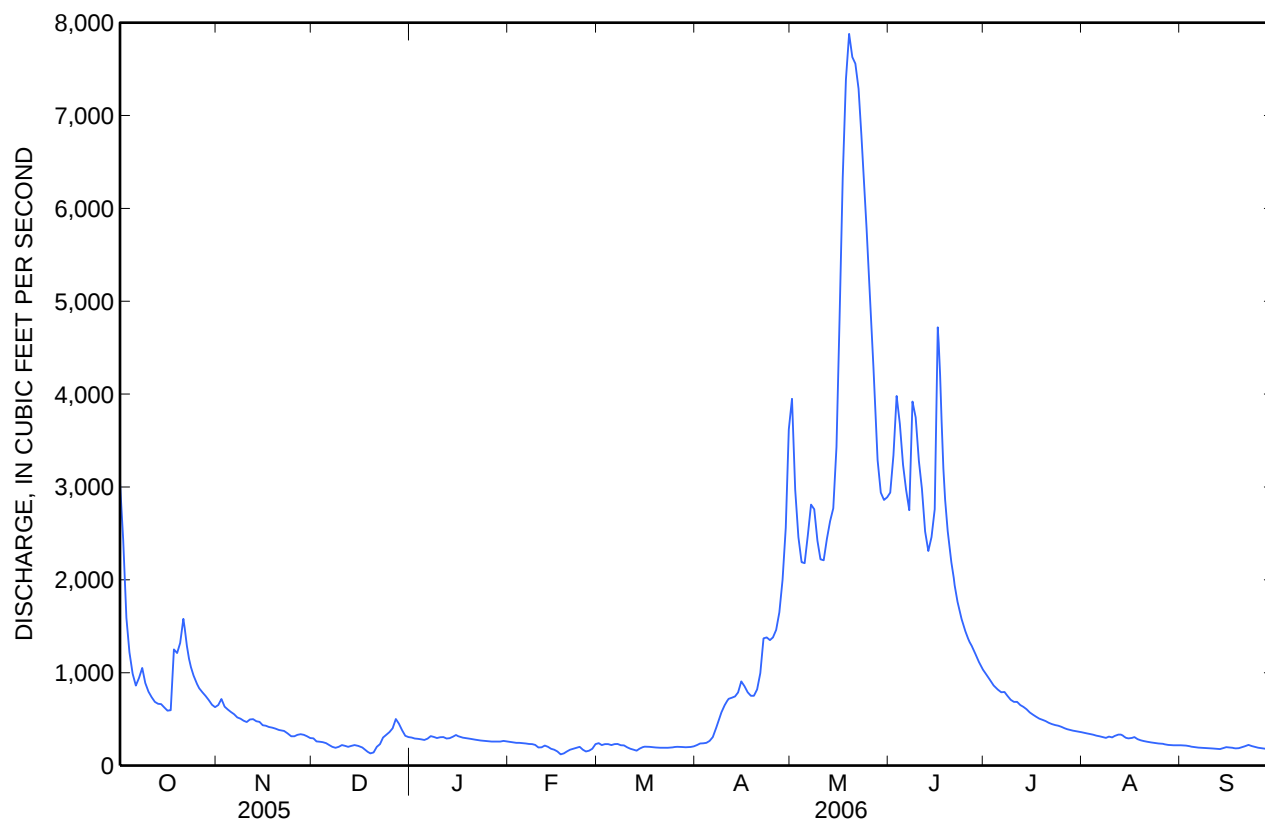
* During period of operation (no winter records prior to 1952).

^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 2005 TO SEPTEMBER 2006

Part 1 of 3

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

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. conduc- tance, wat unf uS/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 (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitro- gen, wat unf by anal ysis, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)
Apr 13...	0915	742	8.4	8.3	250	7.0	2.5	<.010	.017	E.001	.10	<.006	.029
Jun 08...	1045	4,030	58	8.1	162	16.5	7.0	E.006	.021	<.002	.29	E.005	.26
Jul 13...	1100	645	<2.0	8.4	247	18.0	11.0	<.010	<.016	<.002	<.06	<.006	.005
Sep 05...	1000	197	<2.0	8.4	278	12.5	11.0	E.007	<.016	<.002	E.05	E.004	E.003

12355000 FLATHEAD RIVER AT FLATHEAD, BRITISH COLUMBIA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO
SEPTEMBER 2006

Part 2 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)
Apr			
13...	77	24	48
Jun			
08...	57	227	2,470
Jul			
13...	84	2	3.5
Sep			
05...	87	9	4.8

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 3 of 3

[Remark codes: E, estimated.]

Date	Time	Organic carbon, water, unfltrd mg/L (00680)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, unfltrd recover -able, ug/L (01034)	Copper, water, unfltrd recover -able, ug/L (01042)	Lead, water, unfltrd recover -able, ug/L (01051)	Nickel, water, unfltrd recover -able, ug/L (01067)	Zinc, water, unfltrd recover -able, ug/L (01092)
Jun									
08...	1045	6.4	1.4	.14	2.3	3.6	2.57	3.61	14
Sep									
05...	1000	.9	.35	E.03	.33	.8	.17	.74	E2

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,700	2,240	1,120	1,270	1,220	e1,300	1,950	11,700	9,530	4,640	1,460	835
2	5,460	2,720	1,110	1,230	1,190	e1,150	2,220	10,400	10,300	4,450	1,410	824
3	4,370	2,520	1,090	1,190	1,160	e1,100	2,210	8,770	11,900	4,190	1,350	801
4	3,600	2,370	e900	1,150	1,130	e1,050	2,340	7,560	12,300	3,990	1,300	782
5	3,080	2,240	e1,000	1,120	1,120	e1,000	2,810	6,920	12,100	3,810	1,260	763
6	2,720	2,150	e850	1,140	1,090	e1,050	3,000	7,020	11,600	3,710	1,220	744
7	2,640	2,030	e600	1,310	1,070	e1,070	3,870	7,670	10,800	3,740	1,190	734
8	2,870	1,930	e630	1,400	1,040	e1,100	4,550	8,040	11,700	3,600	1,150	725
9	2,680	1,830	e700	1,330	1,000	e1,050	4,920	7,490	12,600	3,390	1,130	716
10	2,450	1,760	e750	1,440	e800	e1,000	4,770	6,780	11,600	3,210	1,150	705
11	2,280	1,790	e730	1,680	e750	e900	4,720	6,480	11,000	3,100	1,180	691
12	2,140	1,890	e700	1,610	e800	e850	4,550	6,730	9,780	2,930	1,200	681
13	2,040	1,830	e770	1,540	e900	e870	4,450	7,370	8,980	2,800	1,190	673
14	2,000	1,810	e750	2,010	e950	e900	4,520	7,650	9,360	2,670	1,150	707
15	1,930	1,710	e730	2,430	e850	e950	5,070	8,570	10,600	2,530	1,100	754
16	1,850	1,650	e700	2,110	e700	978	4,930	11,000	16,900	2,400	1,080	743
17	1,820	1,600	e670	1,930	e450	965	4,420	14,400	17,100	2,300	1,100	728
18	1,990	1,560	e600	1,810	e500	971	3,980	17,800	13,500	2,190	1,070	710
19	2,610	1,520	e500	1,690	e650	967	3,730	20,400	11,300	2,110	1,020	698
20	2,660	1,470	e550	1,620	e750	950	3,730	21,100	9,810	2,040	992	747
21	3,170	1,440	e700	1,540	e870	957	4,090	20,500	8,540	1,950	963	784
22	3,190	1,400	e800	1,460	e950	975	5,000	20,300	7,460	1,880	941	816
23	2,930	1,350	e1,000	1,410	e1,000	1,000	5,470	19,200	6,700	1,840	923	800
24	2,710	1,290	e1,100	1,360	e950	1,090	5,270	18,300	6,160	1,820	893	769
25	2,520	1,240	e1,150	1,320	e850	1,160	5,130	16,400	5,780	1,810	894	747
26	2,370	1,270	e1,300	1,270	e900	1,450	5,190	15,000	5,550	1,760	892	730
27	2,290	1,290	e1,400	1,270	e950	1,510	5,470	13,300	5,400	1,710	871	716
28	2,210	1,270	e1,350	1,240	e1,100	1,450	6,140	11,400	5,290	1,640	843	698
29	2,100	1,180	e1,300	1,210	---	1,450	7,320	10,100	5,190	1,590	831	688
30	2,010	1,140	e1,230	1,240	---	1,540	9,660	9,740	4,920	1,550	817	678
31	1,960	---	1,270	1,260	---	1,730	---	9,540	---	1,500	814	---
Total	82,350	51,490	28,050	45,590	25,690	34,483	135,480	367,630	293,750	82,850	33,384	22,187
Mean	2,656	1,716	905	1,471	918	1,112	4,516	11,860	9,792	2,673	1,077	740
Max	5,460	2,720	1,400	2,430	1,220	1,730	9,660	21,100	17,100	4,640	1,460	835
Min	1,820	1,140	500	1,120	450	850	1,950	6,480	4,920	1,500	814	673
Ac-ft	163,300	102,100	55,640	90,430	50,960	68,400	268,700	729,200	582,700	164,300	66,220	44,010
Cfs/m	1.72	1.11	0.58	0.95	0.59	0.72	2.92	7.66	6.33	1.73	0.70	0.48
In.	1.98	1.24	0.67	1.10	0.62	0.83	3.26	8.83	7.06	1.99	0.80	0.53

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,197	1,201	948	791	753	899	3,323	9,828	10,000	4,029	1,629	1,173
Max	3,650	3,733	3,388	2,242	2,017	2,597	6,877	15,160	20,780	9,262	3,232	2,653
(WY)	(1952)	(1990)	(1996)	(2005)	(1996)	(1986)	(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

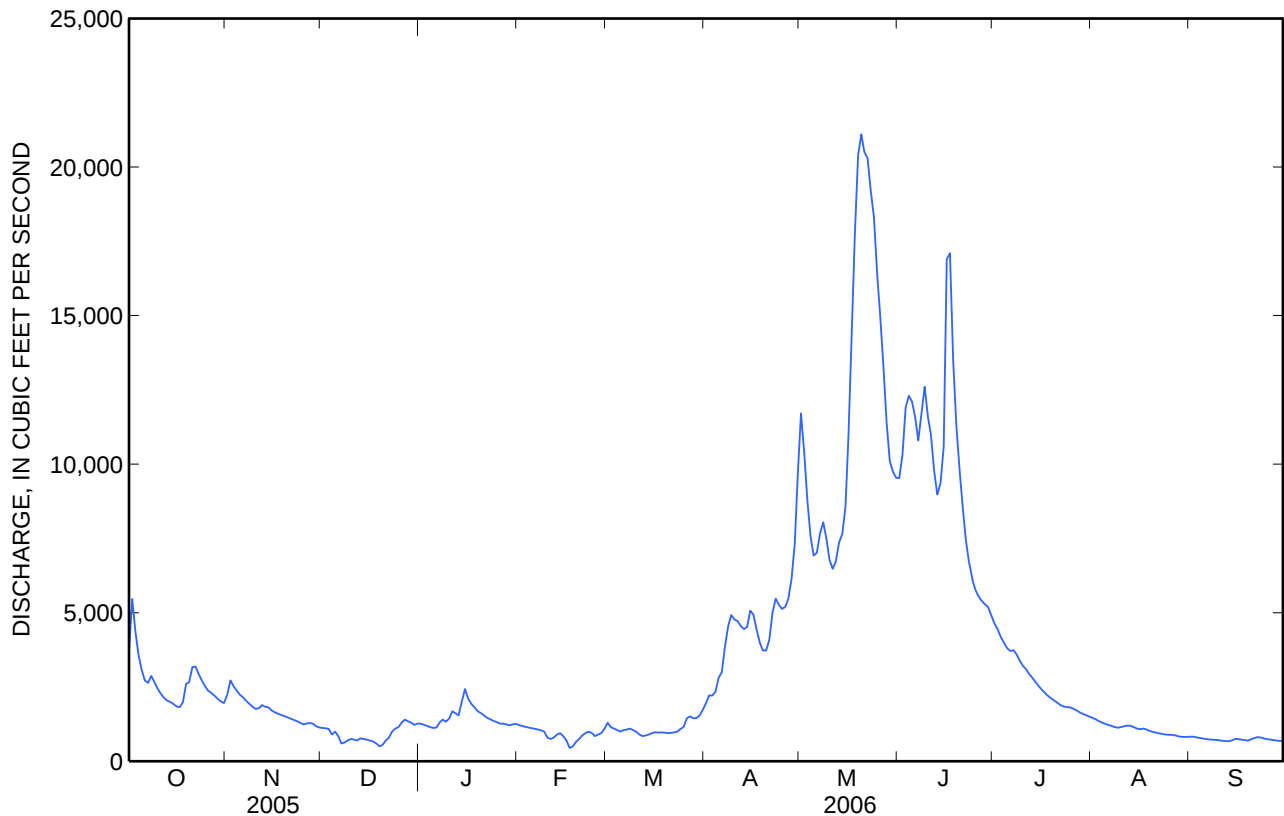
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1940 - 2006	
Annual total	1,092,983		1,202,934			
Annual mean	2,994		3,296		2,987	
Highest annual mean					4,721	
Lowest annual mean					1,383	
Highest daily mean	13,500	Jun 8	21,100	May 20	58,000	Jun 9, 1964
Lowest daily mean	500	Dec 19	450	Feb 17	200	Nov 24, 1993
Annual seven-day minimum	636	Dec 15	636	Dec 15	289	Nov 22, 1993
Maximum peak flow			21,600	May 20	^a 69,100	Jun 9, 1964
Maximum peak stage			10.00	May 20	^b 18.60	Jun 9, 1964
Instantaneous low flow					^c 187	Feb 8, 2001
Annual runoff (ac-ft)	2,168,000		2,386,000		2,164,000	
Annual runoff (cfsm)	1.93		2.13		1.93	
Annual runoff (inches)	26.27		28.91		26.22	
10 percent exceeds	7,500		9,530		8,460	
50 percent exceeds	1,830		1,540		1,220	
90 percent exceeds	1,020		749		560	

^a From rating curve extended above 30,000 ft³/s, on basis of slope-area measurement of peak flow.

^b From floodmark.

^c 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 September 2005. Seasonal records April to September 2006.

SUSPENDED-SEDIMENT DISCHARGE: October 1975 to November 1978.

INSTRUMENTATION.--Temperature probe installed Oct. 1, 1975.

REMARKS.--Daily water temperatures record rated excellent. 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, 20.0°C, July 23; minimum for season, 2.5°C, April 3.

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2006 TO SEPTEMBER 2006

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

12355500 NORTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued**TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2006 TO SEPTEMBER 2006**

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

Water-Data Report 2006

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 ¼ 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, nonrecording gage at present site and elevation.

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

12358500 MIDDLE FORK FLATHEAD RIVER NEAR WEST GLACIER, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,420	1,760	920	1,290	1,280	1,120	1,300	9,830	8,430	4,680	1,130	612
2	4,950	2,120	864	1,250	1,230	1,110	1,500	8,320	9,490	4,450	1,070	596
3	3,550	2,170	873	1,200	1,200	1,100	1,650	7,040	12,000	4,150	1,020	573
4	2,840	2,130	844	1,160	1,160	1,090	1,780	6,130	12,000	3,870	982	554
5	2,410	2,030	851	1,120	1,130	1,070	2,130	5,620	12,500	3,710	951	538
6	2,130	1,940	749	1,130	1,100	1,060	2,520	5,830	11,500	3,600	922	529
7	2,010	1,840	668	1,250	1,060	1,070	3,230	6,710	10,500	3,530	898	527
8	2,060	1,740	642	1,310	1,020	1,050	3,680	6,990	11,700	3,270	880	534
9	1,960	1,640	e625	1,280	1,010	1,040	4,030	6,410	11,000	3,050	885	535
10	1,850	1,560	e625	1,330	955	1,020	4,040	5,700	11,500	2,930	879	526
11	1,750	1,570	e649	1,500	e840	969	3,970	5,400	10,800	2,820	896	514
12	1,650	1,670	e670	1,540	e850	928	3,870	5,670	9,530	2,640	878	503
13	1,610	1,650	728	1,510	863	917	4,050	6,490	9,600	2,490	844	494
14	1,640	1,620	758	1,920	905	922	4,310	7,020	12,800	2,360	807	506
15	1,580	1,530	724	2,940	e870	917	5,050	8,240	14,500	2,230	780	527
16	1,550	1,460	689	2,900	e800	896	5,330	11,400	21,500	2,140	777	519
17	1,650	1,410	637	2,650	e700	883	4,820	15,400	18,100	2,040	786	514
18	1,780	1,370	544	2,440	e750	891	4,230	18,400	13,600	1,930	781	502
19	1,770	1,320	493	2,220	e800	890	3,800	20,200	11,200	1,830	747	492
20	1,990	1,270	564	2,090	e810	870	3,620	19,400	9,460	1,730	722	494
21	2,530	1,220	693	1,950	832	854	3,860	19,000	8,010	1,660	704	512
22	2,460	1,190	782	1,810	818	849	5,030	18,100	7,190	1,620	692	560
23	2,320	1,160	1,000	1,700	807	850	5,620	17,200	6,790	1,600	692	577
24	2,170	1,120	1,070	1,620	800	875	5,240	16,500	6,370	1,580	683	574
25	2,030	1,090	1,150	1,540	766	906	4,830	15,000	6,110	1,580	677	562
26	1,900	1,090	1,320	1,460	770	993	4,620	14,300	5,990	1,520	660	562
27	1,820	1,100	1,410	1,410	803	1,040	4,920	12,400	5,790	1,440	642	562
28	1,760	1,060	1,400	1,380	946	1,050	5,590	10,400	5,660	1,380	626	553
29	1,670	1,020	1,380	1,330	---	1,080	6,910	9,070	5,500	1,340	617	546
30	1,590	961	1,340	1,320	---	1,140	9,520	8,820	4,960	1,270	620	543
31	1,560	---	1,320	1,330	---	1,200	---	8,350	---	1,190	616	---
Total	66,960	44,811	26,982	50,880	25,875	30,650	125,050	335,340	304,080	75,630	24,864	16,140
Mean	2,160	1,494	870	1,641	924	989	4,168	10,820	10,140	2,440	802	538
Max	4,950	2,170	1,410	2,940	1,280	1,200	9,520	20,200	21,500	4,680	1,130	612
Min	1,550	961	493	1,120	700	849	1,300	5,400	4,960	1,190	616	492
Med	1,900	1,490	758	1,460	856	993	4,050	8,820	10,100	2,140	781	534
Ac-ft	132,800	88,880	53,520	100,900	51,320	60,790	248,000	665,100	603,100	150,000	49,320	32,010
Cfsm	1.91	1.32	0.77	1.46	0.82	0.88	3.70	9.59	8.99	2.16	0.71	0.48
In.	2.21	1.48	0.89	1.68	0.85	1.01	4.12	11.06	10.03	2.49	0.82	0.53

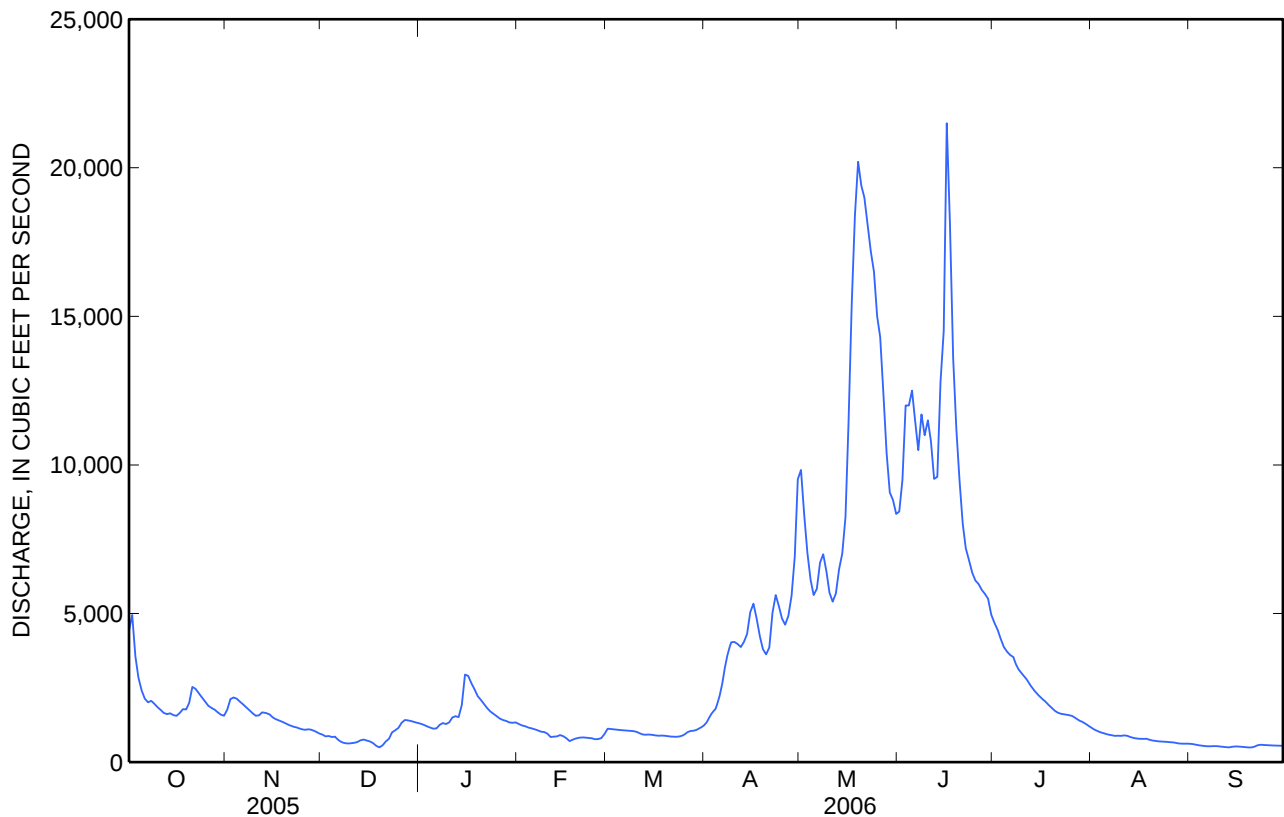
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,059	1,164	914	728	718	867	3,238	9,491	9,966	3,890	1,342	946
Max	3,004	5,598	3,750	2,420	2,686	2,779	7,093	14,670	19,870	8,162	2,364	2,510
(WY)	(1960)	(1990)	(1996)	(1974)	(1971)	(1986)	(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 2005		Water Year 2006		Water Years 1940 - 2006	
Annual total	901,195		1,127,262			
Annual mean	2,469		3,088		2,866	
Highest annual mean					4,071	
Lowest annual mean					1,437	
Highest daily mean	12,100	Jun 4	21,500	Jun 16	92,700	Jun 9, 1964
Lowest daily mean	493	Dec 19	492	Sep 19	189	Nov 27, 1952
Annual seven-day minimum	574	Sep 3	508	Sep 13	205	Nov 26, 1952
Maximum peak flow			22,500	Jun 16	^b 140,000	Jun 9, 1964
Maximum peak stage			9.08	Jun 16	36.46	Jun 9, 1964
Instantaneous low flow			^a 470	Dec 19	^c 173	Nov 27, 1952
Annual runoff (ac-ft)	1,788,000		2,236,000		2,076,000	
Annual runoff (cfsm)	2.19		2.74		2.54	
Annual runoff (inches)	29.72		37.18		34.52	
10 percent exceeds	6,320		8,590		8,330	
50 percent exceeds	1,500		1,410		1,110	
90 percent exceeds	707		623		438	

^a Gage height, 1.66 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.

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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				1,110	e8,000	6,670	2,870	683	400	294	e240	
2				1,310	e7,700	7,870	2,680	659	379	290	e220	
3				1,290	e6,500	11,700	2,510	636	365	286	e260	
4				1,410	e5,700	12,000	2,340	614	354	281	315	
5				1,790	e5,300	11,100	2,200	595	345	278	406	
6				2,470	e5,500	10,500	2,240	579	337	277	838	
7				2,900	e6,300	10,000	2,190	564	329	276	5,500	
8				3,030	e6,500	10,400	2,040	546	326	275	10,700	
9				3,120	e6,000	9,900	1,870	543	322	274	6,580	
10				2,960	e5,300	9,970	1,760	535	315	269	4,300	
11				2,830	e5,000	9,400	1,670	548	308	267	3,330	
12				2,850	e5,300	8,290	1,550	527	304	263	2,690	
13				3,190	e6,000	8,530	1,490	518	298	261	2,300	
14				3,730	e6,500	9,180	1,390	498	318	260	2,020	
15				4,620	e8,000	8,780	1,300	482	333	263	1,780	
16				4,430	11,700	10,300	1,230	475	355	273	1,740	
17				3,870	16,200	8,940	1,180	485	362	271	1,610	
18				3,370	18,800	7,510	1,130	482	345	268	1,430	
19				3,060	20,200	6,450	1,080	475	331	279	1,310	
20				3,090	19,600	5,540	1,030	454	333	348	1,330	
21				3,740	18,600	4,880	981	438	362	380	1,570	
22				e4,700	17,200	4,450	939	425	390	354	1,700	
23				e5,000	16,600	4,180	911	413	376	330	1,610	
24				e4,700	15,900	3,960	883	402	356	316	1,520	
25				e4,500	14,100	3,800	858	405	340	312	1,440	
26				e4,300	13,500	3,740	829	418	329	302	1,310	
27				e4,700	11,600	3,660	800	414	322	294	1,240	
28				e5,300	9,480	3,550	777	395	312	286	1,110	
29				e6,300	8,110	3,380	750	385	307	289	1,040	
30				e7,500	7,110	3,110	723	383	300	305	963	
31				---	6,500	---	705	389	---	e260	---	
Total				107,170	318,800	221,740	44,906	15,365	10,153	8,981	62,402	
Mean				3,572	10,280	7,391	1,449	496	338	290	2,080	
Max				7,500	20,200	12,000	2,870	683	400	380	10,700	
Min				1,110	5,000	3,110	705	383	298	260	220	
Ac-ft				212,600	632,300	439,800	89,070	30,480	20,140	17,810	123,800	
Cfsm				3.08	8.87	6.37	1.25	0.43	0.29	0.25	1.79	
In.				3.44	10.22	7.11	1.44	0.49	0.33	0.29	2.00	

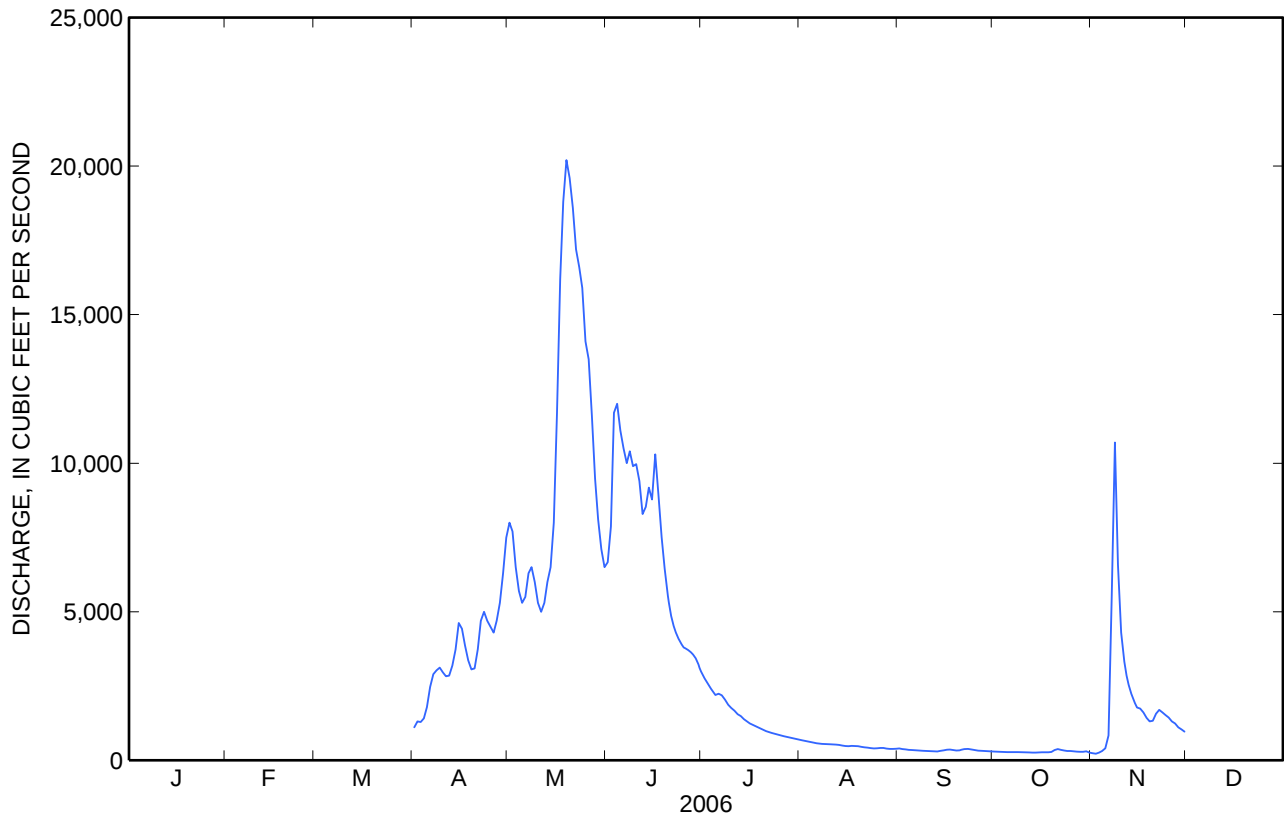
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 – 1982 AND SEASONS 1985 – 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	479	520	588	2,529	7,690	8,250	2,637	765	570	578	699	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)

12359800 SOUTH FORK FLATHEAD RIVER ABOVE TWIN CREEK, NEAR HUNGRY HORSE, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1985 - 2005		Water Years 1956 - 1982	
Annual mean					2,310	
Highest annual mean					2,988	1971
Lowest annual mean					1,175	1977
Highest daily mean	20,200	May 19	29,800	May 17, 1997	29,500	Jun 16, 1974
Lowest daily mean	220	Nov 22	176	Nov 30, 1987	135	Jan 29, 1980
Annual seven-day minimum					155	Jan 26, 1980
Maximum peak flow	20,700	May 19	29,100	May 17, 1997	30,200	Jun 16, 1974
Maximum peak stage	13.06	May 19	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	

^a Gage height, 4.13 ft.

