

**12300000 Kootenay River at Newgate, British Columbia
Site Number 206**

LOCATION.--Lat 49°00'52", long 115°10'24" (NAD 27), on left bank at old highway bridge site, 1.1 mi north of international boundary, 2 mi southeast of Newgate, and at river mile 272.1.

DRAINAGE AREA.--7,660 mi² approximately .

PERIOD OF RECORD.--41 years (1930-71).

GAGE.--Water-stage recorder. Altitude of gage is 2,310.23 ft (NGVD 29, datum of Geodetic Survey of Canada). Prior to Oct. 1, 1940, nonrecording gage at same site at datum 1.00 ft higher. Oct. 1, 1940, to Apr. 30, 1947, nonrecording gage at present site and datum.

REMARKS.--Diversions for irrigation of about 8,500 acres upstream from station. Records give total flow of main channel and slough.

Magnitude and probability of annual low flow based on 41 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,700	1,420	1,280	1,180	1,060	--
3	1,750	1,470	1,330	1,220	1,100	--
7	1,890	1,600	1,450	1,330	1,200	--
14	2,050	1,760	1,600	1,470	1,330	--
30	2,220	1,930	1,790	1,670	1,540	--
60	2,440	2,090	1,940	1,830	1,720	--
90	2,640	2,250	2,080	1,970	1,860	--
120	2,990	2,500	2,290	2,140	1,990	--
183	3,810	3,200	2,960	2,790	2,630	--

Magnitude and probability of annual high flow based on 41 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	57,900	72,500	79,900	87,400	91,900	--
3	55,800	69,900	77,100	84,300	88,600	--
7	51,100	64,600	71,700	79,100	83,600	--
15	45,800	58,600	65,700	73,400	78,400	--
30	41,200	51,600	57,200	63,200	67,000	--
60	34,700	42,300	46,000	49,600	51,800	--
90	28,700	34,500	37,300	39,900	41,400	--

Magnitude and probability of seasonal low flow from March-June based on 41 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,190	1,900	1,770	1,660	1,550	--
3	2,240	1,950	1,820	1,710	1,590	--
7	2,300	2,020	1,890	1,790	1,670	--
14	2,390	2,100	1,960	1,850	1,730	--
30	2,630	2,270	2,110	1,990	1,870	--

Magnitude and probability of seasonal low flow from July-October based on 41 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,970	3,320	3,070	2,900	2,740	--
3	4,020	3,390	3,150	2,990	2,840	--
7	4,130	3,480	3,230	3,060	2,910	--
14	4,290	3,590	3,330	3,150	2,990	--
30	4,600	3,840	3,560	3,370	3,200	--

Magnitude and probability of seasonal low flow from November-February based on 41 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,710	1,420	1,290	1,190	1,070	--
3	1,780	1,480	1,340	1,230	1,120	--
7	1,920	1,600	1,460	1,340	1,220	--
14	2,070	1,780	1,610	1,490	1,370	--
30	2,230	1,940	1,800	1,690	1,590	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	11,600	2,880	5,290	1,900	42
November	7,370	2,100	4,150	1,250	42
December	5,760	1,910	3,080	904	42
January	4,490	1,570	2,580	570	42
February	4,710	1,540	2,560	569	42
March	5,190	1,760	2,790	638	42
April	24,100	2,540	7,180	4,000	41
May	41,400	10,000	26,500	7,900	41
June	60,800	10,000	37,200	11,000	41
July	40,200	8,320	20,000	7,210	41
August	14,600	5,350	8,620	2,070	41
September	14,500	3,880	6,090	1,820	41
Annual	14,300	6,110	10,500	2,150	41

Duration of daily mean flows based on 41 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
1,560	1,640	1,900	2,270	2,710	3,180	3,960	4,990
40%	30%	20%	15%	10%	5%	2%	1%
6,390	9,200	15,600	21,600	29,700	41,200	52,200	63,300

12301300 Tobacco River near Eureka, Mont.
Site Number 207

LOCATION.--Lat 48°53'37", long 115°05'13" (NAD 27), in NW¼SE¼SE¼ 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.

PERIOD OF RECORD.--September 1958 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 2,518.85 ft (NGVD 29).

REMARKS.--Diversions for irrigation of about 4,500 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 43 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	50	37	31	26	22	--
3	55	41	34	29	24	--
7	61	45	38	32	26	--
14	68	50	42	35	28	--
30	77	57	47	39	31	--
60	85	63	52	44	36	--
90	89	67	57	49	41	--
120	94	72	62	55	48	--
183	101	76	67	60	54	--

Magnitude and probability of annual high flow based on 44 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,380	1,850	2,120	2,410	2,600	--
3	1,280	1,690	1,920	2,170	2,330	--
7	1,140	1,500	1,700	1,910	2,060	--
15	1,010	1,320	1,490	1,680	1,800	--
30	908	1,180	1,330	1,480	1,590	--
60	779	1,000	1,120	1,250	1,330	--
90	669	867	971	1,080	1,150	--

Magnitude and probability of seasonal low flow from March-June based on 44 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	87	63	54	48	43	--
3	92	68	60	54	48	--
7	99	75	65	59	53	--
14	107	81	72	65	60	--
30	133	95	82	73	64	--

Magnitude and probability of seasonal low flow from July-October based on 43 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	80	54	41	32	24	--
3	81	54	42	33	24	--
7	83	56	43	34	25	--
14	87	59	46	36	27	--
30	94	65	50	40	30	--

Magnitude and probability of seasonal low flow from November-February based on 43 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	51	38	33	30	26	--
3	56	43	38	35	31	--
7	63	50	45	42	38	--
14	70	56	51	47	44	--
30	80	63	57	53	49	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	342	51	113	49	44
November	368	56	132	71	44
December	415	60	115	64	44
January	248	54	102	42	44
February	492	50	111	68	44
March	422	67	157	80	44
April	883	140	424	192	44
May	1,470	371	777	239	44
June	1,500	196	741	300	44
July	576	80	311	136	44
August	235	37	127	49	44
September	239	29	108	40	44
Annual	496	109	268	84	44

Duration of daily mean flows based on 44 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
39	47	55	68	84	100	116	135
40%	30%	20%	15%	10%	5%	2%	1%
172	246	426	552	713	975	1,270	1,440

**12301500 Kootenai River near Rexford, Mont.
Site Number 208**

LOCATION.--Lat 48°52'28", long 115°13'37" (NAD 27), in SE¼NE¼NW¼ sec.21, T.36 N., R.28 W., Lincoln County, near right bank on downstream side of bridge on State Highway 37, 300 ft downstream from Sullivan Creek, 1.1 mi southwest of Rexford, 3.5 mi downstream from Tobacco River, and at river mile 260.5.

DRAINAGE AREA.--8,420 mi², approximately .

PERIOD OF RECORD.--15 years. March 1929 to November 1940, October 1967 to September 1971 (discontinued).

REVISED RECORDS--WSP 1042: 1933.

GAGE.--Nonrecording gage read once or twice daily. Altitude of gage is 2,244.10 ft (NGVD 29, U.S. Army Corps of Engineers bench mark). Mar. 24, 1929, to Oct. 15, 1931, nonrecording gage, Oct. 16, 1931, to June 4, 1932, water-stage recorder, June 5, 1932, to Nov. 18, 1940, nonrecording gages, all at present site at datum 13.14 ft higher.

REMARKS.--Diversions for irrigation of about 13,900 acres upstream from station.

Magnitude and probability of annual low flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,490	1,230	1,130	1,070	--	--
3	1,560	1,300	1,200	1,130	--	--
7	1,680	1,400	1,290	1,210	--	--
14	1,860	1,580	1,460	1,360	--	--
30	2,100	1,820	1,680	1,580	--	--
60	2,350	2,010	1,890	1,810	--	--
90	2,570	2,160	2,010	1,910	--	--
120	2,920	2,370	2,160	2,010	--	--
183	3,580	3,010	2,790	2,640	--	--

Magnitude and probability of seasonal low flow from March-June based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,420	2,040	1,870	1,740	--	--
3	2,450	2,080	1,910	1,790	--	--
7	2,500	2,110	1,950	1,820	--	--
14	2,560	2,170	1,990	1,870	--	--
30	2,780	2,340	2,160	2,040	--	--

Magnitude and probability of seasonal low flow from November-February based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,530	1,270	1,160	1,090	--	--
3	1,620	1,340	1,230	1,150	--	--
7	1,740	1,440	1,320	1,230	--	--
14	1,920	1,610	1,480	1,390	--	--
30	2,140	1,830	1,720	1,650	--	--

Duration of daily mean flows based on 15 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
1,540	1,620	1,890	2,270	2,730	3,250	3,950	4,900
40%	30%	20%	15%	10%	5%	2%	1%
6,140	9,180	16,200	21,500	28,400	39,400	49,000	58,700

Magnitude and probability of annual high flow based on 15 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	53,500	65,900	73,300	81,800	--	--
3	51,700	64,300	71,700	80,200	--	--
7	47,600	59,400	66,000	73,400	--	--
15	42,400	53,300	59,400	66,000	--	--
30	38,100	47,200	52,200	57,700	--	--
60	32,100	40,000	44,600	50,000	--	--
90	26,600	32,800	36,600	40,900	--	--

Magnitude and probability of seasonal low flow from July-October based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,550	3,060	2,880	2,760	--	--
3	3,590	3,100	2,920	2,800	--	--
7	3,690	3,160	2,960	2,830	--	--
14	3,790	3,240	3,040	2,900	--	--
30	4,100	3,440	3,180	3,010	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	8,540	2,920	4,620	1,420	15
November	7,840	2,170	4,030	1,450	15
December	5,530	1,990	2,970	828	15
January	5,020	1,620	2,680	786	15
February	3,860	1,670	2,620	637	15
March	4,910	1,880	2,960	707	15
April	24,500	3,110	7,850	5,370	16
May	42,000	10,000	26,100	8,090	16
June	49,600	10,000	34,800	10,300	16
July	27,400	9,780	17,600	5,920	16
August	11,800	5,740	8,000	1,900	16
September	7,820	4,090	5,490	1,050	16
Annual	13,800	6,630	10,100	2,270	15

12301933 Kootenai River below Libby Dam, near Libby, Mont.
Site Number 209

LOCATION.--Lat 48°24'03", long 115°19'11" (NAD 27), in SW¼SW¼SW¼ 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, approximately.

PERIOD OF RECORD.--October 1971 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 2,100 ft (NGVD 29, U.S. Army Corps of Engineers bench mark). Prior to Feb. 13, 1974, nonrecording gage at site 0.4 mi upstream at same datum.

REMARKS.--Flow completely regulated by Lake Kocanusa after Mar. 21, 1972. Diversions for irrigation of about 13,000 acres, revised, from tributaries upstream from station in Canada and the United States. U.S. Army Corps of Engineers satellite telemetry at station.

Magnitude and probability of annual low flow based on 29 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,280	2,790	2,530	2,320	2,090	--
3	3,350	2,860	2,600	2,390	2,170	--
7	3,360	2,870	2,640	2,470	2,290	--
14	3,390	2,900	2,680	2,520	2,360	--
30	3,490	2,950	2,750	2,610	2,450	--
60	3,660	3,040	2,830	2,660	2,480	--
90	4,410	3,310	2,950	2,720	2,520	--
120	5,720	3,970	3,300	2,850	2,600	--
183	7,300	5,250	4,410	3,810	3,230	--

Magnitude and probability of annual high flow based on 30 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	25,600	30,500	34,000	38,600	42,200	--
3	24,800	29,700	33,200	37,800	41,400	--
7	24,300	29,000	31,900	35,500	38,100	--
15	23,300	27,100	29,200	31,400	32,900	--
30	22,000	25,600	27,400	29,200	30,400	--
60	20,300	23,400	24,500	25,500	25,900	--
90	18,600	20,600	21,200	21,600	21,700	--

Magnitude and probability of seasonal low flow from March-June based on 30 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,350	2,860	2,610	2,410	2,190	--
3	3,380	2,910	2,680	2,490	2,300	--
7	3,390	2,930	2,720	2,570	2,410	--
14	3,450	2,970	2,780	2,640	2,510	--
30	3,600	3,030	2,840	2,710	2,610	--

Magnitude and probability of seasonal low flow from July-October based on 29 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,760	2,990	2,700	2,500	2,230	--
3	4,190	3,190	2,780	2,510	2,250	--
7	4,780	3,440	2,900	2,530	2,290	--
14	5,340	3,770	3,130	2,680	2,390	--
30	6,450	4,480	3,630	3,010	2,580	--

Magnitude and probability of seasonal low flow from November-February based on 29 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,820	3,130	2,920	2,500	2,310	--
3	3,870	3,160	2,950	2,520	2,330	--
7	4,500	3,380	2,990	2,600	2,340	--
14	5,110	3,570	3,030	2,670	2,360	--
30	7,200	4,660	3,710	3,080	2,500	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	32,100	5,940	14,200	5,730	30
November	24,900	5,720	15,500	4,720	30
December	24,300	2,640	15,000	5,820	30
January	24,700	3,080	14,500	6,410	30
February	22,300	3,090	11,600	5,820	30
March	12,900	3,280	6,260	2,890	30
April	16,400	2,930	5,240	3,030	30
May	16,200	2,820	6,190	3,980	30
June	25,800	3,020	10,700	7,140	30
July	27,300	3,160	10,700	6,280	30
August	18,500	2,820	10,500	4,440	30
September	19,300	5,200	10,200	3,460	30
Annual	15,700	6,210	10,900	2,100	30

Duration of daily mean flows based on 30 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
2,300	2,400	2,710	3,160	3,660	4,150	6,240	8,700
40%	30%	20%	15%	10%	5%	2%	1%
12,200	15,400	18,800	20,700	22,600	24,500	29,800	32,700

**12302000 Fisher River near Jennings, Mont.
Site Number 210**

LOCATION.--Lat 48°14'33", long 115°17'30" (NAD 27), in NW¼NE¼SW¼ sec.27, T.29 N., R.29 W., Lincoln County, on left bank 0.4 mi downstream from bridge, 2.3 mi downstream from Wolf Creek, 8.5 mi southeast of Jennings, and 8.6 mi upstream from mouth. Prior to Dec. 17, 1965, at site 0.4 mi upstream.

DRAINAGE AREA.--780 mi².

PERIOD OF RECORD.--18 years (1951-69).

GAGE.--Water-stage recorder. Altitude of gage is 2,433.94 ft (NGVD 29, U.S. Army Corps of Engineers bench mark). Dec. 15, 1950, to Dec. 16, 1965, at site 0.4 mi upstream at datum 9.29 ft higher.

REMARKS.--Diversions for irrigation of about 700 acres upstream from station. Water-quality records for the water years 1966-69 are published in reports of the U.S. Geological Survey.

Magnitude and probability of annual low flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	90	72	63	57	--	--
3	92	77	70	65	--	--
7	95	81	75	71	--	--
14	99	86	80	76	--	--
30	107	91	85	80	--	--
60	117	97	88	82	--	--
90	130	105	94	86	--	--
120	142	112	100	91	--	--
183	169	131	116	106	--	--

Magnitude and probability of annual high flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	3,370	4,480	5,020	5,560	--	--
3	3,150	4,230	4,780	5,350	--	--
7	2,810	3,800	4,350	4,940	--	--
15	2,460	3,310	3,810	4,370	--	--
30	2,100	2,740	3,100	3,500	--	--
60	1,720	2,230	2,530	2,890	--	--
90	1,400	1,790	2,040	2,340	--	--

Magnitude and probability of seasonal low flow from March-June based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	204	140	113	94	--	--
3	209	146	121	102	--	--
7	218	154	129	110	--	--
14	240	169	141	120	--	--
30	344	237	188	153	--	--

Magnitude and probability of seasonal low flow from July-October based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	99	82	75	69	--	--
3	100	84	76	71	--	--
7	102	85	78	72	--	--
14	105	88	81	77	--	--
30	111	93	86	81	--	--

Magnitude and probability of seasonal low flow from November-February based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	103	79	67	59	--	--
3	109	86	76	68	--	--
7	121	97	86	78	--	--
14	133	104	91	82	--	--
30	152	115	101	90	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	337	84	166	77	18
November	468	83	218	105	18
December	502	93	243	115	18
January	487	123	237	104	19
February	956	112	338	207	19
March	700	128	370	144	19
April	3,260	496	1,480	731	19
May	3,240	960	1,890	623	19
June	1,650	460	942	329	19
July	572	184	301	92	19
August	206	91	139	27	19
September	236	82	128	41	19
Annual	859	369	531	128	18

Duration of daily mean flows based on 18 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
73	80	96	109	134	162	189	247
40%	30%	20%	15%	10%	5%	2%	1%
327	464	821	1,090	1,510	2,130	2,890	3,450

12302055 Fisher River near Libby, Mont.
Site Number 211

LOCATION.--Lat 48°21'20", long 115°18'50" (NAD 27), in NW¼ NE¼NW¼ sec.21, T.30 N., R.29 W., Lincoln County, Hydrologic Unit 17010102, on left bank 0.8 mi upstream from mouth and 11.4 mi east of Libby.

DRAINAGE AREA.--838 mi².

PERIOD OF RECORD.--September 1967 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 2,134.10 ft (NGVD 29, U.S. Army Corps of Engineers bench mark).

REMARKS.--Diversions of about 700 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

Magnitude and probability of annual low flow based on 34 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	74	56	48	42	36	--
3	80	62	54	48	42	--
7	86	67	60	54	48	--
14	92	73	64	57	50	--
30	102	80	69	61	53	--
60	110	86	74	65	56	--
90	117	91	79	70	61	--
120	126	99	87	79	70	--
183	149	112	98	89	81	--

Magnitude and probability of annual high flow based on 35 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	2,690	4,230	5,340	6,850	8,040	--
3	2,470	3,770	4,680	5,860	6,760	--
7	2,160	3,140	3,750	4,480	4,990	--
15	1,830	2,640	3,140	3,730	4,140	--
30	1,570	2,260	2,700	3,250	3,640	--
60	1,350	1,920	2,260	2,660	2,930	--
90	1,160	1,670	1,970	2,330	2,570	--

Magnitude and probability of seasonal low flow from March-June based on 35 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	220	138	110	93	77	--
3	230	146	118	100	84	--
7	249	160	129	110	92	--
14	284	181	145	122	101	--
30	402	246	192	157	126	--

Magnitude and probability of seasonal low flow from July-October based on 34 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	96	74	64	56	47	--
3	98	75	64	56	48	--
7	99	76	65	57	49	--
14	102	78	67	58	50	--
30	107	82	71	62	52	--

Magnitude and probability of seasonal low flow from November-February based on 34 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	83	59	50	43	37	--
3	92	67	58	51	44	--
7	105	78	67	60	53	--
14	114	85	76	70	66	--
30	133	98	88	81	76	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	305	76	136	51	35
November	819	87	231	184	35
December	1,170	90	244	218	35
January	1,270	78	258	224	35
February	1,960	95	353	360	35
March	2,400	134	594	478	35
April	2,750	318	1,230	637	35
May	3,300	482	1,420	646	35
June	1,800	221	834	415	35
July	532	93	296	133	35
August	244	56	140	48	35
September	204	55	120	34	35
Annual	938	169	488	202	35

Duration of daily mean flows based on 35 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
58	68	82	98	119	143	173	219
40%	30%	20%	15%	10%	5%	2%	1%
297	462	762	995	1,310	1,880	2,590	3,010

12302500 Granite Creek near Libby, Mont.
Site Number 212

LOCATION.--Lat 48°18'07", long 115°35'29" (NAD 27), in SE¼NE¼SW¼ sec.5, T.29 N., R.31 W., Lincoln County, at Glacier Silver Lead Mine, 2.5 mi upstream from mouth and 6.3 mi southwest of Libby.

DRAINAGE AREA.--23.6 mi².

PERIOD OF RECORD.--16 years (1936-43, 1960-69).

REVISED RECORDS.--WSP 1246: 1933.

GAGE.--Water-stage recorder. Concrete control since Sept. 9, 1938. Altitude of gage is 2,780 ft (NGVD 29, from topographic map). Prior to Sept. 16, 1960, nonrecording gages at present datum within 25 ft of site. Crest-stage gage July 2, 1959, to Sept. 15, 1960.

Magnitude and probability of annual low flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6.8	5.2	4.6	4.2	--	--
3	7.1	5.4	4.7	4.2	--	--
7	7.6	5.8	5.1	4.6	--	--
14	8.2	6.4	5.7	5.2	--	--
30	9.9	7.7	6.7	6.1	--	--
60	13	9.0	7.6	6.7	--	--
90	16	11	9.1	7.9	--	--
120	19	13	11	9.4	--	--
183	21	15	13	11	--	--

Magnitude and probability of annual high flow based on 16 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	466	668	893	1,330	--	--
3	396	516	633	832	--	--
7	362	448	505	579	--	--
15	316	385	428	480	--	--
30	290	343	372	403	--	--
60	238	281	304	327	--	--
90	198	228	242	255	--	--

Magnitude and probability of seasonal low flow from March-June based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	13	9.6	8.3	7.5	--	--
3	14	10	8.6	7.7	--	--
7	15	10	8.9	7.9	--	--
14	17	12	10	8.7	--	--
30	26	17	13	11	--	--

Magnitude and probability of seasonal low flow from July-October based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.6	5.3	4.6	4.2	--	--
3	7.8	5.5	4.7	4.3	--	--
7	8.3	5.9	5.1	4.6	--	--
14	9.1	6.5	5.8	5.3	--	--
30	11	7.7	6.8	6.1	--	--

Magnitude and probability of seasonal low flow from November-February based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	9.7	6.8	5.3	4.2	--	--
3	10	7.2	5.6	4.4	--	--
7	11	7.5	5.8	4.6	--	--
14	12	8.3	6.4	5.3	--	--
30	15	10	7.6	6.1	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	74	7.2	27	20	18
November	92	5.3	33	24	18
December	158	8.7	39	41	17
January	27	3.9	20	6.7	17
February	75	4.5	25	21	17
March	71	9.0	30	15	17
April	258	44	116	55	17
May	283	161	234	38	17
June	434	97	224	88	17
July	139	24	72	32	17
August	38	8.6	22	9.0	19
September	57	7.3	18	13	19
Annual	84	44	70	12	16

Duration of daily mean flows based on 16 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4.7	5.4	7.2	9.6	14	18	22	30
40%	30%	20%	15%	10%	5%	2%	1%
41	62	109	148	202	286	379	469

12303000 Kootenai River at Libby, Mont.
Site Number 213

LOCATION.--Lat 48°24'03", long 115°33'08" (NAD 27), in SW¼SE¼SW¼ sec.34, T.31 N., R.31 W., Lincoln County, Hydrologic Unit 17010101, on right bank 1,800 ft downstream from highway bridge at Libby, 0.8 mi downstream from Libby Creek, and at river mile 204.3.

DRAINAGE AREA.--10,240 mi², approximately.

PERIOD OF RECORD.--October 1910 to September 1991 (discontinued). Monthly discharge only for some periods, published in WSP 1316.

REVISED RECORDS.--WSP 1042: 1933. WSP 1246: 1912(M), 1915(M), 1916, 1918-19(M), 1924-27(M).

GAGE.--Water-stage recorder. Altitude of gage is 2,041.54 ft (NGVD 29). Prior to Apr. 28, 1931, nonrecording gages at site 1,800 ft upstream at different datum.

REMARKS.--Flow regulated by Lake Koocanusa (station number 12301920) after Mar. 21, 1972. Diversions for irrigation of about 14,500 acres from tributaries upstream from station in Canada and the United States.

