12331800 CLARK FORK NEAR DRUMMOND, MT

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 46°42′44″, long 113°19′48″ referenced to North American Datum of 1927, in NE ¼ SW ¼ NW ¼ sec.14, T.11 N., R.14 W., Granite County, MT, Hydrologic Unit 17010201, on right bank 50 ft upstream from country road bridge, 0.3 mi north of Bearmouth, 4.5 mi east of Bearmouth Chalet, 9.0 mi northwest of Drummond, and at river mile 403.9.

DRAINAGE AREA.--2,501 mi^2.

SURFACE-WATER RECORDS

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

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1981 recorded a discharge of about 16,000 ft^3/s, from measurements made upstream at Clark Fork at Drummond (12331600) and at downstream site, Clark Fork at Clinton (12331900).

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

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

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

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

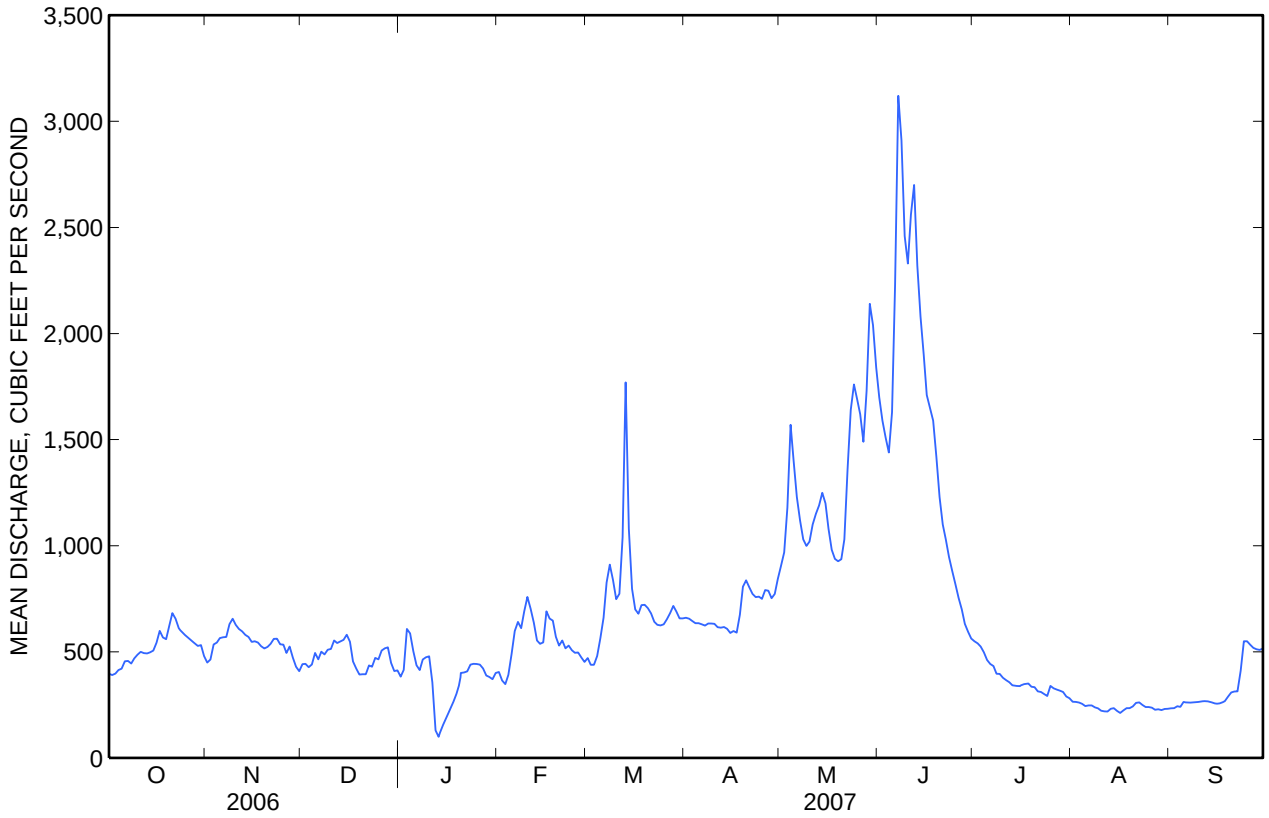
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	570	573	495	490	576	678	779	1,134	1,449	647	335	413
Max	859	810	640	754	1,377	1,048	1,356	2,557	3,560	1,731	895	1,007
(WY)	(1998)	(1998)	(1998)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1998)	(1993)	(1993)
Min	411	448	366	376	375	415	464	298	297	160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

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

SUMMARY STATISTICS

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

[a] Gage height, 2.03 ft.



WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

[Remark codes: E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)
Nov													
14...	1500	573	8.7	459	5.0	5.0	220	62.7	14.8	8.4	9.2	E.02	.08
Feb													
27...	1525	460	8.4	478	4.0	3.0	210	59.4	14.5	7.4	8.5	.06	.12
Mar													
28...	0850	720	8.3	401	2.5	5.5	180	53.5	12.1	6.9	10.0	E.03	.14
May													
08...	0815	1,030	8.2	356	11.0	11.5	150	44.0	10.8	9.7	14.6	.04	.22
Jun													
07...	1140	3,160	8.2	293	15.5	9.0	120	34.8	8.26	18.0	41.3	.07	1.02
19...	1425	1,410	8.3	352	23.0	15.5	150	44.7	10.1	12.6	16.3	.05	.20
Jul													
24...	1440	298	8.6	463	33.0	21.0	210	57.5	15.2	11.5	11.6	E.03	.05
Aug													
28...	1215	232	8.4	573	21.5	16.5	250	71.4	18.0	11.1	11.3	E.03	.07

12331800 CLARK FORK NEAR DRUMMOND, MT—Continued

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

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