12362000 HUNGRY HORSE RESERVOIR NEAR HUNGRY HORSE, MTPend 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, 3,389,000 acre-ft, May 22, elevation, 3,558.39 ft; minimum, 2,480,000 acre-ft, Apr 29, elevation, 3,515.93 ft.

CAPACITY TABLE

Elevation (ft)	Capacity (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 2005 TO SEPTEMBER 2006
DAILY OBSERVATION AT 2359 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,537.89	3,538.97	3,539.94	3,538.78	3,541.12	3,529.17	3,526.46	3,516.28	3,544.74	3,558.09	3,552.17	3,546.28
2	3,538.12	3,539.04	3,539.91	3,538.85	3,540.87	3,528.95	3,526.53	3,516.20	3,545.44	3,558.11	3,552.00	3,546.12
3	3,538.28	3,539.20	3,539.87	3,538.89	3,540.57	3,528.79	3,526.49	3,516.12	3,546.62	3,558.11	3,551.83	3,545.98
4	3,538.40	3,539.36	3,539.80	3,538.93	3,540.26	3,528.71	3,526.32	3,516.11	3,547.82	3,558.07	3,551.64	3,545.83
5	3,538.49	3,539.47	3,539.79	3,538.91	3,539.89	3,528.64	3,526.02	3,516.15	3,548.75	3,557.99	3,551.47	3,545.67
6	3,538.56	3,539.45	3,539.64	3,539.03	3,539.54	3,528.56	3,525.78	3,516.28	3,549.48	3,557.92	3,551.29	3,545.49
7	3,538.64	3,539.35	3,539.54	3,539.05	3,539.17	3,528.51	3,525.37	3,516.58	3,550.20	3,557.86	3,551.12	3,545.30
8	3,538.71	3,539.29	3,539.36	3,539.12	3,538.82	3,528.48	3,524.95	3,516.86	3,550.93	3,557.80	3,550.95	3,545.12
9	3,538.74	3,539.26	3,539.28	3,539.17	3,538.48	3,528.36	3,524.51	3,517.04	3,551.56	3,557.70	3,550.78	3,544.95
10	3,538.73	3,539.30	3,539.16	3,539.30	3,538.09	3,528.27	3,524.04	3,517.09	3,552.27	3,557.55	3,550.67	3,544.78
11	3,538.60	3,539.34	3,539.01	3,539.36	3,537.72	3,528.16	3,523.64	3,517.15	3,552.84	3,557.34	3,550.39	3,544.59
12	3,538.40	3,539.44	3,538.88	3,539.36	3,537.31	3,528.07	3,523.37	3,517.24	3,553.32	3,557.13	3,550.20	3,544.41
13	3,538.21	3,539.49	3,538.81	3,539.69	3,536.99	3,527.98	3,522.87	3,517.54	3,553.82	3,556.86	3,550.03	3,544.16
14	3,538.04	3,539.60	3,538.72	3,539.86	3,536.54	3,527.85	3,522.04	3,517.96	3,554.48	3,556.62	3,549.84	3,544.04
15	3,537.87	3,539.66	3,538.63	3,540.11	3,535.97	3,527.76	3,521.70	3,518.64	3,555.52	3,556.34	3,549.65	3,543.87
16	3,537.77	3,539.70	3,538.53	3,540.30	3,535.32	3,527.65	3,521.20	3,519.96	3,557.13	3,556.08	3,549.42	3,543.68
17	3,537.72	3,539.78	3,538.36	3,540.46	3,534.67	3,527.57	3,520.87	3,521.90	3,557.88	3,555.80	3,549.28	3,543.56
18	3,537.67	3,539.83	3,538.17	3,540.58	3,534.04	3,527.43	3,520.47	3,524.30	3,558.27	3,555.51	3,549.10	3,543.37
19	3,537.74	3,539.85	3,538.00	3,540.68	3,533.40	3,527.35	3,519.91	3,526.96	3,558.38	3,555.23	3,548.90	3,543.20
20	3,537.84	3,539.89	3,537.84	3,540.81	3,532.77	3,527.24	3,519.32	3,529.50	3,558.39	3,554.93	3,548.71	3,543.07
21	3,537.95	3,539.93	3,537.73	3,540.88	3,532.14	3,527.13	3,518.76	3,531.80	3,558.26	3,554.64	3,548.52	3,542.92
22	3,538.07	3,539.98	3,537.82	3,540.98	3,531.59	3,527.02	3,518.41	3,533.76	3,558.12	3,554.33	3,548.30	3,542.78
23	3,538.16	3,539.99	3,537.82	3,540.98	3,531.02	3,526.91	3,518.06	3,535.70	3,558.00	3,554.02	3,548.10	3,542.61
24	3,538.25	3,540.01	3,537.91	3,541.03	3,530.64	3,526.80	3,517.69	3,537.40	3,557.92	3,553.71	3,547.87	3,542.46
25	3,538.30	3,539.99	3,537.97	3,541.07	3,530.19	3,526.71	3,517.26	3,538.82	3,557.82	3,553.39	3,547.70	3,542.28
26	3,538.37	3,540.03	3,538.08	3,541.10	3,529.83	3,526.68	3,516.78	3,540.27	3,557.71	3,553.16	3,547.48	3,542.10
27	3,538.48	3,540.04	3,538.22	3,541.15	3,529.59	3,526.63	3,516.39	3,541.33	3,557.83	3,553.02	3,547.29	3,541.95
28	3,538.56	3,540.03	3,538.36	3,541.19	3,529.37	3,526.55	3,516.06	3,542.20	3,557.94	3,552.86	3,547.08	3,541.77
29	3,538.60	3,540.01	3,538.47	3,541.24	---	3,526.53	3,515.93	3,542.96	3,558.04	3,552.70	3,546.87	3,541.60
30	3,538.65	3,539.99	3,538.58	3,541.27	---	3,526.47	3,516.14	3,543.59	3,558.10	3,552.51	3,546.70	3,541.38
31	3,538.75	---	3,538.68	3,541.26	---	3,526.44	---	3,544.15	---	3,552.35	3,546.49	---
Mean	3,538.28	3,539.64	3,538.74	3,540.11	3,535.57	3,527.66	3,521.45	3,526.06	3,554.25	3,555.73	3,549.41	3,543.84
Max	3,538.75	3,540.04	3,539.94	3,541.27	3,541.12	3,529.17	3,526.53	3,544.15	3,558.39	3,558.11	3,552.17	3,546.28
Min	3,537.67	3,538.97	3,537.73	3,538.78	3,529.37	3,526.44	3,515.93	3,516.11	3,544.74	3,552.35	3,546.49	3,541.38

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

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2,946	2,972	2,944	3,000	2,748	2,688	2,484	3,064	3,382	3,249	3,116	3,003

CHANGE IN CONTENTS, IN ACRE-FEET

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
+26,000	+26,000	-28,000	+56,000	-252,000	-60,000	-204,000	+580,000	+318,000	-133,000	-133,000	-113,000
Calendar Year 2005		-78,000									
Water Year 2006		+83,000									

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 excellent. 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.--78 years (water years, 1929-2006), 3,496 ft³/s, 28.55 in/yr, 2,533,000 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, 11,900 ft³/s, May 1, gage height, 10.82 ft; minimum daily, 513 ft³/s, Oct. 22.

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

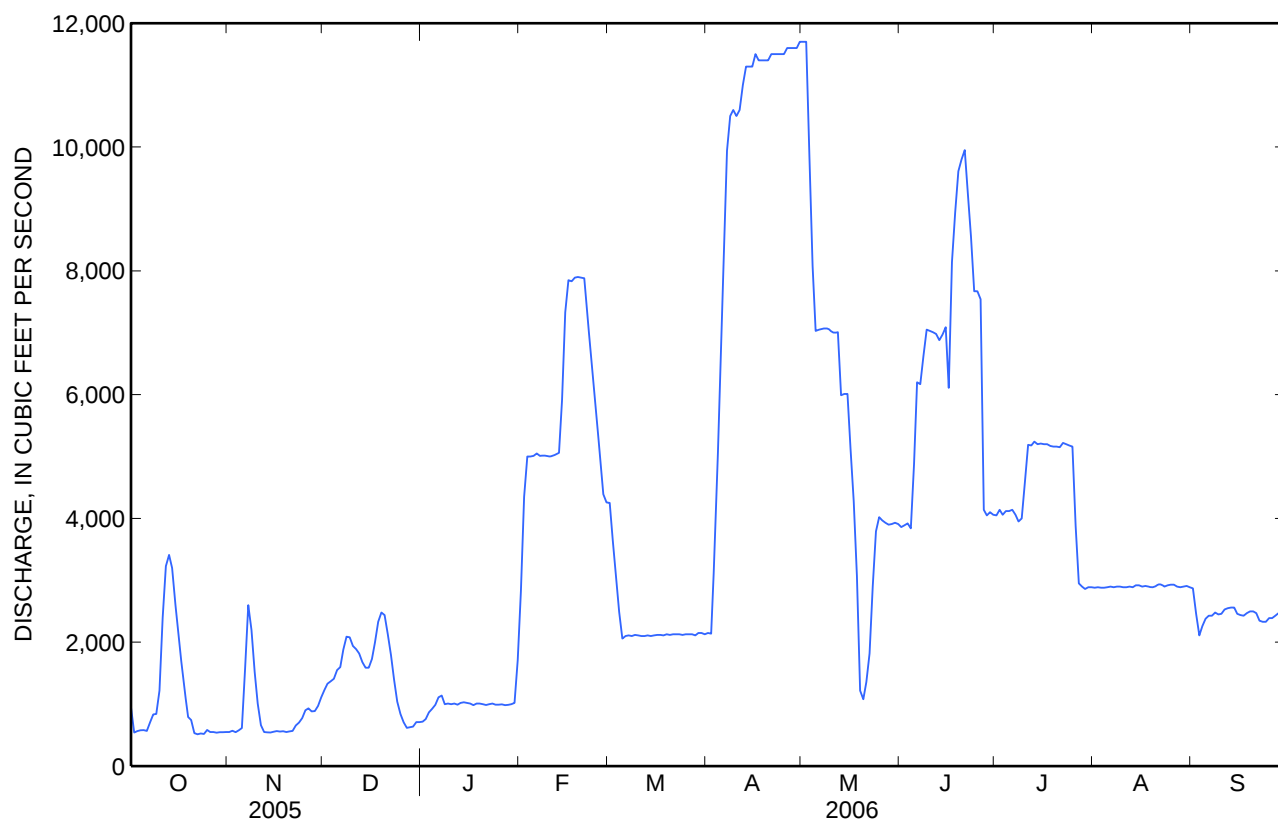
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	948	549	1,230	717	2,830	4,250	2,150	11,700	3,860	4,050	e2,880	2,870
2	542	571	1,330	759	4,350	3,650	2,140	11,700	3,890	4,140	2,890	2,460
3	566	548	1,370	869	5,000	3,070	3,380	9,860	3,920	4,060	2,880	2,110
4	579	579	1,410	925	5,000	2,490	4,760	8,080	3,840	4,120	2,880	2,260
5	580	615	1,550	990	5,010	2,060	6,520	7,030	4,880	4,120	2,890	2,380
6	568	1,570	1,600	1,110	5,050	2,100	8,220	7,050	6,200	4,140	2,900	2,430
7	704	2,600	1,880	1,140	5,010	2,110	9,940	7,060	6,170	4,060	2,890	2,430
8	834	2,200	2,090	1,000	5,020	2,100	10,500	7,070	6,630	3,950	2,900	2,480
9	843	1,520	2,080	1,010	5,010	2,120	10,600	7,060	7,050	4,000	2,900	2,450
10	1,220	1,010	1,940	1,000	5,000	2,110	10,500	7,020	7,030	4,590	2,890	2,460
11	2,400	660	1,890	1,010	5,010	2,100	10,600	7,000	7,010	5,190	2,890	2,530
12	3,230	550	1,820	992	5,040	2,100	11,000	7,010	6,980	5,180	2,900	2,550
13	3,410	545	1,680	1,020	5,060	2,110	11,300	5,990	6,880	5,240	2,890	2,560
14	3,200	543	1,590	1,030	5,910	2,100	11,300	6,010	6,970	5,200	2,920	2,560
15	2,640	555	1,590	1,020	7,330	2,110	11,300	6,010	7,090	5,210	2,920	2,460
16	2,100	565	1,730	1,010	7,850	2,120	11,500	5,130	6,110	5,200	2,900	2,440
17	1,640	557	2,000	985	7,830	2,120	11,400	4,280	8,140	5,200	2,910	2,430
18	1,190	563	2,330	1,010	7,890	2,110	11,400	3,070	8,940	5,170	2,900	2,470
19	792	550	2,480	1,010	7,900	2,130	11,400	1,220	9,610	5,160	2,890	2,500
20	745	561	2,440	1,000	7,890	2,120	11,400	1,080	9,800	5,160	2,900	2,500
21	532	569	2,130	986	7,880	2,130	11,500	1,360	9,950	5,150	2,930	2,470
22	513	655	1,790	1,000	7,270	2,130	11,500	1,820	9,260	5,220	2,930	2,350
23	526	702	1,400	1,010	6,690	2,130	11,500	2,910	8,550	5,200	2,900	2,330
24	518	776	1,040	991	6,110	2,120	11,500	3,790	7,670	5,180	2,920	2,330
25	583	902	842	992	5,570	2,130	11,500	4,020	7,670	5,160	2,930	2,390
26	550	932	708	998	4,980	2,130	11,600	3,970	7,540	3,880	2,930	2,390
27	549	883	618	984	4,390	2,130	11,600	3,930	4,140	2,950	2,900	2,430
28	540	889	628	990	4,260	2,110	11,600	3,900	4,050	2,900	2,890	2,470
29	548	971	639	1,000	---	2,150	11,600	3,910	4,100	2,860	2,900	2,480
30	547	1,110	711	1,020	---	2,150	11,700	3,930	4,060	2,890	2,910	2,490
31	551	---	709	1,710	---	2,130	---	3,910	---	e2,890	2,890	---
Total	34,688	25,800	47,245	31,288	162,140	70,620	296,910	167,880	197,990	137,420	89,950	73,460
Mean	1,119	860	1,524	1,009	5,791	2,278	9,897	5,415	6,600	4,433	2,902	2,449
Max	3,410	2,600	2,480	1,710	7,900	4,250	11,700	11,700	9,950	5,240	2,930	2,870
Min	513	543	618	717	2,830	2,060	2,140	1,080	3,840	2,860	2,880	2,110
Med	583	635	1,590	1,000	5,040	2,120	11,400	5,130	6,970	4,590	2,900	2,460
Ac-ft	68,800	51,170	93,710	62,060	321,600	140,100	588,900	333,000	392,700	272,600	178,400	145,700
Cfs/m	0.67	0.52	0.92	0.61	3.48	1.37	5.95	3.26	3.97	2.67	1.74	1.47
In.	0.78	0.58	1.06	0.70	3.63	1.58	6.64	3.76	4.43	3.07	2.01	1.64
ADJUSTED FOR CHANGE IN CONTENTS IN HUNGRY HORSE RESERVOIR												
Mean	1,542	1,297	1,069	1,920	1,253	1,303	6,468	14,850	11,940	2,270	738	550
Cfs/m	0.93	0.78	0.64	1.15	0.75	0.78	3.89	8.93	7.18	1.37	0.44	0.33
Ac-ft	94,800	77,170	65,710	118,060	69,600	80,100	384,900	913,000	139,600	189	45,400	32,700
In	1.07	0.87	0.74	1.33	0.78	0.90	4.34	10.29	8.01	1.57	0.51	0.37

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

OBSERVED										
Calendar Year 2005	Total	1,102,823	Mean	3,013	Max	10,600	Min	506	Ac-ft	2,187,000
Water Year 2006	Total	1,335,391	Mean	3,659	Max	11,700	Min	513	Ac-ft	2,649,000

ADJUSTED										
Calendar Year 2005	Total	1,063,509	Mean	2,914	Cfsm	1.75	In	23.78	Ac-ft	2,109,000
Water Year 2006	Total	1,377,232	Mean	3,773	Cfsm	2.27	In	30.80	Ac-ft	2,732,000



12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued**WATER-QUALITY RECORDS**

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. Missing water temperature data for July 31 to Aug. 2 due to equipment problems. Daily temperature record is rated good. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 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 28; minimum, 3.0°C, Feb. 9, 10 and April 10-20.

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

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

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	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	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
3	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
4	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
5	4.0	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	4.0
7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
9	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
10	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5
11	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.5	3.5
12	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.5	3.5
13	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	4.0	3.5	3.5
14	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	4.0	3.5	4.0
15	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	4.0	3.5	3.5
16	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	4.0	3.5	3.5
17	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	4.0	3.5	3.5
18	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	4.5	3.5	4.0
19	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	4.0	3.5	4.0
20	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	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	4.0
22	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
23	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
24	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
25	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5
26	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0
27	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	3.5	4.0	3.5	3.5
28	3.5	3.5	3.5	3.5	3.5	3.5	4.0	3.5	4.0	3.5	3.5	3.5
29	---	---	---	3.5	3.5	3.5	4.0	4.0	4.0	4.0	3.5	3.5
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	---	---	---	6.5	4.0	5.5
Month	4.0	3.0	3.5	3.5	3.5	3.5	4.0	3.0	3.5	6.5	3.5	4.0

12362500 SOUTH FORK FLATHEAD RIVER NEAR COLUMBIA FALLS, MT—Continued

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

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

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MTPend 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 excellent. 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.--78 years, 9,589 ft³/s, 29.17 in/yr, 6,947,000 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, 47,000 ft³/s, June 16, gage height, 13.41 ft; minimum daily, 3,250 ft³/s, Nov. 30.

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

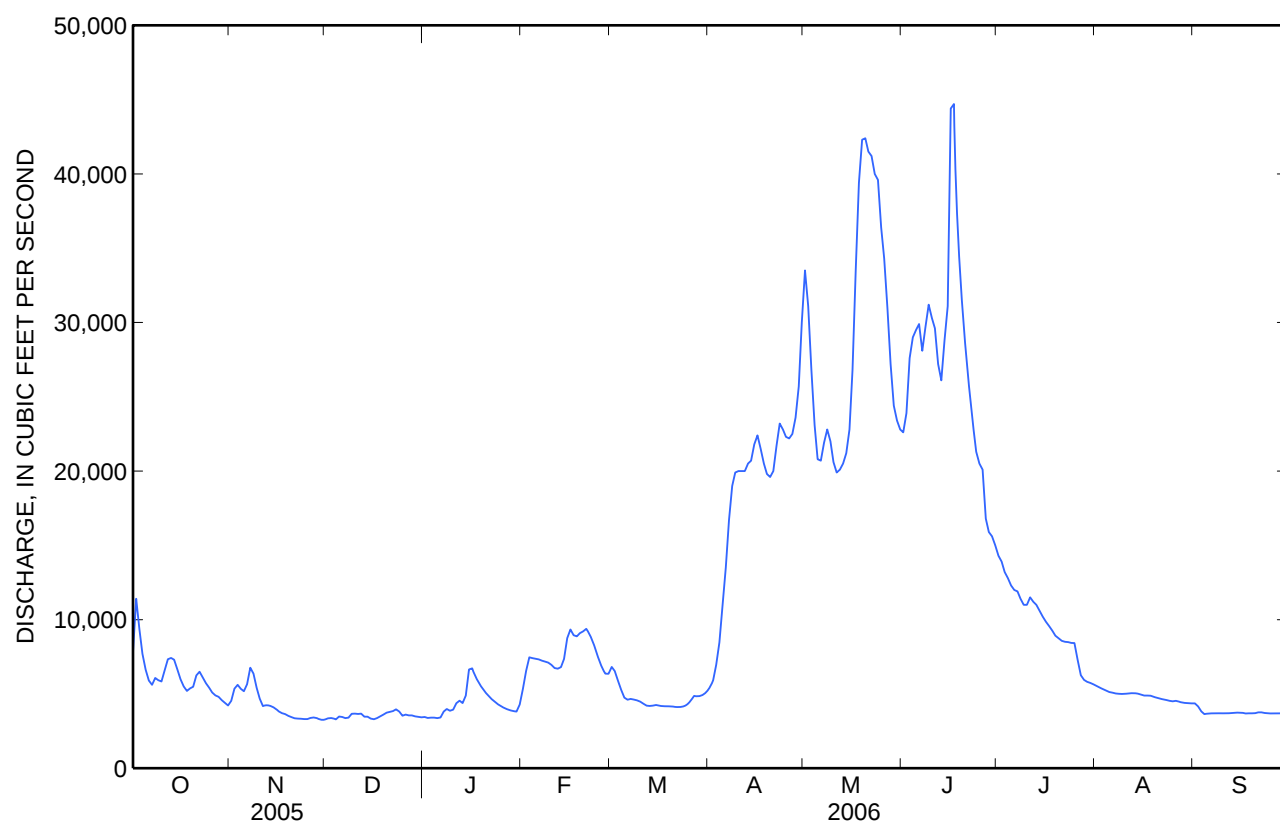
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7,820	4,540	3,320	3,450	5,340	6,820	5,460	33,500	22,600	14,300	5,530	4,360
2	11,400	5,350	3,370	3,380	6,550	6,540	5,920	31,100	23,900	13,900	5,440	4,160
3	9,360	5,610	3,360	3,410	7,460	5,890	6,960	26,800	27,600	13,200	5,310	3,830
4	7,700	5,340	3,290	3,400	7,410	5,280	8,470	23,100	29,000	12,800	5,220	3,640
5	6,630	5,180	3,480	3,370	7,370	4,750	11,000	20,800	29,500	12,300	5,130	3,670
6	5,900	5,660	3,450	3,420	7,320	4,610	13,500	20,700	29,900	12,000	5,090	3,700
7	5,610	6,760	3,370	3,810	7,240	4,660	16,700	21,900	28,100	11,900	5,030	3,680
8	6,070	6,370	3,410	3,980	7,170	4,620	19,000	22,800	29,700	11,400	5,010	3,710
9	5,920	5,410	3,660	3,870	7,110	4,570	19,900	22,000	31,200	11,000	5,000	3,690
10	5,840	4,690	3,670	3,940	6,960	4,480	20,000	20,600	30,300	11,000	5,010	3,690
11	6,590	4,180	3,650	4,370	6,740	4,340	20,000	19,900	29,600	11,500	5,030	3,700
12	7,340	4,250	3,670	4,550	6,700	4,210	20,000	20,100	27,200	11,200	5,050	3,710
13	7,420	4,200	3,470	4,380	6,810	4,190	20,500	20,500	26,100	11,000	5,040	3,720
14	7,300	4,140	3,470	4,890	7,360	4,210	20,700	21,200	28,800	10,600	5,020	3,750
15	6,660	4,000	3,340	6,650	8,760	4,260	21,800	22,800	31,100	10,200	4,950	3,750
16	5,990	3,820	3,300	6,720	9,340	4,210	22,400	26,800	44,400	9,860	4,890	3,710
17	5,500	3,710	3,370	6,190	8,950	4,170	21,500	33,500	44,700	9,560	4,890	3,680
18	5,200	3,640	3,490	5,810	8,880	4,180	20,500	39,400	37,500	9,250	4,880	3,690
19	5,370	3,520	3,610	5,430	9,090	4,170	19,800	42,300	32,800	8,920	4,820	3,690
20	5,480	3,440	3,740	5,140	9,210	4,150	19,600	42,400	29,800	8,740	4,740	3,710
21	6,250	3,360	3,790	4,920	9,380	4,130	20,000	41,500	27,500	8,570	4,680	3,760
22	6,490	3,340	3,850	4,690	9,030	4,120	21,700	41,200	25,200	8,510	4,640	3,760
23	6,110	3,330	3,960	4,490	8,510	4,130	23,200	40,000	23,200	8,490	4,590	3,720
24	5,720	3,310	3,810	4,320	7,950	4,200	22,800	39,600	21,300	8,430	4,540	3,700
25	5,420	3,310	3,530	4,190	7,290	4,310	22,300	36,400	20,500	8,420	4,500	3,690
26	5,100	3,380	3,610	4,070	6,780	4,580	22,200	34,300	20,100	7,290	4,530	3,680
27	4,900	3,420	3,550	3,970	6,370	4,870	22,500	31,000	16,800	6,260	4,480	3,680
28	4,800	3,370	3,550	3,890	6,360	4,850	23,600	27,200	15,900	5,950	4,420	3,700
29	4,580	3,290	3,490	3,850	---	4,870	25,700	24,400	15,600	5,820	4,390	3,700
30	4,400	3,250	3,460	3,810	---	4,970	30,000	23,400	15,000	5,740	4,370	3,700
31	4,220	---	3,430	4,290	---	5,170	---	22,800	---	5,640	4,360	---
Total	193,090	127,170	109,520	136,650	213,440	144,510	567,710	894,000	814,900	303,750	150,580	112,330
Mean	6,229	4,239	3,533	4,408	7,623	4,662	18,920	28,840	27,160	9,798	4,857	3,744
Max	11,400	6,760	3,960	6,720	9,380	6,820	30,000	42,400	44,700	14,300	5,530	4,360
Min	4,220	3,250	3,290	3,370	5,340	4,120	5,460	19,900	15,000	5,640	4,360	3,640
Ac-ft	383,000	252,200	217,200	271,000	423,400	286,600	1,126,000	1,773,000	1,616,000	602,500	298,700	222,800
Cfsm	1.40	0.95	0.79	0.99	1.71	1.04	4.24	6.46	6.08	2.19	1.09	0.84
In.	1.61	1.06	0.91	1.14	1.78	1.20	4.73	7.45	6.79	2.53	1.25	0.94
ADJUSTED FOR CHANGE IN CONTENTS IN HUNGRY HORSE RESERVOIR												
Mean	6,652	4,675	3,077	5,318	3,086	3,685	15,490	38,270	32,500	7,636	2,695	1,845
Ac-ft	409,000	278,200	189,200	327,000	171,400	226,600	922,000	2,353,000	1,934,000	469,500	165,700	109,800
Cfsm	1.49	1.05	0.69	1.19	0.69	0.83	3.47	8.57	7.28	1.71	0.60	0.41
In.	1.72	1.17	0.79	1.37	0.72	0.95	3.87	9.88	8.12	1.97	0.70	0.46

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

OBSERVED										
Calendar Year 2005	Total	3,190,510	Mean	8,741	Max	35,800	Min	3,190	Ac-ft	6,328,000
Water Year 2006	Total	3,767,650	Mean	10,320	Max	44,700	Min	3,250	Ac-ft	7,473,000

ADJUSTED										
Calendar Year 2005	Total	3,151,500	Mean	8,634	Cfsm	1.93	In	26.25	Ac-ft	6,250,000
Water Year 2006	Total	3,809,125	Mean	10,440	Cfsm	2.34	In	31.74	Ac-ft	7,556,000



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 excellent. 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, 19.5°C, July 28; minimum, 0.0°C, December 6, 7.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 2

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, unfltrd mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)
Apr												
12...	1230	19,800	8.2	167	7.5	4.0	<.010	.070	<.002	.13	<.006	.010
Jun												
08...	1515	30,500	8.1	131	17.0	10.0	<.010	.074	<.002	.13	<.006	.026
Jul												
13...	1615	10,900	8.4	156	25.0	15.0	<.010	.044	<.002	.06	<.006	.005
Sep												
05...	1300	3,470	8.4	183	25.0	15.0	.011	.029	<.002	.17	E.004	.006

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO
SEPTEMBER 2006**

Part 2 of 2

[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)
Apr			
12...	66	12	642
Jun			
08...	72	40	3,290
Jul			
13...	80	1	29
Sep			
05...	84	2	19

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

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

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

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

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

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

12363000 FLATHEAD RIVER AT COLUMBIA FALLS, MT—Continued

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

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

Water-Data Report 2006

12365000 STILLWATER RIVER NEAR WHITEFISH, MT

Pend Oreille Basin
Stillwater Subbasin

LOCATION.--Lat 48°19'08", long 114°23'11" referenced to North American Datum of 1927, in NE ¼ SW ¼ sec.34, T.30 N., R.22 W., Flathead County, MT, Hydrologic Unit 17010210, on right bank 600 ft downstream from road bridge, 6.2 mi southwest of Whitefish, 14.8 mi upstream from Whitefish River, and at river mile 16.2.