Unregulated streamflow period

Magnitude and probability of annual low flow based on 61 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,000	1,620	1,440	1,290	1,130	1,030
3	2,090	1,700	1,500	1,340	1,160	1,060
7	2,260	1,850	1,630	1,460	1,260	1,140
14	2,450	2,050	1,850	1,690	1,510	1,400
30	2,690	2,300	2,110	1,970	1,820	1,730
60	3,020	2,540	2,340	2,200	2,060	1,980
90	3,270	2,720	2,520	2,380	2,260	2,190
120	3,670	3,020	2,770	2,590	2,420	2,320
183	4,550	3,770	3,470	3,270	3,070	2,960

Magnitude and probability of annual high flow based on 62 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	63,500	80,200	88,600	97,100	102,000	106,000
3	61,500	77,900	86,300	94,800	100,000	104,000
7	56,700	72,200	80,200	88,400	93,500	97,800
15	51,000	64,900	72,100	79,400	83,900	87,700
30	45,200	56,600	62,300	68,000	71,400	74,300
60	38,000	46,100	49,900	53,500	55,500	57,100
90	31,800	38,100	41,000	43,800	45,300	46,500

Magnitude and probability of seasonal low flow from March-June based on 62 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,880	2,440	2,240	2,090	1,940	1,850
3	2,930	2,490	2,310	2,170	2,040	1,960
7	3,020	2,610	2,440	2,320	2,200	2,130
14	3,180	2,720	2,540	2,410	2,280	2,210
30	3,590	2,970	2,740	2,580	2,430	2,350

Magnitude and probability of seasonal low flow from July-October based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4,570	3,810	3,530	3,350	3,180	3,090
3	4,630	3,860	3,570	3,380	3,210	3,110
7	4,740	3,930	3,630	3,430	3,240	3,140
14	4,880	4,040	3,740	3,530	3,340	3,240
30	5,210	4,320	4,000	3,790	3,600	3,500

Magnitude and probability of seasonal low flow from November-February based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,020	1,640	1,450	1,310	1,190	1,110
3	2,100	1,720	1,520	1,350	1,220	1,140
7	2,290	1,880	1,650	1,470	1,320	1,230
14	2,480	2,080	1,880	1,700	1,560	1,480
30	2,730	2,330	2,130	1,980	1,860	1,790

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	13,700	3,180	6,140	2,260	62
November	9,630	2,410	5,050	1,660	62
December	11,500	2,260	3,930	1,510	62
January	7,760	1,760	3,330	1,030	62
February	7,340	1,730	3,420	1,050	62
March	7,800	2,420	3,910	1,160	62
April	31,100	3,470	10,300	4,900	62
May	49,000	10,000	30,100	9,130	62
June	68,200	10,000	40,100	12,000	62
July	45,800	9,180	21,800	7,780	62
August	15,500	5,110	9,790	2,270	62
September	21,100	4,150	7,180	2,820	62
Annual	16,600	6,510	12,100	2,520	62

Duration of daily mean flows based on 62 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
1,800	2,170	2,410	2,760	3,460	4,150	5,070	6,070
40%	30%	20%	15%	10%	5%	2%	1%
8,110	11,400	18,700	24,400	32,400	44,700	59,100	67,600

1230300 Kootenai River at Libby, Mont.—Continued
Site Number 213

Regulated streamflow period

Magnitude and probability of annual low flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,450	2,970	2,720	2,520	--	--
3	3,630	3,100	2,840	2,640	--	--
7	3,820	3,210	2,910	2,680	--	--
14	3,960	3,290	2,990	2,760	--	--
30	4,240	3,410	3,100	2,890	--	--
60	4,790	3,940	3,670	3,510	--	--
90	5,310	4,310	3,990	3,800	--	--
120	6,160	4,740	4,250	3,930	--	--
183	7,680	5,810	5,070	4,550	--	--

Magnitude and probability of annual high flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	26,800	32,300	36,100	41,100	--	--
3	25,500	30,700	34,700	40,100	--	--
7	24,700	29,500	32,900	37,500	--	--
15	23,500	27,300	29,700	32,700	--	--
30	22,100	25,700	28,000	30,800	--	--
60	20,400	23,500	25,300	27,200	--	--
90	18,800	20,900	21,800	22,600	--	--

Magnitude and probability of seasonal low flow from March-June based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,870	3,260	3,010	2,820	--	--
3	3,960	3,350	3,090	2,900	--	--
7	4,150	3,490	3,210	3,000	--	--
14	4,330	3,640	3,390	3,230	--	--
30	4,730	3,880	3,580	3,390	--	--

Magnitude and probability of seasonal low flow from July-October based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,690	3,040	2,730	2,540	--	--
3	4,060	3,270	2,900	2,670	--	--
7	4,610	3,440	2,940	2,700	--	--
14	5,320	3,820	3,200	2,780	--	--
30	6,840	4,770	3,820	3,130	--	--

Magnitude and probability of seasonal low flow from November-February based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4,050	3,190	2,930	2,750	--	--
3	4,300	3,270	2,940	2,770	--	--
7	5,010	3,530	3,020	2,800	--	--
14	5,590	3,760	3,130	2,880	--	--
30	8,170	5,260	4,130	3,370	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	32,300	10,000	16,500	5,610	19
November	25,000	8,210	16,800	3,990	19
December	25,200	3,040	15,200	6,340	19
January	26,000	3,550	15,500	6,050	19
February	22,600	3,380	12,500	6,200	19
March	13,700	3,660	7,610	3,410	19
April	14,400	3,890	6,910	2,800	19
May	19,800	3,910	7,480	4,100	19
June	22,000	4,010	8,970	5,540	19
July	28,100	3,460	11,400	6,530	19
August	19,300	3,170	10,200	4,040	19
September	19,400	6,930	11,100	3,360	19
Annual	16,400	9,510	11,700	2,040	19

Duration of daily mean flows based on 19 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
2,840	3,170	3,510	4,070	4,990	5,850	7,480	9,820
40%	30%	20%	15%	10%	5%	2%	1%
12,800	16,000	19,400	21,100	22,800	24,600	30,000	32,900

12303100 Flower Creek near Libby, Mont.
Site Number 214

LOCATION.--Lat 48°20'41", long 115°36'20" (NAD 27), in NW¼SE¼SE¼ sec.19, T.30 N., R.31 W., Lincoln County, Hydrologic Unit 17010101, Kootenai National Forest, on left bank 30 ft downstream from road bridge, 0.3 mi upstream from South Fork, 1.0 mi upstream from reservoir, 4.0 mi southwest of Libby, and at river mile 4.5.

DRAINAGE AREA.--11.1 mi².

PERIOD OF RECORD.--September 1960 to September 1992 (discontinued).

REVISED RECORDS.--WDR MT-1972: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,866 ft (NGVD 29, from topographic map).

REMARKS.--No known regulation or diversion upstream from station.

Magnitude and probability of annual low flow based on 31 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.4	3.8	3.6	3.4	3.2	--
3	4.5	3.9	3.7	3.5	3.3	--
7	4.7	4.1	3.8	3.6	3.4	--
14	4.9	4.3	4.0	3.8	3.6	--
30	5.3	4.6	4.2	4.0	3.8	--
60	6.3	5.1	4.6	4.2	3.8	--
90	7.0	5.6	5.0	4.6	4.1	--
120	7.7	6.0	5.3	4.8	4.3	--
183	8.6	6.6	5.8	5.2	4.6	--

Magnitude and probability of annual high flow based on 32 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	195	251	284	321	347	--
3	175	210	227	242	250	--
7	153	183	196	208	214	--
15	129	158	172	186	194	--
30	112	138	150	163	170	--
60	90	110	119	128	133	--
90	73	88	95	101	105	--

Magnitude and probability of seasonal low flow from March-June based on 32 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6.4	4.7	4.1	3.7	3.3	--
3	6.6	4.9	4.2	3.8	3.4	--
7	7.0	5.1	4.4	3.9	3.5	--
14	7.6	5.5	4.7	4.1	3.6	--
30	9.1	6.4	5.3	4.6	3.9	--

Magnitude and probability of seasonal low flow from July-October based on 31 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5.6	4.6	4.1	3.7	3.4	--
3	5.7	4.6	4.2	3.8	3.4	--
7	5.9	4.7	4.3	3.9	3.5	--
14	6.1	4.9	4.4	4.0	3.6	--
30	6.6	5.3	4.8	4.3	3.9	--

Magnitude and probability of seasonal low flow from November-February based on 32 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.8	4.0	3.6	3.4	3.2	--
3	5.0	4.1	3.8	3.5	3.3	--
7	5.3	4.3	3.9	3.7	3.5	--
14	5.6	4.5	4.0	3.8	3.6	--
30	6.1	4.8	4.3	4.0	3.8	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	21	4.6	9.1	3.8	32
November	33	4.0	13	7.3	32
December	41	5.2	10	7.4	32
January	42	4.1	9.1	7.0	32
February	30	4.1	9.3	6.2	32
March	29	4.4	11	6.0	32
April	70	9.4	31	14	32
May	132	43	84	19	32
June	166	25	88	34	32
July	56	7.7	29	15	32
August	18	5.5	10	3.1	32
September	20	4.5	8.4	2.8	33
Annual	40	13	26	6.0	32

Duration of daily mean flows based on 32 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4.0	4.2	4.6	5.2	6.4	7.5	9.0	11
40%	30%	20%	15%	10%	5%	2%	1%
14	20	37	52	76	113	154	178

**12303500 Lake Creek at Troy, Mont.
Site Number 215**

LOCATION.--Lat 48°26'49", long 115°52'34" (NAD 27), in SE¼NW¼SW¼ sec.18. T.31 N., R.33 W., Lincoln County, Hydrologic Unit 17010101, Kootenai National Forest, on right bank 1,000 ft upstream from bridge on U.S. Highway 2, 0.5 mi upstream from mouth, 0.6 mi downstream from Stimson Lumber Company-owned dam, and 1.3 mi southeast of Troy.

DRAINAGE AREA.--210 mi².

PERIOD OF RECORD.--January 1945 to September 1957, October 1982 to February 1996 (discontinued).

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,900 ft (NGVD 29, from topographic map). Prior to Nov. 1, 1946, wire-weight gage at site 0.2 mi upstream at different datum. Jan. 11, 1945, to Sept. 30, 1957, water-stage recorder at same site at different datum.

REMARKS.--Diurnal fluctuation caused by small hydroelectric plant 0.6 mi upstream.

Magnitude and probability of annual low flow based on 26 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	90	70	61	55	48	--
3	101	80	71	65	58	--
7	106	85	76	69	62	--
14	111	90	80	73	66	--
30	119	96	85	77	68	--
60	130	103	91	83	73	--
90	145	113	100	90	81	--
120	162	122	106	94	82	--
183	191	137	115	100	86	--

Magnitude and probability of seasonal low flow from March-June based on 26 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	189	123	98	81	65	--
3	201	133	106	87	70	--
7	215	142	113	93	75	--
14	228	152	122	102	82	--
30	264	180	147	124	103	--

Magnitude and probability of seasonal low flow from November-February based on 26 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	113	81	68	60	51	--
3	121	90	78	70	62	--
7	128	94	81	72	64	--
14	141	98	83	74	66	--
30	156	106	88	77	69	--

Duration of daily mean flows based on 25 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
73	82	99	115	145	172	207	256
40%	30%	20%	15%	10%	5%	2%	1%
331	452	668	826	1,050	1,410	1,930	2,150

Magnitude and probability of annual high flow based on 25 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,900	2,490	2,840	3,270	3,570	--
3	1,800	2,360	2,710	3,140	3,440	--
7	1,650	2,200	2,540	2,970	3,270	--
15	1,500	2,000	2,320	2,720	3,000	--
30	1,340	1,780	2,050	2,380	2,620	--
60	1,130	1,490	1,700	1,950	2,120	--
90	970	1,260	1,420	1,600	1,720	--

Magnitude and probability of seasonal low flow from July-October based on 26 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	104	81	70	62	54	--
3	114	92	82	74	66	--
7	119	98	89	82	74	--
14	123	102	93	86	79	--
30	130	107	97	89	81	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	401	92	177	85	26
November	692	89	270	164	26
December	984	96	280	197	26
January	534	76	232	126	27
February	1,090	86	286	229	27
March	626	120	305	147	26
April	1,020	184	611	224	26
May	1,900	642	1,190	371	26
June	2,120	316	1,030	469	26
July	1,000	162	438	223	26
August	339	110	206	59	26
September	215	92	148	30	26
Annual	639	207	428	123	25

12304500 Yaak River near Troy, Mont.
Site Number 216

LOCATION.--Lat 48°33'43", long 115°58'09" (NAD 27), in NE¼SE¼SE¼ 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.

PERIOD OF RECORD.--October 1910 to September 1916 (fragmentary record), March 1956 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 1,839.2 ft (NGVD 29). Oct. 15, 1910, to Sept. 30, 1916, nonrecording gage at several sites within 11 mi of present site at various datums.

REMARKS.--Minor diversions for irrigation upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

Magnitude and probability of annual low flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	93	72	62	55	47	--
3	99	76	66	59	51	--
7	105	81	70	63	55	--
14	113	88	77	69	60	--
30	125	98	85	75	65	--
60	140	109	95	84	73	--
90	151	117	103	94	84	--
120	166	129	115	106	98	--
183	197	146	129	119	109	--

Magnitude and probability of annual high flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	6,170	8,040	8,960	9,850	10,400	--
3	5,800	7,590	8,460	9,310	9,790	--
7	5,270	6,860	7,610	8,300	8,690	--
15	4,560	5,880	6,500	7,100	7,430	--
30	3,910	5,000	5,500	5,970	6,240	--
60	3,160	4,040	4,430	4,770	4,950	--
90	2,570	3,290	3,610	3,890	4,030	--

Magnitude and probability of seasonal low flow from March-June based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	254	159	126	104	85	--
3	264	168	134	111	91	--
7	289	184	146	121	98	--
14	320	202	161	134	110	--
30	474	286	216	171	130	--

Magnitude and probability of seasonal low flow from July-October based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	115	90	77	68	58	--
3	117	91	78	69	59	--
7	120	93	80	70	60	--
14	125	97	84	73	62	--
30	136	105	90	78	66	--

Magnitude and probability of seasonal low flow from November-February based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	105	76	64	56	49	--
3	115	83	70	61	53	--
7	129	92	78	68	59	--
14	144	103	88	79	71	--
30	168	118	101	91	81	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	832	84	200	125	46
November	1,190	93	323	249	46
December	1,630	97	325	305	46
January	1,550	95	296	249	46
February	1,630	83	358	275	46
March	1,870	134	596	383	47
April	3,750	421	1,970	828	47
May	6,460	1,030	3,590	1,210	47
June	4,990	377	1,950	959	47
July	970	151	500	218	47
August	373	81	198	67	47
September	506	53	163	70	47
Annual	1,560	278	866	284	46

Duration of daily mean flows based on 46 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
72	83	102	122	154	184	232	297
40%	30%	20%	15%	10%	5%	2%	1%
419	698	1,320	1,890	2,680	3,930	5,490	6,300

12305000 Kootenai River at Leonia, Idaho
Site Number 217

LOCATION.--Lat 48°37'04", long 116°02'47" (NAD 27), in NW¼NW¼NW¼ sec.20, T.33 N., R.34 W., Principal meridian, Lincoln County, Mont. Hydrologic Unit 17010104, on right bank at Leonia, 450 ft west of Montana-Idaho State line, 0.5 mi upstream from Boulder Creek, and at mile 171.6.

DRAINAGE AREA.--11,740 mi², approximately.

PERIOD OF RECORD.--March 1928 to September 1983.

GAGE.--Water-stage recorder. Altitude of gage is 1,790.25 ft (NGVD 29). Prior to Oct. 1, 1970, at datum 90 ft lower. Prior to Nov. 13, 1928, nonrecording gage on bridge 250 ft upstream at datum 90.41 ft lower.

REMARKS.--Diversions upstream from station for irrigation of about 14,600 acres. Flow regulated by Lake Koocanusa after Mar. 21, 1972.

Magnitude and probability of annual low flow based on 42 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,220	1,670	1,390	900	0.00	--
3	2,310	1,820	1,590	1,430	1,260	--
7	2,540	2,010	1,760	1,570	1,380	--
14	2,810	2,260	2,010	1,830	1,630	--
30	3,150	2,600	2,360	2,180	1,990	--
60	3,550	2,900	2,650	2,480	2,320	--
90	3,880	3,110	2,820	2,630	2,450	--
120	4,300	3,420	3,070	2,830	2,590	--
183	5,060	4,110	3,750	3,500	3,270	--

Magnitude and probability of annual high flow based on 43 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	71,300	88,300	96,700	105,000	110,000	--
3	69,100	86,100	94,900	104,000	109,000	--
7	63,600	80,500	89,500	99,100	105,000	--
15	57,900	73,600	82,100	91,200	96,900	--
30	51,700	64,800	71,900	79,500	84,400	--
60	44,000	53,800	58,800	63,700	66,700	--
90	37,100	45,000	48,800	52,500	54,700	--

Magnitude and probability of seasonal low flow from March-June based on 43 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,400	2,710	2,370	1,880	0.00	--
3	3,570	2,920	2,650	2,450	2,260	--
7	3,680	3,040	2,770	2,580	2,390	--
14	3,890	3,210	2,920	2,720	2,510	--
30	4,510	3,620	3,250	2,990	2,740	--

Magnitude and probability of seasonal low flow from July-October based on 42 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4,840	3,950	3,450	3,060	2,650	--
3	4,910	4,160	3,870	3,670	3,480	--
7	5,010	4,240	3,940	3,740	3,540	--
14	5,150	4,340	4,040	3,830	3,640	--
30	5,460	4,590	4,280	4,070	3,880	--

Magnitude and probability of seasonal low flow from November-February based on 42 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,240	1,710	1,510	1,370	1,230	--
3	2,320	1,850	1,600	1,460	1,330	--
7	2,560	2,040	1,770	1,610	1,460	--
14	2,840	2,280	2,020	1,860	1,710	--
30	3,170	2,610	2,370	2,240	2,110	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	15,500	3,530	6,510	2,570	43
November	11,300	2,750	5,700	2,020	43
December	13,700	2,480	4,760	2,250	43
January	11,300	1,920	4,020	1,530	43
February	10,600	1,990	4,340	1,740	43
March	10,400	2,690	4,900	1,520	43
April	39,900	4,330	14,500	7,260	43
May	61,800	10,000	38,700	11,100	43
June	74,300	10,000	45,100	13,800	43
July	47,500	9,820	22,800	8,190	43
August	16,900	6,140	9,930	2,380	43
September	16,600	4,740	7,020	2,060	43
Annual	19,200	7,420	14,000	3,180	43

Duration of daily mean flows based on 43 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
2,140	2,320	2,710	3,250	4,050	4,870	5,710	6,980
40%	30%	20%	15%	10%	5%	2%	1%
8,640	12,900	22,300	29,300	38,100	51,200	66,900	76,800

12323240 Blacktail Creek at Butte, Mont.
Site Number 218

LOCATION.--Lat 45°54'38", long 112°31'38" (NAD 27), in SW¼NE¼SE¼ sec.24, T.3 N., R.8 W., Silver Bow County, 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.

PERIOD OF RECORD.--October 1988 to current year (2002).

REVISED RECORDS.--WDR-MT.-93-1: 1989-92 (M).

GAGE.--Water-stage recorder. Altitude of gage is 5,430 ft (NGVD 29).

REMARKS.--Slight regulation by Basin Creek Reservoir. Diversions for irrigation of about 1,400 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 13 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6.4	5.1	4.5	4.0	--	--
3	6.6	5.2	4.6	4.1	--	--
7	6.9	5.5	4.8	4.3	--	--
14	7.2	5.8	5.1	4.6	--	--
30	7.7	6.2	5.5	5.0	--	--
60	8.2	6.7	6.1	5.5	--	--
90	8.6	7.1	6.5	6.0	--	--
120	8.9	7.4	6.8	6.3	--	--
183	9.2	7.7	7.0	6.5	--	--

Magnitude and probability of annual high flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	44	87	134	221	--	--
3	34	63	91	142	--	--
7	28	48	67	100	--	--
15	23	38	52	75	--	--
30	21	33	43	59	--	--
60	19	29	38	51	--	--
90	18	27	34	44	--	--

Magnitude and probability of seasonal low flow from March-June based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.7	6.2	5.6	5.2	--	--
3	7.9	6.4	5.8	5.4	--	--
7	8.4	6.9	6.3	5.8	--	--
14	9.3	7.5	6.8	6.2	--	--
30	12	8.5	7.4	6.6	--	--

Magnitude and probability of seasonal low flow from July-October based on 13 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6.5	5.1	4.5	4.1	--	--
3	6.8	5.3	4.6	4.2	--	--
7	7.1	5.5	4.8	4.3	--	--
14	7.4	5.8	5.1	4.6	--	--
30	8.0	6.3	5.5	5.0	--	--

Magnitude and probability of seasonal low flow from November-February based on 13 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.5	6.4	5.9	5.5	--	--
3	7.6	6.4	5.9	5.6	--	--
7	7.8	6.6	6.1	5.7	--	--
14	8.0	6.7	6.2	5.9	--	--
30	8.2	7.0	6.5	6.1	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	15	7.0	10	2.3	14
November	14	6.9	10	2.2	14
December	13	7.1	9.2	1.8	14
January	13	7.0	9.0	2.0	14
February	26	6.3	11	5.7	14
March	30	7.4	14	6.1	14
April	29	9.4	17	6.0	14
May	42	7.3	20	10	14
June	62	8.1	21	15	14
July	26	6.2	12	6.5	14
August	18	5.3	9.9	3.6	14
September	14	6.0	9.2	2.5	14
Annual	20	8.2	13	4.3	14

Duration of daily mean flows based on 14 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4.8	5.6	6.0	6.5	7.5	8.5	9.6	11
40%	30%	20%	15%	10%	5%	2%	1%
12	14	16	18	22	30	42	55

**12323250 Silver Bow Creek below Blacktail Creek, at Butte, Mont.
Site Number 219**

LOCATION.--Lat 45°59'47", long 112°33'45" (NAD 27), in SW¼SE¼NW¼ 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.

PERIOD OF RECORD.--October 1983 to current year (2002).

REVISED RECORDS.--WDR-MT-92-1: 1984-90 (M). WDR-MT-98-1: Drainage area. WDR-MT-2000-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,409.47 ft (NGVD 29). October 1983 to Sept. 14, 1997, water-stage recorder 150 ft upstream at datum 1.40 ft higher. Sept. 15, 1997, to Dec. 3, 1997, no gage in operation due to channel reconstruction during U.S. Environmental Protection Agency Superfund cleanup operations. Dec. 3, 1997, to Aug. 16, 1999, water-stage recorder 0.8 mi downstream at different datum. Aug. 16, 1999, to May 10, 2000, water-stage recorder 2.1 mi downstream at different datum.

REMARKS.--Flow slightly regulated by Silver Bow County sewage treatment plant. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	15	12	11	9.7	--	--
3	15	13	12	11	--	--
7	15	13	12	11	--	--
14	16	14	13	12	--	--
30	16	14	13	12	--	--
60	17	15	14	13	--	--
90	17	16	15	14	--	--
120	18	16	15	15	--	--
183	19	17	16	15	--	--

Magnitude and probability of seasonal low flow from March-June based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	17	14	12	11	--	--
3	17	15	13	12	--	--
7	18	15	14	13	--	--
14	19	16	14	13	--	--
30	22	17	15	14	--	--

Magnitude and probability of seasonal low flow from November-February based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	16	14	13	12	--	--
3	16	14	13	13	--	--
7	16	14	14	13	--	--
14	17	15	14	13	--	--
30	17	15	14	13	--	--

Duration of daily mean flows based on 19 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
11	12	13	15	17	18	19	21
40%	30%	20%	15%	10%	5%	2%	1%
22	24	29	31	34	44	59	66

Magnitude and probability of annual high flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	80	127	165	219	--	--
3	60	91	114	147	--	--
7	48	68	84	104	--	--
15	40	55	66	82	--	--
30	35	47	55	67	--	--
60	31	42	49	59	--	--
90	30	39	45	53	--	--

Magnitude and probability of seasonal low flow from July-October based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	15	13	12	11	--	--
3	16	13	12	11	--	--
7	16	14	12	11	--	--
14	17	14	13	12	--	--
30	18	15	14	13	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	27	16	20	3.2	19
November	26	16	20	2.9	19
December	24	15	19	2.8	19
January	26	13	18	3.2	19
February	38	14	20	5.9	19
March	41	17	25	6.0	19
April	42	15	28	7.8	19
May	54	13	30	11	19
June	75	16	30	15	19
July	37	13	22	7.5	19
August	29	14	21	4.8	19
September	26	14	19	3.5	19
Annual	31	16	23	4.7	19

12323500 German Gulch Creek near Ramsay, Mont.
Site Number 220

LOCATION.--Lat 46°00'57", long 112°47'30" (NAD 27), in SE¼NW¼ sec.13, T.3 N., R.10 W., Silver Bow County, on left bank 0.5 mi upstream from mouth and 5.2 mi west of Ramsay.

DRAINAGE AREA.--40.6 mi².

PERIOD OF RECORD.--14 years. April 1955 to September 1969 (discontinued). Monthly discharge for some periods, published in WSP 1736.

REVISED RECORDS.--WSP 1736: 1955-56. WSP 1933: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,200 ft (NGVD 29, by barometer). Prior to July 13, 1956, nonrecording gage at site 300 ft upstream from mouth at different datum.

REMARKS.--Minor diversions for irrigation upstream from station.

Magnitude and probability of annual low flow based on 13 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.8	3.2	2.9	2.7	--	--
3	4.2	3.6	3.2	3.0	--	--
7	4.7	4.1	3.7	3.5	--	--
14	5.0	4.4	4.1	3.9	--	--
30	5.5	4.8	4.4	4.2	--	--
60	6.2	5.2	4.7	4.3	--	--
90	6.6	5.5	5.0	4.5	--	--
120	7.0	5.9	5.3	4.9	--	--
183	7.7	6.6	6.2	5.8	--	--

Magnitude and probability of annual high flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	152	209	245	287	--	--
3	141	187	213	243	--	--
7	129	169	191	214	--	--
15	117	152	171	191	--	--
30	96	128	147	170	--	--
60	71	94	108	124	--	--
90	56	73	83	95	--	--

Magnitude and probability of seasonal low flow from March-June based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.9	4.3	4.0	3.8	--	--
3	5.1	4.5	4.2	4.0	--	--
7	5.4	4.8	4.5	4.2	--	--
14	5.8	5.0	4.7	4.4	--	--
30	7.2	5.8	5.2	4.8	--	--

Magnitude and probability of seasonal low flow from July-October based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.6	6.5	6.0	5.7	--	--
3	7.6	6.6	6.1	5.8	--	--
7	7.7	6.7	6.3	5.9	--	--
14	7.9	6.9	6.4	6.1	--	--
30	8.3	7.1	6.6	6.3	--	--

Magnitude and probability of seasonal low flow from November-February based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.8	3.2	3.0	2.7	--	--
3	4.2	3.6	3.3	3.0	--	--
7	4.8	4.1	3.8	3.5	--	--
14	5.3	4.6	4.2	4.0	--	--
30	5.7	4.9	4.5	4.2	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	13	6.8	9.2	2.0	14
November	11	5.7	8.0	1.4	14
December	10	4.7	7.3	1.6	14
January	8.4	4.2	6.3	1.3	14
February	11	3.9	6.6	1.9	14
March	15	4.9	8.1	2.8	14
April	39	9.1	18	8.0	15
May	108	40	66	22	15
June	154	27	77	36	15
July	45	9.3	24	11	15
August	16	6.3	11	3.0	15
September	16	7.4	9.6	2.1	15
Annual	30	13	21	5.2	14

Duration of daily mean flows based on 14 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4.0	4.2	4.7	5.4	6.4	7.3	8.4	9.9
40%	30%	20%	15%	10%	5%	2%	1%
12	16	29	41	57	87	129	163

**12323600 Silver Bow Creek at Opportunity, Mont.
Site Number 221**

LOCATION.--Lat 46°06'28", long 112°48'17" (NAD 27), in SE¼SW¼SE¼ sec.11, T.4 N., R.10 W., Deer Lodge County, 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.

PERIOD OF RECORD.--July 1988 to current year (2002). Prior to October 1991, seasonal records only.

REVISED RECORDS.--WDR MT-2001-01: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,912.37 ft (NGVD 29).

