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 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	526	589	476	398	421	489	460	787	2,090	1,580	380	658
2	568	582	463	359	408	484	448	722	2,160	2,310	353	786
3	567	575	525	371	421	467	447	698	2,340	2,220	357	715
4	560	572	636	460	439	467	458	706	2,260	1,800	362	647
5	568	572	706	490	432	463	477	729	2,940	1,880	355	613
6	620	568	668	444	442	461	467	750	3,100	1,770	343	607
7	619	568	617	421	436	464	461	793	2,940	1,500	324	616
8	618	568	540	420	442	468	462	871	2,760	1,290	316	608
9	620	567	498	418	442	476	465	886	2,810	1,140	311	600
10	611	565	507	426	469	499	475	836	2,700	1,020	329	602
11	648	573	475	457	493	517	472	784	2,890	901	313	619
12	629	568	484	480	501	528	483	764	3,100	843	303	617
13	611	576	496	476	503	526	547	754	2,970	787	292	615
14	597	567	506	441	487	520	692	732	2,750	736	286	598
15	590	552	501	458	481	524	999	732	2,730	691	287	588
16	594	558	504	360	496	514	770	741	2,770	680	276	583
17	617	545	500	325	492	503	644	736	2,720	660	277	581
18	626	564	501	412	468	498	653	829	2,700	639	271	565
19	623	605	527	452	456	513	717	1,040	2,590	612	272	552
20	638	598	525	376	456	518	672	1,290	2,470	590	281	540
21	638	538	492	177	464	513	613	1,470	2,370	560	346	557
22	630	480	437	138	462	495	629	1,530	2,420	537	401	583
23	630	465	479	200	461	481	654	1,610	2,490	589	407	590
24	619	455	523	274	466	497	669	1,790	2,430	607	395	586
25	614	449	486	293	469	506	684	2,010	2,210	545	390	585
26	605	445	454	317	469	495	672	2,450	2,020	502	394	583
27	594	507	446	394	468	489	655	2,380	1,860	483	388	568
28	592	525	444	435	470	464	672	2,240	1,730	e480	385	559
29	598	520	434	405	480	467	755	2,160	1,630	e465	377	540
30	599	491	446	412	---	456	815	2,200	1,600	e450	375	540
31	597	---	426	418	---	460	---	2,210	---	417	416	---
Total	18,766	16,307	15,722	11,907	13,394	15,222	18,087	38,230	74,550	29,284	10,562	18,001
Mean	605	544	507	384	462	491	603	1,233	2,485	945	341	600
Max	648	605	706	490	503	528	999	2,450	3,100	2,310	416	786
Min	526	445	426	138	408	456	447	698	1,600	417	271	540
Ac-ft	37,220	32,340	31,180	23,620	26,570	30,190	35,880	75,830	147,900	58,080	20,950	35,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	572	571	496	483	568	665	768	1,141	1,514	666	335	425
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)