DRAINAGE AREA.--556 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October and November 1930 [monthly discharge only, published in Water Supply Paper (WSP) 1316], December 1930 to September 1950, October 1972 to September 1985, April 1986 to September 1999 (seasonal records only), October 1999 to September 30, 2006, discontinued.

REVISED RECORDS.-- WSP 1736: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,953.26 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 200 acres upstream occur 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.

12365000 STILLWATER RIVER NEAR WHITEFISH, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	115	126	e101	203	e215	e203	330	1,430	973	661	211	121
2	129	139	e101	e202	e210	e204	375	1,520	920	651	209	124
3	143	163	e102	e201	e205	e206	420	1,600	876	627	202	121
4	141	172	e103	e191	e200	e208	457	1,610	849	590	196	119
5	140	174	e101	e188	e199	e208	508	1,550	851	563	192	115
6	139	174	e103	e183	e191	e205	569	1,450	862	541	188	113
7	138	173	e103	e190	e184	e205	749	1,330	877	555	187	111
8	142	169	e115	e201	e177	e198	964	1,250	890	539	182	110
9	149	162	e112	e205	e178	e198	1,130	1,210	887	503	181	108
10	146	156	e112	e203	e170	e194	1,270	1,180	894	476	179	106
11	140	151	e115	e218	e160	e190	1,370	1,140	910	453	180	104
12	136	147	e119	e230	e155	e183	1,430	1,090	895	429	183	101
13	132	145	e129	e230	e155	e179	1,440	1,050	861	411	182	100
14	128	144	e130	e239	e155	e178	1,400	1,020	838	394	177	100
15	125	142	e125	e241	e152	e179	1,360	996	901	376	173	105
16	123	134	e129	e244	e137	e178	1,350	986	992	361	171	107
17	120	137	e120	e244	e106	e174	1,360	1,000	1,200	346	175	108
18	118	136	e109	e249	e138	e173	1,360	1,060	1,540	330	170	111
19	114	132	e105	e251	e152	e174	1,310	1,130	1,820	314	165	112
20	111	125	e116	e241	e153	e174	1,230	1,220	1,830	304	161	120
21	114	126	e130	e237	e152	e170	1,150	1,310	1,690	295	159	134
22	115	124	144	e232	e154	154	1,120	1,370	1,490	286	156	137
23	115	121	148	e230	e156	157	1,160	1,370	1,310	279	152	138
24	115	118	156	e229	e156	173	1,220	1,340	1,150	274	148	134
25	116	115	162	e226	e156	183	1,280	1,300	1,030	263	143	132
26	117	113	167	e224	e158	209	1,300	1,270	935	254	140	129
27	118	116	171	e221	e165	238	1,300	1,230	860	247	136	126
28	119	115	177	e217	e186	251	1,300	1,180	798	239	135	122
29	121	110	184	e215	---	263	1,300	1,130	743	230	132	119
30	121	e104	191	e218	---	279	1,350	1,090	694	221	129	116
31	121	---	196	e214	---	299	---	1,030	---	213	123	---
Total	3,921	4,163	4,076	6,817	4,675	6,187	32,862	38,442	31,366	12,225	5,217	3,503
Mean	126	139	131	220	167	200	1,095	1,240	1,046	394	168	117
Max	149	174	196	251	215	299	1,440	1,610	1,830	661	211	138
Min	111	104	101	183	106	154	330	986	694	213	123	100
Ac-ft	7,780	8,260	8,080	13,520	9,270	12,270	65,180	76,250	62,210	24,250	10,350	6,950
Cfs/m	0.23	0.25	0.24	0.40	0.30	0.36	1.97	2.23	1.88	0.71	0.30	0.21
In.	0.26	0.28	0.27	0.46	0.31	0.41	2.20	2.57	2.10	0.82	0.35	0.23

12365000 STILLWATER RIVER NEAR WHITEFISH, MT—Continued

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	113	126	120	116	117	161	660	1,155	857	372	174	125
Max	271	300	582	495	588	548	1,857	3,125	1,916	952	505	315
(WY)	(1948)	(1990)	(1996)	(1934)	(1996)	(1996)	(1996)	(1997)	(1974)	(1993)	(1993)	(1993)
Min	46.5	53.9	50.7	59.2	60.1	76.7	138	265	235	94.5	55.5	43.1
(WY)	(2002)	(1945)	(1945)	(1940)	(1993)	(1977)	(1945)	(1944)	(1977)	(1977)	(1941)	(2001)

* During periods of operation: October and November 1930 (monthly discharge only, published in WSP 1316), December 1930 to September 1950, October 1972 to September 1985, April 1986 to September 1999 (seasonal records only), October 1999 to September 30, 2006, discontinued.

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1931 – 2006*	
Annual total	98,627		153,454			
Annual mean	270		420		337	
Highest annual mean					747	
Lowest annual mean					124	
Highest daily mean	1,090	Jun 11	1,830	Jun 20	4,560	May 18, 1997
Lowest daily mean	90	Sep 9	100	Sep 13	17	Aug 17, 1992
Annual seven-day minimum	95	Sep 4	102	Dec 1	37	Sep 6, 1988
Maximum peak flow			1,860	Jun 19	^b 4,570	May 18, 1997
Maximum peak stage			12.21	Jun 19	^c 20.90	May 26, 1948
Instantaneous low flow			^a 99	Sep 13	^d 2.9	Aug 18, 1992
Annual runoff (ac-ft)	195,600		304,400		244,100	
Annual runoff (cfsm)	0.486		0.756		0.606	
Annual runoff (inches)	6.60		10.27		8.23	
10 percent exceeds	606		1,240		935	
50 percent exceeds	170		188		142	
90 percent exceeds	115		115		70	

* During periods of operation: October and November 1930 (monthly discharge only, published in WSP 1316), December 1930 to September 1950, October 1972 to September 1985, April 1986 to September 1999 (seasonal records only), October 1999 to September 30, 2006, discontinued.

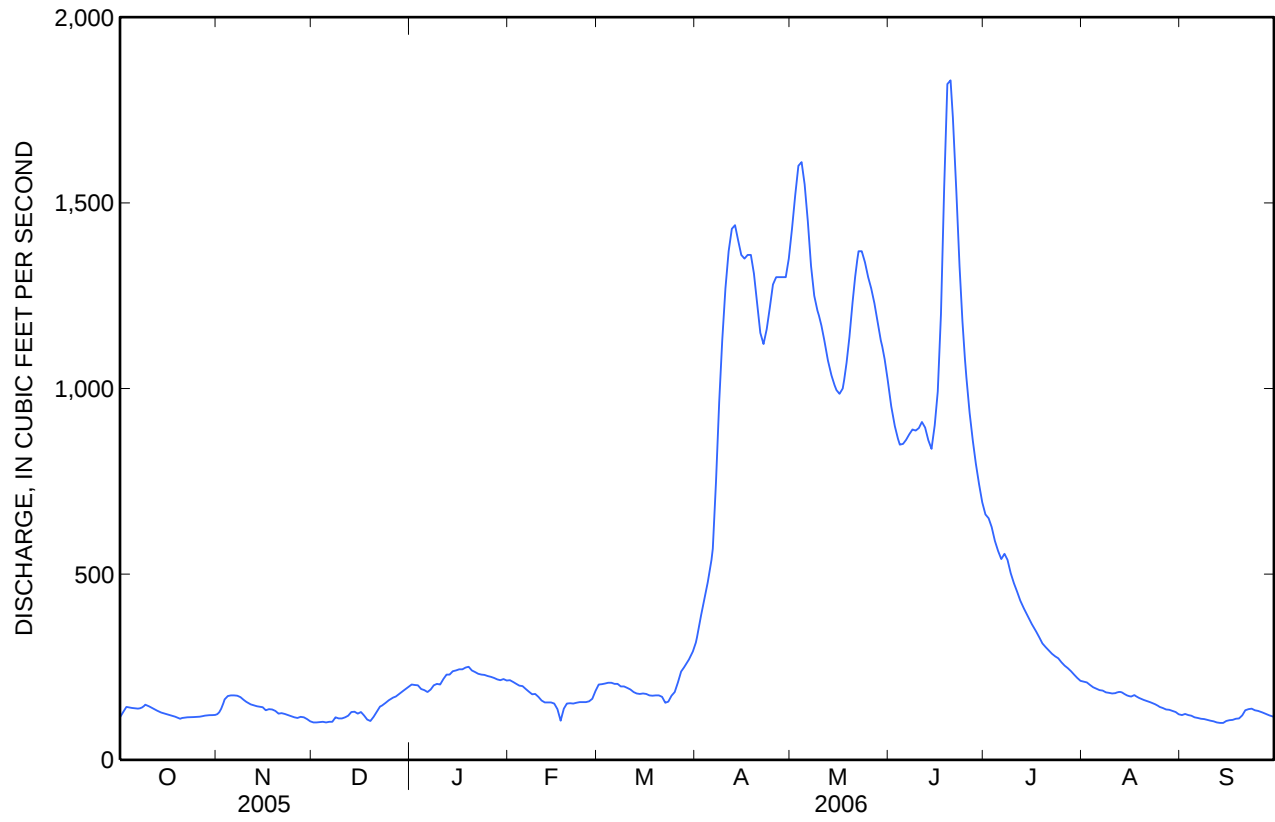
^a Gage height, 1.43 ft.

^b Gage height, 20.20 ft.

^c From floodmark.

^d Result of upstream mudslide.

12365000 STILLWATER RIVER NEAR WHITEFISH, MT—Continued



12366000 WHITEFISH RIVER NEAR KALISPELL, MT

Pend Oreille Basin
Stillwater Subbasin

LOCATION.--Lat 48°19'13", long 114°16'39" referenced to North American Datum of 1927, in SW ¼ SE ¼ NW ¼ sec.34, T.30 N., R.21 W., Flathead County, MT, Hydrologic Unit 17010210, on right bank 160 ft upstream from road bridge, 8.0 mi north of Kalispell, and at river mile 12.8.

DRAINAGE AREA.--170 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July to November 1928, April 1929 to September 1950, annual maximum 1964, October 1972 to September 1985, April 1986 to September 1995, October 1995 to September 1999 (seasonal record only), October 1999 to September 2006, discontinued. Prior to 1964, published as Whitefish Creek near Kalispell.

GAGE.--Water-stage recorder. Elevation of gage is 2,969.83 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1930, nonrecording gage at site 200 ft downstream at elevation 10.00 ft lower. Oct. 16, 1930, to Sept. 30, 1950, water-stage recorder on left bank at same elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. 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.

12366000 WHITEFISH RIVER NEAR KALISPELL, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	77	81	82	e102	136	e135	199	488	814	516	135	77
2	82	92	e82	e100	134	e133	218	490	800	499	130	75
3	79	92	82	e99	134	134	235	489	811	470	126	74
4	77	89	e75	96	134	126	249	485	814	443	124	73
5	74	89	e88	92	134	122	288	482	818	423	122	71
6	73	90	e82	92	132	123	318	480	817	409	118	70
7	73	91	e72	94	129	129	405	483	809	403	115	69
8	75	91	e77	102	128	133	431	485	803	383	112	67
9	75	90	e80	105	127	132	438	487	807	362	110	66
10	75	89	e83	111	e125	128	442	483	805	345	108	66
11	73	89	e81	133	e130	125	443	478	793	326	110	65
12	73	89	e83	144	e133	122	445	477	764	308	110	63
13	72	89	e83	139	e130	120	442	477	741	294	108	63
14	72	89	e83	145	e133	120	439	477	732	278	104	62
15	72	89	e83	168	e128	120	440	481	752	265	101	66
16	72	89	e82	169	e110	119	433	500	931	253	102	70
17	71	89	e77	160	e80	124	423	554	1,010	240	102	68
18	70	88	e75	156	e98	135	411	595	985	229	102	66
19	70	88	e71	153	e123	147	402	650	949	217	100	66
20	71	87	e75	150	e115	144	393	708	915	206	99	71
21	75	86	e85	146	e120	147	391	750	875	198	96	72
22	75	86	e95	143	e115	153	402	785	834	191	92	72
23	74	85	e102	141	e123	154	406	816	792	185	89	72
24	73	84	e105	138	e120	156	402	842	752	180	86	72
25	73	84	e106	136	e128	158	397	860	712	173	83	70
26	73	83	e107	136	e110	171	397	879	675	167	84	70
27	75	84	e105	134	e113	173	401	890	638	161	84	68
28	77	85	e105	134	e126	172	407	885	603	155	83	67
29	77	84	e104	133	---	174	421	879	570	151	81	68
30	77	84	e104	132	---	178	455	860	540	144	78	67
31	77	---	e104	134	---	189	---	836	---	138	77	---
Total	2,302	2,625	2,718	4,017	3,448	4,396	11,573	19,531	23,661	8,712	3,171	2,066
Mean	74.3	87.5	87.7	130	123	142	386	630	789	281	102	68.9
Max	82	92	107	169	136	189	455	890	1,010	516	135	77
Min	70	81	71	92	80	119	199	477	540	138	77	62
Ac-ft	4,570	5,210	5,390	7,970	6,840	8,720	22,960	38,740	46,930	17,280	6,290	4,100
Cfs/m	0.44	0.51	0.52	0.76	0.72	0.83	2.27	3.71	4.64	1.65	0.60	0.41
In.	0.50	0.57	0.59	0.88	0.75	0.96	2.53	4.27	5.18	1.91	0.69	0.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	69.5	72.2	72.4	69.1	67.6	96.4	230	529	607	273	110	81.4
Max	152	177	231	209	157	212	549	895	1,194	695	238	152
(WY)	(2005)	(1934)	(1934)	(1934)	(1934)	(1936)	(1934)	(1997)	(1974)	(1974)	(1993)	(2004)
Min	9.98	20.1	23.0	13.9	15.5	48.2	83.4	214	211	88.5	29.5	23.9
(WY)	(1931)	(1937)	(1936)	(1938)	(1938)	(2001)	(2001)	(1944)	(1977)	(1941)	(1931)	(1931)

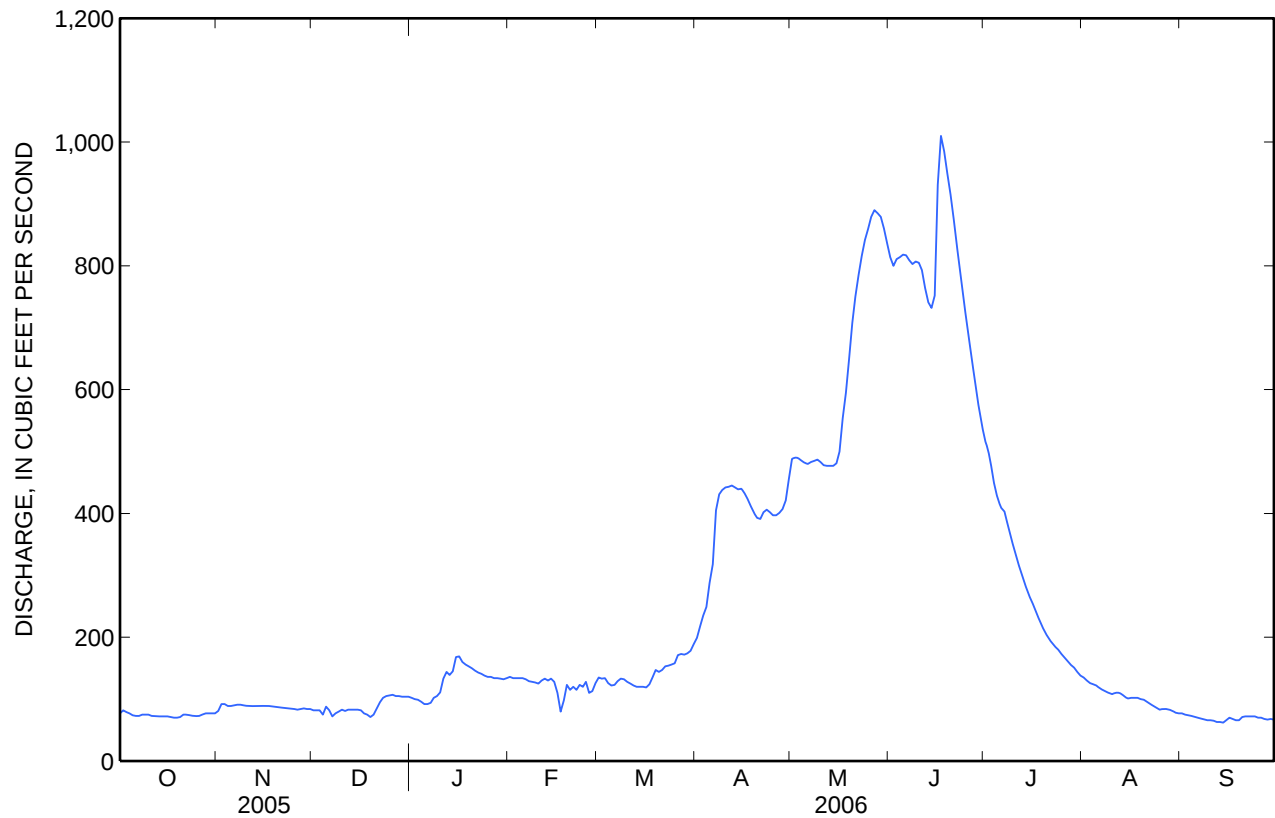
* During periods of operation [July to November 1928, April 1929 to September 1950, annual maximum 1964, October 1972 to September 1985, April 1986 to September 1995, October 1995 to September 1999 (seasonal record only), October 1999 to September 2006].

12366000 WHITEFISH RIVER NEAR KALISPELL, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1930 – 2006*	
Annual total	69,177		88,220			
Annual mean	190		242		187	
Highest annual mean					320	1974
Lowest annual mean					88.9	2001
Highest daily mean	666	Jun 9	1,010	Jun 17	1,580	Jun 23, 1974
Lowest daily mean	57	Sep 8	62	Sep 14	5.0	Oct 17, 1934
Annual seven-day minimum	59	Sep 3	64	Sep 9	5.3	Oct 15, 1934
Maximum peak flow			1,010	Jun 17	1,580	Jun 24, 1974
Maximum peak stage			4.20	Jun 17	4.91	Jun 24, 1974
Instantaneous low flow			60	Sep 12	4.5	Oct 18, 1934
Annual runoff (ac-ft)	137,200		175,000		135,500	
Annual runoff (cfs)	1.11		1.42		1.10	
Annual runoff (inches)	15.14		19.30		14.95	
10 percent exceeds	464		710		503	
50 percent exceeds	128		126		94	
90 percent exceeds	73		73		43	

* During periods of operation [July to November 1928, April 1929 to September 1950, annual maximum 1964, October 1972 to September 1985, April 1986 to September 1995, October 1995 to September 1999 (seasonal record only), October 1999 to September 2006, discontinued].



Water-Data Report 2006

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 S ½ SW ¼ sec.11, T.26 N., R.19 W., Lake County, 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	455	596	461	740	635	557	1,140	2,010	3,010	2,010	674	459
2	572	657	455	753	631	593	1,300	2,190	2,800	1,930	665	446
3	637	718	447	755	639	601	1,450	2,200	2,850	1,840	650	440
4	658	723	446	738	638	624	1,520	2,090	3,340	1,750	637	436
5	669	720	461	715	618	632	1,630	1,960	3,820	1,660	615	430
6	658	699	460	687	611	629	1,810	1,840	4,010	1,600	609	417
7	637	677	438	662	598	638	2,090	1,790	4,000	1,570	595	402
8	619	659	393	664	573	647	2,280	1,840	3,970	1,540	586	395
9	605	651	367	666	565	655	2,330	1,880	4,030	1,490	570	393
10	594	627	368	694	563	651	2,330	1,840	4,080	1,430	567	381
11	572	595	372	732	539	637	2,290	1,760	4,100	1,380	563	383
12	555	588	378	760	508	621	2,190	1,670	4,080	1,310	557	379
13	545	585	385	786	504	613	2,120	1,640	3,910	1,260	552	373
14	536	578	400	e828	498	603	2,110	1,660	3,900	1,220	546	377
15	527	576	407	890	497	591	2,170	1,770	4,120	1,160	541	378
16	523	564	405	964	491	594	2,270	2,030	4,680	1,110	527	404
17	519	549	396	997	464	582	2,310	2,550	5,810	1,070	534	414
18	507	546	375	998	430	569	2,220	3,300	6,040	1,010	542	421
19	505	528	352	974	404	576	2,050	4,110	5,490	982	540	407
20	521	519	346	956	402	581	1,890	4,870	4,750	956	525	432
21	523	508	360	e924	416	581	1,740	5,310	4,070	927	519	452
22	529	503	393	e871	435	583	1,650	5,450	3,500	896	506	458
23	532	495	429	823	463	599	1,690	5,390	3,070	861	492	463
24	536	489	464	792	478	614	1,690	5,310	2,760	839	478	447
25	534	479	488	760	479	639	1,670	5,210	2,530	822	474	442
26	529	463	507	726	479	727	1,640	5,030	2,380	794	472	430
27	536	474	542	702	492	833	1,610	4,800	2,290	781	468	418
28	548	477	580	693	528	901	1,610	4,490	2,210	757	466	413
29	551	480	634	673	---	948	1,640	4,090	2,140	728	455	404
30	549	453	684	666	---	1,000	1,750	3,670	2,080	703	448	401
31	560	---	718	642	---	1,070	---	3,320	---	684	455	---
Total	17,341	17,176	13,911	24,231	14,578	20,689	56,190	97,070	109,820	37,070	16,828	12,495
Mean	559	573	449	782	521	667	1,873	3,131	3,661	1,196	543	416
Max	669	723	718	998	639	1,070	2,330	5,450	6,040	2,010	674	463
Min	455	453	346	642	402	557	1,140	1,640	2,080	684	448	373
Ac-ft	34,400	34,070	27,590	48,060	28,920	41,040	111,500	192,500	217,800	73,530	33,380	24,780
Cfs/m	0.83	0.85	0.67	1.16	0.78	0.99	2.79	4.67	5.46	1.78	0.81	0.62
In.	0.96	0.95	0.77	1.34	0.81	1.15	3.12	5.38	6.09	2.06	0.93	0.69

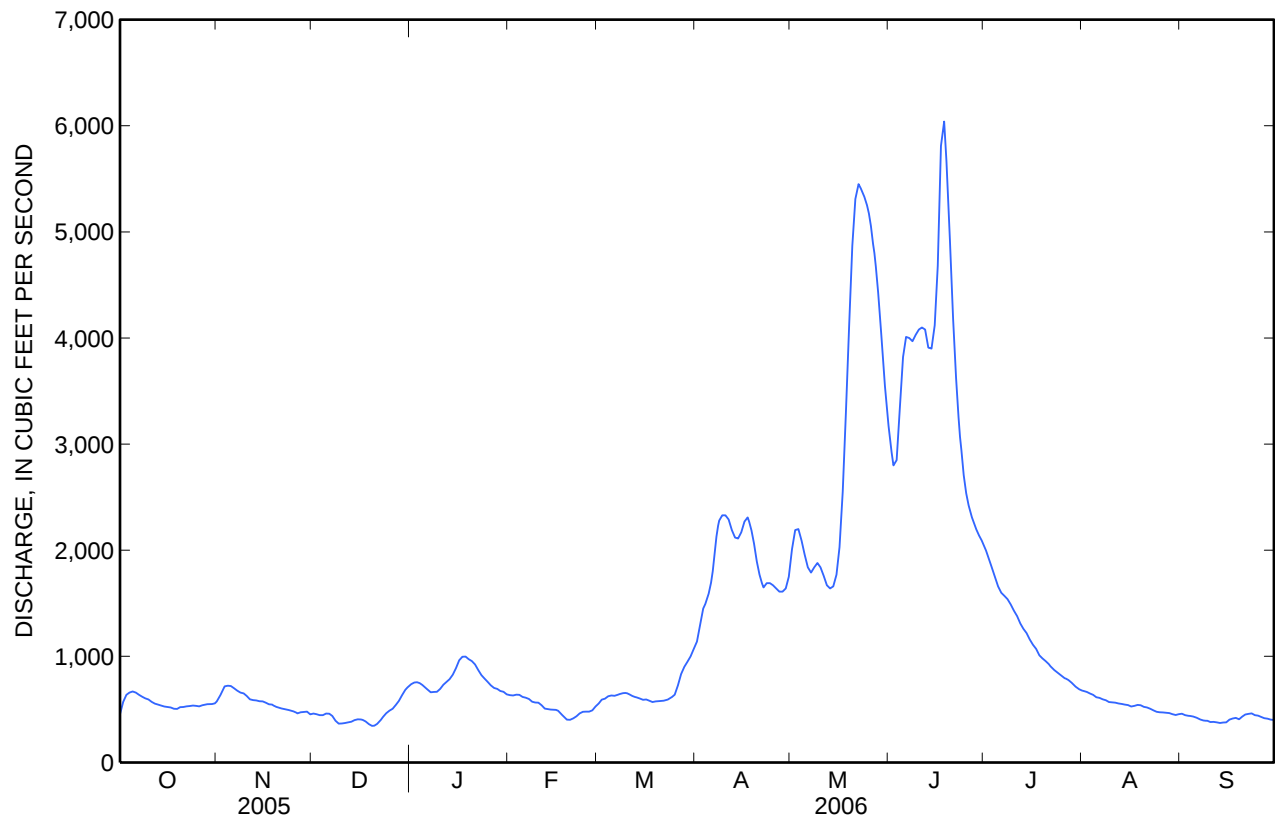
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	548	591	564	500	499	628	1,517	2,810	3,280	1,615	689	534
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 2005		Water Year 2006		Water Years 1922 - 2006	
Annual total	364,076		437,399			
Annual mean	997		1,198		1,149	
Highest annual mean					1,860	
Lowest annual mean					607	
Highest daily mean	4,700	Jun 6	6,040	Jun 18	8,800	Jun 21, 1974
Lowest daily mean	346	Dec 20	346	Dec 20	193	Jan 26, 1930
Annual seven-day minimum	361	Sep 24	375	Dec 16	195	Jan 26, 1930
Maximum peak flow			6,170	Jun 18	8,890	Jun 20, 1974
Maximum peak stage			6.06	Jun 18	7.34	Jun 20, 1974
Instantaneous low flow			^a 322	Dec 20	^b 193	Jan 26, 1930
Annual runoff (ac-ft)	722,100		867,600		832,400	
Annual runoff (cfsm)	1.49		1.79		1.71	
Annual runoff (inches)	20.18		24.25		23.27	
10 percent exceeds	2,230		2,820		2,820	
50 percent exceeds	637		637		631	
90 percent exceeds	404		426		363	

^a Gage height, 2.17 ft.^b Jan. 26-29, 1930; site and datum then in use.