REMARKS.--Numerous diversions upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 11 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	19	15	13	11	--	--
3	20	15	13	12	--	--
7	21	16	14	12	--	--
14	22	16	14	12	--	--
30	24	17	15	13	--	--
60	27	20	17	15	--	--
90	29	22	19	17	--	--
120	31	24	21	19	--	--
183	34	27	23	21	--	--

Magnitude and probability of annual high flow based on 11 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	165	379	643	--	--	--
3	144	328	550	--	--	--
7	130	271	418	--	--	--
15	118	222	317	--	--	--
30	102	180	249	--	--	--
60	89	152	207	--	--	--
90	81	133	175	--	--	--

Magnitude and probability of seasonal low flow from March-June based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	32	24	19	16	--	--
3	33	24	20	17	--	--
7	36	27	22	18	--	--
14	40	28	23	19	--	--
30	47	33	27	22	--	--

Magnitude and probability of seasonal low flow from July-October based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	19	15	13	11	--	--
3	20	15	13	12	--	--
7	21	16	14	12	--	--
14	22	17	14	13	--	--
30	24	18	15	13	--	--

Magnitude and probability of seasonal low flow from November-February based on 11 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	26	20	17	15	--	--
3	27	21	19	17	--	--
7	28	22	20	18	--	--
14	29	23	21	19	--	--
30	30	24	21	19	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	56	26	38	8.9	14
November	50	26	38	8.0	12
December	49	23	35	10	11
January	69	22	37	14	11
February	184	22	54	47	11
March	87	32	54	17	14
April	120	41	65	23	14
May	260	31	97	61	14
June	281	24	101	76	14
July	107	18	48	30	15
August	70	14	31	16	15
September	60	21	33	12	15
Annual	99	30	55	24	11

Duration of daily mean flows based on 11 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
13	16	18	22	27	32	36	41
40%	30%	20%	15%	10%	5%	2%	1%
46	56	66	80	95	127	198	289

12323750 Silver Bow Creek at Warm Springs, Mont.
Site Number 222

LOCATION.--Lat 46°10'50", long 112°46'46" (NAD 27), in SW¼SE¼SW¼ 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.

PERIOD OF RECORD.--March 1972 to September 1979, April 1993 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 4,800.31 ft (NGVD 29). Prior to May 24, 1994, gage located at sites 0.8 mi downstream at different datum.

REMARKS.--Flow is regulated by dam on tailing ponds about 0.2 mi upstream from gage. Diversions for irrigation of about 4,650 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	32	20	16	13	--	--
3	34	21	17	14	--	--
7	38	24	19	15	--	--
14	41	25	20	16	--	--
30	45	28	21	17	--	--
60	50	30	23	18	--	--
90	53	33	26	21	--	--
120	57	37	29	24	--	--
183	62	41	33	27	--	--

Magnitude and probability of annual high flow based on 16 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	370	668	898	1,220	--	--
3	346	606	802	1,070	--	--
7	325	559	730	958	--	--
15	291	498	652	862	--	--
30	267	459	603	803	--	--
60	220	377	498	669	--	--
90	191	320	417	551	--	--

Magnitude and probability of seasonal low flow from March-June based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	58	41	34	29	--	--
3	61	44	37	32	--	--
7	69	49	41	35	--	--
14	81	55	45	37	--	--
30	94	64	51	43	--	--

Magnitude and probability of seasonal low flow from July-October based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	33	21	16	13	--	--
3	35	22	17	14	--	--
7	39	24	19	15	--	--
14	43	26	20	16	--	--
30	47	28	21	17	--	--

Magnitude and probability of seasonal low flow from November-February based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	43	31	26	23	--	--
3	45	33	28	25	--	--
7	49	36	30	26	--	--
14	52	38	32	28	--	--
30	59	42	35	29	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	193	28	73	41	16
November	161	32	80	34	16
December	156	31	74	30	16
January	152	37	78	33	16
February	130	37	82	30	16
March	207	46	110	46	16
April	281	54	131	59	18
May	586	70	246	144	18
June	770	57	279	189	18
July	356	29	121	82	18
August	201	17	69	47	18
September	137	20	64	36	18
Annual	228	43	117	57	16

Duration of daily mean flows based on 16 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
18	21	27	34	47	58	69	82
40%	30%	20%	15%	10%	5%	2%	1%
96	120	160	187	240	340	514	652

**12323770 Warm Springs Creek at Warm Springs, Mont.
Site Number 223**

LOCATION.--Lat 46°10'50", long 112°47'04" (NAD 27), in SW¼SW¼SW¼ sec.18, T.5 N., R.9 W., Deer Lodge County, Hydrologic Unit 17010201, on left bank at county road bridge 0.2 mi southeast of Warm Springs Post Office, and at river mile 0.9.

DRAINAGE AREA.--163 mi².

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

GAGE.--Water-stage recorder. Altitude of gage is 4,810 ft (NGVD 29).

REMARKS.--Numerous diversions upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.1	0.44	0.07	0.00	--	--
3	4.8	.54	.12	.03	--	--
7	5.4	.98	.33	.12	--	--
14	6.7	1.4	.55	.23	--	--
30	8.2	2.0	.87	.40	--	--
60	12	3.8	1.9	.99	--	--
90	17	6.3	3.4	2.0	--	--
120	24	11	6.5	4.2	--	--
183	29	15	10	7.4	--	--

Magnitude and probability of seasonal low flow from March-June based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	17	4.8	2.0	0.87	--	--
3	18	5.4	2.4	1.1	--	--
7	21	7.6	3.8	2.0	--	--
14	25	11	6.1	3.6	--	--
30	33	19	13	9.3	--	--

Magnitude and probability of seasonal low flow from November-February based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	14	7.3	5.0	3.7	--	--
3	16	8.2	5.6	4.1	--	--
7	20	9.9	6.6	4.5	--	--
14	23	11	7.5	5.1	--	--
30	27	14	9.1	6.1	--	--

Duration of daily mean flows based on 19 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
0.69	1.6	3.6	6.7	17	25	31	38
40%	30%	20%	15%	10%	5%	2%	1%
45	55	66	81	101	160	241	300

Magnitude and probability of annual high flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	206	342	434	548	--	--
3	190	322	415	533	--	--
7	174	297	385	500	--	--
15	155	271	354	461	--	--
30	136	231	296	378	--	--
60	106	178	229	297	--	--
90	87	142	182	235	--	--

Magnitude and probability of seasonal low flow from July-October based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.8	0.50	0.12	0.00	--	--
3	5.6	.62	.14	.06	--	--
7	5.8	1.0	.42	.18	--	--
14	7.1	1.5	.65	.26	--	--
30	8.7	2.1	.92	.45	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	95	11	45	24	19
November	84	13	45	21	19
December	78	5.9	34	18	19
January	82	4.2	37	21	19
February	63	4.5	36	17	19
March	54	19	36	12	19
April	63	13	42	14	19
May	196	19	83	44	19
June	362	7.1	136	100	19
July	170	.41	54	53	19
August	125	.46	25	33	19
September	82	2.6	32	23	19
Annual	108	17	50	24	19

12323800 Clark Fork near Galen, Mont.
Site Number 224

LOCATION.--Lat 46°12'30", long 112°45'59" (NAD 27), in NE¼NE¼NE¼ sec.7, T.5 N., R.9 W., Deer Lodge County, 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, 793 mi².

PERIOD OF RECORD.--July 1988 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 4,749.24 ft (NGVD 29).

REMARKS.--Some regulation by settling ponds on Silver Bow Creek near Warm Springs. Numerous diversions upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 13 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	30	18	13	11	--	--
3	31	18	14	11	--	--
7	33	19	15	12	--	--
14	37	21	16	13	--	--
30	43	25	19	15	--	--
60	53	33	26	21	--	--
90	60	39	32	27	--	--
120	68	47	39	33	--	--
183	75	53	44	38	--	--

Magnitude and probability of annual high flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	479	816	1,050	1,340	--	--
3	454	783	1,010	1,300	--	--
7	401	708	933	1,230	--	--
15	372	658	872	1,160	--	--
30	334	586	773	1,030	--	--
60	273	468	615	819	--	--
90	232	385	501	664	--	--

Magnitude and probability of seasonal low flow from March-June based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	68	43	32	24	--	--
3	71	46	34	26	--	--
7	80	52	40	30	--	--
14	93	61	46	35	--	--
30	110	75	58	46	--	--

Magnitude and probability of seasonal low flow from July-October based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	31	18	14	11	--	--
3	32	19	14	11	--	--
7	33	20	15	12	--	--
14	38	22	16	13	--	--
30	44	26	20	16	--	--

Magnitude and probability of seasonal low flow from November-February based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	51	37	32	28	--	--
3	53	39	33	29	--	--
7	57	42	36	32	--	--
14	64	47	40	36	--	--
30	70	51	43	38	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	170	41	92	40	14
November	158	51	97	32	14
December	132	41	84	30	14
January	169	42	85	35	14
February	174	44	93	36	14
March	167	77	114	32	14
April	257	80	137	53	14
May	668	69	253	156	14
June	974	51	360	262	14
July	381	21	143	117	15
August	233	10	73	68	15
September	184	20	72	47	15
Annual	288	60	135	63	14

Duration of daily mean flows based on 14 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
14	18	29	39	56	70	81	91
40%	30%	20%	15%	10%	5%	2%	1%
110	132	172	201	283	390	609	818

**12324100 Racetrack Creek below Granite Creek, near Anaconda, Mont.
Site Number 225**

LOCATION.--Lat 46°16'44", long 112°55'07" (NAD 27), near center of NW¼NE¼ sec.13, T.6 N., R.11 W., Powell County, Deer Lodge National Forest, on right bank 30 ft upstream from bridge, 1.6 mi downstream from Granite Creek, 9.5 mi upstream from mouth, and 10.3 mi north of Anaconda.

DRAINAGE AREA.--39.5 mi².

PERIOD OF RECORD.--16 years. April 1914 to September 1917 (gage heights only, published as "near Anaconda"). July 1957 to September 1973 (discontinued). Records for July 1911 to November 1912 at site 3 mi upstream, published as "near Anaconda" not equivalent owing to inflow.

REVISED RECORDS.--WSP 1316: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,420 ft (NGVD 29, from topographic map). Prior to September 1917, nonrecording gage at site 0.3 mi downstream at different datum.

REMARKS.--Some regulation by Racetrack and Fisher Lakes.

Magnitude and probability of annual low flow based on 15 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	12	9.9	8.8	7.9	--	--
3	14	12	10	9.4	--	--
7	17	14	13	12	--	--
14	17	16	15	15	--	--
30	18	17	16	16	--	--
60	20	18	17	17	--	--
90	21	19	18	17	--	--
120	22	19	18	18	--	--
183	27	24	22	22	--	--

Magnitude and probability of seasonal low flow from March-June based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	17	15	13	12	--	--
3	17	16	15	14	--	--
7	18	16	16	15	--	--
14	18	17	16	15	--	--
30	19	17	16	16	--	--

Magnitude and probability of seasonal low flow from November-February based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	13	10	8.9	8.0	--	--
3	14	12	10	9.5	--	--
7	17	14	13	12	--	--
14	18	16	15	15	--	--
30	19	17	16	16	--	--

Duration of daily mean flows based on 16 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
14	16	17	18	20	22	26	31
40%	30%	20%	15%	10%	5%	2%	1%
40	58	85	107	142	221	283	344

Magnitude and probability of annual high flow based on 16 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	324	413	463	516	--	--
3	303	386	430	477	--	--
7	285	358	395	432	--	--
15	262	326	357	387	--	--
30	235	290	316	340	--	--
60	179	220	241	262	--	--
90	149	180	196	212	--	--

Magnitude and probability of seasonal low flow from July-October based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	25	21	19	17	--	--
3	26	22	21	20	--	--
7	27	23	22	21	--	--
14	28	24	23	22	--	--
30	31	26	25	24	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	56	25	33	9.5	16
November	37	18	25	5.5	16
December	30	16	22	3.9	16
January	26	16	20	3.0	16
February	24	17	20	2.1	16
March	26	16	20	2.9	16
April	42	18	26	7.3	16
May	168	67	101	30	16
June	340	94	221	68	16
July	167	60	105	30	16
August	98	34	69	18	17
September	78	28	43	12	17
Annual	79	37	59	11	16

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12324200 Clark Fork at Deer Lodge, Mont.
Site Number 226

LOCATION.--Lat 46°23'52", long 112°44'31" (NAD 27), in SW¼SW¼SW¼ sec.33, T.8 N., R.9 W., Powell County, 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.

PERIOD OF RECORD.--October 1978 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 4,502.24 ft (NGVD 29).

REMARKS.--Diversions upstream from station for irrigation of about 31,000 acres. Some regulation by settling ponds on Silver Bow Creek near Warm Springs. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 23 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	50	30	23	19	--	--
3	52	31	24	19	--	--
7	55	32	24	20	--	--
14	60	34	26	20	--	--
30	69	38	28	22	--	--
60	99	57	42	32	--	--
90	124	74	56	44	--	--
120	148	93	72	58	--	--
183	177	124	102	86	--	--

Magnitude and probability of annual high flow based on 24 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	758	1,320	1,750	2,380	--	--
3	698	1,210	1,600	2,170	--	--
7	618	1,070	1,440	1,980	--	--
15	547	950	1,290	1,790	--	--
30	485	812	1,080	1,480	--	--
60	415	664	864	1,160	--	--
90	373	571	723	940	--	--

Magnitude and probability of seasonal low flow from March-June based on 24 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	138	73	49	35	--	--
3	144	76	52	36	--	--
7	161	87	59	41	--	--
14	191	109	75	52	--	--
30	242	151	105	72	--	--

Magnitude and probability of seasonal low flow from July-October based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	52	30	23	19	--	--
3	53	31	24	19	--	--
7	57	33	25	20	--	--
14	62	35	26	21	--	--
30	70	38	29	22	--	--

Magnitude and probability of seasonal low flow from November-February based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	135	106	93	83	--	--
3	143	114	101	91	--	--
7	157	127	113	103	--	--
14	175	142	127	116	--	--
30	196	157	140	127	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	420	115	243	84	24
November	384	156	252	69	24
December	353	122	224	61	24
January	342	140	224	62	24
February	481	137	247	83	24
March	387	185	267	61	24
April	422	161	281	76	24
May	971	80	392	231	24
June	1,450	58	499	372	24
July	592	30	222	173	24
August	337	28	107	80	24
September	315	58	176	81	24
Annual	464	130	261	96	24

Duration of daily mean flows based on 24 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
27	32	54	93	139	169	199	229
40%	30%	20%	15%	10%	5%	2%	1%
259	299	345	368	436	602	945	1,170

**12324590 Little Blackfoot River near Garrison, Mont.
Site Number 227**

LOCATION.--Lat 46°31'11", long 112°47'33" (NAD 27), in NE¼NW¼SE¼ 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.

PERIOD OF RECORD.--October 1972 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 4,343.97 ft (NGVD 29). Prior to Oct. 1, 1992, at site 3.5 mi upstream at different datum.

REMARKS.--A few minor irrigation holding reservoirs in upper reaches of drainage. Diversions for irrigation of about 11,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 29 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	25	15	11	8.2	5.9	--
3	26	16	11	8.6	6.1	--
7	29	17	12	9.2	6.5	--
14	32	19	14	10	7.0	--
30	38	23	17	13	9.4	--
60	44	28	22	17	13	--
90	49	34	27	23	19	--
120	54	38	32	28	23	--
183	57	42	36	32	29	--

Magnitude and probability of annual high flow based on 30 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	877	1,740	2,450	3,470	4,330	--
3	774	1,460	2,000	2,750	3,340	--
7	674	1,240	1,660	2,250	2,710	--
15	594	1,060	1,410	1,860	2,210	--
30	513	896	1,160	1,500	1,750	--
60	406	687	883	1,130	1,320	--
90	338	555	703	888	1,020	--

Magnitude and probability of seasonal low flow from March-June based on 30 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	53	39	33	29	25	--
3	56	41	35	31	27	--
7	61	46	40	35	31	--
14	72	55	48	43	38	--
30	101	71	59	51	43	--

Magnitude and probability of seasonal low flow from July-October based on 29 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	28	15	11	8.4	6.0	--
3	29	16	12	8.9	6.2	--
7	32	17	13	9.4	6.6	--
14	35	19	14	10	7.2	--
30	40	24	17	14	9.6	--

Magnitude and probability of seasonal low flow from November-February based on 30 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	33	25	22	20	18	--
3	34	28	25	24	22	--
7	37	31	30	29	28	--
14	41	35	33	32	31	--
30	47	39	37	35	33	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	129	35	72	26	30
November	122	40	71	21	30
December	199	33	64	34	30
January	135	36	61	25	30
February	262	36	84	55	30
March	271	55	117	51	30
April	486	89	224	105	30
May	1,460	77	489	323	30
June	1,800	60	389	336	30
July	410	24	136	92	30
August	190	12	62	42	30
September	184	20	57	34	30
Annual	322	58	152	69	30

Duration of daily mean flows based on 30 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
15	19	30	37	47	56	64	78
40%	30%	20%	15%	10%	5%	2%	1%
93	122	185	257	371	569	874	1,090

12324680 Clark Fork at Goldcreek, Mont.
Site Number 228

LOCATION.--Lat 46°35'26", long 112°55'40" (NAD 27), in SE¼NW¼SW¼ 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.

PERIOD OF RECORD.--October 1977 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 4,172.80 ft (NGVD 29). June 13 to Oct. 21, 1982, nonrecording gage at site 350 ft downstream at same datum.

REMARKS.-- Some regulation by settling ponds on Silver Bow Creek near Warm Springs. Diversion for irrigation of about 40,100 acres upstream from station.

U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 24 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	139	91	71	57	--	--
3	145	93	72	58	--	--
7	153	97	75	60	--	--
14	165	103	79	63	--	--
30	185	115	88	69	--	--
60	221	139	106	83	--	--
90	254	166	130	105	--	--
120	286	194	156	129	--	--
183	311	227	191	165	--	--

Magnitude and probability of annual high flow based on 25 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	2,040	3,760	5,100	6,980	8,490	--
3	1,860	3,270	4,300	5,680	6,750	--
7	1,590	2,730	3,580	4,730	5,630	--
15	1,380	2,370	3,100	4,110	4,900	--
30	1,220	2,030	2,620	3,410	4,020	--
60	1,010	1,610	2,040	2,630	3,090	--
90	881	1,350	1,690	2,130	2,480	--

Magnitude and probability of seasonal low flow from March-June based on 25 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	271	177	137	109	83	--
3	290	191	147	116	86	--
7	327	216	164	127	92	--
14	372	247	188	145	105	--
30	455	310	239	186	136	--

Magnitude and probability of seasonal low flow from July-October based on 24 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	144	92	72	58	--	--
3	147	94	73	59	--	--
7	154	98	76	60	--	--
14	166	105	80	64	--	--
30	187	117	89	69	--	--

Magnitude and probability of seasonal low flow from November-February based on 25 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	191	151	133	119	105	--
3	206	166	146	132	116	--
7	230	189	170	155	140	--
14	264	215	193	177	160	--
30	300	240	213	192	171	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	699	198	400	136	25
November	651	244	404	111	25
December	622	193	350	102	25
January	596	199	348	108	25
February	860	208	420	174	25
March	721	306	488	133	25
April	918	360	601	183	25
May	2,910	198	1,040	621	25
June	3,000	138	1,120	776	25
July	1,200	86	494	348	25
August	646	68	236	143	25
September	707	100	306	151	25
Annual	860	243	518	191	25

Duration of daily mean flows based on 25 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
78	95	142	192	246	296	341	389
40%	30%	20%	15%	10%	5%	2%	1%
456	522	672	753	982	1,420	2,100	2,690

**12325500 Flint Creek near Southern Cross, Mont.
Site Number 229**

LOCATION.--Lat 46°13'59", long 113°17'56" (NAD 27), in SE¼NW¼ sec.36, T.6 N., R.14 W., Granite County, 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.

PERIOD OF RECORD.--October 1940 to September 1998, August 2000 to current year (2002, seasonal records only).

REVISED RECORDS.--WSP 1216: 1942(M). WSP 1246: Drainage area.

GAGE.--Water-stage recorder and sharp-crested, contracted, rectangular weir. Altitude of gage is 5,630 ft (NGVD 29). Prior to June 3, 1982, nonrecording gage at same site and datum. Prior to Nov. 27, 1973, gage at same site and datum 0.20 ft higher.

REMARKS.--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.

Magnitude and probability of annual low flow based on 58 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	9.0	4.6	3.1	2.2	0.90	0.00
3	9.6	4.9	3.4	2.5	1.7	1.3
7	9.9	5.2	3.6	2.7	1.9	1.5
14	10	5.3	3.7	2.7	1.9	1.5
30	11	5.6	3.9	2.9	2.0	1.5
60	12	6.1	4.2	3.1	2.1	1.6
90	13	7.4	5.4	4.0	2.9	2.3
120	17	9.3	6.5	4.8	3.2	2.5
183	21	14	11	9.1	7.1	6.0

Magnitude and probability of seasonal low flow from March-June based on 60 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	13	6.7	4.5	3.2	2.2	1.6
3	14	7.1	4.9	3.5	2.3	1.8
7	14	7.3	5.0	3.6	2.4	1.8
14	15	7.6	5.2	3.7	2.4	1.8
30	16	8.3	5.6	3.9	2.6	1.9

Magnitude and probability of seasonal low flow from November-February based on 59 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	13	6.3	4.1	2.7	1.0	0.00
3	14	6.8	4.5	3.1	2.0	1.5
7	14	7.1	4.8	3.4	2.3	1.7
14	14	7.4	5.0	3.5	2.4	1.8
30	15	7.6	5.2	3.7	2.4	1.8

Duration of daily mean flows based on 60 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
3.3	4.1	4.9	7.0	13	19	24	27
40%	30%	20%	15%	10%	5%	2%	1%
29	31	36	42	51	77	113	128

Magnitude and probability of annual high flow based on 60 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	79	130	166	213	249	285
3	77	126	161	207	243	279
7	72	118	151	196	231	268
15	65	106	137	181	216	254
30	58	93	119	157	188	221
60	50	74	93	120	142	166
90	45	64	78	99	116	135

Magnitude and probability of seasonal low flow from July-October based on 58 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	18	9.4	6.3	4.3	2.8	2.0
3	18	9.6	6.4	4.4	2.8	2.0
7	19	9.8	6.5	4.5	2.8	2.0
14	19	10	6.9	4.8	3.1	2.2
30	24	15	11	7.9	5.4	4.0

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	59	3.9	26	12	60
November	62	3.9	22	13	60
December	50	2.7	20	11	60
January	38	2.9	19	10	60
February	54	3.4	20	12	60
March	80	4.1	22	17	60
April	121	1.6	25	23	60
May	106	7.8	32	21	60
June	142	26	57	33	60
July	131	26	46	21	60
August	78	22	33	9.0	61
September	74	13	31	9.2	61
Annual	58	13	30	11	60

12329500 Flint Creek at Maxville, Mont.
Site Number 230

LOCATION.--Lat 46°27'50", long 113°14'20" (NAD 27), in NE¼SW¼NW¼ sec.9, T.8 N., R.13 W., Granite County, Hydrologic Unit 17010202, on right bank 0.4 mi west of Maxville and 1.0 mi upstream from Boulder Creek.

DRAINAGE AREA.--208 mi².

PERIOD OF RECORD.--August 1941 to current year (2002). April 1939 to September 1941 at site 0.5 mi upstream; records not equivalent owing to diversions.

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,828.38 ft (NGVD 29).

REMARKS.--Some regulation by Georgetown Lake (station number 12325000). Diversions for irrigation of about 8,200 acres 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 downstream from Rock Creek Dam, through a canal into Trout Creek, and then into Flint Creek. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 60 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	31	24	21	19	16	15
3	33	26	22	20	17	16
7	36	28	25	22	20	18
14	40	32	28	25	23	21
30	45	36	32	29	25	23
60	51	40	35	31	27	24
90	55	43	38	33	29	26
120	60	47	41	37	32	29
183	69	55	48	43	38	34

Magnitude and probability of seasonal low flow from March-June based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	44	33	29	25	22	20
3	47	35	30	26	23	21
7	51	39	34	30	26	24
14	56	43	38	34	30	27
30	67	51	45	40	35	33

Magnitude and probability of seasonal low flow from November-February based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	33	25	22	19	17	15
3	35	27	23	20	18	16
7	38	29	26	23	20	19
14	42	33	28	25	22	21
30	47	37	32	29	25	23

Duration of daily mean flows based on 61 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
26	30	36	44	54	63	72	82
40%	30%	20%	15%	10%	5%	2%	1%
91	108	127	147	175	232	320	374

Magnitude and probability of annual high flow based on 61 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	348	520	638	790	905	1,020
3	296	438	539	673	777	884
7	251	364	442	547	628	712
15	219	318	388	481	553	629
30	190	277	341	428	498	572
60	162	230	279	343	394	447
90	147	206	247	302	345	389

Magnitude and probability of seasonal low flow from July-October based on 60 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	61	44	36	31	25	21
3	62	46	38	32	26	23
7	65	48	41	35	29	25
14	70	52	44	38	31	27
30	78	57	48	40	33	28

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	148	50	85	22	61
November	121	41	73	19	61
December	120	28	60	18	61
January	88	27	54	16	61
February	141	27	62	23	61
March	186	34	76	27	61
April	310	49	106	55	61
May	353	51	137	62	61
June	455	71	188	90	61
July	324	48	127	56	61
August	217	30	107	32	61
September	151	34	92	30	62
Annual	165	53	97	27	61

**12330000 Boulder Creek at Maxville, Mont.
Site Number 231**

LOCATION.--Lat 46°28'20", long 113°13'59" (NAD 27), in SE¼NE¼SW¼ sec.4, T.8 N., R.13 W., Granite County, Hydrologic Unit 17010202, on right bank 0.2 mi upstream from mouth and 0.7 mi north of Maxville.

DRAINAGE AREA.--71.3 mi².

PERIOD OF RECORD.--April 1939 to current year (2002). Monthly discharge only for some periods, published in WSP 1316.

GAGE.--Water-stage recorder. Altitude of gage is 4,750 ft (NGVD 29). Apr. 15, 1939, to July 7, 1941, nonrecording gage at site 75 ft upstream at different datum. July 8-20, 1941, nonrecording gage at site 175 ft upstream at datum 1.03 ft higher.