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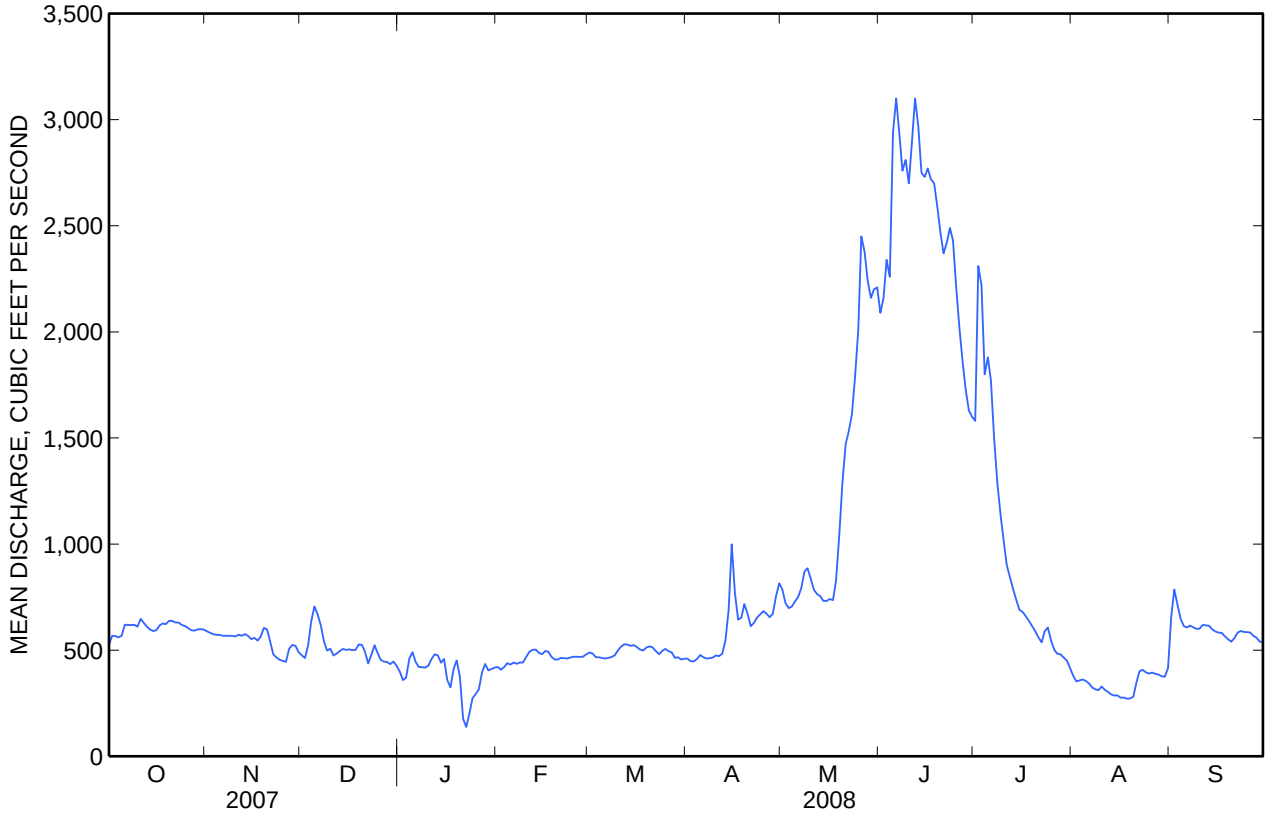
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1993 - 2008	
Annual total	238,695		280,032			
Annual mean	654		765		677	
Highest annual mean					1,192	1997
Lowest annual mean					400	2000
Highest daily mean	3,120	Jun 7	3,100	Jun 6	8,430	Feb 9, 1996
Lowest daily mean	100	Jan 13	138	Jan 22	77	Jul 31, 2000
Annual seven-day minimum	182	Jan 12	254	Jan 20	83	Jul 29, 2000
Maximum peak flow			3,190	Jun 5	9,800	Feb 9, 1996
Maximum peak stage			6.86	Jun 5	10.03	Feb 9, 1996
Instantaneous low flow			[a]128	Jan 22	[b]75	Jul 30, 2000
Annual runoff (ac-ft)	473,500		555,400		490,700	
10 percent exceeds	1,190		1,870		1,190	
50 percent exceeds	558		545		531	
90 percent exceeds	256		389		270	

[a]Gage height, 2.19 ft.
[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 2007 TO SEPTEMBER 2008
Part 1 of 2
[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, ft3/s (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													
06...	1530	568	8.5	475	10.0	6.0	220	62.5	15.0	7.8	8.1	E.02	.03
Mar													
04...	1345	465	8.5	480	6.0	4.0	210	59.6	14.9	7.3	9.6	E.04	.13
Apr													
09...	0915	465	8.3	479	2.0	6.0	200	57.7	14.4	7.7	9.8	E.04	.13
May													
08...	0910	867	8.1	363	9.0	8.5	160	44.7	11.1	9.0	17.3	<.04	.25
Jun													
04...	1305	2,210	8.1	280	7.5	11.0	120	33.9	7.50	13.2	20.5	.05	.30
17...	0740	2,740	8.1	274	12.0	13.5	120	34.5	7.71	13.8	19.8	.05	.29
Jul													
09...	1455	1,130	8.4	357	29.0	19.0	160	45.1	10.4	13.5	16.9	.07	.14
Aug													
19...	1340	270	8.5	499	27.0	19.5	210	59.8	15.5	11.2	12.1	E.03	.02

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
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 <62.5µm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Nov													
06...	2.6	6.3	<8	115	<.08	.83	9.8	36.9	2.4	6.9	77	4	6.1
Mar													
04...	3.6	16.7	<8	376	<.08	3.08	23.5	88.8	4.3	20.9	80	19	24
Apr													
09...	3.8	15.2	<8	333	E.05	2.73	26.2	87.5	4.1	21.9	72	23	29
May													
08...	4.0	37.4	28	1,200	.15	10.5	11.9	219	3.8	56.4	81	64	150
Jun													
04...	8.3	55.8	27	1,280	.21	10.2	11.5	191	6.9	66.3	66	78	465
17...	9.1	52.0	29	1,260	.26	9.29	13.3	168	7.5	66.2	65	72	533
Jul													
09...	7.1	23.1	E8	431	.23	3.61	26.9	83.8	4.0	24.4	71	19	58
Aug													
19...	4.3	5.7	<8	74	<.08	.32	6.2	21.6	2.3	4.3	68	3	2.2