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, 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, 875 acre-ft, June 30, elevation, 3,090.10 ft; minimum observed, 111 acre-ft, Aug. 31, elevation 3,068.90.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

Water-Data Report 2006

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, 1,801,000 acre-ft, July 1, elevation, 2,893.08 ft; minimum, 630,300 acre-ft, Apr. 1, elevation, 2,883.49 ft.

12371550 FLATHEAD LAKE AT POLSON, MT—Continued

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,892.61	2,892.05	2,890.19	2,887.88	2,886.70	2,885.18	2,883.75	2,887.89	2,890.69	2,892.89	2,892.68	2,892.81
2	2,892.72	2,892.03	2,890.07	2,887.89	2,886.74	2,885.15	2,883.83	2,888.11	2,890.71	2,892.89	2,892.64	2,892.79
3	2,892.86	2,891.98	2,889.97	2,887.86	2,886.73	2,885.08	2,883.86	2,888.28	2,890.77	2,892.84	2,892.65	2,892.78
4	2,892.84	2,891.92	2,889.84	2,887.82	2,886.67	2,885.01	2,883.92	2,888.34	2,890.93	2,892.78	2,892.63	2,892.77
5	2,892.79	2,891.89	2,889.76	2,887.82	2,886.61	2,884.91	2,884.02	2,888.31	2,891.09	2,892.76	2,892.65	2,892.76
6	2,892.74	2,891.83	2,889.68	2,887.80	2,886.62	2,884.82	2,884.12	2,888.27	2,891.28	2,892.79	2,892.64	2,892.76
7	2,892.65	2,891.88	2,889.55	2,887.76	2,886.58	2,884.72	2,884.32	2,888.24	2,891.44	2,892.78	2,892.62	2,892.76
8	2,892.66	2,891.84	2,889.44	2,887.73	2,886.51	2,884.63	2,884.49	2,888.27	2,891.61	2,892.79	2,892.63	2,892.76
9	2,892.65	2,891.84	2,889.34	2,887.72	2,886.46	2,884.49	2,884.71	2,888.39	2,891.76	2,892.78	2,892.63	2,892.73
10	2,892.62	2,891.81	2,889.25	2,887.70	2,886.38	2,884.55	2,884.94	2,888.47	2,891.92	2,892.75	2,892.68	2,892.70
11	2,892.59	2,891.74	2,889.15	2,887.68	2,886.29	2,884.55	2,885.16	2,888.51	2,891.98	2,892.76	2,892.67	2,892.72
12	2,892.58	2,891.68	2,889.05	2,887.73	2,886.20	2,884.45	2,885.39	2,888.48	2,892.05	2,892.78	2,892.69	2,892.72
13	2,892.55	2,891.64	2,888.96	2,887.76	2,886.10	2,884.33	2,885.58	2,888.53	2,892.08	2,892.75	2,892.72	2,892.66
14	2,892.58	2,891.62	2,888.88	2,887.78	2,886.05	2,884.29	2,885.80	2,888.55	2,892.10	2,892.75	2,892.72	2,892.70
15	2,892.58	2,891.56	2,888.77	2,887.76	2,886.01	2,884.22	2,885.98	2,888.55	2,892.17	2,892.74	2,892.72	2,892.74
16	2,892.51	2,891.52	2,888.69	2,887.81	2,886.01	2,884.18	2,886.20	2,888.56	2,892.40	2,892.72	2,892.74	2,892.73
17	2,892.48	2,891.47	2,888.58	2,887.84	2,885.88	2,884.12	2,886.39	2,888.64	2,892.63	2,892.70	2,892.76	2,892.70
18	2,892.49	2,891.38	2,888.46	2,887.86	2,885.80	2,884.09	2,886.55	2,888.82	2,892.75	2,892.66	2,892.77	2,892.70
19	2,892.47	2,891.30	2,888.36	2,887.82	2,885.75	2,884.13	2,886.72	2,889.08	2,892.74	2,892.68	2,892.79	2,892.72
20	2,892.42	2,891.20	2,888.26	2,887.74	2,885.70	2,883.99	2,886.86	2,889.36	2,892.71	2,892.69	2,892.81	2,892.73
21	2,892.42	2,891.10	2,888.18	2,887.70	2,885.64	2,883.95	2,886.99	2,889.65	2,892.69	2,892.70	2,892.81	2,892.72
22	2,892.40	2,891.01	2,888.12	2,887.61	2,885.59	2,883.90	2,887.14	2,889.90	2,892.66	2,892.71	2,892.81	2,892.76
23	2,892.38	2,890.91	2,888.06	2,887.53	2,885.52	2,883.87	2,887.29	2,890.12	2,892.62	2,892.72	2,892.80	2,892.73
24	2,892.35	2,890.82	2,888.06	2,887.49	2,885.51	2,883.84	2,887.32	2,890.37	2,892.61	2,892.74	2,892.80	2,892.70
25	2,892.32	2,890.72	2,888.01	2,887.41	2,885.47	2,883.82	2,887.35	2,890.53	2,892.67	2,892.75	2,892.85	2,892.68
26	2,892.30	2,890.59	2,887.98	2,887.29	2,885.37	2,883.74	2,887.40	2,890.66	2,892.73	2,892.74	2,892.81	2,892.65
27	2,892.28	2,890.52	2,887.93	2,887.21	2,885.30	2,883.80	2,887.45	2,890.80	2,892.78	2,892.73	2,892.81	2,892.65
28	2,892.24	2,890.46	2,887.94	2,887.09	2,885.19	2,883.79	2,887.53	2,890.79	2,892.81	2,892.74	2,892.82	2,892.60
29	2,892.17	2,890.36	2,887.91	2,887.04	---	2,883.77	2,887.61	2,890.72	2,892.84	2,892.75	2,892.81	2,892.57
30	2,892.12	2,890.30	2,887.91	2,886.89	---	2,883.78	2,887.69	2,890.73	2,892.87	2,892.70	2,892.75	2,892.53
31	2,892.06	---	2,887.91	2,886.85	---	2,883.78	---	2,890.71	---	2,892.67	2,892.77	---
Max	2,892.86	2,892.05	2,890.19	2,887.89	2,886.74	2,885.18	2,887.69	2,890.80	2,892.87	2,892.89	2,892.85	2,892.81
Min	2,892.06	2,890.30	2,887.91	2,886.85	2,885.19	2,883.74	2,883.75	2,887.89	2,890.69	2,892.66	2,892.62	2,892.53

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

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1,673	1,454	1,161	1,033	833	665	1,134	1,505	1,775	1,749	1,762	1,732

CHANGE IN CONTENTS, IN ACRE-FEET

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
-54,000	-219,000	-293,000	-128,000	-200,000	-168,000	+469,000	+371,000	+270,000	-26,000	+13,000	-30,000

Calendar Year 2005 -90,000

Water Year 2006 +5,000

12372000 FLATHEAD RIVER NEAR POLSON, MTPend 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 Michell'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.--99 years, 11,490 ft³/s, 21.99 in/yr, 8,325,000 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, 49,100 ft³/s, June 17, gage height, 15.50 ft; minimum daily, 4,210 ft³/s, Oct. 1.

12372000 FLATHEAD RIVER NEAR POLSON, MT—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,210	8,480	10,800	6,580	10,800	12,000	7,570	23,700	27,100	18,200	7,060	4,670
2	4,740	8,400	10,600	6,620	10,900	12,000	7,660	25,100	24,700	19,300	6,820	4,620
3	7,440	8,400	10,500	6,620	11,000	12,000	8,000	25,900	24,000	19,200	6,340	4,620
4	10,300	8,410	10,500	6,660	11,000	11,900	7,780	26,200	24,100	17,200	6,040	4,600
5	10,200	8,430	10,600	6,660	11,000	11,600	8,150	26,100	24,400	14,800	5,980	4,610
6	9,650	8,450	10,600	6,620	11,600	11,200	8,760	25,400	24,400	14,600	5,950	4,600
7	8,650	8,470	10,500	6,620	12,000	11,000	9,390	23,800	24,500	14,600	5,590	4,600
8	8,190	8,470	10,500	6,620	12,700	10,500	9,960	21,500	26,500	14,400	4,890	4,580
9	8,190	8,500	10,500	6,640	13,000	9,750	10,700	20,800	30,300	14,200	4,530	4,520
10	8,290	8,510	10,500	6,680	13,100	9,480	11,200	20,800	31,000	13,500	4,530	4,480
11	8,230	8,510	10,500	6,710	13,100	9,590	10,800	21,400	31,000	12,900	4,550	4,510
12	8,230	8,490	10,400	6,680	13,100	9,640	9,860	22,200	29,900	12,900	4,560	4,530
13	8,310	8,490	10,500	6,690	13,100	9,570	11,800	22,400	29,000	13,100	4,580	4,530
14	8,270	8,530	10,600	6,710	13,000	9,370	13,700	23,200	28,800	13,100	4,590	4,530
15	8,280	8,510	10,500	6,730	13,000	9,130	14,400	24,900	28,400	13,000	4,560	4,600
16	8,280	8,520	10,400	7,290	13,000	8,760	14,600	26,500	33,200	13,100	4,530	4,650
17	8,330	9,160	10,600	8,410	12,700	8,570	14,700	27,300	43,000	12,700	4,610	4,660
18	8,280	10,100	10,600	9,370	12,700	8,560	14,800	28,400	48,100	11,100	4,650	4,660
19	8,370	10,500	10,700	10,400	12,800	8,600	14,900	29,700	46,700	10,300	4,610	4,660
20	8,460	10,500	10,700	10,900	13,000	8,500	14,900	30,900	41,200	10,400	4,630	4,980
21	8,500	10,600	9,880	10,900	13,000	8,130	15,900	32,200	37,300	9,450	4,630	5,500
22	8,470	10,500	8,060	10,900	13,100	7,970	18,300	32,900	33,600	9,410	4,620	6,100
23	8,500	10,500	7,520	10,900	13,000	7,830	20,400	32,700	28,400	9,060	4,590	6,110
24	8,490	10,400	7,530	11,000	13,000	7,680	21,300	34,100	23,300	9,050	4,590	6,130
25	8,410	10,500	7,520	11,000	13,000	7,610	21,600	35,400	20,200	9,120	4,590	6,120
26	8,410	10,500	7,520	10,900	13,000	7,430	21,700	36,200	19,800	8,620	4,610	6,110
27	8,390	10,500	7,510	10,900	12,600	7,700	21,900	36,900	18,000	7,620	4,610	6,150
28	8,400	10,600	7,200	10,900	12,000	7,540	22,300	35,200	17,100	7,100	4,610	6,220
29	8,450	10,700	6,610	10,900	---	7,420	22,600	32,000	17,400	7,080	4,610	6,240
30	8,440	10,600	6,610	10,900	---	7,480	22,900	30,600	17,900	7,080	5,000	6,290
31	8,530	---	6,580	10,900	---	7,580	---	29,500	---	7,040	4,930	---
Total	255,890	281,230	293,640	266,310	349,300	286,090	432,530	863,900	853,300	373,230	154,990	153,180
Mean	8,255	9,374	9,472	8,591	12,480	9,229	14,420	27,870	28,440	12,040	5,000	5,106
Max	10,300	10,700	10,800	11,000	13,100	12,000	22,900	36,900	48,100	19,300	7,060	6,290
Min	4,210	8,400	6,580	6,580	10,800	7,420	7,570	20,800	17,100	7,040	4,530	4,480
Ac-ft	507,600	557,800	582,400	528,200	692,800	567,500	857,900	1,714,000	1,693,000	740,300	307,400	303,800
Cfsm	1.16	1.32	1.33	1.21	1.76	1.30	2.03	3.93	4.01	1.70	0.70	0.72
In.	1.34	1.47	1.54	1.40	1.83	1.50	2.27	4.53	4.47	1.96	0.81	0.80

CHANGE IN CONTENTS IN ACRE-FEET, IN HUNGRY HORSE RESERVOIR AND FLATHEAD LAKE

Ac-ft	-28,000	-193,000	-321,000	-72,000	-452,000	-228,000	+265,000	+951,000	+558,000	-159,000	-120,000	-143,000
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ADJUSTED FOR CHANGE IN CONTENTS IN HUNGRY HORSE RESERVOIR AND FLATHEAD LAKE

Mean	7,800	6,131	4,251	7,419	4,336	5,521	18,870	43,340	38,330	9,454	3,048	2,702
Ac-ft	479,600	364,800	261,400	456,200	240,800	339,500	1,123,000	2,665,000	2,281,000	581,300	187,400	160,800
Cfsm	1.10	0.86	0.60	1.05	0.61	0.78	2.66	6.11	5.40	1.33	0.43	0.38
In	1.27	0.96	0.69	1.21	0.64	0.90	2.97	7.04	6.03	1.54	0.50	0.42

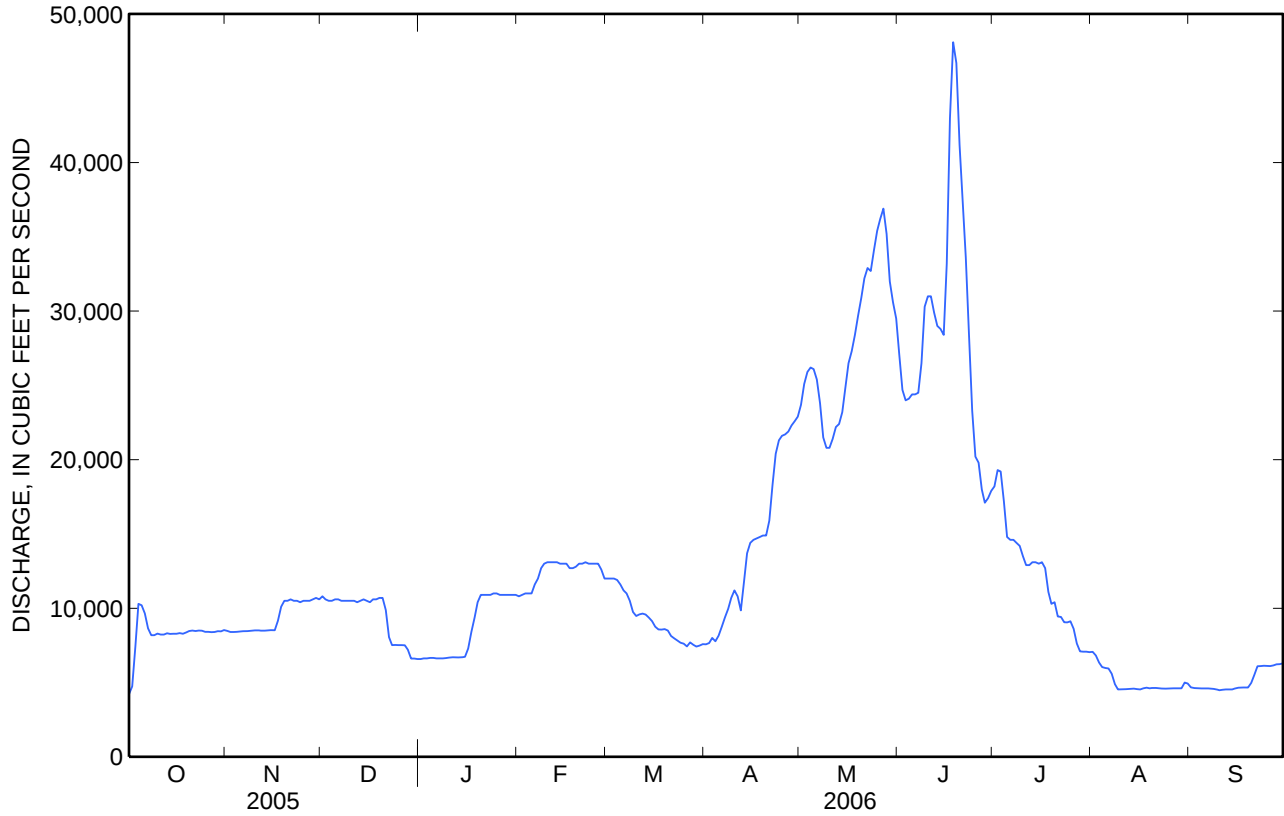
12372000 FLATHEAD RIVER NEAR POLSON, MT—Continued

OBSERVED									
Calendar Year 2005	Total	3,858,570	Mean	10,570	Max	47,500	Min	3,530	Ac-ft ^a 7,653,000
Water Year 2006	Total	4,563,590	Mean	12,500	Max	48,100	Min	4,210	Ac-ft ^b 9,052,000

ADJUSTED									
Calendar Year 2005	Total	3,774,338	Mean	10,340	Cfsm	1.46	In	19.78	Ac-ft 7,485,000
Water Year 2006	Total	4,608,419	Mean	12,630	Cfsm	1.78	In	24.15	Ac-ft 9,140,000

^aChange in contents in Hungry Horse Reservoir and Flathead Lake was -168,000 ac-ft.

^bChange in contents in Hungry Horse Reservoir and Flathead Lake was +88,000 ac-ft.



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, 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, 8,020 acre-ft, May 31 and June 30, elevation, 3,901.23 ft; minimum observed, 3,200 acre-ft, Nov. 30, and Dec. 31, elevation, 3,899.46 ft.

CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Little	Hubbert	Upper Dry	Dry Fork	Total of 4
	Bitterroot (12372500)	(12373500)	Fork (12375000)	(12375500)	
October 31	3,500	943	567	636	5,650
November 30	3,200	1,180	606	636	5,620
December 31	3,200	1,180	606	636	5,620
January 31	3,400	1,500	706	717	6,320
February 28	4,200	1,680	740	765	7,380
March 31	4,800	2,110	811	880	8,600
April 30	7,750	7,260	1,370	3,310	19,690
May 31	8,020	9,560	2,220	3,540	23,340
June 30	8,020	10,460	2,720	3,860	25,060
July 31	7,900	8,070	2,270	2,070	20,310
August 31	7,000	4,840	1,780	1,590	15,210
September 30	6,100	3,760	1,810	803	12,470

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, 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, 10,460 acre-ft, June 30, elevation, 3,215.21 ft; minimum, 943 acre-ft, Oct. 31, elevation, 3176.40.

CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Little	Hubbert	Upper Dry	Dry Fork	Total of 4
	Bitterroot (12372500)	(12373500)	Fork (12375000)	(12375500)	
October 31	3,500	943	567	636	5,650
November 30	3,200	1,180	606	636	5,620
December 31	3,200	1,180	606	636	5,620
January 31	3,400	1,500	706	717	6,320
February 28	4,200	1,680	740	765	7,380
March 31	4,800	2,110	811	880	8,600
April 30	7,750	7,260	1,370	3,310	19,690
May 31	8,020	9,560	2,220	3,540	23,340
June 30	8,020	10,460	2,720	3,860	25,060
July 31	7,900	8,070	2,270	2,070	20,310
August 31	7,000	4,840	1,780	1,590	15,210
September 30	6,100	3,760	1,810	803	12,470

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.7	2.8	e1.9	e2.5	2.3	e1.7	5.1	41	18	7.1	2.9	2.0
2	2.7	3.3	e1.8	e2.3	2.3	e1.8	6.1	38	17	6.6	2.8	2.0
3	2.7	2.2	e1.6	e2.3	2.3	e1.9	6.1	33	16	6.4	2.8	1.9
4	2.7	2.1	e1.8	2.6	2.2	e2.0	6.8	28	16	6.2	2.7	1.8
5	2.5	2.0	e2.0	2.4	2.2	e2.1	8.1	25	16	5.9	2.6	1.8
6	2.0	2.2	1.8	2.3	2.1	e2.3	22	23	15	6.2	2.6	1.7
7	1.9	2.1	2.1	2.4	2.0	2.6	32	22	15	6.4	2.5	1.8
8	1.9	2.0	e1.7	2.4	2.0	2.6	25	23	15	e6.0	2.5	1.7
9	1.8	1.9	e1.9	2.2	2.0	2.5	23	22	14	e5.5	2.6	1.7
10	1.8	1.9	e2.0	2.6	1.8	2.4	22	21	15	e5.5	2.6	1.8
11	1.8	2.0	e2.1	e2.6	e1.8	2.3	21	20	14	e5.0	2.8	1.7
12	1.7	2.2	e2.3	e2.5	e1.7	2.2	20	19	13	e4.5	2.7	1.7
13	1.8	2.0	e2.4	2.6	e1.6	2.5	23	18	12	e3.5	2.6	1.6
14	1.8	2.1	e2.4	e2.8	e1.5	2.4	25	18	12	e3.0	2.5	1.8
15	1.8	1.9	e2.3	e3.0	e1.5	2.3	29	19	12	e3.0	2.4	2.3
16	1.7	1.9	e2.1	3.1	e1.6	2.1	28	21	12	e3.0	2.4	3.6
17	1.6	1.9	e2.0	2.8	e1.5	2.2	25	28	12	e3.0	2.9	2.7
18	1.6	1.9	e1.9	2.6	e1.5	2.2	21	35	11	e3.0	2.8	2.2
19	1.7	2.2	e1.7	2.5	e1.4	2.2	19	38	11	e2.5	2.6	2.5
20	1.8	1.9	e1.7	2.4	e1.4	2.1	17	41	10	e2.5	2.3	2.9
21	1.7	1.8	e2.0	2.3	e1.4	2.2	17	39	9.9	e3.0	2.1	2.7
22	1.7	1.9	e2.2	2.2	e1.3	2.2	22	36	9.6	e3.0	2.0	2.7
23	1.7	1.8	e2.4	2.2	e1.4	2.4	25	32	9.2	e3.0	1.9	2.4
24	1.7	1.8	e2.5	2.2	e1.7	2.6	24	29	8.9	e3.0	2.0	2.2
25	1.7	1.8	e2.5	2.1	e1.8	3.1	24	27	8.5	e3.0	2.1	2.1
26	1.7	1.9	e2.4	2.1	e1.7	3.9	23	27	8.2	e3.0	2.1	2.0
27	1.8	1.9	e2.4	2.1	e1.6	3.5	22	25	7.9	e3.0	2.0	2.0
28	1.8	e1.6	e2.5	2.1	e1.6	3.3	24	28	7.6	e3.0	1.9	2.0
29	1.8	e1.8	e2.5	2.1	---	3.5	28	24	7.4	2.9	1.8	1.9
30	1.7	e2.0	e2.3	2.2	---	3.9	36	21	7.5	2.9	1.9	1.9
31	1.8	---	e2.5	2.6	---	4.2	---	19	---	3.0	2.0	---
Total	59.1	60.8	65.7	75.1	49.2	79.2	629.2	840	360.7	127.6	74.4	63.1
Mean	1.91	2.03	2.12	2.42	1.76	2.55	21.0	27.1	12.0	4.12	2.40	2.10
Max	2.7	3.3	2.5	3.1	2.3	4.2	36	41	18	7.1	2.9	3.6
Min	1.6	1.6	1.6	2.1	1.3	1.7	5.1	18	7.4	2.5	1.8	1.6
Ac-ft	117	121	130	149	98	157	1,250	1,670	715	253	148	125
Cfs/m	0.10	0.10	0.11	0.12	0.09	0.13	1.07	1.38	0.61	0.21	0.12	0.11
In.	0.11	0.12	0.12	0.14	0.09	0.15	1.19	1.59	0.68	0.24	0.14	0.12

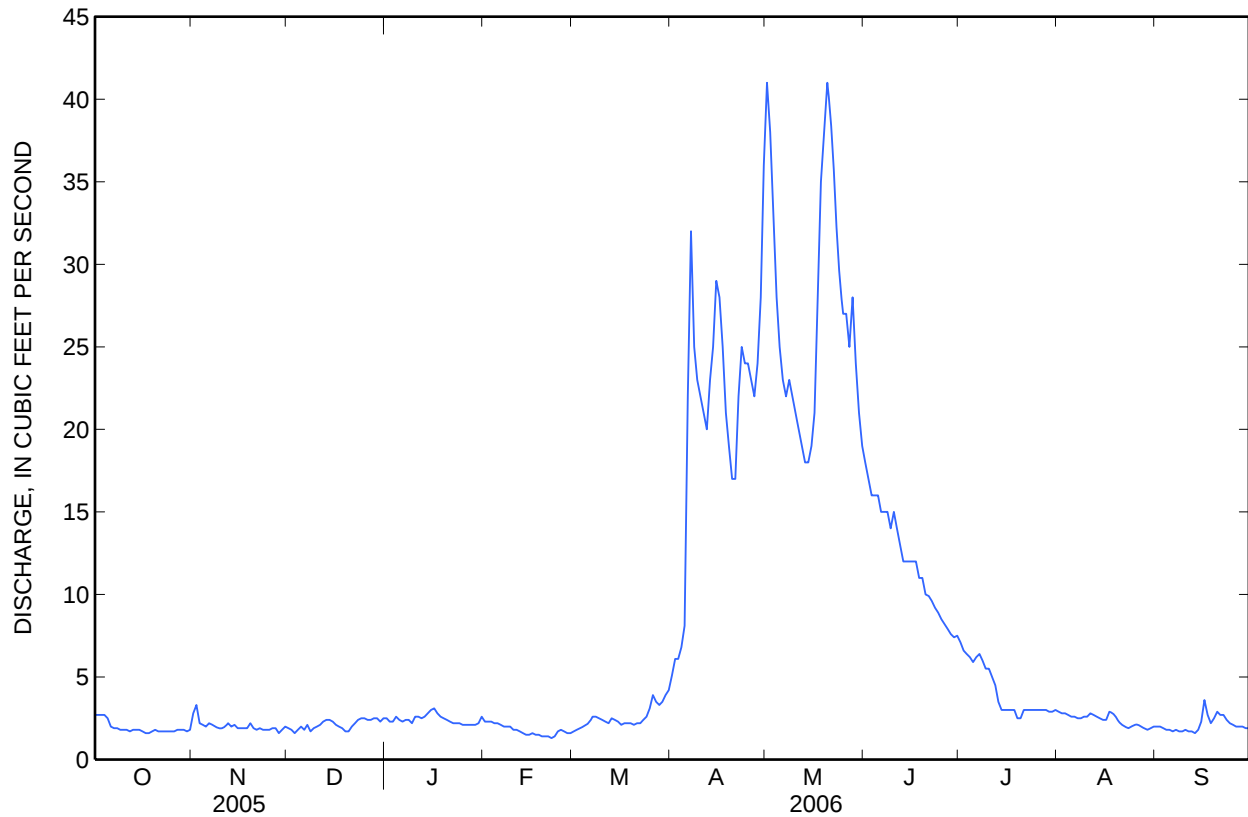
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.53	3.29	3.42	3.18	3.64	6.82	19.0	24.1	14.7	5.47	2.98	2.43
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	2.50	1.88	1.53
(WY)	(2004)	(2005)	(2006)	(1985)	(1994)	(1985)	(2005)	(2005)	(1987)	(1994)	(2001)	(2001)

12374250 MILL CREEK ABOVE BASSOO CREEK, NEAR NIARADA, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1983 - 2006	
Annual total	1,308.9		2,484.1			
Annual mean	3.59		6.81		7.64	
Highest annual mean					18.8	1997
Lowest annual mean					3.63	2005
Highest daily mean	11	May 17	41	May 1	155	Apr 28, 1997
Lowest daily mean	1.6	Oct 17	1.3	Feb 22	1.0	Jan 5, 2004
Annual seven-day minimum	1.7	Oct 16	1.4	Feb 17	1.3	Sep 21, 2001
Maximum peak flow			^a 42	May 1 ^b	^d 173	Apr 28, 1997
Maximum peak stage			^c 2.50	Feb 22	^e 6.83	May 20, 1991
Instantaneous low flow					^f 0.85	Jan 6, 1988
Annual runoff (ac-ft)	2,600		4,930		5,540	
Annual runoff (cfs)	0.183		0.347		0.390	
Annual runoff (inches)	2.48		4.71		5.30	
10 percent exceeds	8.0		22		19	
50 percent exceeds	2.5		2.4		3.2	
90 percent exceeds	1.8		1.7		2.0	

^a Gage height, 2.14 ft.^b Also occurred May 20.^c Backwater from ice.^d Gage height, 2.60 ft.^e Site and datum then in use.^f Gage height, 5.00 ft, site and datum then in use.