REMARKS.--Diversions upstream for irrigation of about 240 acres near the station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 62 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	8.2	5.6	4.6	3.8	3.1	2.7
3	8.5	5.9	4.8	4.1	3.4	2.9
7	9.1	6.3	5.2	4.3	3.6	3.1
14	10	7.1	5.8	4.8	3.9	3.4
30	12	8.6	7.0	5.8	4.7	4.0
60	15	11	9.1	7.7	6.3	5.4
90	17	13	11	9.5	8.0	7.1
120	18	14	12	11	9.3	8.4
183	19	15	13	12	11	9.9

Magnitude and probability of annual high flow based on 63 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	316	481	602	767	898	1,040
3	294	428	513	617	692	763
7	263	377	446	525	579	629
15	230	329	388	456	503	546
30	196	276	322	375	410	442
60	148	205	238	276	301	325
90	115	157	181	209	228	245

Magnitude and probability of seasonal low flow from March-June based on 63 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	15	12	9.9	8.5	7.1	6.2
3	16	12	10	8.7	7.3	6.3
7	16	13	11	9.5	8.0	7.1
14	17	14	12	11	9.6	8.8
30	18	15	13	12	11	10

Magnitude and probability of seasonal low flow from July-October based on 63 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	8.9	5.7	4.6	3.9	3.2	2.8
3	9.1	5.9	4.9	4.2	3.4	3.0
7	9.6	6.4	5.2	4.4	3.6	3.2
14	10	7.1	5.8	4.9	4.0	3.6
30	12	8.7	7.1	5.9	4.8	4.3

Magnitude and probability of seasonal low flow from November-February based on 63 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	12	9.3	7.9	6.8	5.6	4.9
3	13	9.9	8.4	7.3	6.1	5.4
7	14	11	9.7	8.5	7.4	6.6
14	16	12	11	9.6	8.3	7.5
30	17	14	12	11	9.4	8.5

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	51	3.6	23	9.4	63
November	45	12	23	6.4	63
December	39	11	21	5.0	63
January	32	8.5	19	4.2	63
February	30	10	18	3.8	63
March	29	12	18	3.5	63
April	56	10	29	10	63
May	261	55	115	45	64
June	376	35	174	83	64
July	244	13	59	38	64
August	68	8.1	21	11	64
September	54	6.6	18	9.4	64
Annual	82	20	45	13	63

Duration of daily mean flows based on 63 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
6.0	7.3	10	12	16	18	20	22
40%	30%	20%	15%	10%	5%	2%	1%
26	32	50	72	112	185	274	347

12331500 Flint Creek near Drummond, Mont.
Site Number 232

LOCATION.--Lat 46°37'44", long 113°09'02" (NAD 27), in NE¼NW¼NE¼ sec.18, T.10 N., R.12 W., Granite County, Hydrologic Unit 17010202, on left bank 10 ft downstream from county bridge, 2.0 mi upstream from mouth, and 2.7 mi south of Drummond.

DRAINAGE AREA.--490 mi².

PERIOD OF RECORD.--August 1990 to September 2002 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 4,017.27 ft (NGVD 29). June 1948 to September 1949 at same site with different datum.

REMARKS.--Some regulation by Georgetown Lake (station number 12325000). Diversions for irrigation of about 25,000 acres of which 1,000 acres lie downstream from station. During irrigation season, flow is supplemented by water from East Fork Rock Creek which is diverted in sec.5, T.4 N., R.14 W., 500 ft downstream from Rock Creek Dam, through a canal into Trout Creek, and then into Flint Creek.

Magnitude and probability of annual low flow based on 11 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	11	3.0	1.4	0.74	--	--
3	13	3.7	1.8	1.0	--	--
7	16	5.2	2.8	1.6	--	--
14	20	7.4	4.2	2.6	--	--
30	27	11	6.7	4.3	--	--
60	39	17	10	6.7	--	--
90	53	26	17	12	--	--
120	65	33	21	14	--	--
183	79	48	36	27	--	--

Magnitude and probability of annual high flow based on 13 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	422	700	897	1,150	--	--
3	364	604	782	1,020	--	--
7	312	519	679	908	--	--
15	268	457	615	858	--	--
30	232	387	517	716	--	--
60	195	310	406	551	--	--
90	176	273	352	469	--	--

Magnitude and probability of seasonal low flow from March-June based on 13 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	30	6.1	2.2	0.90	--	--
3	38	9.9	4.3	2.0	--	--
7	51	16	7.5	3.7	--	--
14	65	22	11	5.3	--	--
30	84	36	21	13	--	--

Magnitude and probability of seasonal low flow from July-October based on 12 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	16	4.4	2.2	1.2	--	--
3	17	4.8	2.3	1.2	--	--
7	19	6.2	3.2	1.9	--	--
14	23	8.3	4.6	2.8	--	--
30	31	12	7.2	4.6	--	--

Magnitude and probability of seasonal low flow from November-February based on 13 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	58	45	40	36	--	--
3	61	48	42	38	--	--
7	66	52	46	42	--	--
14	71	56	50	45	--	--
30	78	61	54	49	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	186	81	133	35	13
November	168	91	128	28	13
December	144	64	100	26	13
January	156	57	97	29	13
February	232	57	115	46	13
March	256	80	131	46	13
April	372	87	170	98	13
May	459	14	159	134	13
June	955	15	280	259	14
July	412	13	130	131	14
August	167	6.7	49	49	15
September	196	18	72	50	15
Annual	234	60	125	54	13

Duration of daily mean flows based on 13 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4.2	6.0	15	32	56	73	87	102
40%	30%	20%	15%	10%	5%	2%	1%
117	135	167	183	227	323	527	723

**12331600 Clark Fork at Drummond, Mont.
Site Number 233**

LOCATION.--Lat 46°39'45", long 113°08'57" (NAD 27), in SE¼NW¼SE¼ sec.31, T.11 N., R.12 W., Granite County, Hydrologic Unit 17010201, at bridge on old U.S. Highway 10A, 0.4 mi southwest of Drummond, 0.9 mi downstream from Flint Creek, and at mile 417.0.

DRAINAGE AREA.--2,378 mi².

PERIOD OF RECORD.--March 1967 to June 1968, October 1970, June 1971 to September 1972 (occasional discharge measurements and gage heights only). October 1972 to Sept. 30, 1983 (discontinued).

GAGE.--Nonrecording gage read once or twice daily and crest-stage gage since Aug. 12, 1977. Altitude of gage is 3,937.95 ft (NGVD 29).

REMARKS.--Some regulation by settling ponds on Silver Bow Creek near Anaconda and by Georgetown Lake (station number 12325000) on Flint Creek. Diversions for irrigation of about 86,500 acres upstream from station.

Magnitude and probability of annual low flow based on 10 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	175	93	66	50	--	--
3	203	115	84	64	--	--
7	222	124	88	65	--	--
14	243	136	96	70	--	--
30	284	165	118	87	--	--
60	363	210	149	108	--	--
90	428	253	187	143	--	--
120	485	304	232	183	--	--
183	527	359	291	243	--	--

Magnitude and probability of annual high flow based on 11 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	3,580	6,880	9,300	--	--	--
3	3,230	5,820	7,590	--	--	--
7	2,860	5,000	6,440	--	--	--
15	2,490	4,270	5,460	--	--	--
30	2,230	3,720	4,690	--	--	--
60	1,840	2,980	3,730	--	--	--
90	1,600	2,480	3,060	--	--	--

Magnitude and probability of seasonal low flow from March-June based on 11 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	411	203	126	80	--	--
3	436	259	187	140	--	--
7	510	326	244	185	--	--
14	590	405	317	252	--	--
30	668	458	361	290	--	--

Magnitude and probability of seasonal low flow from July-October based on 10 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	215	111	80	61	--	--
3	219	119	86	66	--	--
7	228	129	91	67	--	--
14	248	141	100	74	--	--
30	291	167	121	91	--	--

Magnitude and probability of seasonal low flow from November-February based on 10 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	284	199	165	142	--	--
3	311	221	186	162	--	--
7	345	249	212	187	--	--
14	389	305	275	256	--	--
30	448	383	362	351	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,180	384	710	243	11
November	1,090	492	681	181	11
December	1,190	416	621	224	11
January	980	399	581	190	11
February	1,140	415	652	216	11
March	1,060	567	751	173	11
April	1,800	509	920	352	11
May	3,460	330	1,820	1,070	11
June	4,570	280	1,980	1,370	11
July	2,490	118	950	701	11
August	1,240	84	430	336	11
September	961	262	567	238	11
Annual	1,390	400	889	320	11

Duration of daily mean flows based on 11 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
101	136	226	304	412	496	583	672
40%	30%	20%	15%	10%	5%	2%	1%
761	924	1,090	1,340	1,790	2,700	3,850	4,400

12331900 Clark Fork near Clinton, Mont.
Site Number 234

LOCATION.--Lat 46°43'05", long 113°35'17" (NAD 27), in SE¼SW¼SE¼ sec.10, T11 N., R.16 W., Missoula County, Hydrologic Unit 17010201, on downstream side of county road bridge, 4.5 mi upstream from Rock Creek, 6.5 mi southeast of Clinton, and at river mile 386.6.

DRAINAGE AREA.--2,629 mi².

PERIOD OF RECORD.--June 1979 to September 1990, October 1991 to September 1994 (discontinued).

REVISED RECORDS.--WDR MT-81-2: Drainage area.

GAGE.--Nonrecording gage and crest-stage gage. Altitude of gage is 3,580 ft (NGVD 29, from topographic map).

REMARKS.--Some regulation by settling ponds on Silver Bow Creek near Anaconda and by Georgetown Lake (station number 12325000) on Flint Creek. Diversions for irrigation of about 88,400 acres upstream from station.

Magnitude and probability of annual low flow based on 12 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	226	143	110	86	--	--
3	235	149	113	89	--	--
7	248	156	117	91	--	--
14	271	167	125	96	--	--
30	310	190	142	109	--	--
60	374	231	172	133	--	--
90	444	284	219	173	--	--
120	502	328	254	201	--	--
183	554	386	312	257	--	--

Magnitude and probability of annual high flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	2,690	5,250	7,530	11,200	--	--
3	2,450	4,640	6,530	9,490	--	--
7	2,080	3,770	5,230	7,510	--	--
15	1,760	3,180	4,400	6,290	--	--
30	1,520	2,660	3,630	5,120	--	--
60	1,360	2,230	2,910	3,910	--	--
90	1,220	1,910	2,420	3,130	--	--

Magnitude and probability of seasonal low flow from March-June based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	402	256	199	160	--	--
3	418	266	206	165	--	--
7	446	285	219	174	--	--
14	531	340	256	197	--	--
30	662	441	329	248	--	--

Magnitude and probability of seasonal low flow from July-October based on 13 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	244	144	112	87	--	--
3	251	151	114	89	--	--
7	260	159	119	92	--	--
14	277	169	127	96	--	--
30	314	192	143	111	--	--

Magnitude and probability of seasonal low flow from November-February based on 14 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	307	248	221	201	--	--
3	332	269	239	216	--	--
7	375	302	267	239	--	--
14	414	337	302	275	--	--
30	463	375	335	305	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,070	392	680	229	14
November	1,040	428	659	184	14
December	935	323	572	166	14
January	1,190	306	567	229	14
February	1,320	309	641	303	14
March	1,170	490	746	211	14
April	1,330	492	919	282	14
May	3,620	257	1,420	903	14
June	3,910	206	1,450	1,130	15
July	1,800	162	705	504	15
August	948	111	369	213	15
September	1,070	184	528	259	15
Annual	1,240	376	777	284	14

Duration of daily mean flows based on 14 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
123	149	212	285	385	454	524	615
40%	30%	20%	15%	10%	5%	2%	1%
709	838	1,010	1,090	1,370	1,990	3,030	3,880

**12332000 Middle Fork Rock Creek near Philipsburg, Mont.
Site Number 235**

LOCATION.--Lat 46°11'03", long 113°30'05" (NAD 27), in SW¼NW¼SE¼ sec.17, T.5 N., R.15 W., Granite County, 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.

PERIOD OF RECORD.--September 1937 to current year (2002). Monthly discharges only January to March 1938, published in WSP 1316.

GAGE.--Water-stage recorder. Altitude of gage is 5,444.08 ft (NGVD 29). 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.--A few small diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 64 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	17	11	9.3	7.7	6.1	5.2
3	18	14	12	10	8.4	7.5
7	21	17	15	13	12	11
14	24	19	18	16	15	14
30	27	23	21	20	18	18
60	30	26	24	23	22	21
90	32	28	26	25	24	23
120	34	30	28	27	26	26
183	39	34	32	31	30	30

Magnitude and probability of annual high flow based on 65 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	825	1,120	1,290	1,480	1,600	1,700
3	773	1,060	1,220	1,400	1,520	1,630
7	704	970	1,120	1,300	1,410	1,520
15	625	857	994	1,150	1,250	1,350
30	542	728	836	956	1,040	1,110
60	423	556	630	710	763	809
90	333	433	487	546	584	618

Magnitude and probability of seasonal low flow from March-June based on 65 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	24	17	14	12	9.5	8.2
3	26	19	16	14	11	10
7	28	22	19	17	15	14
14	30	25	22	21	19	18
30	34	28	26	24	23	22

Magnitude and probability of seasonal low flow from July-October based on 64 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	38	32	29	26	24	22
3	39	33	29	27	24	23
7	40	34	30	28	25	23
14	42	35	31	29	26	24
30	44	36	33	30	27	25

Magnitude and probability of seasonal low flow from November-February based on 64 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	17	12	9.7	8.0	6.4	5.4
3	19	14	12	10	8.9	7.9
7	22	17	15	13	12	11
14	24	20	18	17	15	14
30	27	23	21	20	19	18

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	202	27	50	22	65
November	104	26	43	12	65
December	64	24	36	9.4	65
January	61	22	32	7.8	65
February	60	16	33	8.6	65
March	71	23	36	9.6	65
April	190	28	75	35	65
May	650	137	334	123	65
June	914	141	482	198	65
July	496	49	179	84	65
August	141	26	71	22	65
September	98	30	52	13	65
Annual	183	62	119	31	65

Duration of daily mean flows based on 65 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
16	19	24	27	33	38	43	49
40%	30%	20%	15%	10%	5%	2%	1%
61	83	151	223	333	509	743	939

12334510 Rock Creek near Clinton, Mont.
Site Number 236

LOCATION.--Lat 46°43'21", long 113°40'56" (NAD 27), in NW¼NE¼SW¼ sec.12, T.11 N., R.17 W., Missoula County, 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.

PERIOD OF RECORD.--October 1972 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 3,519.46 ft (NGVD 29).

REMARKS.--Some regulation 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 downstream from Rock Creek Dam, through a canal into Trout Creek, and then into Flint Creek. Diversions for irrigation of about 16,100 acres. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 29 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	88	62	51	43	34	--
3	95	69	57	49	40	--
7	109	85	74	65	57	--
14	127	102	91	82	73	--
30	150	125	113	104	94	--
60	164	136	123	113	103	--
90	172	142	131	123	116	--
120	184	153	141	133	126	--
183	208	171	156	145	134	--

Magnitude and probability of annual high flow based on 30 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	2,820	4,150	4,930	5,810	6,400	--
3	2,670	3,930	4,680	5,520	6,090	--
7	2,450	3,640	4,370	5,220	5,800	--
15	2,160	3,250	3,940	4,800	5,400	--
30	1,880	2,840	3,470	4,250	4,820	--
60	1,520	2,260	2,740	3,340	3,770	--
90	1,240	1,810	2,190	2,650	2,980	--

Magnitude and probability of seasonal low flow from March-June based on 30 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	164	135	123	115	106	--
3	172	143	131	122	114	--
7	179	151	140	132	124	--
14	192	163	152	144	137	--
30	223	181	165	154	144	--

Magnitude and probability of seasonal low flow from July-October based on 29 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	198	151	130	114	97	--
3	202	155	133	116	99	--
7	206	158	136	119	102	--
14	212	163	140	123	105	--
30	223	173	150	133	116	--

Magnitude and probability of seasonal low flow from November-February based on 29 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	89	63	52	43	35	--
3	96	70	58	50	41	--
7	110	85	74	66	57	--
14	128	103	92	83	75	--
30	153	126	114	105	96	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	474	157	253	65	30
November	430	149	227	58	30
December	460	119	197	79	30
January	329	106	185	59	30
February	426	109	192	62	30
March	428	158	243	73	30
April	1,020	236	500	212	30
May	3,680	544	1,460	682	30
June	3,760	407	1,720	936	30
July	1,910	267	683	366	30
August	635	156	313	116	30
September	389	148	262	71	30
Annual	966	258	521	188	30

Duration of daily mean flows based on 30 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
94	104	131	146	175	205	236	267
40%	30%	20%	15%	10%	5%	2%	1%
326	407	667	913	1,280	2,030	2,960	3,720

**12334550 Clark Fork at Turah Bridge, near Bonner, Mont.
Site Number 237**

LOCATION.--Lat 46°49'34", long 113°48'48" (NAD 27), in SW¼NW¼SW¼ 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.

PERIOD OF RECORD.--October 1985 to current year (2002). Water-discharge records for the period March 1985 to September 1985 are available in files of the USGS Montana District Office.

GAGE.--Water-stage recorder. Altitude of gage is 3,320 ft (NGVD 29, from topographic map). Prior to May 9, 1986, non-recording gage at same site at datum 2.00 ft higher.

REMARKS.--Some regulation by settling ponds on Silver Bow Creek near Anaconda and by Georgetown Lake (station number 12325000) on Flint Creek. Diversions for irrigation of about 100,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 17 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	332	252	216	189	--	--
3	352	274	238	211	--	--
7	398	303	259	227	--	--
14	444	322	269	231	--	--
30	496	357	296	252	--	--
60	570	415	345	294	--	--
90	630	484	416	364	--	--
120	686	550	487	438	--	--
183	712	571	508	460	--	--

Magnitude and probability of seasonal low flow from March-June based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	650	527	478	443	--	--
3	672	547	496	461	--	--
7	701	583	538	507	--	--
14	792	668	624	595	--	--
30	944	754	679	627	--	--

Magnitude and probability of seasonal low flow from November-February based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	388	288	241	206	--	--
3	414	321	278	245	--	--
7	482	392	349	316	--	--
14	557	469	427	394	--	--
30	635	538	492	455	--	--

Duration of daily mean flows based on 18 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
274	314	406	498	605	695	790	895
40%	30%	20%	15%	10%	5%	2%	1%
1,000	1,120	1,470	1,870	2,380	3,220	4,860	6,330

Magnitude and probability of annual high flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	4,380	6,870	8,490	10,500	--	--
3	4,130	6,360	7,750	9,390	--	--
7	3,780	5,870	7,240	8,900	--	--
15	3,330	5,240	6,570	8,300	--	--
30	2,970	4,660	5,860	7,440	--	--
60	2,490	3,740	4,620	5,790	--	--
90	2,120	3,150	3,890	4,890	--	--

Magnitude and probability of seasonal low flow from July-October based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	420	294	247	216	--	--
3	427	298	250	218	--	--
7	441	305	261	231	--	--
14	457	326	273	236	--	--
30	505	359	298	256	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,290	592	871	218	18
November	1,170	616	857	169	18
December	1,230	492	739	183	18
January	1,150	474	724	175	18
February	2,120	472	846	400	18
March	1,660	712	1,030	303	18
April	3,070	828	1,490	600	18
May	6,340	915	2,480	1,250	18
June	7,090	639	2,770	1,680	18
July	2,920	435	1,230	690	18
August	1,420	271	639	300	18
September	1,420	356	706	299	18
Annual	2,220	686	1,200	413	18

**12335000 Blackfoot River near Helmville, Mont.
Site Number 238**

LOCATION.--Lat 46°56'10", long 112°56'30" (NAD 27), in NW¼SW¼ sec.25, T.14 N., R.11 W., Powell County, on right bank 50 ft downstream from highway bridge, 2 mi downstream from Arrastre Creek, and 5 mi northeast of Helmville.

DRAINAGE AREA.--481 mi².

PERIOD OF RECORD.--13 years (1940-53).

GAGE.--Water-stage recorder. Altitude of gage is 4,301.29 ft (NGVD 29, U.S. Army Corps of Engineers bench mark).

REMARKS.--Flow includes natural overflow channel on left bank, but does not include unnamed diversions past station. Diversions upstream from station for irrigation of about 2,000 acres, of which 500 acres lie downstream from station.

Magnitude and probability of annual low flow based on 12 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	96	77	66	57	--	--
3	98	79	68	60	--	--
7	102	82	72	63	--	--
14	105	86	75	66	--	--
30	112	91	80	70	--	--
60	123	100	86	75	--	--
90	128	105	92	82	--	--
120	133	112	101	93	--	--
183	144	122	111	102	--	--

Magnitude and probability of annual high flow based on 13 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	2,110	3,350	4,080	4,860	--	--
3	2,030	3,210	3,880	4,610	--	--
7	1,890	2,900	3,440	3,970	--	--
15	1,730	2,620	3,060	3,480	--	--
30	1,510	2,230	2,550	2,820	--	--
60	1,210	1,730	1,940	2,100	--	--
90	959	1,360	1,530	1,660	--	--

Magnitude and probability of seasonal low flow from March-June based on 13 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	101	86	80	75	--	--
3	104	88	81	76	--	--
7	108	92	84	79	--	--
14	112	96	88	82	--	--
30	116	98	92	88	--	--

Magnitude and probability of seasonal low flow from July-October based on 13 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	152	126	112	101	--	--
3	153	127	113	102	--	--
7	154	127	114	103	--	--
14	156	129	115	105	--	--
30	159	132	119	108	--	--

Magnitude and probability of seasonal low flow from November-February based on 12 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	105	83	70	60	--	--
3	106	85	73	62	--	--
7	109	87	75	65	--	--
14	111	90	78	68	--	--
30	116	94	82	72	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	212	111	159	33	14
November	191	104	149	29	13
December	180	84	132	28	13
January	156	63	119	25	13
February	168	85	121	26	13
March	212	96	125	31	13
April	604	92	271	168	13
May	1,860	84	970	550	13
June	2,730	267	1,260	703	13
July	904	135	500	243	13
August	338	108	235	73	13
September	236	115	173	35	13
Annual	512	116	352	124	13

Duration of daily mean flows based on 13 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
68	74	93	100	116	131	149	168
40%	30%	20%	15%	10%	5%	2%	1%
186	247	416	598	937	1,420	2,120	2,630

**12335500 Nevada Creek above reservoir, near Helmville, Mont.
Site Number 239**

LOCATION.--Lat 46°46'42", long 112°46'00" (NAD 27), in SW¼NW¼SW¼ 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.

PERIOD OF RECORD.--April 1939 to current year (2002). Prior to October 2001, published as "near Finn."

GAGE.--Water-stage recorder. Altitude of gage is 4,640 ft (NGVD 29). Prior to Apr. 30, 1942, nonrecording gage at site 0.1 mi downstream at different datum.

Apr. 30, 1942, to July 26, 1953, water-stage recorder at site 0.2 mi downstream at different datum. July 26, 1953, to Nov. 6, 1978, water-stage recorder at site 0.8 mi upstream at different datum.

REMARKS.--Diversions for irrigation of about 2,900 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 62 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.3	3.0	2.5	2.2	1.8	1.6
3	4.6	3.3	2.8	2.4	2.0	1.8
7	5.2	3.7	3.1	2.6	2.1	1.9
14	6.0	4.2	3.5	3.0	2.5	2.2
30	6.9	4.9	4.1	3.6	3.0	2.7
60	8.2	5.8	4.8	4.1	3.5	3.1
90	9.4	6.8	5.7	4.9	4.2	3.8
120	11	7.8	6.6	5.8	4.9	4.4
183	11	8.4	7.2	6.3	5.4	4.8

Magnitude and probability of annual high flow based on 63 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	338	566	721	914	1,050	1,190
3	286	466	577	706	792	870
7	228	361	439	524	579	627
15	177	281	341	407	448	484
30	138	221	272	331	369	404
60	107	166	202	240	265	287
90	90	138	165	195	215	232

Magnitude and probability of seasonal low flow from March-June based on 63 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	8.3	6.0	5.1	4.6	4.0	3.7
3	8.8	6.3	5.4	4.8	4.2	3.8
7	9.7	6.9	5.8	5.1	4.4	4.0
14	12	8.5	7.4	6.6	6.0	5.6
30	21	13	11	8.9	7.3	6.4

Magnitude and probability of seasonal low flow from July-October based on 63 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6.1	4.0	3.3	2.7	2.3	2.0
3	6.4	4.2	3.4	2.9	2.4	2.1
7	6.8	4.6	3.7	3.1	2.6	2.3
14	7.3	5.0	4.1	3.5	2.9	2.6
30	8.2	5.7	4.7	4.1	3.5	3.1

Magnitude and probability of seasonal low flow from November-February based on 63 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5.0	3.4	2.7	2.3	1.9	1.6
3	5.5	3.8	3.0	2.6	2.1	1.8
7	6.3	4.3	3.4	2.8	2.3	2.0
14	7.2	4.9	4.0	3.3	2.7	2.3
30	8.3	5.8	4.7	3.9	3.2	2.7

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	32	5.5	14	5.6	63
November	29	5.7	15	4.5	63
December	47	3.7	12	6.4	63
January	54	3.8	12	8.4	63
February	85	4.2	16	15	63
March	114	7.6	34	25	63
April	196	10	67	44	63
May	356	16	112	67	64
June	429	12	90	70	64
July	96	6.2	28	18	64
August	40	3.9	14	7.1	64
September	28	3.7	10	4.9	64
Annual	77	12	36	14	63

Duration of daily mean flows based on 63 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
3.6	4.2	5.1	6.3	8.6	11	13	16
40%	30%	20%	15%	10%	5%	2%	1%
20	26	44	61	89	147	237	311

12338500 Blackfoot River near Ovando, Mont.
Site Number 240

LOCATION.--Lat 47°01'10", long 113°13'40" (NAD 27), in SE¼NW¼ sec.34, T.15 N., R.13 W., Powell County, on left bank 0.25 mi upstream from Monture Creek and 5 mi west of Ovando.

DRAINAGE AREA.--1,274 mi².

PERIOD OF RECORD.--23 years (1940-63).