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, 2,720 acre-ft, June 30, elevation, 2,928.20 ft; minimum, 567 acre-ft, Oct. 31, elevation, 2,916.80 ft.

CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Little		Upper Dry		Total of 4
	Bitterroot (12372500)	Hubbert (12373500)	Fork (12375000)	Dry Fork (12375500)	
October 31	3,500	943	567	636	5,650
November 30	3,200	1,180	606	636	5,620
December 31	3,200	1,180	606	636	5,620
January 31	3,400	1,500	706	717	6,320
February 28	4,200	1,680	740	765	7,380
March 31	4,800	2,110	811	880	8,600
April 30	7,750	7,260	1,370	3,310	19,690
May 31	8,020	9,560	2,220	3,540	23,340
June 30	8,020	10,460	2,720	3,860	25,060
July 31	7,900	8,070	2,270	2,070	20,310
August 31	7,000	4,840	1,780	1,590	15,210
September 30	6,100	3,760	1,810	803	12,470

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, 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 Water Supply Paper (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 WSP 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, 3,860 acre-ft, June 30, elevation, 2,856.30 ft; minimum observed, 636 acre-ft, Oct. 31, Nov. 30, and Dec. 31, elevation, 2,842.00 ft.

CAMAS RESERVOIRS MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Little	Hubbert	Upper Dry	Dry Fork	Total of 4
	Bitterroot (12372500)	(12373500)	Fork (12375000)	(12375500)	
October 31	3,500	943	567	636	5,650
November 30	3,200	1,180	606	636	5,620
December 31	3,200	1,180	606	636	5,620
January 31	3,400	1,500	706	717	6,320
February 28	4,200	1,680	740	765	7,380
March 31	4,800	2,110	811	880	8,600
April 30	7,750	7,260	1,370	3,310	19,690
May 31	8,020	9,560	2,220	3,540	23,340
June 30	8,020	10,460	2,720	3,860	25,060
July 31	7,900	8,070	2,270	2,070	20,310
August 31	7,000	4,840	1,780	1,590	15,210
September 30	6,100	3,760	1,810	803	12,470

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	16	15	10	13	e7.5	7.4	8.2	28	60	54	13	8.6
2	18	16	10	13	e7.5	7.4	8.8	25	65	52	12	8.4
3	16	14	9.9	e12	e7.5	7.4	8.9	25	102	49	12	8.4
4	15	13	9.8	e11	e8.0	7.4	9.4	22	107	46	12	8.2
5	14	12	9.6	e11	e8.5	7.4	11	21	108	43	12	8.2
6	13	12	e8.5	e10	e8.5	7.2	16	23	98	45	11	8.2
7	13	12	e8.0	e11	e8.0	7.6	17	25	89	50	11	7.9
8	14	12	e8.0	e11	e8.0	7.2	15	23	96	45	11	7.4
9	13	11	e7.5	e11	e8.0	7.2	14	21	99	40	11	7.8
10	12	11	e8.0	e11	e7.5	7.0	13	19	98	36	11	7.8
11	12	11	9.3	e11	e7.0	6.9	12	19	88	32	11	7.8
12	12	11	9.0	e10	e6.5	6.9	12	21	82	30	11	7.8
13	12	11	9.1	e10	e7.0	6.7	13	23	87	27	11	7.6
14	12	11	9.0	e11	e7.0	6.7	13	26	113	25	10	7.8
15	12	11	9.0	e11	e7.5	6.7	16	32	115	24	10	8.1
16	11	11	8.8	e11	e7.0	6.7	15	35	179	22	10	9.6
17	11	11	8.7	e10	e6.5	6.7	14	e35	165	21	10	9.5
18	11	11	e8.0	e10	e5.0	6.7	12	e45	147	20	10	9.3
19	11	10	e7.5	e10	e6.0	6.7	12	e68	136	19	9.9	9.2
20	11	10	8.5	e10	e7.0	6.6	12	e77	123	18	9.5	9.5
21	12	9.9	8.7	e9.5	e8.0	6.5	13	e79	100	18	9.3	9.7
22	12	9.9	9.6	e10	e8.0	6.5	19	123	82	17	9.2	9.5
23	12	9.9	11	e10	e6.5	6.5	17	110	71	16	9.0	9.3
24	12	9.9	11	e10	6.7	6.5	15	104	66	16	9.0	8.9
25	12	9.8	11	e11	6.6	6.8	14	92	63	15	8.8	8.7
26	12	9.9	12	e9.5	6.6	7.4	14	91	64	15	8.7	8.5
27	12	10	12	e9.5	6.7	7.4	14	78	68	15	8.7	8.4
28	12	10	12	e9.5	7.0	7.4	15	74	66	14	8.7	8.2
29	12	9.9	15	e9.5	---	7.5	21	76	63	14	8.6	8.2
30	12	10	14	e9.0	---	7.7	34	69	57	13	8.9	8.2
31	12	---	13	e9.0	---	7.8	---	61	---	13	8.9	---
Total	391	335.2	305.5	324.5	201.6	218.5	428.3	1,570	2,857	864	316.2	254.7
Mean	12.6	11.2	9.85	10.5	7.20	7.05	14.3	50.6	95.2	27.9	10.2	8.49
Max	18	16	15	13	8.5	7.8	34	123	179	54	13	9.7
Min	11	9.8	7.5	9.0	5.0	6.5	8.2	19	57	13	8.6	7.4
Ac-ft	776	665	606	644	400	433	850	3,110	5,670	1,710	627	505
Cfs/m	1.67	1.48	1.30	1.38	0.95	0.93	1.89	6.69	12.6	3.68	1.35	1.12
In.	1.92	1.65	1.50	1.59	0.99	1.07	2.10	7.72	14.04	4.25	1.55	1.25

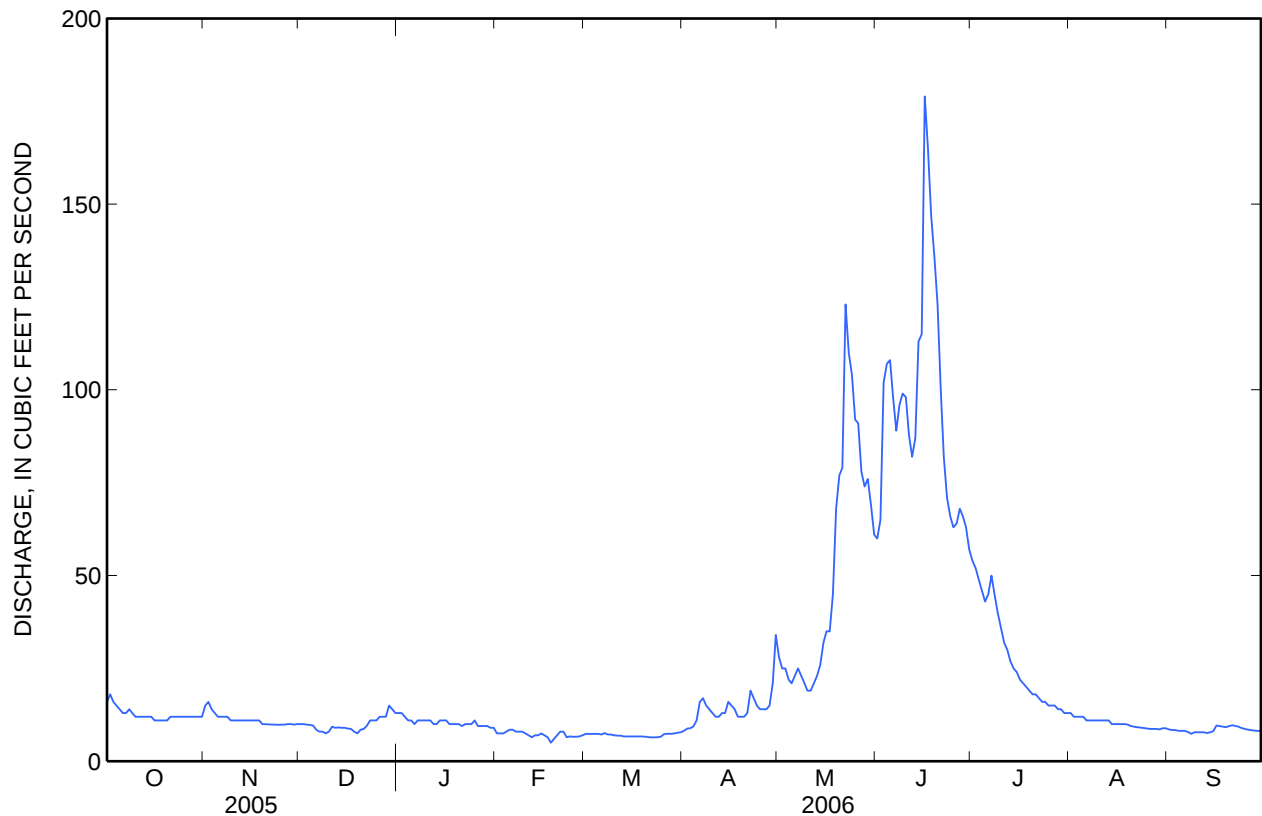
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9.33	9.47	7.89	7.34	6.76	7.77	16.0	44.9	70.7	35.3	13.4	9.81
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 2005		Water Year 2006		Water Years 1982 - 2006	
Annual total	8,463.9		8,066.5			
Annual mean	23.2		22.1		19.9	
Highest annual mean					27.2	
Lowest annual mean					13.7	
Highest daily mean	357	Jun 3	179	Jun 16	357	Jun 3, 2005
Lowest daily mean	5.5	Jan 6	5.0	Feb 18	3.0	Feb 24, 2003
Annual seven-day minimum	6.4	Jan 9	6.6	Mar 18	4.1	Feb 23, 2003
Maximum peak flow			^a 220	Jun 16	608	Jun 3, 2005
Maximum peak stage			^b 3.42	Dec 10	4.96	Jun 3, 2005
Instantaneous low flow					^c 2.0	Oct 30, 2002
Annual runoff (ac-ft)	16,790		16,000		14,420	
Annual runoff (cfsm)	3.06		2.92		2.63	
Annual runoff (inches)	41.59		39.64		35.73	
10 percent exceeds	55		65		53	
50 percent exceeds	12		11		9.7	
90 percent exceeds	7.5		7.4		6.1	

^a Gage height, 3.30 ft.^b Backwater from ice.^c Result of freezeup.

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, 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, 6,760 acre-ft, Dec. 31, elevation, 2,864.70 ft; minimum observed, 1,690 acre-ft, Aug. 31, elevation 2,835.90 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	42	33	16	18	11	11	11	60	102	131	41	21
2	50	31	16	17	11	10	12	47	135	125	39	19
3	39	28	16	16	11	9.9	12	41	365	119	37	19
4	35	26	e15	15	11	9.7	13	36	256	113	37	18
5	30	24	16	15	12	9.4	16	35	225	112	36	18
6	27	24	e14	15	11	9.5	24	41	199	116	35	19
7	26	23	e13	15	11	9.5	27	47	213	145	35	19
8	27	24	e13	16	11	9.3	25	46	257	118	35	19
9	26	22	e12	15	11	8.9	23	42	268	98	37	19
10	24	22	e13	15	10	8.7	21	38	280	91	37	19
11	23	21	e15	15	9.7	8.4	20	37	236	86	37	18
12	23	21	e16	14	9.9	8.0	19	41	200	82	34	17
13	23	20	e15	14	10	8.0	19	47	286	78	31	17
14	24	20	e15	15	11	8.1	19	57	295	75	29	17
15	26	19	e15	18	e9.5	8.3	21	83	272	72	29	18
16	29	19	e14	16	e8.0	8.4	23	137	299	71	28	19
17	30	19	e14	16	e7.0	8.4	22	221	236	68	30	17
18	30	18	e13	16	e6.0	8.5	21	259	179	64	30	16
19	31	17	e12	15	e7.0	8.5	19	285	151	61	28	16
20	32	17	e14	14	e8.5	8.4	18	283	132	57	26	17
21	33	17	e15	13	e9.0	8.2	18	289	125	55	26	19
22	31	16	17	13	9.7	8.4	22	244	120	56	25	19
23	30	16	16	13	9.8	8.2	26	265	124	58	25	18
24	29	16	16	13	9.4	8.2	26	246	128	57	25	16
25	28	16	16	12	8.9	8.7	25	211	136	57	24	15
26	27	16	17	12	8.9	9.8	24	198	152	54	23	15
27	30	17	17	12	9.1	9.9	24	163	163	51	22	15
28	29	e17	18	11	10	9.9	25	134	160	49	22	15
29	29	e15	21	11	---	10	33	122	157	48	22	15
30	27	17	19	12	---	11	61	105	136	47	22	16
31	27	---	19	11	---	11	---	98	---	44	22	---
Total	917	611	478	443	271.4	282.2	669	3,958	5,987	2,458	929	525
Mean	29.6	20.4	15.4	14.3	9.69	9.10	22.3	128	200	79.3	30.0	17.5
Max	50	33	21	18	12	11	61	289	365	145	41	21
Min	23	15	12	11	6.0	8.0	11	35	102	44	22	15
Ac-ft	1,820	1,210	948	879	538	560	1,330	7,850	11,880	4,880	1,840	1,040
Cfs/m	2.39	1.64	1.24	1.15	0.78	0.73	1.80	10.3	16.1	6.39	2.42	1.41
In.	2.75	1.83	1.43	1.33	0.81	0.85	2.01	11.87	17.96	7.37	2.79	1.57

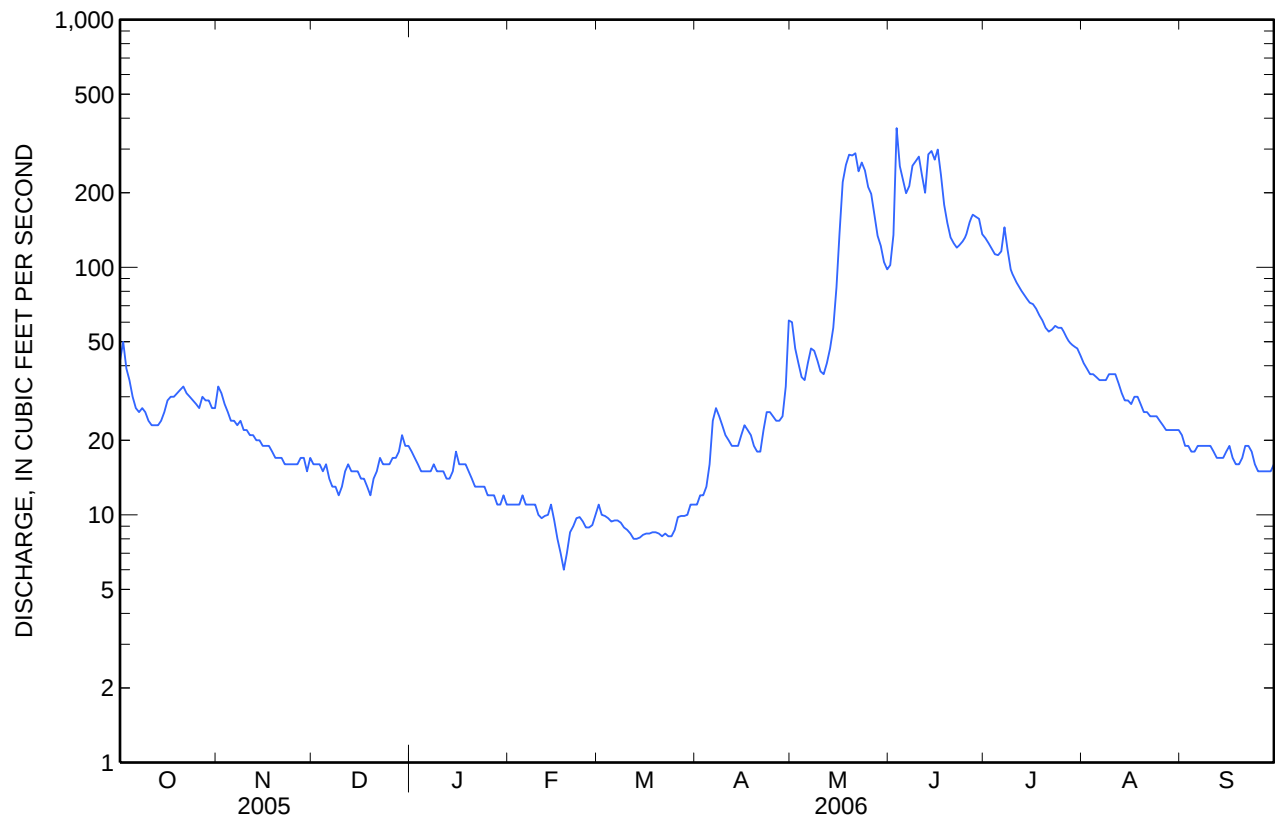
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	25.5	19.2	13.2	10.8	9.16	10.5	25.4	102	175	112	48.2	30.0
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	14.1	11.7	9.58	8.20	6.71	7.23	10.6	54.0	104	53.4	25.2	15.8
(WY)	(2002)	(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 2005		Water Year 2006		Water Years 1982 - 2006	
Annual total	18,354		17,528.6			
Annual mean	50.3		48.0		48.6	
Highest annual mean					61.0	
Lowest annual mean					35.6	
Highest daily mean	477	Jun 3	365	Jun 3	477	Jun 3, 2005
Lowest daily mean	11	Jan 6	6.0	Feb 18	5.5	Feb 28, 2001
Annual seven-day minimum	11	Feb 17	7.9	Feb 15	6.3	Feb 15, 1985
Maximum peak flow			431	Jun 3	^a 892	Jun 30, 1991
Maximum peak stage			3.99	Jun 3	^b 5.16	Jun 30, 1991
Instantaneous low flow					4.4	Dec 28, 2001
Annual runoff (ac-ft)	36,410		34,770		35,180	
Annual runoff (cfs)	4.06		3.87		3.92	
Annual runoff (inches)	55.06		52.59		53.22	
10 percent exceeds	133		135		136	
50 percent exceeds	23		21		22	
90 percent exceeds	12		9.8		9.0	

^a Gage height, 4.72 ft.^b Backwater from debris dam.

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, 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, 8,190 acre-ft, June 30, elevation, 3,409.17 ft; minimum observed, 876 acre-ft, Sept. 30, elevation, 3,378.00 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

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, 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, and December 2005 through February 2006.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 22,880 acre-ft, June 30, elevation, 4,023.50 ft; no contents December through February (under Bureau of Reclamation restriction).

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

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, 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, 25,180 acre-ft, June 30, elevation, 3,209.36 ft; minimum contents, 1,920 acre-ft, Aug. 31, elevation, 3,189.18 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

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, 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 7,2000 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, 8,240 acre-ft, June 30, elevation, 3,598.10 ft; minimum observed, 430 acre-ft, Sept. 30, elevation, 3,549.40 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

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, 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 is 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, 9,360 acre-ft, June 30, elevation, 3,063.20 ft; minimum observed, 890 acre-ft, Aug. 31, elevation, 3,047.60 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

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 NW ¼ sec.34, T.20 N., R.20 W., Lake County, 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, 15,420 acre-ft, June 30, elevation, 3,010.36 ft; minimum observed, 944 acre-ft, Sept. 30, elevation, 2,995.40 ft.

MISSION VALLEY RESERVOIRS, MONTHEND CONTENTS, IN ACRE-FEET WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

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	511	5,340	1,560	3,130	11,630	1,480	1,900	1,460	27,010
November 30	511	6,400	1,600	1,250	11,520	1,420	3,430	1,530	27,660
December 31	511	6,760	1,270	0	11,520	1,075	5,160	1,930	38,230
January 31	524	4,680	1,220	0	11,990	886	5,380	2,180	26,860
February 28	519	3,910	1,150	0	11,630	820	5,450	2,200	25,680
March 31	304	2,140	1,080	183	12,130	756	4,650	2,930	24,170
April 30	465	3,140	1,760	2,020	12,270	1,670	2,020	6,800	30,140
May 31	866	3,620	3,310	16,120	14,110	4,570	6,380	7,310	56,290
June 30	875	4,880	8,190	22,880	25,180	8,240	9,360	15,420	95,030
July 31	500	2,970	7,340	17,000	8,590	5,850	4,650	8,670	55,570
August 31	111	1,690	2,680	5,610	1,920	617	890	1,230	14,750
September 30	506	2,830	876	2,710	7,060	430	1,330	944	16,690

12380000 UPPER JOCKO LAKE NEAR ARLEE, MTPend 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, 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, 1,770 acre-ft, Apr. 30, elevation, 4,422.80 ft; no storage most of year.

**UPPER AND LOWER JOCKO RESERVOIRS,
MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

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	1,770	1,060
May 31	1,690	4,860
June 30	1,530	4,300
July 31	0	3,270
August 31	0	240
September 30	0	0

12380500 LOWER JOCKO LAKE NEAR ARLEE, MTPend 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, 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, 4,860 acre-ft, June 30, elevation, 4,326.20 ft; no storage most of year.

**UPPER AND LOWER JOCKO RESERVOIRS,
MONTHEND CONTENTS, IN ACRE-FEET
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

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	1,770	1,060
May 31	1,690	4,860
June 30	1,530	4,300
July 31	0	3,270
August 31	0	240
September 30	0	0

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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.—56.0 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	26	31	e16	18	16	e15	26	191	260	141	62	41
2	26	28	e17	18	16	e15	27	176	260	136	61	40
3	25	23	e18	17	16	e14	27	162	312	133	60	38
4	26	22	e16	17	16	20	30	151	287	128	59	37
5	25	20	e16	17	16	20	40	151	271	125	57	37
6	23	20	e17	17	15	20	71	161	257	123	56	36
7	23	20	e14	17	14	21	72	172	250	123	55	36
8	22	20	e13	17	e15	20	68	171	258	114	54	35
9	22	20	e10	16	e12	20	67	163	251	110	55	35
10	22	19	e12	18	8.5	19	65	156	288	107	54	34
11	21	19	e13	20	9.3	19	63	157	264	104	52	34
12	21	19	e13	18	e10	19	60	164	250	101	53	34
13	21	18	e15	18	e10	e14	79	177	238	98	52	33
14	22	19	e17	19	e9.5	e15	93	192	231	95	51	35
15	21	18	e16	20	e9.0	22	113	232	245	92	50	37
16	20	19	e16	19	e8.5	20	109	297	287	89	50	42
17	20	18	e14	19	e8.0	20	99	375	274	87	54	39
18	19	17	e12	19	e7.0	19	88	431	253	84	53	35
19	20	17	e10	e18	e9.0	19	82	459	241	82	50	33
20	21	17	e11	e18	e10	19	80	496	226	80	48	34
21	22	18	e12	18	e11	19	89	453	213	78	46	38
22	20	e17	e17	17	e12	19	111	420	203	76	45	35
23	20	e17	e18	17	e13	19	119	411	191	74	44	31
24	19	e18	e18	17	e13	19	118	378	184	73	43	28
25	19	e18	e17	16	e11	20	116	354	175	71	44	26
26	19	e17	e16	17	e11	23	115	336	168	70	45	25
27	20	e18	e17	17	e14	21	125	316	162	68	43	23
28	20	e18	18	16	e16	22	142	301	157	66	42	22
29	20	e16	21	16	---	23	170	294	151	65	41	21
30	20	e17	18	16	---	24	204	291	147	64	40	20
31	21	---	18	16	---	24	---	270	---	63	40	---
Total	666	578	476	543	335.8	603	2,668	8,458	6,954	2,920	1,559	994
Mean	21.5	19.3	15.4	17.5	12.0	19.5	88.9	273	232	94.2	50.3	33.1
Max	26	31	21	20	16	24	204	496	312	141	62	42
Min	19	16	10	16	7.0	14	26	151	147	63	40	20
Ac-ft	1,320	1,150	944	1,080	666	1,200	5,290	16,780	13,790	5,790	3,090	1,970
Cfs/m	0.38	0.34	0.27	0.31	0.21	0.35	1.59	4.87	4.14	1.68	0.90	0.59
In.	0.44	0.38	0.32	0.36	0.22	0.40	1.77	5.62	4.62	1.94	1.04	0.66

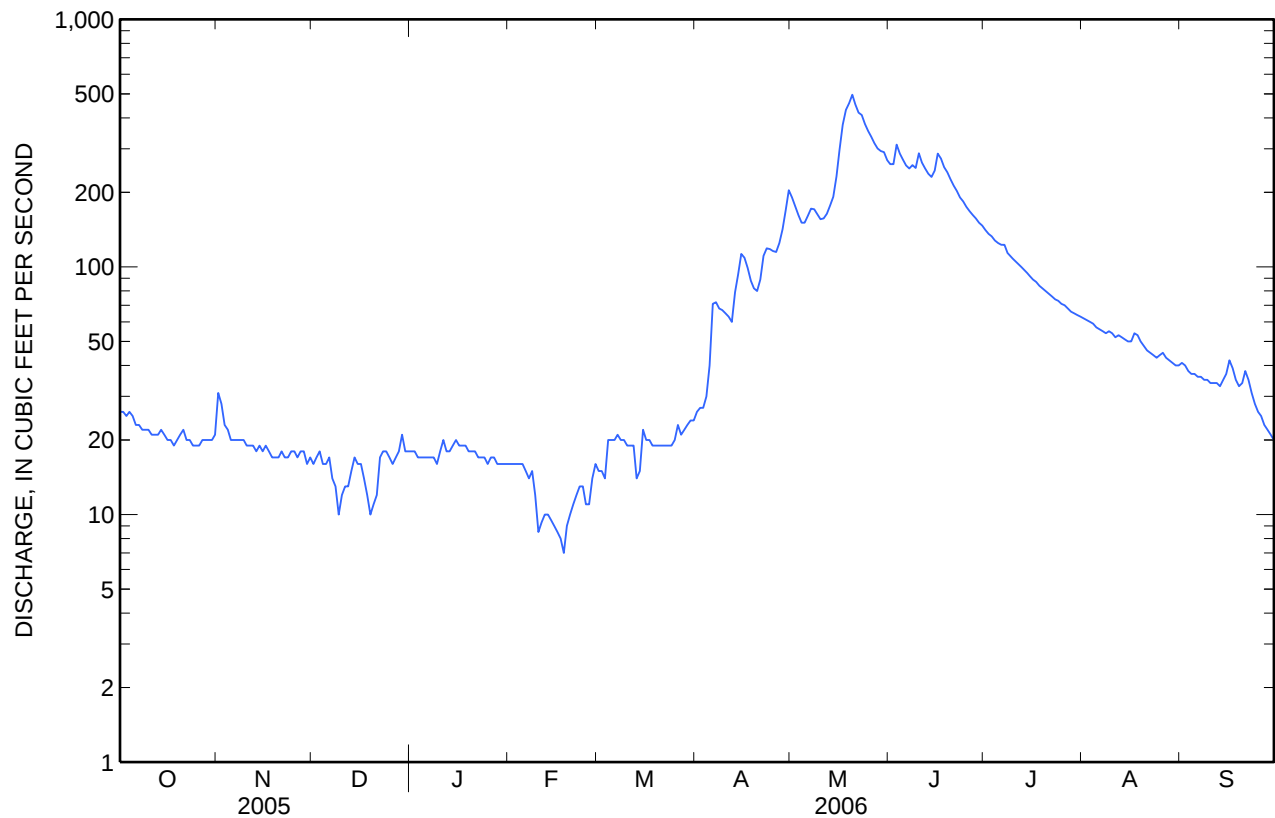
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	21.8	18.0	14.5	12.4	11.1	16.0	58.1	199	197	77.4	38.3	26.6
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 2005		Water Year 2006		Water Years 1983 - 2006	
Annual total	27,649		26,754.8			
Annual mean	75.8		73.3		57.7	
Highest annual mean					108	1997
Lowest annual mean					35.0	1992
Highest daily mean	571	Jun 4	496	May 20	1,060	May 17, 1997
Lowest daily mean	10	Dec 9	7.0	Feb 18	2.0	Feb 4, 1989
Annual seven-day minimum	13	Dec 7	8.7	Feb 13	2.6	Feb 1, 1989
Maximum peak flow			546	May 20	^a 1,220	May 17, 1997
Maximum peak stage			3.38	May 20	^b 4.98	Feb 15, 1989
Annual runoff (ac-ft)	54,840		53,070		41,780	
Annual runoff (cfs)	1.35		1.31		1.03	
Annual runoff (inches)	18.37		17.77		13.99	
10 percent exceeds	258		228		159	
50 percent exceeds	31		26		23	
90 percent exceeds	17		15		9.6	

^a Gage height, 4.31 ft.^b Backwater from ice.

Water-Data Report 2006

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 Water Supply Paper (WSP) 1316. Published as "near Jocko" 1910-16 and in 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9.6	8.1	6.5	5.9	5.5	4.8	5.0	13	29	27	15	11
2	9.7	7.8	6.5	5.8	5.5	4.7	4.9	12	31	26	15	10
3	9.3	7.8	6.5	5.7	5.3	4.7	4.9	11	44	26	15	10
4	10	7.8	6.4	5.6	5.5	4.7	5.4	10	44	25	14	10
5	9.3	7.5	6.4	5.5	5.3	4.6	5.7	9.9	41	25	14	10
6	9.0	7.5	6.3	5.6	5.3	4.7	9.6	9.8	40	25	14	9.9
7	8.8	7.6	6.1	5.6	5.3	4.7	7.8	10	39	25	14	9.8
8	8.8	7.5	6.0	5.6	5.3	4.5	7.5	11	43	24	14	9.7
9	8.8	7.3	6.0	5.5	5.3	4.5	7.3	10	43	23	14	9.7
10	8.8	7.2	5.8	5.8	5.2	4.5	7.1	9.7	48	23	14	9.5
11	8.6	7.5	5.7	5.8	5.1	4.5	6.9	9.6	46	22	14	9.4
12	8.5	7.3	5.7	5.6	5.1	4.4	6.8	9.6	43	22	13	9.4
13	8.5	7.3	5.7	5.7	5.1	4.4	7.4	10	42	21	13	9.3
14	8.5	7.3	5.7	5.9	5.1	4.4	7.5	11	42	21	13	9.7
15	8.4	7.0	5.5	6.3	4.9	4.4	9.2	13	41	20	13	9.9
16	8.3	7.1	5.5	6.0	e4.7	4.4	9.5	21	43	20	13	10
17	8.1	7.0	5.3	6.0	e4.5	4.5	9.1	29	40	20	14	9.7
18	8.1	7.0	5.3	5.9	e4.0	4.5	8.3	34	37	19	13	9.5
19	8.2	7.0	5.1	5.7	e4.5	4.5	7.9	40	35	19	13	9.5
20	8.1	7.0	5.1	5.7	5.0	4.4	7.8	42	33	19	12	9.6
21	8.1	6.9	5.2	5.7	4.9	4.4	7.8	40	32	18	12	9.8
22	8.1	6.7	5.4	5.7	4.9	4.4	8.2	37	31	18	12	9.6
23	8.1	6.7	5.6	5.7	4.9	4.4	8.8	38	30	18	12	9.3
24	7.9	6.7	5.6	5.5	4.9	4.4	8.8	40	29	17	12	9.1
25	7.8	6.7	5.6	5.5	4.7	4.7	8.8	40	29	17	12	8.8
26	8.0	6.7	5.8	5.5	4.7	5.1	8.6	34	28	17	11	8.8
27	8.4	6.7	5.8	5.5	4.8	4.7	8.5	32	28	16	11	8.7
28	8.0	6.6	6.0	5.5	5.1	4.6	8.9	30	28	16	11	8.6
29	7.8	6.5	6.2	5.5	---	4.8	9.9	29	27	16	11	8.5
30	7.9	6.6	5.9	5.6	---	4.8	13	29	27	16	11	8.5
31	7.8	---	6.0	5.5	---	4.8	---	28	---	15	11	---
Total	263.3	214.4	180.2	176.4	140.4	141.9	236.9	702.6	1,093	636	400	285.3
Mean	8.49	7.15	5.81	5.69	5.01	4.58	7.90	22.7	36.4	20.5	12.9	9.51
Max	10	8.1	6.5	6.3	5.5	5.1	13	42	48	27	15	11
Min	7.8	6.5	5.1	5.5	4.0	4.4	4.9	9.6	27	15	11	8.5
Ac-ft	522	425	357	350	278	281	470	1,390	2,170	1,260	793	566
Cfsm	1.23	1.04	0.84	0.83	0.73	0.67	1.15	3.29	5.30	2.98	1.88	1.38
In.	1.42	1.16	0.97	0.95	0.76	0.77	1.28	3.80	5.91	3.44	2.16	1.54

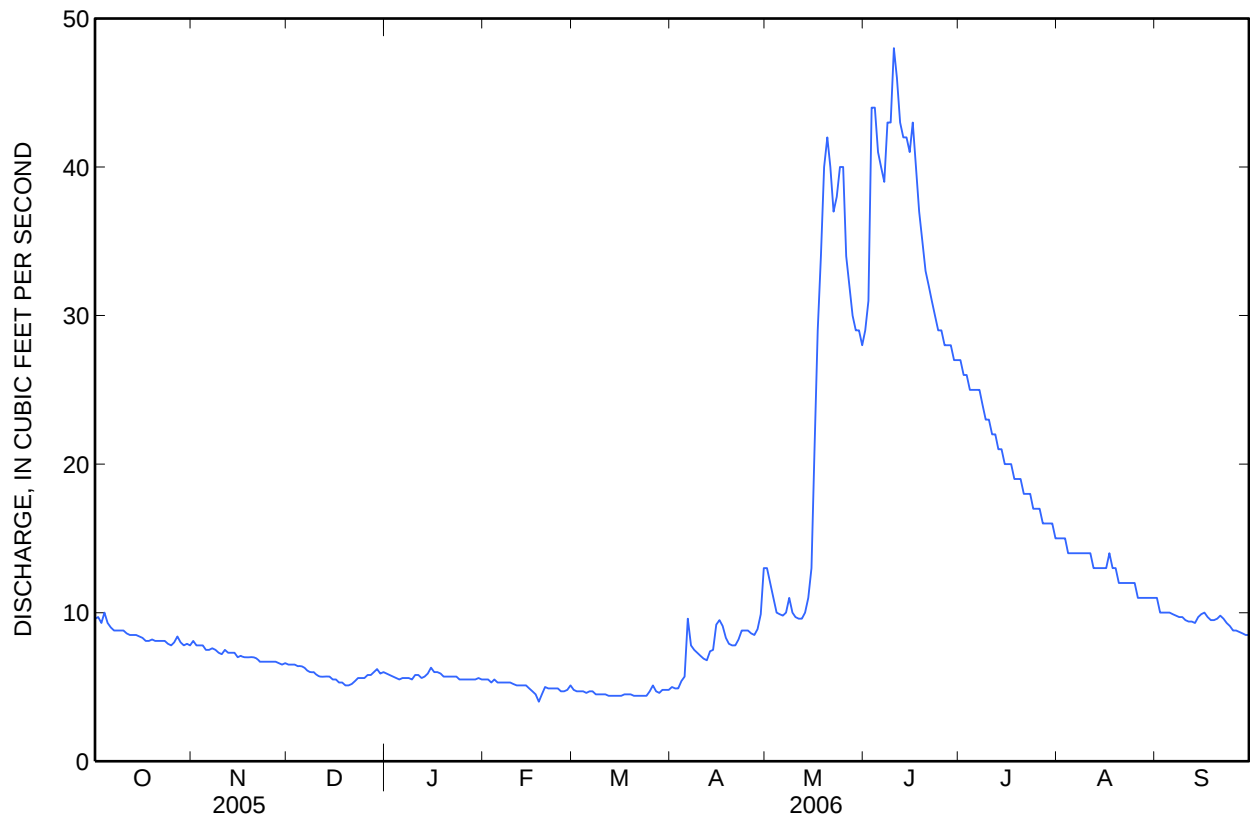
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.06	6.85	5.78	5.10	4.56	4.53	6.26	16.0	26.5	18.4	12.8	9.78
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 2005		Water Year 2006		Water Years 1983 - 2006	
Annual total	5,115.3		4,470.4			
Annual mean	14.0		12.2		10.4	
Highest annual mean					14.6	1997
Lowest annual mean					6.60	1992
Highest daily mean	67	Jun 4	48	Jun 10	67	Jun 4, 2005
Lowest daily mean	4.7	Mar 3	4.0	Feb 18	1.7	Feb 4, 1989
Annual seven-day minimum	4.7	Feb 28	4.4	Mar 10	2.0	Feb 1, 1989
Maximum peak flow			52	Jun 10	^b 78	Jun 30, 1916
Maximum peak stage			5.99	Jun 10	5.91	Jun 29, 2002
Instantaneous low flow			^a 3.2	Mar 12	^c 1.3	Feb 4, 1989
Annual runoff (ac-ft)	10,150		8,870		7,540	
Annual runoff (cfs)	2.04		1.78		1.51	
Annual runoff (inches)	27.66		24.17		20.56	
10 percent exceeds	37		29		21	
50 percent exceeds	8.1		8.3		7.5	
90 percent exceeds	5.2		4.8		4.2	

^a Gage height, 5.05 ft, result of freezeup.^b Gage height, 3.65 ft; site and datum then in use.^c Result of freezeup.

Water-Data Report 2006

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 2006
DAILY MEAN VALUES
[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				e7.0	38	33	18	12	9.6	8.4		
2				e7.0	34	34	18	12	9.6	8.4		
3				e7.0	30	38	17	11	9.5	8.4		
4				8.3	27	36	17	11	9.4	8.4		
5				9.5	26	34	17	11	9.3	8.5		
6				19	26	32	17	11	9.2	8.5		
7				18	27	32	17	11	9.1	8.4		
8				17	28	33	16	11	9.1	8.4		
9				16	27	32	16	11	9.0	8.4		
10				16	26	47	15	11	9.0	8.4		
11				15	25	39	15	11	9.0	8.4		
12				15	26	35	15	11	8.9	8.3		
13				17	27	35	14	11	8.8	8.2		
14				18	30	37	14	11	9.1	8.0		
15				20	38	36	14	11	9.8	8.2		
16				20	55	35	14	11	11	8.6		
17				18	67	32	14	11	9.5	8.5		
18				17	64	31	13	11	9.2	8.4		
19				16	66	29	13	10	9.3	8.5		
20				16	66	28	13	10	9.6	11		
21				16	60	26	13	10	9.5	9.0		
22				18	57	25	13	10	9.8	8.4		
23				18	55	24	13	9.9	9.2	8.4		
24				18	50	23	13	10	9.0	8.0		
25				18	45	22	12	10	8.8	8.0		
26				18	46	21	e12	9.9	8.8	8.0		
27				19	41	20	12	9.9	8.8	8.0		
28				21	40	19	12	9.8	8.7	8.0		
29				24	37	19	12	9.6	8.6	8.0		
30				37	34	19	12	9.6	8.5	8.0		
31				---	33	---	12	9.6	---	8.0		
Total				503.8	1,251	906	443	328.3	276.7	260.1		
Mean				16.8	40.4	30.2	14.3	10.6	9.22	8.39		
Max				37	67	47	18	12	11	11		
Min				7.0	25	19	12	9.6	8.5	8.0		
Ac-ft				999	2,480	1,800	879	651	549	516		
Cfs/m				1.10	2.64	1.97	0.93	0.69	0.60	0.55		
In.				1.22	3.04	2.20	1.08	0.80	0.67	0.63		

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1983 - 2006

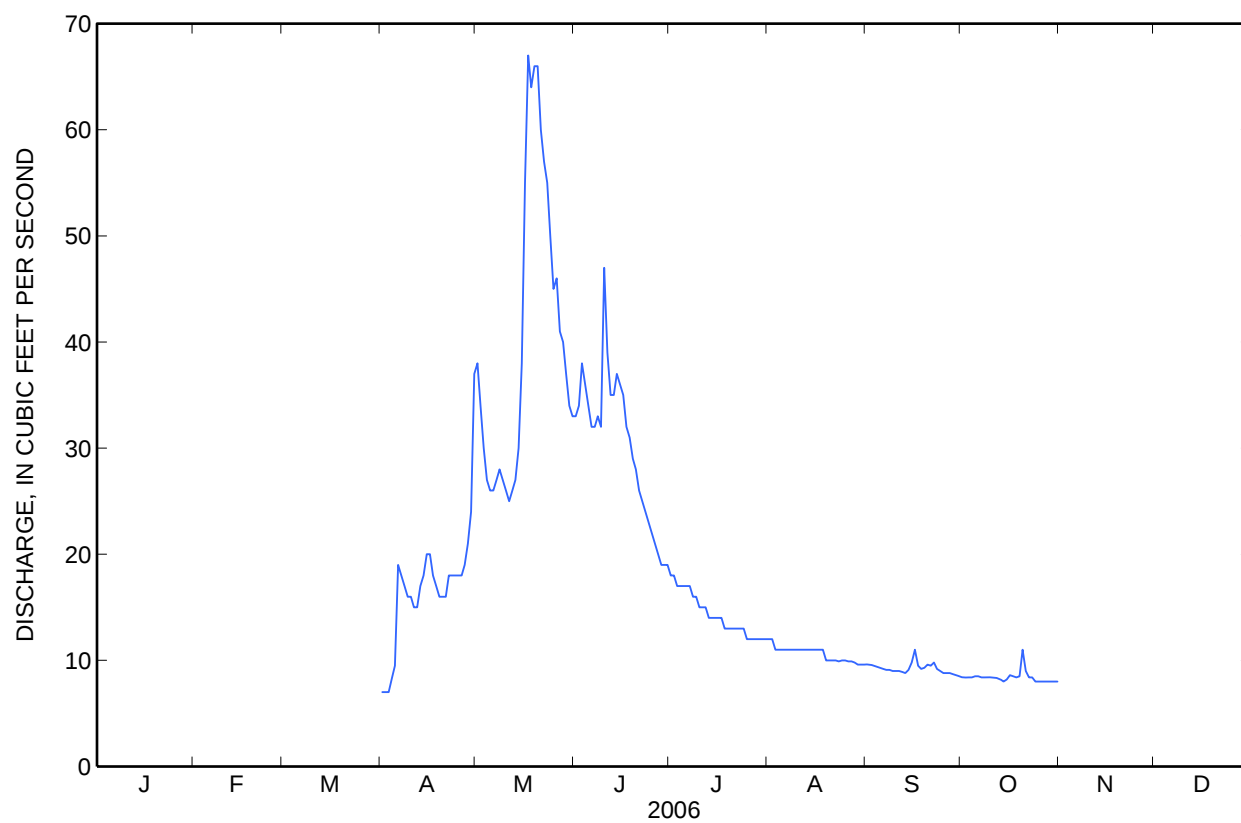
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean			7.70	14.3	32.4	28.3	14.5	10.5	9.03	8.47	8.22	
Max			8.67	30.3	75.5	66.7	31.8	19.6	14.0	12.2	11.5	
(WY)			(1998)	(1996)	(1997)	(1997)	(1997)	(1997)	(1997)	(1998)	(1998)	
Min			6.37	6.27	21.5	11.6	8.47	6.72	6.21	5.97	5.85	
(WY)			(1984)	(2002)	(1988)	(1987)	(2001)	(2001)	(2001)	(1989)	(2002)	

12387450 VALLEY CREEK NEAR ARLEE, MT—Continued

SUMMARY STATISTICS

	2006 Season		Seasons 1983 - 2006	
Highest daily mean	67	May 17	110	May 17, 1997
Lowest daily mean	7.0	Apr 1 ^a	5.0	Nov 22, 1994
Maximum peak flow	73	May 17	116	May 16, 1997
Maximum peak stage	2.54	May 17	3.04	May 16, 1997

^a Also occurred April 2 and 3.



Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	208	203	e150	190	157	141	156	507	601	369	180	175
2	225	207	e155	185	156	135	166	466	598	354	178	174
3	215	196	e155	179	155	134	167	435	779	343	179	171
4	228	190	e155	174	153	135	179	403	781	328	178	170
5	210	186	e150	170	153	132	199	381	715	313	178	177
6	202	184	e145	167	151	132	383	376	668	303	180	176
7	197	183	e134	167	147	136	528	393	652	306	181	172
8	195	186	e128	169	149	135	456	404	697	285	184	166
9	193	181	e120	165	149	133	418	389	737	273	190	165
10	191	178	e125	168	143	131	395	363	927	266	189	162
11	189	178	e123	183	130	129	374	348	964	258	194	160
12	187	180	e127	176	129	129	353	344	844	242	189	159
13	185	178	e130	170	132	128	369	353	802	230	188	161
14	183	185	e126	174	135	128	392	378	876	216	185	167
15	183	179	e127	185	129	130	435	460	973	214	185	182
16	180	176	e128	180	125	129	489	594	1,420	205	184	217
17	178	176	e124	177	e123	128	458	773	1,320	198	190	202
18	176	173	e120	183	e121	129	405	908	1,080	192	190	191
19	175	172	e113	177	e123	129	363	1,040	928	194	185	191
20	177	169	e120	173	e129	128	338	1,110	813	192	182	207
21	183	166	e128	170	e132	127	330	1,090	737	190	179	202
22	183	165	e134	166	e133	126	362	998	674	188	177	208
23	182	162	e134	165	e132	126	404	962	597	187	175	199
24	179	162	e131	163	e130	128	404	937	548	184	174	193
25	179	160	e134	161	e128	132	393	877	521	180	176	189
26	177	163	e133	159	e124	150	383	818	487	176	177	187
27	188	164	e140	159	128	145	377	767	438	181	174	185
28	187	161	e157	158	138	144	354	784	414	183	171	184
29	185	159	e190	156	---	147	379	699	397	179	169	182
30	182	e155	191	156	---	157	464	674	391	178	169	181
31	181	---	189	159	---	154	---	621	---	179	172	---
Total	5,883	5,277	4,316	5,284	3,834	4,167	10,873	19,652	22,379	7,286	5,602	5,455
Mean	190	176	139	170	137	134	362	634	746	235	181	182
Max	228	207	191	190	157	157	528	1,110	1,420	369	194	217
Min	175	155	113	156	121	126	156	344	391	176	169	159
Ac-ft	11,670	10,470	8,560	10,480	7,600	8,270	21,570	38,980	44,390	14,450	11,110	10,820

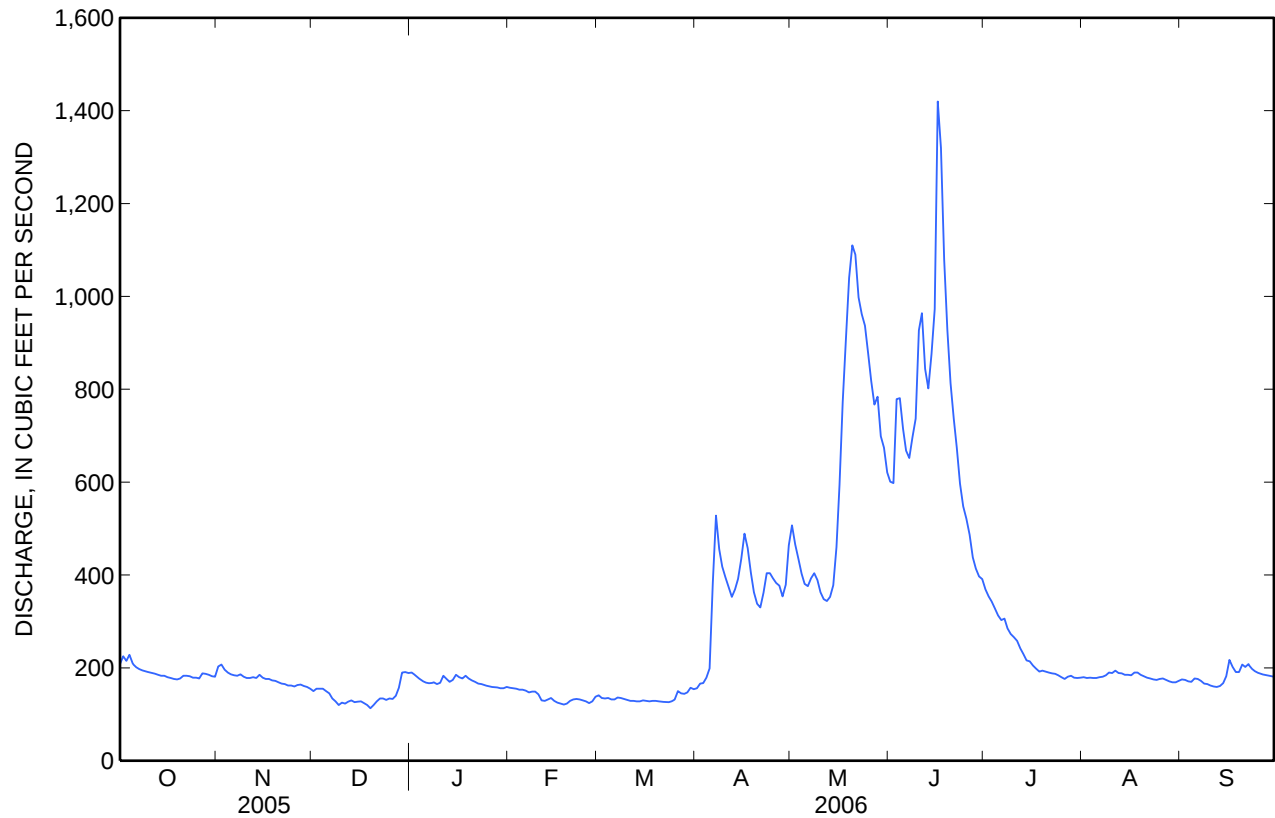
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	185	174	157	137	134	148	224	433	566	257	168	181
Max	233	227	265	190	208	246	390	1,303	1,537	512	222	244
(WY)	(2005)	(1996)	(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 2005		Water Year 2006		Water Years 1991 - 2006	
Annual total	109,065		100,008			
Annual mean	299		274		230	
Highest annual mean					445	1997
Lowest annual mean					157	1992
Highest daily mean	1,890	Jun 4	1,420	Jun 16	2,540	May 18, 1997
Lowest daily mean	113	Dec 19	113	Dec 19	74	Feb 2, 1996
Annual seven-day minimum	123	Dec 14	123	Dec 14	82	Jan 3, 1995
Maximum peak flow			1,650	Jun 16	2,710	May 17, 1997
Maximum peak stage			3.77	Jun 16	4.68	May 17, 1997
Annual runoff (ac-ft)	216,300		198,400		166,900	
10 percent exceeds	651		599		390	
50 percent exceeds	190		181		172	
90 percent exceeds	148		130		122	



Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.4	7.8	e6.1	7.2	5.9	e6.0	8.3	65	52	25	8.6	5.2
2	7.1	7.6	e5.9	6.6	5.9	e6.0	8.2	56	57	24	8.2	5.0
3	6.7	6.6	e5.5	6.3	5.7	5.9	8.1	51	69	23	8.0	5.0
4	7.7	6.6	e5.2	6.1	5.8	5.9	10	48	66	21	7.7	4.9
5	6.4	6.3	e4.7	5.9	5.6	5.9	13	46	60	21	7.6	4.8
6	6.2	6.3	e4.7	5.9	5.6	6.0	30	47	54	21	7.4	4.7
7	6.3	6.2	e4.5	6.0	5.5	6.0	35	48	53	21	7.2	4.7
8	6.4	6.2	e4.9	5.9	5.6	5.9	30	47	54	19	7.3	4.6
9	6.1	5.9	e4.5	5.8	5.5	6.0	28	45	53	18	7.6	4.6
10	5.9	6.0	e5.2	6.2	e5.3	5.9	27	42	82	18	7.8	4.5
11	5.9	6.3	e5.8	7.6	e5.1	5.9	25	42	80	17	9.0	4.5
12	5.9	6.3	e5.8	6.3	e4.3	5.7	24	45	62	17	7.3	4.4
13	5.9	6.2	e5.6	6.3	e5.2	5.6	28	48	59	16	7.1	4.3
14	5.9	6.3	e5.5	7.6	e5.1	5.6	30	52	83	15	6.9	4.9
15	5.9	5.9	e5.4	7.9	e4.8	5.6	38	66	79	15	6.7	5.9
16	5.8	5.9	5.4	7.2	e4.1	5.6	39	116	67	14	6.7	7.2
17	5.7	5.9	e5.2	7.1	e3.3	5.7	35	142	58	14	7.4	5.6
18	5.6	5.9	e5.3	7.0	e3.0	5.6	32	157	54	13	6.7	5.0
19	5.6	5.9	e5.4	6.7	e3.7	5.6	29	170	53	13	6.5	5.4
20	5.6	5.9	e6.6	6.4	e4.2	5.5	27	174	51	12	6.3	6.3
21	5.6	5.9	e6.8	6.4	e4.4	5.6	28	146	48	12	6.2	6.2
22	5.8	5.8	e6.8	6.2	e4.8	5.5	34	123	45	11	5.9	7.4
23	5.7	5.7	e6.8	6.2	e5.1	5.5	36	115	42	11	5.8	6.2
24	5.6	5.6	e6.9	5.9	5.4	5.8	36	102	39	11	5.7	5.6
25	5.6	5.7	e6.9	5.9	5.2	6.6	36	89	36	10	5.9	5.3
26	5.6	5.9	7.0	5.9	5.3	7.5	36	90	34	10	5.7	5.1
27	6.0	e5.9	6.7	5.9	5.7	6.5	38	74	32	9.7	5.5	5.0
28	5.9	e6.1	6.9	5.9	e5.8	6.6	43	68	30	9.5	5.3	4.9
29	5.9	e5.8	7.3	5.9	---	7.1	52	60	29	9.2	5.2	4.9
30	5.8	e6.1	6.5	e5.8	---	7.1	69	55	28	9.1	5.3	4.8
31	6.1	---	6.5	e5.8	---	7.2	---	52	---	8.8	5.2	---
Total	188.6	184.5	182.3	197.8	140.9	186.9	912.6	2,481	1,609	468.3	209.7	156.9
Mean	6.08	6.15	5.88	6.38	5.03	6.03	30.4	80.0	53.6	15.1	6.76	5.23
Max	8.4	7.8	7.3	7.9	5.9	7.5	69	174	83	25	9.0	7.4
Min	5.6	5.6	4.5	5.8	3.0	5.5	8.1	42	28	8.8	5.2	4.3
Ac-ft	374	366	362	392	279	371	1,810	4,920	3,190	929	416	311
Cfs/m	0.26	0.26	0.25	0.27	0.22	0.26	1.30	3.42	2.29	0.65	0.29	0.22
In.	0.30	0.29	0.29	0.31	0.22	0.30	1.45	3.94	2.56	0.74	0.33	0.25

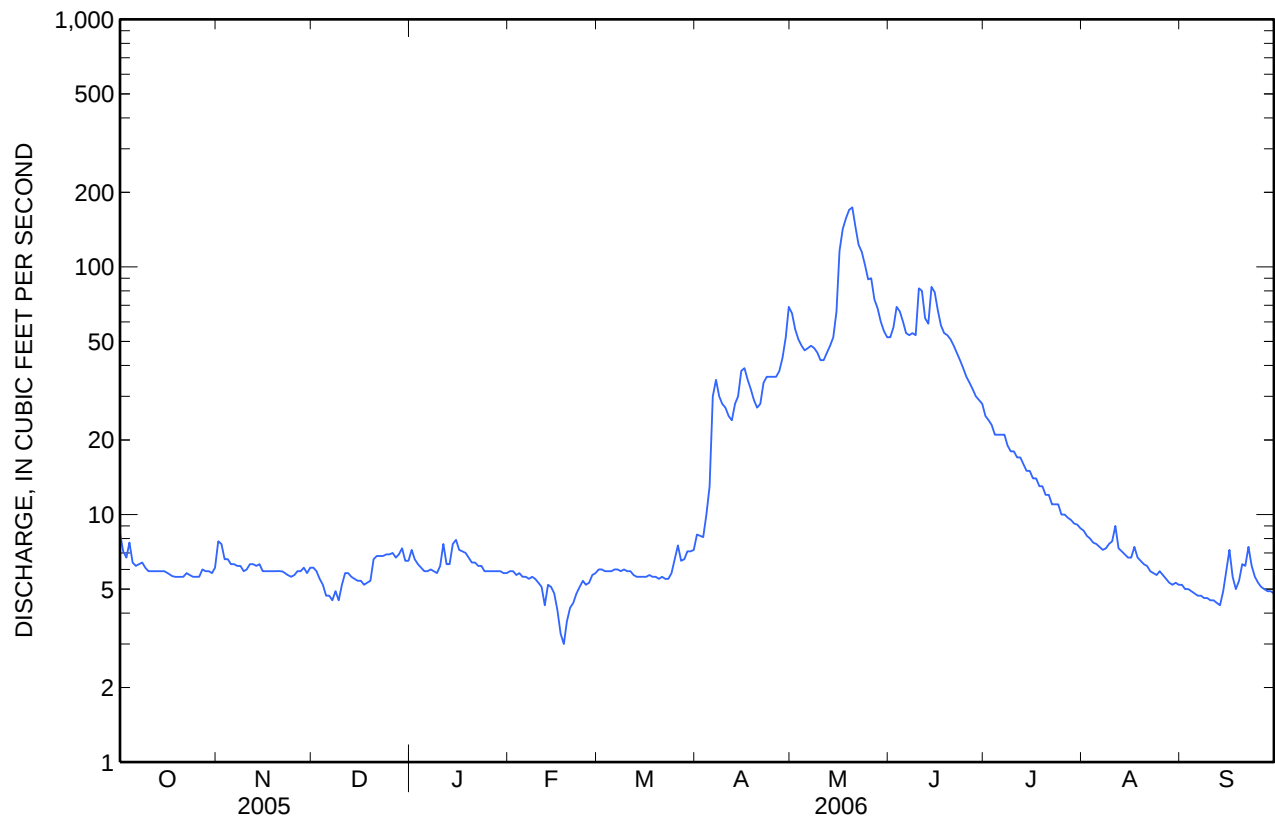
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.26	6.61	6.42	5.36	5.61	7.75	23.0	67.2	54.7	16.1	7.87	6.27
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	10.2	5.47	4.19
(WY)	(2004)	(2004)	(2002)	(2004)	(1993)	(2001)	(2001)	(1992)	(1987)	(1986)	(1988)	(1988)

12388400 REVAIS CREEK BELOW WEST FORK, NEAR DIXON, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1983 - 2006	
Annual total	6,223.3		6,918.5			
Annual mean	17.1		19.0		17.8	
Highest annual mean					35.2	
Lowest annual mean					11.6	
Highest daily mean	107	May 17	174	May 20	316	Jun 1, 1997
Lowest daily mean	4.5	Dec 7	3.0	Feb 18	2.5	Feb 4, 1989
Annual seven-day minimum	4.8	Dec 4	3.9	Feb 15	2.7	Feb 2, 1989
Maximum peak flow			193	May 20	^a 382	Jun 1, 1997
Maximum peak stage			4.03	May 20	^b 6.93	Dec 5, 1984
Annual runoff (ac-ft)	12,340		13,720		12,900	
Annual runoff (cfs)	0.729		0.810		0.761	
Annual runoff (inches)	9.89		11.00		10.34	
10 percent exceeds	55		53		48	
50 percent exceeds	7.2		6.4		7.3	
90 percent exceeds	5.5		5.2		4.0	

^a Gage height, 4.36 ft.^b Backwater from ice.

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,770	8,840	10,800	6,810	11,100	11,900	7,680	23,500	28,700	18,400	7,020	4,950
2	4,650	8,640	11,000	6,790	11,000	11,900	7,630	24,400	26,200	18,800	7,000	4,830
3	5,250	8,540	10,700	6,790	11,100	12,000	7,750	25,600	24,700	19,100	6,670	4,780
4	8,950	8,540	10,800	6,850	11,200	11,800	8,050	25,900	24,700	18,800	6,290	4,760
5	10,300	8,530	10,700	6,840	11,300	11,800	7,910	25,900	25,000	15,700	6,050	4,750
6	10,200	8,560	10,700	6,850	11,100	11,400	9,110	25,700	25,100	14,600	6,010	4,740
7	9,430	8,570	10,600	6,830	11,900	11,100	10,700	24,900	24,800	14,800	5,990	4,740
8	8,450	8,620	e10,600	6,950	12,100	10,800	10,900	22,900	25,200	14,600	5,600	4,710
9	8,270	8,680	e10,600	6,880	12,900	10,500	11,100	21,200	29,000	14,200	5,060	4,690
10	8,270	8,750	e10,600	6,880	e12,800	9,490	11,900	21,000	31,100	14,100	4,760	4,610
11	8,340	8,760	e10,600	7,010	12,900	9,440	e11,400	20,900	31,600	13,100	4,740	4,600
12	8,320	8,780	e10,600	7,010	12,900	9,570	10,800	21,900	31,200	13,000	4,700	4,630
13	8,280	8,710	e10,600	6,890	13,000	9,640	10,700	22,100	29,900	12,900	4,690	4,670
14	8,350	8,840	e10,700	6,950	13,000	9,470	13,000	22,400	30,000	13,000	4,740	4,700
15	8,330	8,770	e10,600	7,070	12,900	9,310	14,300	23,600	29,500	12,900	4,760	4,760
16	8,320	8,740	e10,600	6,970	12,800	9,040	14,900	25,800	30,000	12,800	4,720	4,980
17	8,310	8,780	e10,900	7,790	e12,600	8,670	e15,200	27,800	38,100	13,000	4,740	4,960
18	8,380	9,680	e10,900	8,930	e12,800	8,650	e15,300	29,000	45,300	12,200	4,830	4,850
19	8,300	10,500	e10,900	9,830	e13,000	8,580	e15,200	31,000	47,200	10,500	4,800	4,900
20	8,460	10,700	e10,900	10,900	e12,800	8,650	e15,300	32,600	44,500	10,300	4,760	4,950
21	8,510	10,700	e10,300	11,100	e13,100	8,400	e15,700	33,900	39,400	9,970	4,770	5,270
22	8,530	10,700	e9,320	11,100	e13,000	8,140	16,700	34,900	36,400	9,380	4,780	5,840
23	8,570	10,600	e9,140	11,100	13,000	8,020	19,000	34,800	32,000	9,400	4,740	6,140
24	8,590	10,500	8,450	11,100	12,800	7,810	20,900	34,700	26,700	8,920	4,700	6,150
25	8,580	10,500	7,990	11,100	12,700	7,780	21,500	35,800	22,400	9,120	4,700	6,140
26	8,570	10,700	7,870	11,100	12,700	7,840	21,700	36,500	20,700	9,100	4,720	6,150
27	8,630	10,700	7,810	11,100	12,700	7,440	21,800	36,900	20,500	8,390	4,740	6,160
28	8,550	10,600	7,760	11,100	12,100	7,820	22,000	37,200	18,300	7,330	4,730	6,250
29	8,580	10,700	7,280	11,100	---	7,560	22,400	34,500	17,800	7,100	4,750	6,260
30	8,570	10,900	6,820	11,100	---	7,600	22,900	31,400	18,200	7,090	4,760	6,270
31	8,580	---	6,810	11,000	---	7,610	---	30,500	---	7,010	5,170	---
Total	256,190	285,130	303,950	269,820	347,300	289,730	433,430	879,200	874,200	379,610	160,490	156,190
Mean	8,264	9,504	9,805	8,704	12,400	9,346	14,450	28,360	29,140	12,250	5,177	5,206
Max	10,300	10,900	11,000	11,100	13,100	12,000	22,900	37,200	47,200	19,100	7,020	6,270
Min	4,650	8,530	6,810	6,790	11,000	7,440	7,630	20,900	17,800	7,010	4,690	4,600
Ac-ft	508,200	565,600	602,900	535,200	688,900	574,700	859,700	1,744,000	1,734,000	753,000	318,300	309,800

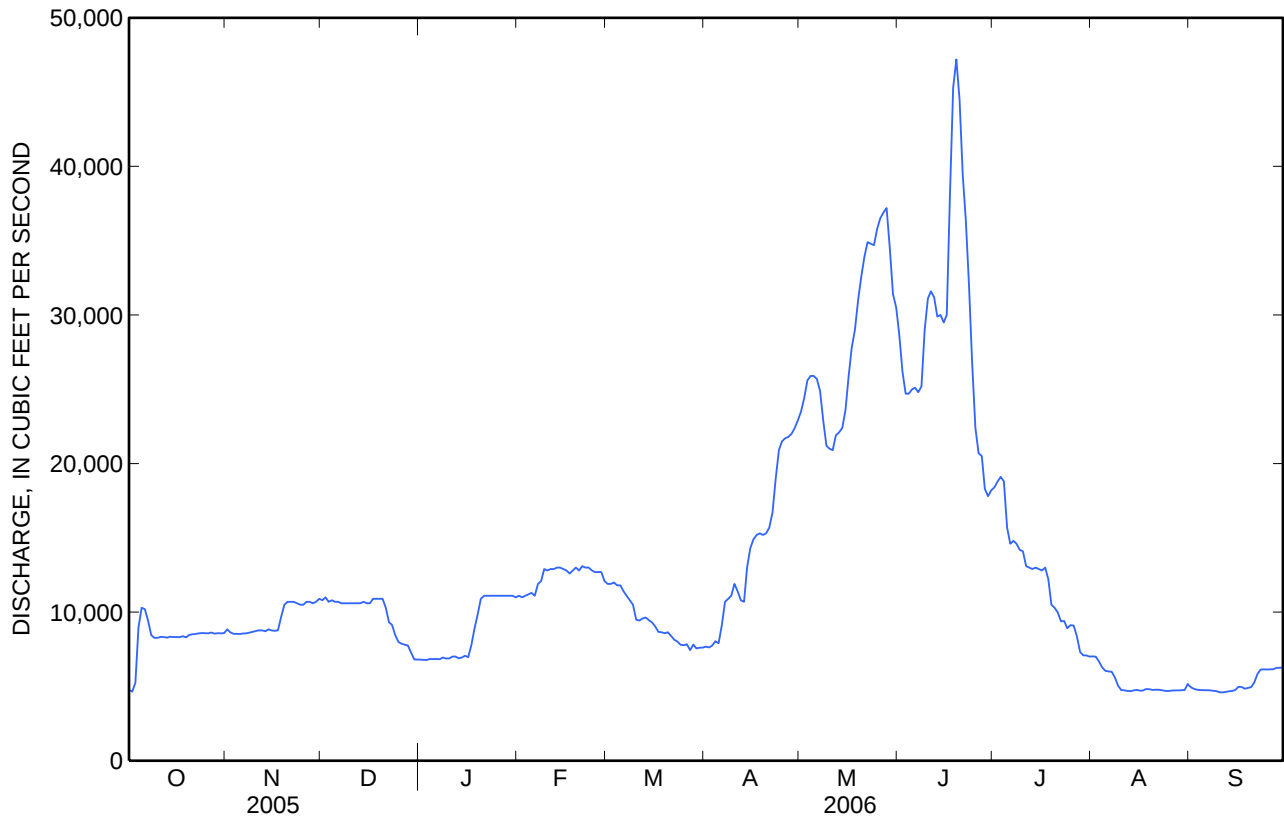
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8,454	10,320	10,950	10,140	9,679	9,015	10,230	16,220	23,120	13,120	7,999	7,764
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 2005		Water Year 2006		Water Years 1984 - 2006	
Annual total	3,938,060		4,635,240		11,410	
Annual mean	10,790		12,700		11,410	
Highest annual mean					18,030	1996
Lowest annual mean					7,040	2001
Highest daily mean	47,600	Jun 8	47,200	Jun 19	53,400	Jun 6, 1997
Lowest daily mean	3,900	Sep 22	4,600	Sep 11	2,670	May 29, 1984
Annual seven-day minimum	3,970	Sep 17	4,660	Sep 8	3,110	May 25, 1984
Maximum peak flow			47,900	Jun 19	54,700	Jun 7, 1997
Maximum peak stage			20.15	Jun 19	21.65	Jun 7, 1997
Annual runoff (ac-ft)	7,811,000		9,194,000		8,269,000	
10 percent exceeds	20,200		25,700		17,800	
50 percent exceeds	8,530		10,500		10,100	
90 percent exceeds	4,190		4,830		5,260	



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: Seasonal records, April 2001 to 2003, April 2005 to current year.

INSTRUMENTATION.--Temperature recorder installed Aug. 30, 2000.

REMARKS.--Additional sampling was conducted this year as part of an expanded sampling program for the lower Clark Fork basin. Daily water temperature records are rated excellent. Missing daily water temperature data on April 11-14 and 17-21 due to equipment problems. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (seasonal records): Maximum, 30.0°C, Sept. 5-7, 2003; minimum, 2.5°C, Apr. 2, 2002.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: During period of seasonal operation, maximum, 27.5°C, July 23; minimum, 5.0°C, Apr. 2.

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 1 of 3

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Total nitrogen, wat unf mg/L (62855)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)
Apr													
06...	1330	9,020	8.3	176	12.0	6.5	89	25.5	6.14	.12	.005	.33	.39
20...	1300	E15,300	8.3	178	15.0	8.0	94	27.1	6.29	.14	.010	.38	.45
May													
03...	1300	25,500	8.5	174	12.5	7.0	91	26.3	6.14	.14	.009	.36	.48
17...	1200	27,900	8.2	173	30.0	12.5	91	26.3	6.16	.12	.011	.36	.46
20...	0800	32,300	8.3	177	16.0	13.0	86	24.4	6.15	.11	.011	.40	.46
25...	0845	35,800	8.4	179	18.0	14.0	88	25.0	6.23	.11	.010	.42	.53
Jun													
01...	1130	28,700	8.3	175	26.5	13.5	88	25.4	6.10	.13	.007	.41	.46
06...	1200	25,200	8.3	173	22.0	15.5	85	24.2	6.02	.06	.004	.42	.40
14...	1200	30,000	8.4	171	--	16.0	85	23.9	6.03	.10	.007	.40	.53
20...	1100	44,300	8.3	167	2.0	13.0	83	23.6	5.87	.12	.009	.35	.48
27...	1100	20,500	8.3	169	25.0	19.0	86	24.8	5.93	.10	.010	.38	.51
Sep													
27...	1130	6,180	8.2	176	20.0	16.0	85	23.9	6.13	.15	.012	.47	.73
Oct													
18...	1000	5,640	8.4	179	9.0	11.5	90	25.5	6.49	.15	<.008	.43	.50

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 2 of 6

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

Date	Cadmium water, flt'd, ug/L (01025)	Cadmium water, unflt'd ug/L (01027)	Copper, water, flt'd, ug/L (01040)	Copper, water, unflt'd recover- able, ug/L (01042)	Iron, water, flt'd, ug/L (01046)	Iron, water, unflt'd recover- able, ug/L (01045)	Lead, water, flt'd, ug/L (01049)	Lead, water, unflt'd recover- able, ug/L (01051)	Mangan- ese, water, flt'd, ug/L (01056)	Mangan- ese, water, unflt'd recover- able, ug/L (01055)	Zinc, water, flt'd, ug/L (01090)	Zinc, water, unflt'd recover- able, ug/L (01092)
Apr												
06...	<.04	<.04	.44	E.4	<6	67	<.08	.19	1.2	5.3	.73	<2
20...	<.04	<.04	.86	E.5	<6	76	<.08	.09	1.3	5.9	1.6	<2
May												
03...	<.04	<.04	--	.8	<6	86	--	.10	.8	5.9	--	<2
17...	<.04	<.04	.72	.7	<6	121	<.08	.13	.9	7.1	<.60	<2
20...	<.04	<.04	.80	--	<6	138	E.05	.15	.7	7.8	1.4	<2
25...	<.04	<.04	.51	E.4	<6	116	<.08	.13	.7	6.8	E.53	<2
Jun												
01...	<.04	<.04	.59	E.5	<6	70	<.08	.07	1.3	5.2	E.58	<2
06...	<.04	<.04	.56	E.6	<6	67	<.08	.09	1.2	4.8	.87	<2
14...	<.04	<.04	.84	.9	<6	153	<.08	.20	1.0	8.2	.78	E1
20...	<.04	<.04	.54	E.6	<6	152	<.08	.19	.8	8.1	1.3	<2
27...	<.04	<.04	.87	E.5	<6	57	E.05	.09	.8	4.6	2.0	<2
Sep												
27...	<.04	<.04	.68	E.5	<6	36	E.05	.06	.6	4.1	1.4	<2
Oct												
18...	<.04	<.02	.97	<1.2	<6	42	<.12	E.03	.5	3.8	.64	<2

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

WATER-QUALITY DATA
OCTOBER 2005 TO OCTOBER 2006

Part 3 of 6

[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)
Apr			
06...	83	3	73
20...	85	5	E207
May			
03...	69	8	551
17...	77	10	753
20...	77	11	959
25...	75	10	967
Jun			
01...	79	5	387
06...	80	5	340
14...	89	11	891
20...	78	12	1,440
27...	81	4	221
Sep			
27...	85	2	33
Oct			
18...	88	2	30

12388700 FLATHEAD RIVER AT PERMA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2006 TO SEPTEMBER 2006

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

12388700 FLATHEAD RIVER AT PERMA, MT—Continued**TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2006 TO SEPTEMBER 2006**

Day	Max	Min	Mean	Max	Min	Mean
August			September			
1	24.5	21.0	23.0	21.5	16.5	18.5
2	24.5	21.5	23.0	22.5	17.5	19.5
3	25.0	21.0	23.0	23.0	18.0	20.0
4	24.5	21.0	23.0	22.0	18.5	20.0
5	24.0	21.0	22.5	22.0	18.5	20.0
6	25.0	21.0	22.5	22.0	19.0	20.0
7	25.5	22.0	23.5	23.0	18.5	20.5
8	25.0	22.0	23.5	22.5	19.0	20.0
9	24.5	22.0	23.0	21.5	19.0	20.0
10	25.5	21.5	23.0	21.5	18.5	19.5
11	23.5	21.5	22.5	22.5	17.5	19.5
12	23.0	20.5	21.5	22.0	18.0	20.0
13	24.0	20.0	22.0	20.0	18.5	19.0
14	25.5	20.5	22.5	18.5	16.5	17.5
15	22.5	20.5	21.5	16.5	15.0	16.0
16	23.5	20.0	21.0	15.5	14.5	15.0
17	23.0	19.5	21.0	17.0	14.5	15.5
18	23.5	20.0	21.5	17.5	15.0	16.0
19	24.5	20.5	22.0	18.0	15.5	16.5
20	25.0	20.5	22.5	16.0	15.0	15.5
21	24.5	20.5	22.5	15.5	14.5	15.0
22	23.5	21.0	22.0	16.0	13.5	14.5
23	22.5	20.0	21.5	16.5	13.5	15.0
24	22.5	19.5	21.0	17.5	13.5	15.5
25	21.5	20.0	20.5	17.5	14.5	16.0
26	23.0	19.0	20.5	17.0	14.5	16.0
27	24.0	19.5	21.5	18.0	15.0	16.5
28	25.0	20.5	22.0	17.5	15.0	16.5
29	23.0	20.5	21.5	18.0	15.5	16.5
30	21.0	18.0	19.5	17.5	15.0	16.5
31	20.0	17.5	18.5	---	---	---
Month	25.5	17.5	21.9	23.0	13.5	17.6

Water-Data Report 2006

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 E ½ SW ¼ sec.1, T.19 N., R.26 W., Sanders County, 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7,320	11,600	13,500	10,900	14,200	15,100	12,300	42,500	48,700	25,600	9,710	7,110
2	7,500	11,900	13,400	10,800	14,200	15,200	12,600	44,800	44,700	25,900	9,620	7,030
3	7,540	11,800	13,400	10,700	14,200	15,700	12,800	45,500	43,300	26,200	9,520	6,940
4	8,880	11,800	13,300	10,600	14,300	15,500	13,200	44,700	44,900	25,700	9,230	6,890
5	12,600	11,800	13,300	10,500	14,200	15,400	13,600	43,600	47,000	22,700	8,880	6,810
6	13,200	11,800	13,300	10,400	14,200	15,100	15,300	42,300	47,000	20,900	8,640	6,780
7	12,900	11,800	13,100	10,300	14,500	14,700	21,200	41,500	46,000	20,900	8,490	6,720
8	12,000	11,800	e12,500	10,100	14,900	14,400	24,000	40,000	45,900	20,900	8,330	6,700
9	11,400	11,900	e11,800	10,100	15,600	13,900	23,700	37,700	48,300	20,400	7,960	6,640
10	11,300	11,900	e12,000	10,100	15,900	13,300	23,900	36,400	53,100	19,800	7,590	6,590
11	11,300	11,900	e12,000	10,300	15,900	12,800	23,700	35,400	54,800	18,600	7,400	6,530
12	11,300	11,800	e12,100	10,500	15,700	12,800	22,600	35,600	55,200	17,800	7,280	6,470
13	11,300	11,900	e12,400	10,800	15,600	12,700	21,900	36,200	52,200	17,600	7,170	6,450
14	11,300	11,900	e12,700	11,000	15,600	12,600	24,700	37,100	51,100	17,500	7,100	6,480
15	11,300	12,000	e12,700	11,000	15,700	12,500	27,900	39,900	50,500	17,300	7,050	6,570
16	11,200	12,000	e12,700	11,200	15,700	12,300	30,000	45,300	49,500	17,100	7,000	6,770
17	11,200	12,000	e12,800	11,500	15,500	12,000	30,500	52,700	53,700	17,000	6,980	6,900
18	11,200	12,200	e12,900	12,300	15,300	11,700	30,200	59,800	61,100	16,300	6,990	6,960
19	11,100	13,000	e12,600	13,100	14,400	11,600	29,000	66,300	65,100	15,000	7,060	7,070
20	11,100	13,500	e12,500	14,000	15,600	11,600	27,900	70,500	61,800	14,000	7,080	7,200
21	11,200	13,600	e12,100	14,600	16,100	11,600	27,100	73,400	54,900	13,800	7,080	7,470
22	11,300	13,600	e11,900	14,600	16,200	11,400	28,700	74,200	50,100	13,100	7,050	8,000
23	11,300	13,500	e11,900	14,600	15,900	11,200	32,000	71,900	44,700	12,700	7,000	8,550
24	11,400	13,400	11,600	14,500	15,700	11,100	35,000	69,000	38,400	12,400	6,930	8,570
25	11,400	13,400	11,400	14,400	15,700	11,000	36,100	68,800	32,700	12,200	6,880	8,560
26	11,300	13,300	11,400	14,400	15,700	11,100	35,800	67,200	29,700	12,100	6,840	8,500
27	11,300	13,300	11,500	14,300	15,600	11,200	35,500	65,900	29,100	11,900	6,860	8,460
28	11,300	13,400	11,600	14,200	15,400	11,500	35,800	65,900	26,500	11,100	6,900	8,470
29	11,300	13,500	11,500	14,200	---	11,800	37,000	61,100	25,600	10,400	6,930	8,520
30	11,400	13,500	10,900	14,200	---	11,800	39,400	55,500	25,600	10,000	6,910	8,510
31	11,400	---	10,800	14,200	---	11,900	---	52,100	---	9,830	6,930	---
Total	341,540	374,800	381,600	378,400	427,500	396,500	783,400	1,622,800	1,381,200	526,730	235,390	219,220
Mean	11,020	12,490	12,310	12,210	15,270	12,790	26,110	52,350	46,040	16,990	7,593	7,307
Max	13,200	13,600	13,500	14,600	16,200	15,700	39,400	74,200	65,100	26,200	9,710	8,570
Min	7,320	11,600	10,800	10,100	14,200	11,000	12,300	35,400	25,600	9,830	6,840	6,450
Ac-ft	677,400	743,400	756,900	750,600	847,900	786,500	1,554,000	3,219,000	2,740,000	1,045,000	466,900	434,800
Cfs/m	0.55	0.63	0.62	0.61	0.76	0.64	1.31	2.62	2.31	0.85	0.38	0.37
In.	0.64	0.70	0.71	0.71	0.80	0.74	1.46	3.02	2.57	0.98	0.44	0.41