REVISED RECORDS.--WSP 1216: Drainage area. WSP 1246: 1941.

GAGE.--Water-stage recorder. Altitude of gage is 3,917.27 ft (NGVD 29, U.S. Army Corps of Engineers bench mark).

REMARKS.--Diversions for irrigation of about 15,000 acres upstream from station.

Magnitude and probability of annual low flow based on 22 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	180	143	126	113	--	--
3	187	153	138	126	--	--
7	204	170	154	142	--	--
14	221	190	175	164	--	--
30	246	215	202	193	--	--
60	267	232	217	207	--	--
90	283	248	234	224	--	--
120	302	263	249	239	--	--
183	333	287	269	256	--	--

Magnitude and probability of annual high flow based on 23 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	5,230	7,290	8,330	9,350	--	--
3	5,090	7,040	7,980	8,870	--	--
7	4,760	6,490	7,290	8,010	--	--
15	4,310	5,880	6,590	7,200	--	--
30	3,810	4,980	5,420	5,740	--	--
60	3,000	3,830	4,120	4,320	--	--
90	2,360	3,020	3,270	3,450	--	--

Magnitude and probability of seasonal low flow from March-June based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	232	191	171	156	--	--
3	240	198	177	162	--	--
7	250	210	191	176	--	--
14	263	226	209	196	--	--
30	307	256	238	227	--	--

Magnitude and probability of seasonal low flow from July-October based on 22 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	351	298	275	258	--	--
3	353	300	276	259	--	--
7	357	302	279	261	--	--
14	361	306	283	265	--	--
30	367	312	288	271	--	--

Magnitude and probability of seasonal low flow from November-February based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	189	148	129	114	--	--
3	195	157	140	128	--	--
7	210	173	156	143	--	--
14	225	190	175	164	--	--
30	247	215	202	193	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	785	259	395	116	23
November	760	255	377	109	23
December	573	225	324	86	23
January	364	194	274	54	23
February	514	216	287	70	23
March	671	227	341	103	23
April	1,710	222	721	397	23
May	4,370	426	2,460	1,050	23
June	6,600	738	3,000	1,330	23
July	2,170	371	1,140	527	23
August	837	254	526	148	23
September	585	262	397	82	24
Annual	1,230	315	855	239	23

Duration of daily mean flows based on 23 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
178	194	211	238	285	321	357	408
40%	30%	20%	15%	10%	5%	2%	1%
487	643	1,060	1,460	2,260	3,530	4,970	5,790

**12339450 Clearwater River near Clearwater, Mont.
Site Number 241**

LOCATION.--Lat 47°01'09", long 113°23'12" (NAD 27), in NW¼NW¼NW¼ sec.33, T.15 N., R.14 W., Missoula County, Hydrologic Unit 17010203, Clearwater State Forest, on left bank 700 ft upstream from Blanchard Lake, 1.3 mi northwest of Clearwater, and at river mile 5.2.

DRAINAGE AREA.--345 mi².

PERIOD OF RECORD.--October 1974 to September 1992 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 3,814.23 ft (NGVD 29).

REMARKS.--A few minor diversions for irrigation upstream from station. During summer months Elbow Lake, 1.5 mi upstream, may be regulated for recreational purposes.

Magnitude and probability of annual low flow based on 17 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	42	30	25	20	--	--
3	43	30	25	20	--	--
7	44	31	25	21	--	--
14	46	32	26	21	--	--
30	49	35	28	22	--	--
60	56	39	31	25	--	--
90	62	44	36	31	--	--
120	68	52	45	41	--	--
183	76	58	51	47	--	--

Magnitude and probability of annual high flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,530	2,020	2,360	2,810	--	--
3	1,490	1,970	2,300	2,730	--	--
7	1,390	1,840	2,150	2,540	--	--
15	1,210	1,610	1,890	2,240	--	--
30	1,080	1,440	1,690	2,000	--	--
60	942	1,240	1,420	1,640	--	--
90	800	1,040	1,180	1,330	--	--

Magnitude and probability of seasonal low flow from March-June based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	83	60	51	45	--	--
3	84	60	52	45	--	--
7	87	62	52	46	--	--
14	95	67	56	49	--	--
30	122	79	65	56	--	--

Magnitude and probability of seasonal low flow from July-October based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	42	31	25	20	--	--
3	43	31	25	21	--	--
7	44	31	25	21	--	--
14	46	33	26	21	--	--
30	51	35	28	22	--	--

Magnitude and probability of seasonal low flow from November-February based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	59	44	38	33	--	--
3	60	45	38	34	--	--
7	62	46	39	34	--	--
14	64	49	43	40	--	--
30	67	53	49	45	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	164	25	80	35	18
November	197	44	101	50	18
December	288	54	105	63	18
January	192	44	92	40	18
February	149	49	86	30	18
March	602	55	160	124	18
April	1,230	165	648	303	18
May	1,610	552	1,010	372	18
June	1,390	219	701	311	18
July	499	75	233	129	18
August	154	27	76	36	18
September	180	18	65	38	18
Annual	424	162	281	81	18

Duration of daily mean flows based on 18 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
25	29	39	49	61	73	85	102
40%	30%	20%	15%	10%	5%	2%	1%
141	211	461	644	858	1,150	1,480	1,880

12340000 Blackfoot River near Bonner, Mont.
Site Number 242

LOCATION.--Lat 46°53'59", long 113°45'20" (NAD 27), in SE¼SE¼NW¼ sec.9, T.13 N., R.17 W., Missoula County, Hydrologic Unit 17010203, Lolo National Forest, 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.

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 (2002). Monthly discharge only for some periods, published in 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. Altitude of gage is 3,344.76 ft (NGVD 29). July 7, 1898, to June 30, 1901, and May 15, 1903, to Oct. 31, 1905, nonrecording gage at site 7 mi downstream at different datum. Oct. 4, 1939, to Sept. 30, 1955, nonrecording gage at site 1.3 mi downstream at datum 21.82 ft lower.

REMARKS.--Flow slightly regulated by Nevada Creek Reservoir (station number 12336500). Diversions for irrigation of about 20,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 63 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	322	258	228	205	181	166
3	346	278	246	221	195	178
7	384	316	283	257	230	213
14	422	354	322	296	268	251
30	465	402	373	351	328	314
60	505	430	396	369	341	323
90	524	445	413	390	367	354
120	546	463	430	406	384	371
183	589	492	450	419	389	370

Magnitude and probability of seasonal low flow from March-June based on 67 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	487	391	355	331	308	296
3	503	412	379	357	337	326
7	530	439	407	386	367	357
14	561	465	434	415	400	393
30	671	529	481	452	426	413

Magnitude and probability of seasonal low flow from November-February based on 65 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	328	260	230	207	182	168
3	351	280	248	222	197	180
7	391	317	286	260	232	215
14	431	356	325	298	270	252
30	475	404	374	353	332	320

Duration of daily mean flows based on 66 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
298	339	396	437	519	594	669	744
40%	30%	20%	15%	10%	5%	2%	1%
932	1,240	2,140	3,020	4,160	6,030	8,420	10,200

Magnitude and probability of annual high flow based on 66 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	8,580	12,000	13,800	15,800	17,000	18,100
3	8,340	11,500	13,200	14,900	15,900	16,700
7	7,780	10,700	12,100	13,600	14,500	15,200
15	6,960	9,550	10,900	12,200	13,000	13,600
30	6,150	8,410	9,550	10,700	11,300	11,900
60	5,040	6,730	7,560	8,350	8,790	9,150
90	4,150	5,520	6,170	6,790	7,140	7,420

Magnitude and probability of seasonal low flow from July-October based on 66 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	566	459	408	368	326	300
3	571	465	414	374	332	306
7	579	472	420	379	337	311
14	589	478	425	384	341	314
30	604	489	436	394	351	324

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,550	370	654	192	68
November	1,480	369	650	183	67
December	1,560	332	611	228	67
January	1,070	348	556	146	67
February	1,670	359	601	229	66
March	2,350	435	778	335	67
April	4,730	463	2,030	1,040	67
May	9,800	1,100	4,880	1,930	68
June	10,500	1,160	4,820	2,240	68
July	4,110	533	1,780	787	68
August	1,460	365	821	236	68
September	1,100	363	662	163	68
Annual	2,480	558	1,580	460	66

**12340500 Clark Fork above Missoula, Mont.
Site Number 243**

LOCATION.--Lat 46°52'38", long 113°55'53" (NAD 27), in NW¼NW¼NW¼ sec.19, T.13 N., R.18 W., Missoula County, 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.

PERIOD OF RECORD.--March 1929 to current year (2002). Monthly discharge only for some periods, published in 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. Altitude of gage is 3,198.30 ft (NGVD 29, levels by U.S. Army Corps of Engineers). Prior to May 27, 1929, nonrecording gage.

REMARKS.--Diurnal fluctuation caused by powerplant at Milltown. Diversions for irrigation of about 120,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 73 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	641	503	443	398	353	326
3	699	555	491	443	395	366
7	818	651	574	515	454	417
14	940	747	656	585	512	467
30	1,070	853	747	664	576	521
60	1,170	944	835	750	660	605
90	1,240	1,010	912	836	758	710
120	1,310	1,080	974	895	815	766
183	1,370	1,120	1,000	915	826	772

Magnitude and probability of seasonal low flow from March-June based on 74 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,200	959	853	775	697	650
3	1,260	1,020	916	840	763	716
7	1,320	1,100	1,010	949	888	852
14	1,430	1,210	1,130	1,070	1,020	995
30	1,690	1,370	1,250	1,170	1,100	1,060

Magnitude and probability of seasonal low flow from November-February based on 73 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	657	511	451	409	367	343
3	714	557	493	448	404	377
7	843	663	588	534	480	448
14	984	783	695	631	566	526
30	1,130	922	828	757	684	640

Duration of daily mean flows based on 73 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
598	691	828	978	1,190	1,350	1,500	1,760
40%	30%	20%	15%	10%	5%	2%	1%
2,020	2,510	3,900	5,200	7,090	10,300	14,400	16,700

Magnitude and probability of annual high flow based on 73 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	13,700	19,900	23,600	27,700	30,400	32,900
3	13,300	19,200	22,600	26,500	29,000	31,300
7	12,400	17,800	20,900	24,300	26,500	28,500
15	11,200	16,000	18,800	21,900	23,900	25,700
30	9,900	14,100	16,400	19,100	20,800	22,300
60	8,180	11,300	13,000	14,900	16,000	17,100
90	6,790	9,320	10,700	12,200	13,100	14,000

Magnitude and probability of seasonal high flow from July-October based on 73 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,040	739	606	509	412	356
3	1,080	800	673	579	485	429
7	1,120	838	710	616	521	465
14	1,160	869	741	646	550	493
30	1,220	919	783	682	580	519

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	2,990	854	1,560	422	73
November	2,850	882	1,560	366	73
December	3,320	874	1,420	437	73
January	2,550	606	1,330	386	73
February	3,430	674	1,480	519	73
March	4,120	1,040	1,860	606	74
April	10,100	1,190	3,710	1,800	74
May	17,200	2,000	7,900	3,170	74
June	19,300	2,120	8,290	4,060	74
July	8,760	868	3,180	1,570	74
August	3,450	627	1,490	536	74
September	2,870	653	1,400	446	74
Annual	5,070	1,340	2,940	888	73

12342500 West Fork Bitterroot River near Conner, Mont.
Site Number 244

LOCATION.--Lat 45°43'30", long 114°16'50" (NAD 27), in SE¼NE¼NW¼ sec.26, T.1 S., R.22 W., Ravalli County, 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.

PERIOD OF RECORD.--April 1941 to current year (2002).

REVISED RECORDS.--WSP 1246: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,581.36 ft (NGVD 29, U.S. Forest Service bench mark).

REMARKS.--Flow regulated by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 200 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 60 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	39	12	5.0	2.2	0.76	0.35
3	43	14	6.1	2.8	.97	.44
7	50	17	7.4	3.2	1.1	.47
14	61	29	16	8.2	3.3	1.7
30	61	35	24	16	10	6.9
60	72	47	34	25	16	12
90	73	56	49	44	39	36
120	83	64	56	50	45	41
183	113	94	85	78	72	68

Magnitude and probability of annual high flow based on 61 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,830	2,640	3,070	3,510	3,770	3,990
3	1,750	2,510	2,920	3,320	3,560	3,760
7	1,590	2,310	2,690	3,070	3,310	3,500
15	1,400	2,030	2,370	2,720	2,930	3,110
30	1,200	1,730	2,020	2,320	2,500	2,650
60	864	1,270	1,500	1,760	1,930	2,090
90	675	965	1,130	1,320	1,450	1,560

Magnitude and probability of seasonal low flow from March-June based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	66	22	9.5	4.0	1.2	0.51
3	68	24	10	4.3	1.3	.54
7	74	27	12	5.0	1.5	.62
14	85	44	23	11	4.2	1.9
30	91	47	32	22	14	9.7

Magnitude and probability of seasonal low flow from July-October based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	87	42	21	9.6	3.3	1.4
3	87	62	53	45	35	31
7	89	65	54	46	38	33
14	90	67	55	47	40	34
30	95	73	64	57	51	47

Magnitude and probability of seasonal low flow from November-February based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	60	29	17	10	5.0	2.9
3	63	32	19	11	5.4	3.1
7	67	35	21	12	5.8	3.3
14	69	40	28	20	12	8.8
30	72	47	34	24	16	11

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	484	52	157	101	61
November	416	53	113	67	61
December	270	28	91	49	61
January	243	21	84	37	61
February	215	6.8	80	33	61
March	278	7.8	94	49	61
April	719	8.6	203	158	61
May	2,010	118	807	452	62
June	1,960	118	917	468	62
July	633	127	267	104	62
August	439	84	200	87	62
September	384	62	178	75	62
Annual	457	120	268	83	61

Duration of daily mean flows based on 61 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
11	23	48	55	69	86	103	120
40%	30%	20%	15%	10%	5%	2%	1%
154	226	336	438	661	1,130	1,800	2,110

**12343400 East Fork Bitterroot River near Conner, Mont.
Site Number 245**

LOCATION.--Lat 45°53'00", long 114°03'53" (NAD 27), in NE¼SW¼NE¼ sec.34, T.2 N., R.20 W., Ravalli County, 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.

PERIOD OF RECORD.--April 1956 to September 1972, October 2000 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 4,191.81 ft (NGVD 29).

REMARKS.--Diversions for irrigation of about 2,200 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 16 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	40	32	29	26	--	--
3	47	37	32	28	--	--
7	60	48	40	34	--	--
14	69	55	47	39	--	--
30	77	64	55	47	--	--
60	84	70	62	55	--	--
90	86	74	67	62	--	--
120	91	78	72	67	--	--
183	98	85	78	73	--	--

Magnitude and probability of annual high flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,950	2,580	2,940	3,320	--	--
3	1,860	2,450	2,770	3,130	--	--
7	1,740	2,250	2,520	2,780	--	--
15	1,590	2,040	2,250	2,460	--	--
30	1,360	1,730	1,910	2,080	--	--
60	1,040	1,310	1,450	1,580	--	--
90	808	1,010	1,110	1,210	--	--

Magnitude and probability of seasonal low flow from March-June based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	65	52	48	44	--	--
3	71	59	55	52	--	--
7	80	66	61	57	--	--
14	84	69	64	60	--	--
30	95	79	74	70	--	--

Magnitude and probability of seasonal low flow from July-October based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	82	69	64	60	--	--
3	84	72	67	63	--	--
7	88	75	69	65	--	--
14	92	78	72	68	--	--
30	97	82	76	72	--	--

Magnitude and probability of seasonal low flow from November-February based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	41	33	29	26	--	--
3	48	38	33	29	--	--
7	60	48	41	35	--	--
14	69	56	47	39	--	--
30	78	65	56	48	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	206	83	117	32	18
November	137	78	104	18	18
December	168	39	90	27	18
January	116	57	84	16	18
February	170	52	90	27	18
March	215	74	108	38	18
April	476	109	244	109	19
May	1,480	520	945	279	19
June	1,960	355	1,110	442	19
July	520	126	304	109	19
August	203	73	129	32	19
September	187	81	113	27	19
Annual	400	170	284	65	18

Duration of daily mean flows based on 18 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
43	50	65	71	82	94	108	122
40%	30%	20%	15%	10%	5%	2%	1%
149	194	357	525	840	1,330	1,870	2,110

12343500 East Fork Bitterroot River at Conner, Mont.
Site Number 246

LOCATION.--Lat 45°56'00", long 114°07'30" (NAD 27), in SE¼SE¼ sec.7, T.2 N., R.20 W., Ravalli County, on right bank 200 ft downstream from highway bridge at Conner, and 0.5 mi upstream from confluence with West Fork.

DRAINAGE AREA.--405 mi².

PERIOD OF RECORD.--20 years (1937-57).

GAGE.--Wire-weight gage. Altitude of gage is 4,014.29 ft (NGVD 29). Sept. 20, 1910, to Sept. 17, 1916, staff gage at site 2.5 mi upstream at different datum. Apr. 4, 1937, to Sept. 30, 1953, wire-weight gages at several sites in immediate vicinity, all at datum 1.00 ft higher.

REMARKS.--Diversions for irrigation of about 3,000 acres upstream from station.

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	30	19	13	9.6	--	--
3	34	22	16	12	--	--
7	41	26	19	14	--	--
14	46	29	22	16	--	--
30	55	37	29	22	--	--
60	66	47	37	29	--	--
90	70	53	45	38	--	--
120	71	58	52	49	--	--
183	74	61	56	53	--	--

Magnitude and probability of annual high flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,770	2,600	3,130	3,770	--	--
3	1,690	2,510	3,040	3,700	--	--
7	1,580	2,360	2,880	3,520	--	--
15	1,390	2,030	2,450	2,970	--	--
30	1,230	1,720	2,000	2,320	--	--
60	969	1,290	1,450	1,610	--	--
90	760	1,010	1,130	1,250	--	--

Magnitude and probability of seasonal low flow from March-June based on 21 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	58	45	39	34	--	--
3	64	49	42	37	--	--
7	69	54	47	41	--	--
14	74	60	53	48	--	--
30	84	70	65	62	--	--

Magnitude and probability of seasonal low flow from July-October based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	43	24	16	11	--	--
3	44	26	19	13	--	--
7	45	27	20	15	--	--
14	49	30	22	16	--	--
30	56	38	29	23	--	--

Magnitude and probability of seasonal low flow from November-February based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	32	22	18	15	--	--
3	38	27	22	18	--	--
7	46	35	31	27	--	--
14	52	43	39	37	--	--
30	60	50	46	43	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	234	45	90	39	20
November	214	45	91	34	22
December	220	51	88	39	21
January	134	45	74	19	20
February	132	39	82	22	20
March	184	60	92	28	21
April	682	73	248	137	25
May	1,950	344	896	429	25
June	1,800	240	966	411	25
July	597	41	305	151	25
August	231	16	100	53	26
September	153	22	70	29	21
Annual	408	116	260	83	19

Duration of daily mean flows based on 19 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
22	28	39	50	66	77	87	104
40%	30%	20%	15%	10%	5%	2%	1%
127	199	377	547	783	1,210	1,770	2,090

**12344000 Bitterroot River near Darby, Mont.
Site Number 247**

LOCATION.--Lat 45°58'20", long 114°08'26" (NAD 27), in SW¼SE¼NE¼ sec.36, T.3 N., R.21 W., Ravalli County, 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.

PERIOD OF RECORD.--April 1937 to current year (2002). Monthly discharge only for April 1937, published in WSP 1316.

REVISED RECORDS.--WSP 1246: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,942.14 ft (NGVD 29). Prior to Oct. 1, 1987, at datum 1.00 ft higher. Prior to Aug. 2, 1939, nonrecording gage at highway bridge 45 ft upstream at same datum.

REMARKS.--Some regulation by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 5,000 acres upstream from station. Ditch bypassing station irrigates about 500 acres downstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 61 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	147	117	103	92	80	73
3	156	125	110	99	87	80
7	175	142	126	114	100	92
14	190	157	141	128	113	104
30	204	172	156	143	129	120
60	227	187	169	155	141	132
90	241	196	178	164	151	143
120	258	210	191	178	165	158
183	293	246	228	215	203	196

Magnitude and probability of seasonal low flow from March-June based on 62 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	226	175	153	136	120	110
3	237	185	162	145	127	117
7	248	196	173	156	140	130
14	263	209	187	172	157	148
30	315	238	209	189	170	159

Magnitude and probability of seasonal low flow from November-February based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	151	118	104	92	81	74
3	160	126	110	100	88	80
7	181	143	127	115	101	92
14	197	158	142	129	114	105
30	213	173	157	144	130	121

Duration of daily mean flows based on 62 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
132	142	170	200	238	277	326	376
40%	30%	20%	15%	10%	5%	2%	1%
477	656	1,180	1,720	2,450	3,790	5,470	6,410

Magnitude and probability of annual high flow based on 62 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	5,560	7,850	9,230	10,800	11,900	12,900
3	5,280	7,460	8,780	10,300	11,400	12,400
7	4,870	6,900	8,130	9,540	10,500	11,400
15	4,370	6,120	7,170	8,370	9,190	9,950
30	3,820	5,260	6,100	7,060	7,700	8,290
60	3,030	4,100	4,710	5,380	5,820	6,210
90	2,440	3,250	3,710	4,210	4,530	4,820

Magnitude and probability of seasonal low flow from July-October based on 61 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	223	182	164	150	136	127
3	227	187	169	156	142	134
7	235	195	178	166	153	145
14	246	206	188	175	162	154
30	269	224	204	189	174	165

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,020	190	366	148	62
November	788	144	322	117	62
December	765	138	285	133	62
January	421	125	254	71	62
February	791	125	274	111	62
March	1,010	139	354	145	62
April	2,530	336	967	483	62
May	6,000	1,110	2,890	1,160	62
June	6,240	678	3,160	1,370	62
July	2,610	374	1,010	459	62
August	751	229	422	113	62
September	634	202	360	100	62
Annual	1,420	454	890	260	62

12346500 Skalkaho Creek near Hamilton, Mont.
Site Number 248

LOCATION (REVISED).--Lat 46°09'40", long 113°56'52" (NAD 27), in SE¼SE¼NE¼, sec.27, T.5 N., R.19 W., Ravalli County, Hydrologic Unit 17010205, Bitterroot National Forest, on right bank 2 mi downstream from Daly Creek, 11.4 mi southeast of Hamilton, and at river mile 13.3.

DRAINAGE AREA.--87.8 mi².

GAGE.--Water-stage recorder. Altitude of gage is 4,393.16 ft (NGVD 29).

PERIOD OF RECORD.--December 1948 to September 1953, August 1957 to September 1979, October 2000 to current year (2002). April 1920 to September 1924 at site 3 mi downstream; records not equivalent owing to inflow, and minor diversions.

REMARKS.--During irrigation season, flow is supplemented by releases from Kent and Dam Creek Lakes (combined capacity, 200 acre-ft). U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 26 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	17	15	14	14	13	--
3	18	16	15	14	14	--
7	19	17	17	16	15	--
14	21	19	18	17	16	--
30	22	20	19	18	17	--
60	25	22	21	21	20	--
90	26	24	23	22	21	--
120	28	25	24	24	23	--
183	33	30	28	27	27	--

Magnitude and probability of annual high flow based on 26 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	568	725	794	855	887	--
3	544	695	760	815	844	--
7	516	660	721	772	798	--
15	479	602	649	686	703	--
30	433	533	568	592	603	--
60	334	413	444	468	479	--
90	260	322	348	370	381	--

Magnitude and probability of seasonal low flow from March-June based on 29 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	21	18	17	16	15	--
3	22	19	17	16	15	--
7	22	19	18	17	16	--
14	23	20	19	18	17	--
30	25	21	20	19	18	--

Magnitude and probability of seasonal low flow from July-October based on 26 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	35	30	28	27	25	--
3	36	31	29	27	25	--
7	37	31	29	27	25	--
14	38	32	29	27	25	--
30	40	34	31	29	27	--

Magnitude and probability of seasonal low flow from November-February based on 28 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	18	15	14	14	13	--
3	18	16	15	15	15	--
7	20	18	17	17	16	--
14	21	19	18	18	17	--
30	23	20	20	19	19	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	67	28	41	8.7	28
November	60	24	35	7.0	28
December	53	21	29	6.2	29
January	49	18	27	6.0	29
February	43	17	25	4.8	29
March	39	18	26	4.9	29
April	94	25	51	22	29
May	449	89	230	100	29
June	644	109	375	124	29
July	329	56	149	63	29
August	109	39	67	17	29
September	74	35	47	9.9	30
Annual	138	48	92	21	28

Duration of daily mean flows based on 28 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
17	17	20	23	27	31	35	41
40%	30%	20%	15%	10%	5%	2%	1%
51	68	115	166	265	418	518	631

12347500 Blodgett Creek near Corvallis, Mont.
Site Number 249

LOCATION.--Lat 46°16'10", long 114°14'12" (NAD 27), in NW¼NW¼ sec.21, T.6 N., R.21 W., Ravalli County, on right bank 4.5 mi upstream from mouth and 6.6 mi (revised) southwest of Corvallis.

DRAINAGE AREA.--25.9 mi².

PERIOD OF RECORD.--22 years (1947-69).

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,050 ft (NGVD 29, from topographic map).

REMARKS.--Some regulation for irrigation at low flow by Blodgett Lake (capacity, 160 acre-ft).

Magnitude and probability of annual low flow based on 22 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.4	2.7	2.1	1.7	--	--
3	4.6	2.9	2.2	1.7	--	--
7	5.2	3.2	2.4	1.8	--	--
14	5.8	3.6	2.7	2.1	--	--
30	6.8	4.2	3.2	2.5	--	--
60	9.3	5.5	4.1	3.1	--	--
90	12	6.8	4.9	3.6	--	--
120	14	7.8	5.5	4.1	--	--
183	17	10	7.5	5.9	--	--

Magnitude and probability of annual high flow based on 22 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	529	620	671	728	--	--
3	478	570	625	689	--	--
7	429	513	564	626	--	--
15	385	456	497	542	--	--
30	337	391	421	454	--	--
60	274	305	320	334	--	--
90	219	243	255	267	--	--

Magnitude and probability of seasonal low flow from March-June based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	10	7.5	6.4	5.6	--	--
3	11	8.0	6.9	6.2	--	--
7	11	8.3	7.2	6.5	--	--
14	12	8.9	7.7	6.9	--	--
30	16	11	9.3	7.9	--	--

Magnitude and probability of seasonal low flow from July-October based on 22 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.7	2.8	2.2	1.7	--	--
3	5.0	2.9	2.2	1.8	--	--
7	5.6	3.2	2.4	1.9	--	--
14	6.8	3.7	2.7	2.1	--	--
30	8.9	4.7	3.4	2.6	--	--

Magnitude and probability of seasonal low flow from November-February based on 22 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.0	4.1	2.9	2.1	--	--
3	7.5	4.6	3.3	2.4	--	--
7	8.3	5.0	3.6	2.6	--	--
14	8.8	5.3	3.8	2.8	--	--
30	9.8	5.9	4.3	3.3	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	110	2.2	27	27	22
November	62	2.4	26	19	22
December	51	2.5	22	15	23
January	34	5.8	15	8.0	23
February	51	5.0	15	9.7	23
March	42	6.3	18	7.7	23
April	132	20	75	34	23
May	366	157	254	68	23
June	367	164	269	62	23
July	177	37	91	42	23
August	39	6.6	21	8.5	23
September	54	4.8	17	14	23
Annual	90	50	70	9.9	22

Duration of daily mean flows based on 22 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
2.5	3.3	5.0	6.9	10	14	18	23
40%	30%	20%	15%	10%	5%	2%	1%
32	53	113	165	234	332	437	501

12350000 Bear Creek near Victor, Mont.
Site Number 250

LOCATION.--Lat 46°23', long 114°13' (NAD 27), in NW¼ sec.9, T.7 N., R.21 W., Ravalli County, on left bank 4 mi upstream from mouth and 5 mi southwest of Victor.

DRAINAGE AREA.--26.8 mi².

PERIOD OF RECORD.--18 years (1938-54, 1957-59).

GAGE.--Water-stage recorder and timber control. Altitude of gage is 3,770 ft (NGVD 29, from topographic map). Apr. 15, 1938, to Aug. 26, 1941, staff gage and Aug. 27, 1941, to Sept. 30, 1952, water-stage recorder, at same site and datum at 1.00 ft higher.

REMARKS.--No diversion upstream from station. Natural flow is supplemented by stored water from Bear Lake (capacity, 375 acre-ft) during irrigation season.

Magnitude and probability of annual low flow based on 16 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.7	1.5	1.1	0.83	--	--
3	2.8	1.6	1.2	.91	--	--
7	3.1	1.9	1.4	1.2	--	--
14	3.5	2.2	1.8	1.5	--	--
30	4.4	2.8	2.2	1.8	--	--
60	6.3	3.8	3.0	2.4	--	--
90	8.4	4.9	3.8	3.1	--	--
120	11	6.0	4.6	3.6	--	--
183	13	7.8	5.9	4.8	--	--

Magnitude and probability of annual high flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	544	675	758	860	--	--
3	483	612	696	804	--	--
7	429	551	628	722	--	--
15	364	464	524	597	--	--
30	316	396	445	503	--	--
60	263	314	341	369	--	--
90	211	249	266	283	--	--

Magnitude and probability of seasonal low flow from March-June based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	10	6.2	4.4	3.1	--	--
3	10	6.6	4.7	3.3	--	--
7	11	7.1	5.2	3.7	--	--
14	11	7.9	6.3	5.1	--	--
30	14	9.5	7.6	6.2	--	--

Magnitude and probability of seasonal low flow from July-October based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.9	1.8	1.4	1.1	--	--
3	3.1	1.9	1.4	1.2	--	--
7	3.3	2.1	1.6	1.3	--	--
14	3.7	2.3	1.9	1.5	--	--
30	4.7	2.9	2.3	1.9	--	--

Magnitude and probability of seasonal low flow from November-February based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6.0	3.1	1.9	1.3	--	--
3	6.4	3.3	2.2	1.4	--	--
7	6.9	3.9	2.7	1.9	--	--
14	7.7	4.6	3.4	2.6	--	--
30	8.7	5.5	4.2	3.3	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	70	2.5	22	22	19
November	61	3.6	22	16	19
December	44	3.5	19	14	19
January	31	4.1	13	6.6	18
February	26	3.7	12	5.3	18
March	31	5.5	16	6.8	18
April	142	27	81	35	18
May	385	146	252	75	19
June	407	116	243	87	19
July	192	15	84	55	19
August	34	2.8	13	7.5	19
September	44	3.2	11	11	20
Annual	87	40	66	15	18

Duration of daily mean flows based on 18 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
2.1	2.6	3.6	4.9	7.6	11	14	18
40%	30%	20%	15%	10%	5%	2%	1%
26	48	102	152	218	323	443	517

**12351000 Burnt Fork Bitterroot River near Stevensville, Mont.
Site Number 251**

LOCATION.--Lat 46°27'50", long 113°56'40" (NAD 27), in NW¼SW¼ sec.11, T.8 N., R.19 W., Ravalli County, on right bank 150 ft upstream from county road bridge and 8 mi southeast of Stevensville

DRAINAGE AREA.--74.0 mi².

PERIOD OF RECORD.--24 years (1938-62).

GAGE.--Crest-stage gage since July 20, 1959. Altitude of gage is 4,270 ft (NGVD 29, from topographic map). May 8, 1920, to Aug. 23, 1924, staff gage at site 150 ft downstream at different datum. April 1938, to Mar. 18, 1953, staff gage and Mar. 19, 1953, to Mar. 15, 1955, wire-weight gage, at site 150 ft downstream at datum 2.00 ft lower.

REMARKS.--Figures of daily discharge do not include diversion by Sunset Highline ditch which diverts 0.5 mi upstream from station for irrigation of about 2,000 acres downstream from station. During irrigation season, natural flow of stream is augmented by release from Burnt Fork Lake (capacity, 510 acre-ft).

Magnitude and probability of annual low flow based on 23 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	9.7	6.5	4.9	3.7	--	--
3	10	7.0	5.4	4.2	--	--
7	11	8.4	7.2	6.2	--	--
14	12	10	9.2	8.5	--	--
30	14	12	11	10	--	--
60	15	14	13	12	--	--
90	17	15	14	13	--	--
120	18	15	15	14	--	--
183	19	17	16	15	--	--

Magnitude and probability of seasonal low flow from March-June based on 24 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	14	9.1	6.5	4.5	--	--
3	14	9.6	7.0	5.0	--	--
7	14	11	8.5	6.9	--	--
14	14	12	10	9.0	--	--
30	16	13	12	11	--	--

Magnitude and probability of seasonal low flow from November-February based on 24 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	10	7.8	6.6	5.7	--	--
3	11	8.3	7.1	6.3	--	--
7	12	9.5	8.4	7.5	--	--
14	13	11	10	9.3	--	--
30	14	13	12	11	--	--

Duration of daily mean flows based on 24 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
9.0	11	12	14	17	19	21	24
40%	30%	20%	15%	10%	5%	2%	1%
30	40	69	92	140	215	291	354

Magnitude and probability of annual high flow based on 24 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	288	392	448	507	--	--
3	272	373	428	485	--	--
7	255	348	398	451	--	--
15	231	316	361	409	--	--
30	202	273	312	351	--	--
60	158	212	242	273	--	--
90	125	167	191	217	--	--

Magnitude and probability of seasonal low flow from July-October based on 24 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	16	13	12	12	--	--
3	16	14	13	12	--	--
7	17	15	14	13	--	--
14	17	15	14	13	--	--
30	19	16	15	15	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	44	14	22	6.9	26
November	42	14	22	6.4	26
December	30	13	20	4.3	24
January	26	13	17	3.7	24
February	27	12	16	3.6	24
March	26	10	17	4.0	24
April	108	15	42	22	25
May	296	43	139	64	29
June	429	53	180	79	29
July	146	26	66	31	28
August	43	19	30	7.0	27
September	37	12	22	4.4	27
Annual	79	25	48	14	24

12352500 Bitterroot River near Missoula, Mont.
Site Number 252

LOCATION.--Lat 46°49'55", long 114°03'11" (NAD 27), in SW¼NW¼NE¼ sec.1, T.12 N., R.20 W., Missoula County, 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.

PERIOD OF RECORD.--July 1898 to November 1901, May 1903 to December 1904, July 1989 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 3,110 ft (NGVD 29). Prior to Jan. 1, 1905, nonrecording gage at site 1.5 mi upstream at different datum.

REMARKS.--Some regulation by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 111,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 13 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	462	363	321	290	--	--
3	487	386	342	310	--	--
7	549	440	392	356	--	--
14	620	497	442	400	--	--
30	664	533	479	439	--	--
60	697	565	511	471	--	--
90	736	602	547	507	--	--
120	798	662	607	568	--	--
183	835	696	649	620	--	--

Magnitude and probability of annual high flow based on 16 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	12,900	17,900	21,000	24,800	--	--
3	12,000	16,600	19,600	23,200	--	--
7	10,900	15,100	17,700	20,800	--	--
15	9,710	13,300	15,600	18,300	--	--
30	8,580	11,800	13,900	16,600	--	--
60	7,010	9,440	11,000	13,000	--	--
90	5,700	7,650	8,920	10,500	--	--

Magnitude and probability of seasonal low flow from March-June based on 16 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	813	638	572	526	--	--
3	838	670	608	566	--	--
7	891	714	647	601	--	--
14	967	778	706	658	--	--
30	1,170	903	793	714	--	--

Magnitude and probability of seasonal low flow from July-October based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	654	507	439	389	--	--
3	662	514	446	395	--	--
7	680	526	455	402	--	--
14	700	538	464	408	--	--
30	743	579	503	446	--	--

Magnitude and probability of seasonal low flow from November-February based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	493	381	333	299	--	--
3	517	404	355	320	--	--
7	586	465	411	370	--	--
14	663	532	470	423	--	--
30	722	579	519	476	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,570	568	1,010	326	18
November	2,210	614	1,090	369	18
December	3,140	530	1,010	605	17
January	1,790	542	893	352	16
February	3,030	477	993	624	16
March	2,020	801	1,270	415	16
April	4,940	1,340	2,730	1,180	16
May	13,400	4,040	6,640	2,740	17
June	14,000	2,400	7,740	3,480	17
July	4,120	980	2,530	1,070	18
August	1,270	503	905	217	18
September	1,140	455	841	218	18
Annual	3,820	1,370	2,300	744	16

Duration of daily mean flows based on 16 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
403	447	544	605	727	854	982	1,120
40%	30%	20%	15%	10%	5%	2%	1%
1,350	1,790	3,100	4,380	6,030	8,610	12,500	15,500

**12353000 Clark Fork below Missoula, Mont.
Site Number 253**

LOCATION.--Lat 46°52'09", long 114°07'33" (NAD 27), in NW¼NE¼SE¼ sec.21, T.13 N., R.20 W., Missoula County, 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.

PERIOD OF RECORD.--October 1929 to current year (2002).

REVISED RECORDS.--WSP 1042: 1931. WSP 1246: Drainage area. WSP 1316: 1932(M), 1935(M), 1946(M).

GAGE.--Water-stage recorder. Altitude of gage is 3,083.88 ft (NGVD 29, levels by U.S. Army Corps of Engineers).

REMARKS.--Some diurnal fluctuation at low flow caused by powerplant at Milltown 14.9 mi upstream. Diversions for irrigation of about 235,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 72 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,100	869	763	683	601	551
3	1,180	927	809	720	628	571
7	1,350	1,060	911	800	685	614
14	1,520	1,180	1,020	889	757	675
30	1,710	1,320	1,120	969	812	715
60	1,890	1,470	1,260	1,100	937	836
90	2,030	1,610	1,420	1,280	1,130	1,040
120	2,190	1,750	1,560	1,420	1,270	1,180
183	2,310	1,840	1,640	1,480	1,330	1,230

Magnitude and probability of annual high flow based on 73 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	27,100	37,700	43,900	50,800	55,500	59,800
3	26,200	36,400	42,500	49,300	53,800	58,000
7	24,300	34,000	39,700	46,100	50,500	54,400
15	22,000	30,800	35,900	41,900	45,800	49,500
30	19,500	26,900	31,200	36,100	39,300	42,300
60	16,000	21,600	24,700	28,100	30,200	32,200
90	13,100	17,600	20,000	22,600	24,300	25,700

Magnitude and probability of seasonal low flow from March-June based on 73 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,060	1,630	1,450	1,320	1,200	1,120
3	2,120	1,710	1,540	1,420	1,300	1,230
7	2,220	1,820	1,660	1,560	1,460	1,410
14	2,370	1,970	1,830	1,740	1,650	1,610
30	2,780	2,230	2,020	1,890	1,760	1,690

Magnitude and probability of seasonal low flow from July-October based on 72 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,610	1,180	992	855	719	638
3	1,660	1,220	1,020	876	734	649
7	1,700	1,240	1,040	895	749	663
14	1,760	1,290	1,080	929	779	690
30	1,890	1,370	1,150	982	818	721

Magnitude and probability of seasonal low flow from November-February based on 72 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,110	871	779	716	656	621
3	1,210	941	835	760	688	645
7	1,430	1,100	970	874	778	721
14	1,650	1,300	1,150	1,040	929	862
30	1,900	1,520	1,350	1,220	1,090	1,010

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	6,620	1,390	2,720	876	73
November	5,110	1,470	2,740	743	73
December	6,060	1,410	2,480	912	73
January	4,400	871	2,250	702	73
February	6,700	1,110	2,490	975	73
March	7,010	1,740	3,080	1,070	73
April	16,500	2,300	6,370	3,030	73
May	30,400	5,110	14,800	5,550	73
June	34,000	4,620	16,700	7,700	73
July	16,300	1,360	5,870	3,100	73
August	5,530	810	2,300	900	73
September	5,160	909	2,290	806	73
Annual	8,830	2,580	5,350	1,600	73

Duration of daily mean flows based on 73 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
920	1,110	1,340	1,590	1,910	2,220	2,550	2,870
40%	30%	20%	15%	10%	5%	2%	1%
3,350	4,220	7,180	9,780	13,600	20,300	27,600	32,800

12354000 St. Regis River near St. Regis, Mont.
Site Number 254

LOCATION.--Lat 47°17'49", long 115°07'18" (NAD 27) near center of NW¼NE¼ sec.26, T.18 N., R.28 W., Mineral County, 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.

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

REVISED RECORDS.--WSP 1246: water year 1912; WSP 1316: drainage area, 1911.

GAGE.--Water-stage recorder. Altitude of gage is 2,645.00 ft (NGVD 29). September 1910 to September 1917, nonrecording gage at site 2 mi upstream at different datum.

REMARKS.--Minor diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 16 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	71	56	50	46	--	--
3	79	64	57	52	--	--
7	84	71	65	61	--	--
14	90	77	72	68	--	--
30	96	83	78	75	--	--
60	108	92	86	81	--	--
90	117	97	89	84	--	--
120	124	102	94	89	--	--
183	148	116	104	96	--	--

Magnitude and probability of seasonal low flow from March-June based on 22 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	191	124	100	85	--	--
3	200	131	107	91	--	--
7	213	140	114	98	--	--
14	239	154	125	106	--	--
30	330	203	156	126	--	--

Magnitude and probability of seasonal low flow from November-February based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	81	60	51	46	--	--
3	90	69	59	53	--	--
7	99	76	67	62	--	--
14	112	84	74	69	--	--
30	130	93	81	76	--	--

Duration of daily mean flows based on 17 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
69	75	91	103	124	152	183	247
40%	30%	20%	15%	10%	5%	2%	1%
355	581	1,060	1,420	1,910	2,670	3,640	4,180

Magnitude and probability of annual high flow based on 17 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	3,780	5,270	6,170	7,190	--	--
3	3,540	4,760	5,440	6,170	--	--
7	3,140	4,100	4,590	5,090	--	--
15	2,740	3,580	4,010	4,420	--	--
30	2,430	3,180	3,550	3,910	--	--
60	2,010	2,530	2,750	2,940	--	--
90	1,660	2,050	2,210	2,340	--	--

Magnitude and probability of seasonal low flow from July-October based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	101	86	78	71	--	--
3	102	86	78	72	--	--
7	104	88	80	73	--	--
14	108	90	82	75	--	--
30	113	95	85	78	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	350	86	143	59	23
November	590	101	235	149	20
December	555	92	214	150	18
January	1,360	89	282	300	17
February	760	87	301	183	19
March	1,370	94	408	275	22
April	2,060	349	1,250	495	25
May	4,700	671	2,210	843	25
June	3,370	388	1,570	786	25
July	1,150	155	406	214	25
August	313	83	165	47	25
September	204	77	132	31	26
Annual	938	256	580	164	17

**12354500 Clark Fork at St. Regis, Mont.
Site Number 255**

LOCATION.--Lat 47°18'07", long 115°05'11" (NAD 27), in NW¼SE¼SW¼ sec.19, T.18 N., R.27 W., Mineral County, 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.

PERIOD OF RECORD.--October 1910 to current year (2002). Monthly discharge only for some periods, published in WSP 1316.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,600.37 ft (NGVD 29, levels by U.S. Army Corps of Engineers). Prior to Nov. 29, 1933, nonrecording gage at same site and datum.

REMARKS.--Diversions for irrigation of about 244,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 86 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,640	1,290	1,140	1,020	909	839
3	1,740	1,380	1,220	1,100	982	908
7	1,940	1,570	1,400	1,270	1,140	1,050
14	2,160	1,750	1,550	1,390	1,230	1,120
30	2,390	1,930	1,710	1,520	1,330	1,210
60	2,600	2,110	1,870	1,680	1,490	1,360
90	2,740	2,240	2,020	1,850	1,670	1,560
120	2,920	2,380	2,150	1,970	1,780	1,670
183	3,090	2,490	2,230	2,040	1,860	1,750

Magnitude and probability of annual high flow based on 86 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	35,500	48,600	56,000	64,000	69,200	73,900
3	34,600	47,500	54,800	62,800	68,000	72,700
7	32,500	44,900	52,000	59,900	65,100	69,800
15	29,500	40,800	47,300	54,500	59,300	63,700
30	26,300	36,000	41,600	47,800	51,900	55,600
60	21,800	29,200	33,400	37,800	40,700	43,300
90	18,000	24,000	27,300	30,800	33,000	35,000

Magnitude and probability of seasonal low flow from March-June based on 87 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,850	2,190	1,950	1,780	1,620	1,530
3	2,900	2,290	2,070	1,920	1,790	1,710
7	2,990	2,400	2,190	2,060	1,930	1,870
14	3,170	2,570	2,370	2,240	2,130	2,080
30	3,760	2,960	2,670	2,490	2,320	2,230

Magnitude and probability of seasonal low flow from July-October based on 86 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,400	1,860	1,610	1,430	1,240	1,120
3	2,440	1,880	1,630	1,430	1,240	1,120
7	2,480	1,910	1,640	1,450	1,250	1,130
14	2,550	1,950	1,680	1,480	1,280	1,150
30	2,680	2,040	1,760	1,550	1,330	1,200

Magnitude and probability of seasonal low flow from November-February based on 86 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,690	1,300	1,140	1,030	920	854
3	1,790	1,390	1,230	1,110	1,000	935
7	2,010	1,610	1,440	1,320	1,200	1,130
14	2,280	1,840	1,660	1,520	1,390	1,310
30	2,550	2,090	1,890	1,740	1,590	1,510

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	8,040	1,850	3,490	1,030	86
November	7,050	1,940	3,610	1,060	87
December	10,700	1,910	3,460	1,600	87
January	10,500	1,450	3,170	1,380	87
February	10,700	1,590	3,420	1,450	87
March	11,500	2,200	4,290	1,750	87
April	24,900	3,330	9,300	4,170	87
May	42,100	7,190	20,600	7,350	87
June	42,400	6,020	22,400	9,890	87
July	25,500	2,000	8,080	4,230	87
August	6,750	1,450	3,310	1,160	87
September	6,250	1,350	3,050	931	87
Annual	11,600	3,420	7,350	2,180	86

Duration of daily mean flows based on 86 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
1,500	1,590	1,850	2,240	2,610	2,980	3,420	3,900
40%	30%	20%	15%	10%	5%	2%	1%
4,550	6,030	10,300	13,800	18,900	27,300	36,800	44,700

12355000 Flathead River at Flathead, British Columbia
Site Number 256

LOCATION.--Lat 49°00'05", long 114°28'34" (NAD 27), Hydrologic Unit 17010206, on left bank 200 ft north of international boundary at Flathead, British Columbia, 1.6 mi upstream from Sage Creek, 6.5 mi northwest of Trail Creek, Mont., and at river mile 216.6.

DRAINAGE AREA.--427 mi².

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 (2002) gage reestablished and operated by USGS at site on left bank in British Columbia.

GAGE.--Water-stage recorder. Altitude of gage is 3,964.95 ft (NGVD 29). Prior to Sept. 1, 1949, nonrecording gage and Sept. 1, 1949, to Oct. 4, 1964, water-stage recorder at site 1,200 ft upstream at datum 11.01 ft higher. Oct. 5, 1964, to Aug. 1, 1973, water-stage recorder at site on left bank 155 ft upstream at datum 1.79 ft higher. Aug. 2, 1973, to June 28, 1995, operated by Water Survey Canada at site on right bank at datum 3.21 ft higher. October 1999 to current year (2002) at site 200 ft upstream from international border in British Columbia on left bank.

REMARKS.--U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 45 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	95	80	74	70	65	--
3	101	86	80	75	71	--
7	109	93	85	80	74	--
14	118	99	90	83	76	--
30	127	108	99	93	86	--
60	152	123	111	103	95	--
90	170	136	123	114	106	--
120	197	153	137	126	116	--
183	231	182	164	151	140	--

Magnitude and probability of seasonal low flow from March-June based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	129	105	96	92	88	--
3	133	107	99	94	90	--
7	142	114	105	99	94	--
14	151	120	110	104	99	--
30	167	132	121	115	110	--

Magnitude and probability of seasonal low flow from November-February based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	99	81	74	70	66	--
3	105	87	80	76	71	--
7	117	94	86	80	75	--
14	128	103	92	85	78	--
30	141	113	102	94	86	--

Duration of daily mean flows based on 46 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
94	100	120	143	182	222	263	338
40%	30%	20%	15%	10%	5%	2%	1%
460	730	1,500	2,120	3,000	4,450	5,970	7,390

Magnitude and probability of annual high flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	7,260	9,380	10,600	12,000	12,900	--
3	6,850	8,630	9,550	10,500	11,100	--
7	6,090	7,600	8,350	9,100	9,540	--
15	5,280	6,640	7,340	8,040	8,470	--
30	4,550	5,670	6,230	6,800	7,140	--
60	3,560	4,370	4,750	5,110	5,310	--
90	2,810	3,420	3,700	3,960	4,100	--

Magnitude and probability of seasonal low flow from July-October based on 68 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	195	161	147	138	128	123
3	198	163	149	139	130	124
7	203	166	152	142	132	126
14	211	171	155	144	133	127
30	224	180	163	151	139	133

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,280	127	327	219	68
November	1,260	124	348	235	59
December	881	97	239	133	48
January	458	87	187	78	47
February	345	83	173	61	47
March	685	98	200	102	47
April	2,960	189	913	524	67
May	5,580	1,540	3,510	874	71
June	6,690	824	3,100	1,410	71
July	2,420	279	987	461	70
August	937	188	385	136	70
September	785	132	291	114	70
Annual	1,380	377	908	217	46

**1235500 North Fork Flathead River near Columbia Falls, Mont.
Site Number 257**

LOCATION.--Lat 48°29'44", long 114°07'36" (NAD 27), in NE¼SW¼NW¼ sec.35, T.32 N., R.20 W., Flathead County, 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.

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 (2002). Monthly discharge only for some periods, published in WSP 1316. Published as "Flathead River near Columbia Falls" 1915-17, 1929-70.

REVISED RECORDS.--WSP 1216: Drainage area. WSP 1246: 1911, 1912(M), 1915-17(M), 192(M), 1938-39(M), 1946(M).

GAGE.--Water-stage recorder. Altitude of gage is 3,145.59 ft (NGVD 29). 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 datums.

REMARKS.--A few small diversions from tributaries for irrigation upstream from station. Bureau of Reclamation satellite telemeter at station.

Magnitude and probability of annual low flow based on 70 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	373	308	280	259	238	225
3	397	329	301	281	260	248
7	435	363	334	314	294	283
14	479	401	370	348	328	316
30	536	447	411	385	359	344
60	632	504	452	415	379	357
90	696	543	485	444	406	384
120	782	593	522	473	427	401
183	905	702	625	573	524	497

Magnitude and probability of annual high flow based on 72 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	18,500	24,900	29,000	34,100	37,800	41,400
3	17,700	23,200	26,300	29,800	32,200	34,400
7	16,100	20,600	23,100	25,700	27,300	28,800
15	14,100	18,100	20,300	22,600	24,100	25,500
30	12,500	15,700	17,300	19,100	20,200	21,100
60	10,300	12,600	13,800	14,900	15,600	16,200
90	8,420	10,300	11,200	12,000	12,500	13,000

Magnitude and probability of seasonal low flow from July-October based on 76 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	772	636	579	538	498	474
3	782	644	586	545	505	481
7	800	657	598	556	515	490
14	826	676	615	572	529	504
30	890	720	652	603	556	528

Magnitude and probability of seasonal low flow from March-June based on 76 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	545	430	391	366	345	334
3	567	448	407	381	359	347
7	606	473	426	395	368	353
14	641	501	453	423	397	384
30	755	576	514	474	438	419

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	3,650	517	1,170	604	78
November	3,730	420	1,210	718	76
December	3,390	394	907	503	77
January	2,130	325	752	324	75
February	2,020	342	727	302	75
March	2,600	406	880	405	76
April	6,880	833	3,250	1,380	78
May	15,200	4,990	9,790	2,470	80
June	20,800	3,350	10,100	3,930	81
July	11,000	1,440	4,060	1,820	80
August	3,230	747	1,630	515	79
September	2,650	552	1,160	402	78
Annual	4,720	1,380	2,960	693	72

Magnitude and probability of seasonal low flow from November-February based on 73 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	389	312	282	261	240	227
3	417	335	302	283	262	252
7	467	374	337	318	300	286
14	520	417	375	351	335	318
30	576	461	416	387	369	347

Duration of daily mean flows based on 72 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
360	397	463	556	687	836	1,010	1,250
40%	30%	20%	15%	10%	5%	2%	1%
1,670	2,540	4,720	6,450	8,700	12,500	16,400	20,100

12357000 Middle Fork Flathead River at Essex, Mont.
Site Number 258

LOCATION.--Lat 48°16'30", long 113°36'10" (NAD 27), in NE¼SW¼ sec.14, T.29 N., R.16 W., Flathead County, on right bank 0.7 mi upstream from Ole Creek, 0.7 mi southeast of Essex, 4.4 mi downstream from Bear Creek, and at river mile 40.0.