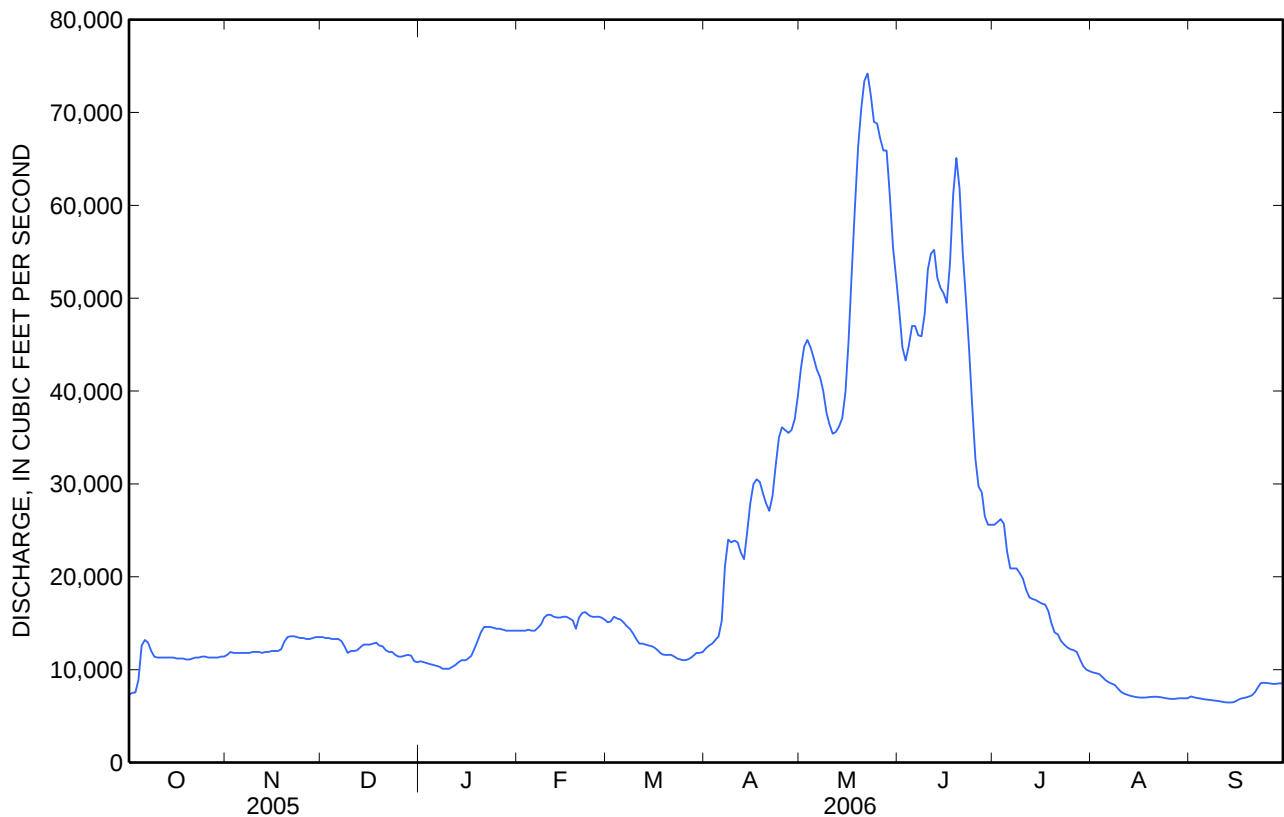
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,510	11,460	12,040	11,950	11,830	11,860	19,340	44,200	54,310	25,500	10,970	9,595
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 2005		Water Year 2006		Water Years 1911 - 2006	
Annual total	5,876,260		7,069,080			
Annual mean	16,100		19,370		19,470	
Highest annual mean					29,420	
Lowest annual mean					8,845	
Highest daily mean	68,900	Jun 8	74,200	May 22	133,000	May 31, 1948
Lowest daily mean	6,070	Sep 9	6,450	Sep 13	^a 3,200	Feb 8, 1936
Annual seven-day minimum	6,160	Sep 6	6,530	Sep 9	3,250	Jan 11, 1937
Maximum peak flow			74,700	May 22	134,000	Jun 5, 1948
Maximum peak stage			13.60	May 22	19.17	Jun 5, 1948
Instantaneous low flow			6,410	Sep 13	^b 3,200	Dec 10, 1940
Annual runoff (ac-ft)	11,660,000		14,020,000		14,110,000	
Annual runoff (cfsm)	0.807		0.970		0.976	
Annual runoff (inches)	10.95		13.18		13.26	
10 percent exceeds	34,100		45,100		44,100	
50 percent exceeds	11,800		12,900		13,100	
90 percent exceeds	7,470		7,110		6,540	

^a Estimated during period of ice-affected gage-height record.^b Gage height, 2.85 ft.

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	175	139	110	144	207	212	329	1,740	1,070	496	245	179
2	165	165	110	149	205	216	388	1,530	1,070	475	240	177
3	143	151	109	147	205	210	427	1,320	1,120	457	236	174
4	148	147	81	141	204	209	464	1,170	1,110	440	231	172
5	140	140	104	137	204	205	550	1,080	1,080	428	229	172
6	133	142	99	135	197	205	920	1,070	1,020	428	227	170
7	129	137	e60	136	189	212	1,570	1,120	968	432	223	168
8	127	133	e65	137	192	218	1,480	1,160	994	408	219	167
9	125	128	96	136	187	220	1,410	1,110	983	389	216	166
10	123	126	107	159	173	211	1,330	1,020	966	375	216	164
11	121	129	105	227	158	207	1,220	981	936	363	217	164
12	120	131	101	233	171	202	1,130	984	877	355	216	163
13	120	131	108	210	175	196	1,130	1,020	843	353	214	160
14	118	133	103	241	178	199	1,140	1,070	968	343	210	162
15	117	127	101	296	156	203	1,230	1,180	983	331	208	166
16	116	126	101	279	162	193	1,250	1,500	1,010	324	207	188
17	115	124	88	255	133	194	1,160	1,890	1,020	317	216	179
18	115	122	e55	244	e100	194	1,040	2,110	953	309	217	172
19	114	122	e60	228	e120	193	954	2,200	901	304	207	172
20	117	120	100	220	e140	191	902	2,230	851	300	201	181
21	117	120	102	212	162	191	931	2,060	804	293	198	180
22	115	120	106	202	160	190	1,080	1,840	760	286	193	180
23	115	118	119	197	163	191	1,190	1,740	711	280	191	172
24	115	117	124	192	160	197	1,180	1,600	667	275	191	169
25	115	117	126	189	151	219	1,140	1,450	630	271	191	166
26	114	118	133	188	157	268	1,090	1,390	598	266	190	163
27	115	117	138	189	164	280	1,070	1,280	574	261	187	160
28	115	113	144	188	186	279	1,140	1,280	549	255	183	159
29	115	104	144	186	---	280	1,320	1,260	529	251	180	157
30	116	111	141	192	---	283	1,670	1,180	519	249	179	157
31	118	---	139	205	---	298	---	1,110	---	247	179	---
Total	3,851	3,828	3,279	5,994	4,759	6,766	31,835	43,675	26,064	10,561	6,457	5,079
Mean	124	128	106	193	170	218	1,061	1,409	869	341	208	169
Max	175	165	144	296	207	298	1,670	2,230	1,120	496	245	188
Min	114	104	55	135	100	190	329	981	519	247	179	157
Ac-ft	7,640	7,590	6,500	11,890	9,440	13,420	63,140	86,630	51,700	20,950	12,810	10,070
Cfs/m	0.19	0.20	0.16	0.30	0.26	0.34	1.65	2.19	1.35	0.53	0.32	0.26
In.	0.22	0.22	0.19	0.35	0.28	0.39	1.84	2.53	1.51	0.61	0.37	0.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2006, BY WATER YEAR (WY)

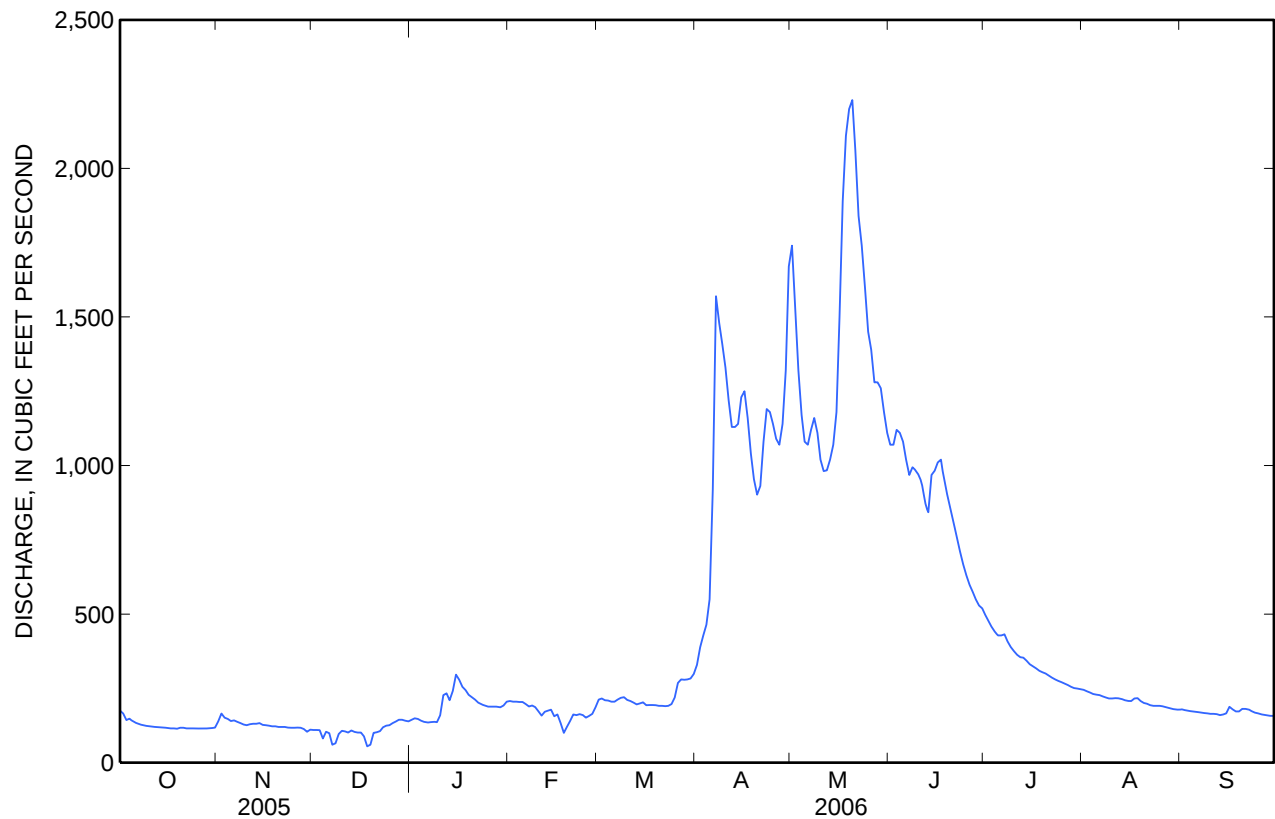
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	179	195	203	204	247	344	759	1,282	996	396	233	190
Max	343	501	880	719	1,226	1,344	1,674	3,154	2,369	724	382	288
(WY)	(1960)	(1996)	(1996)	(1974)	(1996)	(1972)	(1996)	(1997)	(1974)	(1974)	(1997)	(1997)
Min	112	115	101	109	103	120	238	374	244	140	113	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 2005		Water Year 2006		Water Years 1957 - 2006	
Annual total	79,732		152,148			
Annual mean	218		417		436	
Highest annual mean					804	
Lowest annual mean					176	
Highest daily mean	767	Apr 27	2,230	May 20	5,360	Jun 9, 1964
Lowest daily mean	55	Dec 18	55	Dec 18	55	Dec 18, 2005
Annual seven-day minimum	87	Dec 15	87	Dec 15	73	Dec 31, 1994
Maximum peak flow			2,270	May 20	6,080	Jun 9, 1964
Maximum peak stage			5.40	May 20	8.53	Jun 9, 1964
Instantaneous low flow					^a 48	Dec 4, 1992
Annual runoff (ac-ft)	158,100		301,800		315,900	
Annual runoff (cfs)	0.340		0.649		0.679	
Annual runoff (inches)	4.62		8.82		9.23	
10 percent exceeds	472		1,130		1,060	
50 percent exceeds	152		197		233	
90 percent exceeds	111		115		130	

^a Gage height, 2.02 ft, result of freezeup.



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, 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, 15,680 acre-ft, May 7, June 2, and July 4, elevation, 2,396.47 ft; minimum observed, 14,030 acre-ft, Jan. 24, elevation, 2,395.35 ft.

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

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2,395.91	14,840	--
October 31	2,395.77	14,640	-200
November 30	2,395.66	14,480	-160
December 31	2,395.73	14,580	+100
Calendar Year 2005	--	--	-100
January 31	2,395.94	14,880	+300
February 28	2,395.63	14,430	-450
March 31	2,395.45	14,170	-260
April 30	2,396.41	15,590	+1,420
May 31	2,396.39	15,560	-30
June 30	2,396.45	15,650	+90
July 31	2,395.85	14,750	-900
August 31	2,395.88	14,800	+50
September 30	2,395.80	14,680	-120
Water Year 2006	--	--	-160

Water-Data Report 2006

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	57	43	55	155	149	114	270	938	533	188	81	57
2	44	44	56	151	148	114	300	781	551	177	78	56
3	39	40	56	144	148	116	312	663	588	168	77	55
4	43	42	56	135	150	119	329	594	582	161	75	54
5	39	42	57	128	149	123	364	551	565	155	74	54
6	38	44	55	124	147	131	432	554	521	159	74	53
7	38	43	54	122	144	146	528	581	495	157	74	52
8	38	42	54	119	141	159	592	616	539	145	72	52
9	38	42	54	116	138	168	592	593	525	137	71	52
10	38	43	53	131	134	170	583	545	479	131	70	51
11	38	43	53	196	130	167	554	522	444	127	71	51
12	37	44	53	220	128	163	517	531	405	124	69	50
13	38	44	53	212	129	159	516	554	378	122	68	50
14	37	45	53	244	126	156	555	576	453	118	67	50
15	37	45	53	298	121	154	636	663	474	115	66	50
16	37	45	53	306	118	150	664	900	454	112	66	50
17	36	45	e50	293	e80	147	601	1,150	470	109	66	49
18	36	46	e45	276	e70	143	530	1,290	434	106	65	48
19	36	46	e48	250	e90	141	477	1,290	410	104	64	50
20	36	47	e50	233	109	138	445	1,250	380	102	63	50
21	36	47	52	213	110	135	450	1,130	354	100	63	49
22	36	48	54	194	109	133	516	991	326	98	62	48
23	36	48	57	181	109	133	570	992	303	96	60	47
24	35	49	56	171	106	133	570	897	281	94	60	46
25	35	50	56	163	101	144	553	816	262	91	60	46
26	36	50	57	156	99	162	523	757	246	89	60	45
27	36	51	61	151	101	192	516	681	232	87	59	45
28	36	52	72	148	111	224	557	643	218	86	58	44
29	36	53	80	142	---	230	656	613	210	84	57	44
30	36	55	130	145	---	229	898	576	202	83	57	43
31	37	---	148	149	---	241	---	543	---	82	58	---
Total	1,175	1,378	1,884	5,666	3,395	4,834	15,606	23,781	12,314	3,707	2,065	1,491
Mean	37.9	45.9	60.8	183	121	156	520	767	410	120	66.6	49.7
Max	57	55	148	306	150	241	898	1,290	588	188	81	57
Min	35	40	45	116	70	114	270	522	202	82	57	43
Ac-ft	2,330	2,730	3,740	11,240	6,730	9,590	30,950	47,170	24,420	7,350	4,100	2,960
Cfs/m	0.21	0.25	0.33	1.00	0.67	0.86	2.86	4.21	2.26	0.66	0.37	0.27
In.	0.24	0.28	0.39	1.16	0.69	0.99	3.19	4.86	2.52	0.76	0.42	0.30

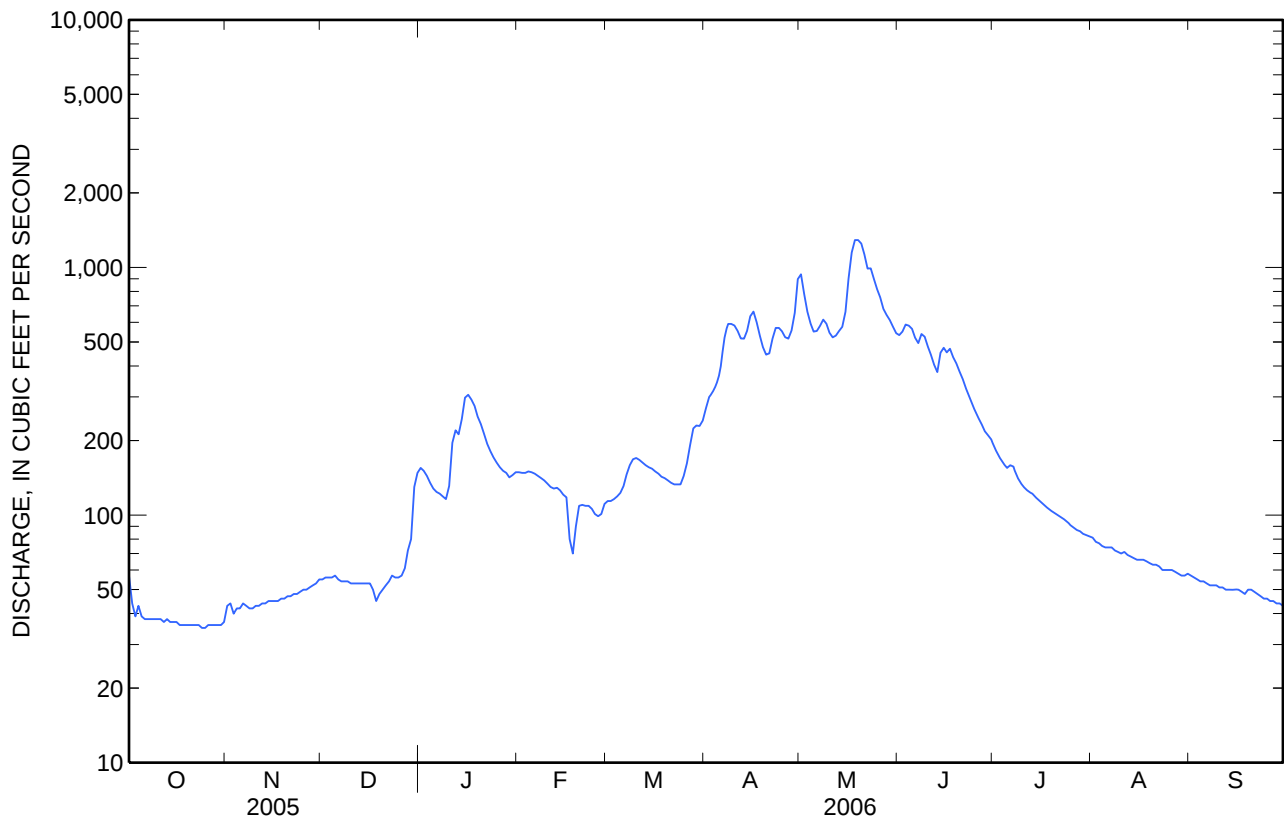
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	53.8	78.3	111	118	158	217	474	774	523	158	82.2	60.7
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 2005		Water Year 2006		Water Years 1957 - 2006	
Annual total	50,476		77,296			
Annual mean	138		212		234	
Highest annual mean					441	1974
Lowest annual mean					85.8	2001
Highest daily mean	546	Apr 27	1,290	May 18	4,960	Jan 16, 1974
Lowest daily mean	35	Oct 24	35	Oct 24	25	Feb 19, 2001
Annual seven-day minimum	36	Oct 19	36	Oct 19	25	Feb 27, 2001
Maximum peak flow			1,390	May 18	5,490	Jan 16, 1974
Maximum peak stage			5.03	May 18	9.86	Jan 16, 1974
Instantaneous low flow			^a 35	Oct 24	22	Feb 8, 2001
Annual runoff (ac-ft)	100,100		153,300		169,600	
Annual runoff (cfsm)	0.760		1.16		1.29	
Annual runoff (inches)	10.32		15.80		17.48	
10 percent exceeds	340		567		630	
50 percent exceeds	89		116		101	
90 percent exceeds	39		43		43	

^a Gage height, 0.50 ft.

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 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, 334,000 acre-ft, May 31, elevation, 2,330.92 ft; minimum, 301,400 acre-ft, Apr. 5, elevation, 2,326.70 ft.

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

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	2328.28	313,400	--
October 31	2330.08	327,300	+13,900
November 30	2329.37	321,800	-5,500
December 31	2329.73	324,600	+2,800
Calendar Year 2005			+8,000
January 31	2329.52	323,000	-1,600
February 28	2327.78	309,500	-13,500
March 31	2327.69	308,900	-600
April 30	2328.11	312,100	+3,200
May 31	2330.92	334,000	+21,900
June 30	2329.36	321,700	-12,300
July 31	2329.55	323,200	+1,500
August 31	2329.78	325,000	+1,800
September 30	2329.58	323,400	-1,600
Water Year 2006			+10,000

Water-Data Report 2006

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, 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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,050	15,000	15,000	10,300	17,800	13,500	13,500	43,600	53,000	25,400	7,120	6,200
2	7,410	12,500	16,100	12,000	14,800	17,400	12,700	45,600	51,300	26,100	11,500	6,200
3	9,720	11,600	8,770	11,700	15,600	16,600	15,500	50,800	49,600	27,400	11,000	8,060
4	9,060	15,200	11,400	13,300	11,900	12,800	18,300	46,900	45,400	25,700	9,680	8,140
5	13,800	8,320	15,400	12,000	14,200	11,800	16,700	50,200	49,800	27,600	4,890	7,970
6	14,400	9,080	14,600	14,100	18,200	15,700	11,200	49,700	48,900	23,000	8,490	8,800
7	14,000	15,500	15,000	8,020	14,400	16,300	21,700	47,300	49,700	22,300	11,300	6,230
8	10,900	14,300	13,800	7,690	18,800	20,000	25,900	47,800	49,600	22,400	9,040	7,740
9	11,300	12,300	10,900	10,500	19,300	18,300	27,300	42,500	52,800	22,500	7,660	5,560
10	11,500	10,100	7,940	11,300	18,500	13,900	27,300	37,300	57,900	19,800	6,560	4,250
11	9,600	11,900	9,310	10,900	14,600	8,260	29,300	34,800	57,400	20,400	7,430	8,670
12	11,000	10,600	15,100	11,500	12,800	11,500	26,500	41,600	57,900	19,700	5,350	5,760
13	12,300	11,000	9,310	14,300	17,600	13,700	27,900	34,500	56,800	20,600	7,490	4,900
14	12,700	11,700	11,800	11,700	16,000	16,800	25,100	41,800	53,300	17,900	6,100	5,440
15	9,240	12,300	15,400	12,100	12,300	14,900	32,000	42,900	53,800	18,100	6,110	8,830
16	7,890	10,800	15,700	13,300	18,300	11,800	33,600	48,100	53,700	16,200	8,010	5,240
17	13,200	13,200	9,090	11,800	18,300	12,000	33,000	50,900	57,300	18,300	7,410	6,140
18	11,000	16,800	9,560	15,600	11,800	9,290	35,000	63,400	64,900	16,500	7,310	8,160
19	11,900	6,860	12,200	18,200	11,600	9,560	31,700	72,700	68,300	16,400	7,050	7,650
20	14,200	9,880	11,700	18,300	14,300	14,200	34,700	77,200	66,400	15,900	8,050	8,260
21	12,200	16,100	11,800	9,630	16,700	12,200	34,600	79,100	60,200	17,200	7,280	9,780
22	7,900	19,100	14,600	11,400	17,900	13,300	35,100	80,500	54,100	13,700	7,900	9,190
23	10,800	15,800	11,800	16,100	18,900	13,600	35,100	78,900	49,300	12,800	6,710	5,060
24	13,400	8,860	10,000	15,600	20,500	13,200	34,900	75,000	43,100	16,400	5,990	7,560
25	9,700	10,300	12,000	16,800	14,000	9,810	37,100	73,800	38,600	12,500	8,920	9,220
26	10,600	12,400	9,960	17,200	16,500	10,200	42,800	72,900	28,500	10,300	7,210	9,660
27	14,500	11,800	12,400	13,700	17,400	14,200	42,000	70,000	29,400	14,000	6,880	10,700
28	9,350	16,600	12,300	13,300	17,900	12,200	41,100	70,900	31,200	12,500	7,750	9,380
29	8,870	14,800	13,900	14,800	---	11,900	38,900	66,000	28,600	6,970	7,120	10,800
30	11,000	11,400	11,600	13,700	---	11,600	42,800	59,400	27,600	6,590	6,350	4,920
31	9,730	---	9,140	16,800	---	16,700	---	54,000	---	7,560	6,280	---
Total	339,220	376,100	377,580	407,640	450,900	417,220	883,300	1,750,100	1,488,400	552,720	235,940	224,470
Mean	10,940	12,540	12,180	13,150	16,100	13,460	29,440	56,450	49,610	17,830	7,611	7,482
Max	14,500	19,100	16,100	18,300	20,500	20,000	42,800	80,500	68,300	27,600	11,500	10,800
Min	6,050	6,860	7,940	7,690	11,600	8,260	11,200	34,500	27,600	6,590	4,890	4,250
Ac-ft	672,800	746,000	748,900	808,600	894,400	827,600	1,752,000	3,471,000	2,952,000	1,096,000	468,000	445,200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11,510	13,010	14,090	14,110	14,890	15,960	22,520	40,540	50,020	22,850	10,550	10,100
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 2005		Water Year 2006		Water Years 1960 - 2006	
Annual total	6,072,230		7,503,590			
Annual mean	16,640		20,560		20,010	
Highest annual mean					31,870	
Lowest annual mean					11,170	
Highest daily mean	71,100	Jun 8	80,500	May 22	125,000	Jun 12, 1964
Lowest daily mean	3,120	Mar 12	4,250	Sep 10	60	Jan 29, 1989
Annual seven-day minimum	5,650	Sep 7	6,050	Sep 8	2,250	Aug 30, 1963
Annual runoff (ac-ft)	12,040,000		14,880,000		14,500,000	
10 percent exceeds	37,100		49,600		40,400	
50 percent exceeds	12,200		13,800		14,900	
90 percent exceeds	6,770		7,530		7,240	