DRAINAGE AREA.--510 mi².

PERIOD OF RECORD.--22 years. October 1939 to September 1953, June 1956 to September 1964 (discontinued). Monthly discharge only for October 1939, published in WSP 1316.

REVISED RECORDS.--WSP 1216: Drainage area. WSP 1246: 1940(M).

GAGE.--Staff gage. Altitude of gage is 3,721.93 ft (NGVD 29). Prior to May 14, 1964, water-stage recorder at same site and datum.

REMARKS.--No regulation or diversion above station.

Magnitude and probability of annual low flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	112	83	70	61	--	--
3	119	89	76	67	--	--
7	132	99	85	74	--	--
14	142	110	97	87	--	--
30	157	123	108	98	--	--
60	180	136	117	103	--	--
90	200	144	124	109	--	--
120	226	156	131	113	--	--
183	260	180	150	130	--	--

Magnitude and probability of annual high flow based on 22 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	7,950	12,300	16,200	22,500	--	--
3	7,650	11,100	13,600	17,200	--	--
7	7,130	9,570	11,000	12,500	--	--
15	6,300	8,270	9,290	10,300	--	--
30	5,510	7,010	7,720	8,390	--	--
60	4,300	5,380	5,870	6,320	--	--
90	3,360	4,200	4,580	4,930	--	--

Magnitude and probability of seasonal low flow from March-June based on 22 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	160	111	91	76	--	--
3	162	117	97	83	--	--
7	171	129	111	98	--	--
14	182	141	124	112	--	--
30	227	166	142	125	--	--

Magnitude and probability of seasonal low flow from July-October based on 21 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	174	142	130	121	--	--
3	176	145	132	124	--	--
7	180	148	136	128	--	--
14	185	153	141	133	--	--
30	197	163	150	142	--	--

Magnitude and probability of seasonal low flow from November-February based on 21 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	120	83	70	61	--	--
3	127	90	77	68	--	--
7	141	100	86	75	--	--
14	155	111	97	87	--	--
30	172	124	109	99	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,080	137	347	237	22
November	812	108	355	223	22
December	884	103	333	224	22
January	489	93	223	103	22
February	602	100	238	133	22
March	490	128	251	98	22
April	2,850	389	1,320	656	22
May	6,720	1,970	4,350	1,110	22
June	7,540	1,000	3,790	1,930	23
July	2,590	309	1,040	628	23
August	557	164	326	103	23
September	427	148	244	71	23
Annual	1,580	465	1,070	300	22

Duration of daily mean flows based on 22 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
95	102	125	146	183	223	263	335
40%	30%	20%	15%	10%	5%	2%	1%
447	683	1,450	2,180	3,370	5,240	7,390	8,490

**12357500 Middle Fork Flathead River at West Glacier, Mont.
Site Number 259**

LOCATION.--Lat 48°30'00", long 113°58'30" (NAD 27), in NW¼NW¼ sec.36, T.32 N., R.19 W., Flathead County, on left bank at Belton, 0.5 mi upstream from highway bridge, and 2 mi upstream from outlet of Lake McDonald.

DRAINAGE AREA.--943 mi² (revised).

PERIOD OF RECORD.--15 years (1910-12, 1915-16, 1918-19, 1920-21, 1929-33, 1943-47).

GAGE.--Staff gage. Altitude of gage is 3,170 ft (NGVD 29, from river profile map).

REMARKS.--No substantial diversion or regulation above station.

Magnitude and probability of annual low flow based on 10 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	241	170	140	119	--	--
3	247	182	154	135	--	--
7	260	200	175	158	--	--
14	296	233	204	183	--	--
30	355	272	233	204	--	--
60	418	315	267	231	--	--
90	472	340	281	236	--	--
120	546	380	307	253	--	--
183	610	443	365	307	--	--

Magnitude and probability of annual high flow based on 13 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	15,900	23,400	29,400	38,500	--	--
3	14,600	19,800	23,600	28,600	--	--
7	12,700	17,000	20,100	24,400	--	--
15	11,300	15,000	17,500	20,700	--	--
30	9,660	12,600	14,600	17,100	--	--
60	8,120	10,300	11,500	12,900	--	--
90	6,700	8,510	9,540	10,700	--	--

Magnitude and probability of seasonal low flow from March-June based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	331	214	168	137	--	--
3	340	226	182	152	--	--
7	366	255	213	183	--	--
14	397	284	243	216	--	--
30	560	372	304	259	--	--

Magnitude and probability of seasonal low flow from July-October based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	452	336	291	259	--	--
3	462	342	295	263	--	--
7	475	350	301	266	--	--
14	493	361	308	272	--	--
30	548	396	334	290	--	--

Magnitude and probability of seasonal low flow from November-February based on 12 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	282	214	187	167	--	--
3	286	218	191	171	--	--
7	296	227	198	177	--	--
14	331	251	216	189	--	--
30	362	273	234	205	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	2,120	299	828	486	21
November	1,960	240	817	459	21
December	1,200	218	618	282	17
January	892	211	476	180	14
February	862	207	483	157	14
March	1,460	257	668	358	18
April	6,240	584	2,870	1,360	22
May	11,200	4,170	8,190	1,850	22
June	15,200	3,180	8,050	3,560	22
July	6,440	1,010	2,630	1,230	22
August	1,470	547	973	278	22
September	1,920	397	744	336	23
Annual	3,380	1,260	2,290	643	13

Duration of daily mean flows based on 13 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
203	231	290	353	456	568	722	950
40%	30%	20%	15%	10%	5%	2%	1%
1,270	1,950	3,900	5,460	7,450	10,500	14,500	16,700

12358500 Middle Fork Flathead River near West Glacier, Mont.
Site Number 260

LOCATION.--Lat 48°29'43", long 114°00'33" (NAD 27), in S½SW¼NE¼ sec.34, T.32 N., R.19 W., Flathead County, 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.

PERIOD OF RECORD.--October 1939 to current year (2002). Prior to October 1947, published as "near Belton."

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,128.72 ft (NGVD 29). Prior to Nov. 22, 1950, nonrecording gage at present site and datum.

REMARKS.--Bureau of Reclamation satellite at station.

Magnitude and probability of annual low flow based on 62 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	335	266	235	213	190	176
3	350	280	249	226	203	189
7	373	301	268	244	220	204
14	398	323	290	266	241	225
30	440	352	314	286	258	241
60	529	398	346	309	273	253
90	605	436	372	329	288	265
120	686	475	396	344	295	267
183	799	572	489	434	383	354

Magnitude and probability of annual high flow based on 63 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	18,100	25,800	32,400	42,700	52,000	62,900
3	17,500	23,600	28,000	33,900	38,600	43,500
7	16,000	20,700	23,500	26,900	29,300	31,500
15	14,100	18,000	20,200	22,700	24,500	26,100
30	12,500	15,600	17,300	19,200	20,400	21,500
60	10,200	12,500	13,700	15,000	15,800	16,400
90	8,370	10,100	11,000	11,900	12,400	12,800

Magnitude and probability of seasonal low flow from March-June based on 63 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	489	363	319	292	267	254
3	502	374	331	303	278	265
7	535	392	342	309	280	263
14	576	416	360	323	290	272
30	710	495	419	368	322	296

Magnitude and probability of seasonal low flow from July-October based on 62 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	560	432	380	344	309	289
3	570	438	385	348	311	290
7	588	451	395	356	318	296
14	615	467	408	367	327	303
30	683	514	447	400	354	327

Magnitude and probability of seasonal low flow from November-February based on 62 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	361	272	236	214	191	177
3	381	288	250	228	205	190
7	411	312	271	245	222	205
14	442	337	295	266	243	226
30	489	368	321	289	259	243

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	3,000	367	1,050	665	63
November	5,600	279	1,170	998	63
December	3,750	262	914	655	63
January	2,420	282	705	380	63
February	2,690	244	710	456	63
March	2,780	307	853	473	63
April	7,090	664	3,170	1,320	63
May	14,700	5,260	9,590	2,250	63
June	19,900	3,580	10,100	3,900	63
July	8,160	1,250	3,970	1,750	63
August	2,360	576	1,360	424	63
September	2,510	420	947	412	63
Annual	4,070	1,440	2,890	665	63

Duration of daily mean flows based on 63 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
282	304	373	435	557	697	883	1,110
40%	30%	20%	15%	10%	5%	2%	1%
1,480	2,340	4,510	6,230	8,530	12,100	16,200	19,700

**12359000 South Fork Flathead River at Spotted Bear Ranger Station, near Hungry Horse, Mont.
Site Number 261**

LOCATION.--Lat 47°55'19", long 113°31'27" (NAD 27), in SE¼SW¼ sec.17, T.25 N., R.15 W., Flathead County, Flathead National Forest, on left bank 600 ft south of Spotted Bear Ranger Station, 1,000 ft upstream from Spotted Bear River, 40.3 mi southeast of Hungry Horse, and at river mile 52.9.

DRAINAGE AREA.--958 mi².

PERIOD OF RECORD.--17 years. August 1948 to September 1957 and August 1959 to September 1967 (discontinued).

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,670 ft (NGVD 29, from river-profile map).

Magnitude and probability of annual low flow based on 15 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	194	156	139	126	--	--
3	203	164	145	131	--	--
7	220	179	159	145	--	--
14	235	194	176	163	--	--
30	261	217	197	182	--	--
60	300	245	227	215	--	--
90	330	260	237	222	--	--
120	359	279	251	233	--	--
183	417	323	288	264	--	--

Magnitude and probability of annual high flow based on 17 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	14,600	18,700	21,600	25,700	--	--
3	13,800	17,100	19,300	22,200	--	--
7	12,400	14,700	16,100	17,600	--	--
15	10,900	13,100	14,400	16,000	--	--
30	9,550	11,200	12,200	13,300	--	--
60	7,690	8,920	9,610	10,400	--	--
90	6,070	7,000	7,500	8,050	--	--

Magnitude and probability of seasonal low flow from March-June based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	290	225	191	164	--	--
3	298	234	200	173	--	--
7	313	249	216	189	--	--
14	330	261	225	197	--	--
30	372	280	239	209	--	--

Magnitude and probability of seasonal low flow from July-October based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	339	266	236	215	--	--
3	343	268	237	216	--	--
7	351	273	241	218	--	--
14	362	278	245	221	--	--
30	388	293	257	232	--	--

Magnitude and probability of seasonal low flow from November-February based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	201	164	147	134	--	--
3	213	172	152	137	--	--
7	233	186	164	147	--	--
14	253	203	181	165	--	--
30	278	223	201	185	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	2,220	237	623	479	17
November	1,360	197	529	313	17
December	1,010	202	452	223	17
January	672	204	349	115	17
February	883	210	386	191	17
March	760	180	395	135	17
April	3,330	610	1,760	843	17
May	9,170	4,270	6,800	1,500	17
June	11,500	4,460	7,950	2,290	17
July	5,890	1,080	2,720	1,380	17
August	1,420	418	730	244	17
September	1,250	294	500	244	19
Annual	2,360	1,470	1,930	284	17

Duration of daily mean flows based on 17 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
177	196	222	265	318	368	453	566
40%	30%	20%	15%	10%	5%	2%	1%
754	1,230	2,700	4,160	6,320	9,440	12,000	14,700

**12359800 South Fork Flathead River above Twin Creek, near Hungry Horse, Mont.
Site Number 262**

LOCATION.--Lat 47°58'45", long 113°33'36" (NAD 27), in NE¼NW¼NE¼ sec.36, T.26 N., R.16 W., Flathead County, 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.

PERIOD OF RECORD.--October 1964 to September 1982, October 1984 to current year (2002, no winter records).

GAGE.--Water-stage recorder. Altitude of gage is 3,575 ft (NGVD 29, from river-profile map).

REMARKS.--No known regulation or diversions upstream from station. Bureau of Reclamation satellite telemeter at station.

Magnitude and probability of annual low flow based on 17 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	215	178	161	148	--	--
3	227	186	168	154	--	--
7	240	197	179	165	--	--
14	257	215	197	184	--	--
30	275	231	213	200	--	--
60	325	259	230	210	--	--
90	357	276	246	227	--	--
120	387	293	259	237	--	--
183	460	348	306	277	--	--

Magnitude and probability of annual high flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	18,500	23,000	25,200	27,400	--	--
3	17,300	21,800	24,100	26,500	--	--
7	15,500	19,500	21,600	23,700	--	--
15	13,400	16,900	18,700	20,600	--	--
30	11,800	14,300	15,500	16,600	--	--
60	9,400	11,200	12,000	12,700	--	--
90	7,490	8,820	9,370	9,820	--	--

Magnitude and probability of seasonal low flow from March-June based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	347	256	221	197	--	--
3	360	264	227	202	--	--
7	376	277	240	214	--	--
14	402	298	258	230	--	--
30	489	335	279	241	--	--

Magnitude and probability of seasonal low flow from July-October based on 35 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	338	269	241	220	200	--
3	344	274	245	224	203	--
7	355	281	250	228	206	--
14	368	289	257	234	211	--
30	393	305	271	248	225	--

Magnitude and probability of seasonal low flow from November-February based on 17 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	228	182	162	149	--	--
3	248	194	170	154	--	--
7	275	207	180	166	--	--
14	299	228	199	186	--	--
30	334	251	216	201	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,880	226	575	328	36
November	3,100	204	716	601	36
December	1,320	249	514	292	18
January	1,200	207	479	276	18
February	2,280	201	520	464	18
March	1,340	252	588	305	18
April	4,490	464	2,440	1,080	35
May	12,600	4,740	7,750	1,790	36
June	15,900	2,520	8,470	3,520	36
July	5,900	844	2,760	1,330	36
August	1,330	339	790	262	36
September	1,850	245	577	348	36
Annual	2,990	1,180	2,310	504	18

Duration of daily mean flows based on 18 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
199	214	256	303	387	480	608	791
40%	30%	20%	15%	10%	5%	2%	1%
1,160	2,120	4,170	5,640	7,720	11,000	15,100	16,900

**12360000 Twin Creek near Hungry Horse, Mont.
Site Number 263**

LOCATION.--Lat 47°59'06", long 113°33'38" (NAD 27), in E¹/₂ sec.25, T.26 N., R.16 W., Flathead County, Flathead National Forest, on left bank 300 ft upstream from road bridge, 0.1 mi upstream from mouth, and 35.9 mi southeast of Hungry Horse.

DRAINAGE AREA.--47.0 mi².

PERIOD OF RECORD.--11 years. August 1948 to September 1956 and October 1964 to September 1967 (discontinued).

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,585 ft (NGVD 29, revised, from river-profile map).

REMARKS.--Water-quality records for the water years 1966-67 are published in reports of the U.S. Geological Survey.

Magnitude and probability of annual low flow based on 10 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	9.4	6.6	5.3	4.4	--	--
3	10	7.4	5.9	4.7	--	--
7	11	8.1	6.5	5.2	--	--
14	12	8.6	7.1	6.0	--	--
30	12	9.1	7.6	6.5	--	--
60	14	10	8.1	6.7	--	--
90	18	11	8.7	7.0	--	--
120	21	12	9.4	7.4	--	--
183	25	16	12	10	--	--

Magnitude and probability of annual high flow based on 11 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,080	1,360	1,560	--	--	--
3	977	1,220	1,400	--	--	--
7	852	1,060	1,200	--	--	--
15	697	865	984	--	--	--
30	611	721	799	--	--	--
60	493	572	624	--	--	--
90	389	443	475	--	--	--

Magnitude and probability of seasonal low flow from March-June based on 11 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	16	11	8.7	7.3	--	--
3	17	12	10	8.7	--	--
7	18	14	12	11	--	--
14	22	17	15	13	--	--
30	29	22	18	16	--	--

Magnitude and probability of seasonal low flow from July-October based on 11 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	11	8.6	7.8	7.3	--	--
3	11	8.8	7.9	7.3	--	--
7	12	8.9	8.0	7.3	--	--
14	12	9.0	8.0	7.4	--	--
30	13	9.4	8.2	7.4	--	--

Magnitude and probability of seasonal low flow from November-February based on 11 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	11	7.1	5.4	4.5	--	--
3	12	7.6	5.9	4.8	--	--
7	13	8.2	6.6	5.3	--	--
14	14	8.8	7.2	6.1	--	--
30	16	9.7	7.8	6.6	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	64	8.1	29	19	11
November	76	7.0	35	22	11
December	112	6.7	36	28	11
January	44	7.1	23	11	11
February	80	7.8	27	20	11
March	45	15	31	9.6	11
April	347	82	205	79	11
May	744	430	545	98	11
June	622	139	385	157	11
July	152	30	87	37	11
August	34	13	23	6.0	11
September	63	11	18	14	12
Annual	143	91	121	18	11

Duration of daily mean flows based on 11 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
5.9	6.9	9.5	12	16	20	25	33
40%	30%	20%	15%	10%	5%	2%	1%
43	67	170	269	409	599	809	1,010

12361000 Sullivan Creek near Hungry Horse, Mont.
Site Number 264

LOCATION.--Lat 48°01'45", long 113°42'12" (NAD 27), in NW¼SW¼ sec.12, T.26 N., R.17 W., Flathead County, Hydrologic Unit 17010209, Flathead National Forest, on left bank 0.3 mi downstream from Quintonkon Creek, 1.7 mi upstream from Hungry Horse Reservoir flow line, and 29.5 mi southeast of Hungry Horse.

DRAINAGE AREA.--71.3 mi².

PERIOD OF RECORD.--25 years. September 1948 to September 1956, August 1959 to September 1976 (discontinued)

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,630 ft (NGVD 29, from topographic map).

Magnitude and probability of annual low flow based on 23 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	23	18	15	13	--	--
3	24	19	16	14	--	--
7	26	20	18	16	--	--
14	27	22	19	17	--	--
30	30	24	21	19	--	--
60	36	26	22	19	--	--
90	44	29	24	20	--	--
120	52	34	27	22	--	--
183	62	40	31	26	--	--

Magnitude and probability of annual high flow based on 25 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,680	2,150	2,440	2,800	3,060	--
3	1,530	1,900	2,120	2,380	2,570	--
7	1,360	1,640	1,810	2,000	2,140	--
15	1,200	1,440	1,580	1,740	1,860	--
30	1,050	1,240	1,350	1,480	1,560	--
60	846	982	1,050	1,130	1,180	--
90	665	761	812	866	901	--

Magnitude and probability of seasonal low flow from March-June based on 25 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	38	27	22	19	17	--
3	39	28	24	21	18	--
7	41	30	26	23	21	--
14	44	32	28	25	23	--
30	59	39	32	27	23	--

Magnitude and probability of seasonal low flow from July-October based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	29	23	20	18	--	--
3	30	23	20	18	--	--
7	31	24	21	18	--	--
14	33	25	21	19	--	--
30	36	27	23	20	--	--

Magnitude and probability of seasonal low flow from November-February based on 24 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	26	19	16	13	--	--
3	28	20	17	14	--	--
7	31	22	19	16	--	--
14	33	24	20	17	--	--
30	39	27	22	19	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	406	20	89	85	25
November	224	18	96	58	25
December	236	17	80	55	25
January	234	18	64	46	25
February	250	21	69	54	25
March	263	24	75	51	25
April	537	75	272	123	25
May	1,190	612	837	146	25
June	1,480	426	797	270	25
July	423	71	197	81	25
August	110	32	60	19	25
September	216	27	59	50	26
Annual	319	162	225	36	25

Duration of daily mean flows based on 25 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
17	19	24	29	38	47	60	80
40%	30%	20%	15%	10%	5%	2%	1%
110	172	336	490	693	1,020	1,360	1,500

**12361500 Graves Creek near Hungry Horse, Mont.
Site Number 265**

LOCATION.--Lat 48°07'36", long 113°48'33" (NAD 27), in SE¼ sec.1, T.27 N., R.18 W., Flathead County, Flathead National Forest, on left bank 300 ft upstream from bridge on west shore road, 500 ft upstream from Hungry Horse Reservoir flow line, and 21.0 mi southeast of Hungry Horse.

DRAINAGE AREA.--27.0 mi².

PERIOD OF RECORD.--11 years. August 1948 to September 1956 and October 1964 to September 1967 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 3,600 ft (NGVD 29, from topographic map). Prior to Oct. 1, 1951, at site 2.5 mi downstream at different datum.

REMARKS.--Water-quality records for the water years 1966-67 are published in reports of the U.S. Geological Survey.

Magnitude and probability of annual low flow based on 10 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	15	9.4	6.9	5.1	--	--
3	15	9.9	7.4	5.6	--	--
7	16	11	8.1	6.3	--	--
14	17	11	8.7	7.0	--	--
30	18	12	9.8	8.0	--	--
60	21	14	11	8.7	--	--
90	27	16	12	9.4	--	--
120	36	20	14	10	--	--
183	45	27	19	14	--	--

Magnitude and probability of annual high flow based on 11 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,000	1,290	1,530	--	--	--
3	933	1,110	1,230	--	--	--
7	833	935	991	--	--	--
15	726	821	870	--	--	--
30	628	721	771	--	--	--
60	505	577	621	--	--	--
90	401	450	478	--	--	--

Magnitude and probability of seasonal low flow from March-June based on 11 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	19	15	13	12	--	--
3	19	15	14	13	--	--
7	20	16	15	15	--	--
14	21	18	17	16	--	--
30	26	20	18	17	--	--

Magnitude and probability of seasonal low flow from July-October based on 10 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	18	11	8.5	6.8	--	--
3	19	12	8.9	7.1	--	--
7	19	12	9.2	7.3	--	--
14	21	13	9.5	7.5	--	--
30	24	14	10	8.0	--	--

Magnitude and probability of seasonal low flow from November-February based on 11 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	18	11	7.9	5.7	--	--
3	19	12	8.4	6.1	--	--
7	19	12	8.9	6.8	--	--
14	20	12	9.4	7.3	--	--
30	22	14	10	8.2	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	168	8.9	63	53	11
November	100	8.4	60	33	11
December	133	9.0	54	38	11
January	58	11	31	14	11
February	94	11	31	23	11
March	54	18	29	10	11
April	187	36	117	52	11
May	615	248	429	103	11
June	736	358	532	126	11
July	390	70	193	96	11
August	81	24	41	18	11
September	101	13	33	25	12
Annual	168	105	135	20	11

Duration of daily mean flows based on 11 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
8.5	9.4	13	17	22	28	35	45
40%	30%	20%	15%	10%	5%	2%	1%
63	102	200	300	430	625	812	974

**12362500 South Fork Flathead River near Columbia Falls, Mont.
Site Number 266**

LOCATION.--Lat 48°21'24", long 114°02'12" (NAD 27), in SW¼SE¼SW¼ sec.16, T.30 N., R.19 W., Flathead County, 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.

PERIOD OF RECORD.--September 1910 to January 1911 (discharge measurements only), February 1911 to September 1913 (no winter records), October 1913 to August 1916 (sporadic 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 April 1999. Monthly discharge only for some periods, published in WSP 1316.

REVISED RECORDS.--WSP 1216: Drainage area. WSP 1316: 1923-24(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 (NGVD 29, levels by the 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 datum. Oct. 1, 1928, to Sept. 30, 1952, water-stage recorder at site 1.5 mi downstream at different datum.

REMARKS.--Flow regulated by Hungry Horse Reservoir after Sept. 21, 1951. Bureau of Reclamation satellite telemeter at station.

Magnitude and probability of annual low flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	156	122	108	99	89	--
3	162	125	113	104	97	--
7	199	142	122	109	98	--
14	237	153	129	114	102	--
30	349	200	154	127	103	--
60	688	340	231	167	114	--
90	1,130	559	364	247	154	--
120	1,580	861	586	411	265	--
183	2,250	1,380	1,000	740	504	--

Magnitude and probability of seasonal low flow from March-June based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	173	133	123	118	113	--
3	190	140	127	120	114	--
7	242	155	129	121	115	--
14	338	177	132	125	122	--
30	552	238	156	141	130	--

Magnitude and probability of seasonal low flow from November-February based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	276	156	126	109	96	--
3	340	182	140	115	99	--
7	466	234	169	131	100	--
14	739	337	218	150	106	--
30	1,400	647	410	273	167	--

Duration of daily mean flows based on 47 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
135	141	160	192	403	753	1,650	2,450
40%	30%	20%	15%	10%	5%	2%	1%
3,280	5,200	7,130	8,110	9,300	10,800	11,700	12,800

Magnitude and probability of annual high flow based on 47 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	11,600	14,500	16,400	18,500	20,100	--
3	11,300	13,900	15,500	17,400	18,700	--
7	10,700	13,100	14,400	15,800	16,800	--
15	10,200	12,400	13,600	14,700	15,400	--
30	9,150	11,100	12,100	13,000	13,500	--
60	7,690	9,280	10,000	10,700	11,100	--
90	6,550	8,040	8,760	9,470	9,880	--

Magnitude and probability of seasonal low flow from July-October based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	159	126	117	107	103	--
3	191	135	119	111	104	--
7	292	173	137	115	106	--
14	487	266	193	147	108	--
30	934	493	342	249	171	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	8,800	388	3,470	1,990	49
November	9,090	204	3,180	2,170	48
December	8,980	532	4,680	2,200	48
January	10,000	525	4,840	2,640	48
February	9,450	208	4,190	2,610	48
March	14,800	205	3,990	3,470	48
April	13,300	153	4,570	3,860	48
May	6,820	181	2,230	1,530	48
June	10,300	156	3,020	2,320	48
July	6,910	189	2,970	1,730	48
August	7,940	213	2,570	2,140	47
September	9,530	355	3,400	2,470	47
Annual	5,330	1,010	3,590	901	47

**12363000 Flathead River at Columbia Falls, Mont.
Site Number 267**

LOCATION.--Lat 48°21'43", long 114°11'02" (NAD 27), in NW¼NW¼SE¼ sec.17, T.30 N., R.20 W., Flathead County, 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.

PERIOD OF RECORD.--May 1922 to September 1923 (fragmentary), June 1928 to current year (2002). Monthly discharge only for some periods, published in WSP 1316.

REVISED RECORDS.--WSP 1092: 1923. WSP 1216: Drainage area. WSP 1636: 1958 (adjusted runoff).

GAGE.--Water-stage recorder. Altitude of gage is 2,977.67 ft (NGVD 29, levels by U.S. Army Corps of Engineers). Prior to Nov. 12, 1928, nonrecording gage on bridge 200 ft upstream at datum 0.19 ft higher.

REMARKS.--South Fork Flathead River, which contributes about one-third of flow, is completely regulated by Hungry Horse Reservoir 10.9 mi upstream after Sept. 21, 1951 (see station number 12362000). Bureau of Reclamation satellite telemeter at station.

Unregulated streamflow period

Magnitude and probability of annual low flow based on 22 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,190	962	869	803	--	--
3	1,230	995	901	834	--	--
7	1,280	1,040	942	874	--	--
14	1,350	1,100	992	919	--	--
30	1,490	1,180	1,050	962	--	--
60	1,790	1,340	1,160	1,030	--	--
90	1,990	1,430	1,220	1,080	--	--
120	2,210	1,510	1,270	1,100	--	--
183	2,370	1,690	1,450	1,300	--	--

Magnitude and probability of seasonal low flow from March-June based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,630	1,220	1,080	975	--	--
3	1,670	1,250	1,100	993	--	--
7	1,750	1,300	1,130	1,020	--	--
14	1,850	1,370	1,200	1,090	--	--
30	2,310	1,640	1,400	1,230	--	--

Magnitude and probability of seasonal low flow from November-February based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,280	1,000	907	847	--	--
3	1,330	1,040	944	882	--	--
7	1,410	1,100	987	916	--	--
14	1,510	1,150	1,030	956	--	--
30	1,650	1,220	1,080	984	--	--

Duration of daily mean flows based on 23 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
929	1,100	1,260	1,510	1,850	2,190	2,700	3,330
40%	30%	20%	15%	10%	5%	2%	1%
4,530	7,400	15,100	21,300	29,100	41,200	55,200	65,300

Magnitude and probability of annual high flow based on 23 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	62,000	77,500	84,900	92,100	--	--
3	58,400	72,800	79,500	85,800	--	--
7	52,200	65,200	71,600	77,900	--	--
15	45,300	57,700	64,300	71,300	--	--
30	40,200	50,300	55,400	60,700	--	--
60	33,300	40,700	44,200	47,500	--	--
90	27,100	33,200	36,000	38,700	--	--

Magnitude and probability of seasonal low flow from July-October based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,770	1,520	1,420	1,350	--	--
3	1,800	1,540	1,440	1,370	--	--
7	1,840	1,570	1,470	1,400	--	--
14	1,900	1,620	1,510	1,430	--	--
30	2,030	1,710	1,580	1,490	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	8,550	1,430	3,100	2,020	23
November	11,000	1,180	3,470	2,360	23
December	9,040	1,110	3,050	2,130	23
January	7,260	928	2,330	1,380	23
February	5,960	905	2,250	1,240	23
March	6,700	1,080	2,690	1,330	23
April	32,200	3,960	13,000	6,790	23
May	46,500	10,000	34,300	8,160	24
June	61,900	10,000	30,100	12,700	25
July	25,100	4,180	10,700	5,510	26
August	6,880	1,980	3,750	1,220	26
September	5,090	1,790	2,560	710	25
Annual	12,900	4,820	9,110	2,450	23

12363000 Flathead River at Columbia Falls, Mont.—Continued
Site Number 267

Regulated streamflow period

Magnitude and probability of annual low flow based on 50 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,910	1,280	1,040	882	735	652
3	2,010	1,350	1,100	937	780	692
7	2,200	1,510	1,250	1,060	881	779
14	2,530	1,760	1,430	1,190	960	827
30	3,000	2,090	1,670	1,370	1,070	895
60	3,830	2,810	2,300	1,920	1,530	1,300
90	4,470	3,450	2,960	2,580	2,190	1,940
120	4,860	3,800	3,280	2,890	2,470	2,220
183	5,750	4,560	3,950	3,460	2,940	2,610

Magnitude and probability of annual high flow based on 51 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	39,900	54,300	65,600	82,300	96,600	113,000
3	39,000	50,600	58,200	67,900	75,100	82,300
7	35,900	45,100	50,200	56,000	59,900	63,400
15	32,400	40,400	44,800	49,500	52,600	55,400
30	29,100	36,100	39,800	43,800	46,300	48,500
60	24,600	29,900	32,600	35,300	37,000	38,500
90	20,800	25,200	27,500	29,800	31,300	32,500

Magnitude and probability of seasonal low flow from March-June based on 51 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,500	1,580	1,250	1,040	853	748
3	2,710	1,700	1,340	1,100	881	762
7	2,990	1,860	1,470	1,210	981	854
14	3,660	2,270	1,770	1,440	1,140	978
30	4,760	2,890	2,210	1,760	1,350	1,130

Magnitude and probability of seasonal low flow from July-October based on 50 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,500	1,820	1,530	1,330	1,120	1,000
3	2,680	1,960	1,650	1,420	1,190	1,050
7	2,940	2,130	1,770	1,500	1,240	1,090
14	3,260	2,410	2,020	1,730	1,450	1,270
30	3,960	2,870	2,380	2,030	1,670	1,460

Magnitude and probability of seasonal low flow from November-February based on 50 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,250	1,480	1,170	963	764	652
3	2,420	1,600	1,260	1,030	809	684
7	2,720	1,840	1,460	1,190	928	781
14	3,120	2,150	1,700	1,380	1,070	889
30	3,660	2,460	1,950	1,590	1,240	1,040

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	11,200	1,560	5,800	2,020	51
November	11,200	1,560	5,710	2,360	51
December	15,000	2,280	6,490	2,440	51
January	11,200	1,550	6,350	2,730	51
February	11,100	1,300	5,770	2,680	51
March	17,000	1,260	5,930	3,520	51
April	21,800	3,820	11,100	5,140	51
May	33,700	10,000	22,400	5,190	51
June	45,500	9,600	24,600	8,800	51
July	24,500	4,620	11,600	4,330	51
August	12,100	2,770	5,970	2,110	51
September	12,300	2,200	5,660	2,530	51
Annual	14,100	5,340	9,790	1,970	51

Duration of daily mean flows based on 51 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
1,260	1,450	1,870	2,590	3,540	4,190	5,550	7,220
40%	30%	20%	15%	10%	5%	2%	1%
9,010	10,800	14,100	17,200	22,300	29,900	38,500	45,000

**12365000 Stillwater River near Whitefish, Mont.
Site Number 268**

LOCATION.--Lat 48°19'08", long 114°23'11" (NAD 27), in NE¼SW¼ sec.34, T.30 N., R.22 W., Flathead County, 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.--524 mi².

PERIOD OF RECORD.--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 current year (2002).

REVISED RECORDS.--WSP 1736: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,953.26 ft (NGVD 29).

REMARKS.--Diversions for irrigation of about 200 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 44 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	63	46	38	32	26	--
3	64	50	45	41	37	--
7	65	52	47	43	39	--
14	69	55	50	46	41	--
30	75	60	54	49	45	--
60	81	64	57	52	47	--
90	87	68	61	56	51	--
120	93	72	64	59	54	--
183	101	78	69	64	59	--

Magnitude and probability of annual high flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,580	2,420	2,930	3,510	3,900	--
3	1,560	2,390	2,880	3,450	3,830	--
7	1,490	2,270	2,740	3,260	3,600	--
15	1,370	2,070	2,470	2,920	3,210	--
30	1,230	1,810	2,140	2,490	2,720	--
60	1,060	1,540	1,810	2,110	2,300	--
90	888	1,290	1,520	1,760	1,920	--

Magnitude and probability of seasonal low flow from March-June based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	92	70	63	59	56	--
3	94	72	65	61	58	--
7	98	75	68	64	60	--
14	106	80	73	68	65	--
30	129	94	83	76	70	--

Magnitude and probability of seasonal low flow from July-October based on 48 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	91	61	46	36	26	--
3	92	64	53	44	38	--
7	92	66	54	46	40	--
14	94	68	56	48	42	--
30	99	72	60	51	45	--

Magnitude and probability of seasonal low flow from November-February based on 45 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	64	51	46	43	41	--
3	66	53	49	46	44	--
7	69	56	51	48	46	--
14	74	59	54	52	49	--
30	79	64	59	57	55	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	271	46	114	42	49
November	300	54	128	57	49
December	582	51	121	87	46
January	495	59	114	81	46
February	588	60	115	84	47
March	548	77	161	99	47
April	1,860	138	663	394	50
May	3,120	265	1,190	580	50
June	1,920	235	870	437	50
July	952	94	379	191	50
August	505	56	178	86	50
September	315	43	125	51	50
Annual	747	124	342	140	46

Duration of daily mean flows based on 46 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
48	52	62	72	87	104	123	154
40%	30%	20%	15%	10%	5%	2%	1%
196	301	529	732	1,000	1,400	1,960	2,240

12366000 Whitefish River near Kalispell, Mont.
Site Number 269

LOCATION.--Lat 48°19'13", long 114°16'39" (NAD 27), in SW¼SE¼NW¼ sec.34, T.30 N., R.21 W., Flathead County, 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.

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 current year (2002). Prior to 1964, published as "Whitefish Creek near Kalispell."

GAGE.--Water-stage recorder. Altitude of gage is 2,969.83 ft (NGVD 29). Prior to Oct. 16, 1930, nonrecording gage at site 200 ft downstream at datum 10.00 ft lower. Oct. 16, 1930, to Sept. 30, 1950, water-stage recorder on left bank at same datum.

REMARKS.--Some regulation by Whitefish Lake. Diversion for irrigation of about 650 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 43 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	31	18	12	8.1	5.0	--
3	33	18	12	8.5	5.3	--
7	35	20	13	9.1	5.6	--
14	38	22	15	11	6.7	--
30	43	27	20	15	10	--
60	50	34	26	21	16	--
90	53	38	32	28	23	--
120	57	43	37	33	29	--
183	64	49	43	39	35	--

Magnitude and probability of seasonal low flow from March-June based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	58	41	34	29	25	--
3	61	44	37	32	27	--
7	65	48	41	37	32	--
14	71	54	48	43	39	--
30	84	64	55	50	44	--

Magnitude and probability of seasonal low flow from November-February based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	36	21	15	10	6.6	--
3	38	22	15	11	7.1	--
7	39	23	16	12	7.9	--
14	44	27	20	16	11	--
30	51	34	26	21	16	--

Duration of daily mean flows based on 46 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
14	19	34	43	55	66	80	97
40%	30%	20%	15%	10%	5%	2%	1%
126	179	311	417	533	715	949	1,060

Magnitude and probability of annual high flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	785	1,020	1,160	1,320	1,430	--
3	778	1,010	1,150	1,310	1,420	--
7	759	989	1,120	1,280	1,380	--
15	725	945	1,070	1,220	1,320	--
30	675	874	987	1,110	1,200	--
60	575	742	832	929	990	--
90	481	624	703	788	842	--

Magnitude and probability of seasonal low flow from July-October based on 50 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	46	22	14	8.6	4.8	3.2
3	47	23	14	9.2	5.3	3.5
7	48	24	15	9.8	5.7	3.8
14	51	27	18	13	7.9	5.6
30	59	37	27	20	14	10

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	150	10	69	27	51
November	177	20	72	30	50
December	231	23	72	38	46
January	209	14	67	36	46
February	157	16	66	30	46
March	212	48	96	39	47
April	549	83	224	95	52
May	895	214	532	171	52
June	1,190	211	609	234	52
July	695	88	275	138	52
August	238	30	111	46	53
September	149	24	81	28	53
Annual	320	89	187	55	46

**12367500 Ashley Creek near Kalispell, Mont.
Site Number 270**

LOCATION.--Lat 48°08'58", long 114°25'55" (NAD 27), near center of NW¼ sec.32, T.28 N., R.22 W., Flathead County, near center of span on downstream side of road bridge, 1.0 mi downstream from Smith Lake, 3.0 mi upstream from headgate of Ashley Irrigation District Canal, 5.6 mi west of Kalispell, and at river mile 26.2.

DRAINAGE AREA.--201 mi².

PERIOD OF RECORD.--19 years. April 1931 to March 1933, April 1934 to September 1950, July 1969 to January 1970 (discharge measurements only), October 1972 to September 1974 (discontinued).

GAGE.--Nonrecording gage and crest-stage gage. Altitude of gage is 3,141.43 ft (NGVD 29). Prior to July 1969, nonrecording gages at sites 1.5 mi downstream at different datums.

REMARKS.--Diversions for irrigation of about 100 acres. Floodwater stored in Ashley Lake (usable capacity, 20,000 acre-ft) for release during irrigation season.

Magnitude and probability of annual low flow based on 17 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	0.35	0.00	0.00	0.00	--	--
3	.47	.00	.00	.00	--	--
7	.50	.00	.00	.00	--	--
14	.87	.00	.00	.00	--	--
30	1.6	.01	.00	.00	--	--
60	2.2	.62	.00	.00	--	--
90	2.8	.89	.00	.00	--	--
120	3.3	1.3	.00	.00	--	--
183	4.4	1.4	.30	.00	--	--

Magnitude and probability of seasonal low flow from March-June based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.3	0.58	0.00	0.00	--	--
3	3.6	.76	.00	.00	--	--
7	4.1	.89	.00	.00	--	--
14	4.6	1.3	.54	.00	--	--
30	12	4.8	2.8	1.7	--	--

Magnitude and probability of seasonal low flow from November-February based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	0.62	0.00	0.00	0.00	--	--
3	.83	.00	.00	.00	--	--
7	1.0	.00	.00	.00	--	--
14	1.3	.00	.00	.00	--	--
30	2.2	.08	.00	.00	--	--

Duration of daily mean flows based on 19 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
0.07	0.14	0.35	0.71	1.9	3.7	6.3	12
40%	30%	20%	15%	10%	5%	2%	1%
17	24	37	47	81	153	215	270

Magnitude and probability of annual high flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	96	220	345	565	--	--
3	95	218	342	559	--	--
7	92	214	336	546	--	--
15	88	206	320	512	--	--
30	81	189	290	456	--	--
60	70	160	241	369	--	--
90	61	137	204	305	--	--

Magnitude and probability of seasonal low flow from July-October based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1.3	0.00	0.00	0.00	--	--
3	1.7	.00	.00	.00	--	--
7	1.9	.00	.00	.00	--	--
14	2.3	.00	.00	.00	--	--
30	3.1	.04	.00	.00	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	19	0.00	6.3	6.0	20
November	22	.00	7.3	6.7	20
December	19	.00	5.6	5.3	20
January	29	.00	6.8	8.1	19
February	27	.00	6.7	8.3	19
March	66	1.7	17	14	19
April	171	5.7	67	56	19
May	484	3.9	109	116	20
June	368	1.3	78	85	21
July	115	.22	36	32	21
August	52	.00	14	13	21
September	27	.00	7.2	7.2	21
Annual	109	1.5	31	27	19

12369200 Swan River near Condon, Mont.
Site Number 271

LOCATION.--Lat 47°25'21", long 113°40'12" (NAD 27), NE¼SW¼NW¼ sec.8, T.19 N., R.16 W., Missoula County, Hydrologic Unit 17010211, Flathead National Forest, on right bank 25 ft downstream from road bridge, 0.5 mi downstream from Beaver Creek, 4.5 mi downstream from Lindberg Lake, 8.1 mi southeast of Condon, and at river mile 75.5.

DRAINAGE AREA.--69.1 mi².

PERIOD OF RECORD.--October 1972 to September 1992 (discontinued).

REVISED RECORDS.--WDR MT-80-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,015 ft, (NGVD 29, by barometer).

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	28	23	21	19	--	--
3	29	24	21	19	--	--
7	30	24	22	19	--	--
14	31	25	22	20	--	--
30	34	27	24	22	--	--
60	39	31	27	24	--	--
90	44	34	30	27	--	--
120	51	38	32	28	--	--
183	58	44	37	33	--	--

Magnitude and probability of annual high flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	807	1,010	1,140	1,290	--	--
3	760	955	1,080	1,240	--	--
7	697	888	1,010	1,180	--	--
15	619	785	896	1,040	--	--
30	550	671	745	835	--	--
60	471	568	626	695	--	--
90	406	489	537	592	--	--

Magnitude and probability of seasonal low flow from March-June based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	41	32	30	29	--	--
3	42	33	30	29	--	--
7	45	35	32	30	--	--
14	49	37	33	31	--	--
30	59	42	36	32	--	--

Magnitude and probability of seasonal low flow from July-October based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	38	28	23	19	--	--
3	39	28	23	20	--	--
7	40	29	24	20	--	--
14	42	30	24	21	--	--
30	46	32	27	22	--	--

Magnitude and probability of seasonal low flow from November-February based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	31	24	21	19	--	--
3	32	25	22	20	--	--
7	33	26	23	21	--	--
14	35	27	24	22	--	--
30	38	30	27	24	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	104	21	58	23	20
November	158	21	69	35	20
December	158	29	62	33	20
January	122	25	52	24	20
February	87	31	49	18	20
March	207	33	72	40	20
April	373	59	209	75	20
May	626	270	414	102	20
June	876	231	486	156	20
July	454	108	269	124	20
August	157	38	100	40	20
September	177	21	69	33	20
Annual	219	106	159	35	20

Duration of daily mean flows based on 20 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
22	24	29	35	43	52	62	77
40%	30%	20%	15%	10%	5%	2%	1%
101	160	269	345	437	557	733	891

12370000 Swan River near Bigfork, Mont.
Site Number 272

LOCATION.--Lat 48°01'28", long 113°58'44" (NAD 27), near center of S½SW¼ 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.

PERIOD OF RECORD.--October 1910 to May 1911 (gage heights only), April 1922 to current year (2002). Monthly discharge only for some periods, published in WSP 1316.

REVISED RECORDS.--WSP 1216: Drainage area. WSP 1246: 1923-24(M), 1930. WSP 1316: 1923.

GAGE.--Water-stage recorder. Altitude of gage is 3,062.6 ft (NGVD 29, from river-profile survey). Oct. 10, 1910, to May 22, 1911, nonrecording gage at site 10 mi upstream at different datum. Apr. 28, 1922, to Oct. 14, 1930, nonrecording gage at site 800 ft upstream at datum 1.9 ft higher.

REMARKS.--Diversions for irrigation of about 360 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 79 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	343	290	265	244	223	209
3	348	293	267	246	223	209
7	356	299	272	250	226	211
14	370	309	280	256	231	216
30	389	324	293	269	243	227
60	422	352	319	295	270	254
90	447	371	339	316	293	279
120	472	386	351	327	303	290
183	502	404	366	340	314	300

Magnitude and probability of seasonal low flow from March-June based on 80 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	433	339	303	277	253	239
3	438	343	306	281	256	242
7	450	351	312	286	261	246
14	472	365	323	294	267	251
30	557	413	357	317	279	257

Magnitude and probability of seasonal low flow from November-February based on 80 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	356	297	273	255	237	226
3	362	301	275	256	237	226
7	373	308	281	262	242	230
14	388	319	291	270	249	237
30	410	335	304	281	259	246

Duration of daily mean flows based on 80 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
274	283	312	360	427	487	561	669
40%	30%	20%	15%	10%	5%	2%	1%
806	1,130	1,850	2,320	2,910	3,810	4,820	5,660

Magnitude and probability of annual high flow based on 80 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	4,940	6,180	6,920	7,790	8,400	8,970
3	4,810	6,010	6,730	7,570	8,150	8,710
7	4,480	5,610	6,300	7,110	7,680	8,230
15	4,060	5,110	5,760	6,550	7,110	7,660
30	3,670	4,550	5,080	5,720	6,170	6,610
60	3,170	3,830	4,210	4,620	4,910	5,160
90	2,710	3,280	3,610	3,970	4,210	4,430

Magnitude and probability of seasonal low flow from July-October based on 80 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	414	335	300	275	249	233
3	417	338	304	279	254	239
7	423	343	309	284	259	244
14	433	351	316	291	265	250
30	450	364	329	304	279	264

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	1,680	308	551	217	80
November	1,510	290	595	238	80
December	1,800	307	569	263	80
January	1,300	271	498	171	80
February	1,630	236	499	214	80
March	1,810	244	626	268	80
April	3,230	675	1,520	569	80
May	5,470	1,670	2,840	752	81
June	5,800	1,430	3,300	1,030	81
July	3,310	609	1,640	645	81
August	1,220	322	698	215	81
September	1,100	285	536	175	81
Annual	1,860	607	1,160	266	80

12371100 Hell Roaring Creek near Polson, Mont.
Site Number 273

LOCATION.--Lat 47°42'10", long 114°02'50" (NAD 27), in NW¼NW¼ sec.4, T.22 N., R.19 W., Lake County, on left bank just downstream from powerplant, 0.75 mi upstream from mouth, and 7 mi east of Polson.

DRAINAGE AREA.--6.22 mi² (revised).

PERIOD OF RECORD.--20 years (1917-37).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,150 ft (NGVD 29, by barometer).

REMARKS.--Records include water diverted by the Flathead irrigation project canal for irrigation of lands downstream. Flow regulated by powerplant and two reservoirs with a combined capacity of about 200 acre-ft.

Magnitude and probability of annual low flow based on 14 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.4	1.9	1.7	1.5	--	--
3	2.9	2.4	2.2	2.0	--	--
7	3.1	2.6	2.3	2.1	--	--
14	3.3	2.8	2.5	2.3	--	--
30	3.5	3.1	2.9	2.7	--	--
60	3.9	3.6	3.4	3.3	--	--
90	4.3	3.9	3.7	3.6	--	--
120	4.4	4.0	3.8	3.6	--	--
183	4.6	4.3	4.1	4.0	--	--

Magnitude and probability of annual high flow based on 15 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	29	46	55	65	--	--
3	24	39	49	63	--	--
7	21	35	45	58	--	--
15	18	29	37	48	--	--
30	15	24	31	40	--	--
60	12	19	24	31	--	--
90	10	16	20	27	--	--

Magnitude and probability of seasonal low flow from March-June based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.6	2.0	1.8	1.6	--	--
3	3.2	2.6	2.4	2.2	--	--
7	3.5	2.9	2.6	2.3	--	--
14	3.7	3.0	2.7	2.5	--	--
30	3.9	3.2	3.0	2.8	--	--

Magnitude and probability of seasonal low flow from July-October based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.8	2.1	1.8	1.6	--	--
3	3.3	2.7	2.5	2.3	--	--
7	3.7	3.0	2.7	2.4	--	--
14	3.9	3.2	2.9	2.7	--	--
30	4.2	3.5	3.2	3.0	--	--

Magnitude and probability of seasonal low flow from November-February based on 15 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.7	2.2	1.9	1.7	--	--
3	3.3	2.6	2.3	2.0	--	--
7	3.5	2.9	2.6	2.3	--	--
14	3.8	3.3	3.1	3.0	--	--
30	4.0	3.7	3.5	3.4	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	8.5	3.0	5.0	1.5	15
November	6.8	3.9	5.2	.86	15
December	8.2	4.1	5.2	1.1	15
January	7.1	3.4	4.7	1.0	15
February	5.8	3.5	4.5	.65	15
March	6.4	3.2	4.3	.87	15
April	14	2.9	7.2	3.4	15
May	32	5.2	13	7.7	15
June	33	4.1	14	9.6	16
July	18	3.3	7.3	4.0	16
August	9.2	3.5	5.8	1.6	17
September	7.6	3.1	5.3	1.2	16
Annual	10	4.4	6.6	1.7	15

Duration of daily mean flows based on 15 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
2.4	2.8	3.0	3.4	4.0	4.4	4.8	5.2
40%	30%	20%	15%	10%	5%	2%	1%
5.6	6.4	7.5	8.1	13	21	30	36

**12372000 Flathead River near Polson, Mont.
Site Number 274**

LOCATION.--Lat 47°40'49", long 114°14'45" (NAD 27), in SW¼NE¼SE¼ sec.11, T.22 N., R.21 W., Lake County, 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.

PERIOD OF RECORD.--July 1907 to current year (2002).

REVISED RECORDS.--WSP 652: 1926. WSP 752: 1932. WSP 1182: 1948. WSP 1216: Drainage area. WSP 1246: 1928(M). WSP 1636: 1958 (adjusted runoff).

GAGE.--Water-stage recorder. Altitude of gage is 2,692.70 ft (NGVD 29, 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 datum 2,629.20 ft (from river-profile survey).

REMARKS.--Flow regulated by Flathead Lake (Kerr Dam) after April 1938 (station number 12371500) and Hungry Horse Reservoir (station number 12362000) since September 1951. Diversions 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 at station.

Unregulated streamflow period

Magnitude and probability of annual low flow based on 41 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,370	1,760	1,490	1,250	1,050	--
3	2,390	1,830	1,560	1,350	1,140	--
7	2,470	1,940	1,700	1,520	1,330	--
14	2,550	2,030	1,800	1,620	1,440	--
30	2,710	2,150	1,890	1,700	1,500	--
60	3,080	2,410	2,090	1,860	1,610	--
90	3,460	2,620	2,250	1,990	1,720	--
120	3,710	2,750	2,360	2,070	1,800	--
183	4,260	3,190	2,740	2,420	2,110	--

Magnitude and probability of annual high flow based on 43 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	49,700	62,600	69,000	75,400	79,100	--
3	49,500	62,600	68,900	75,000	78,500	--
7	48,800	61,900	67,900	73,400	76,300	--
15	47,100	59,900	65,700	70,800	73,500	--
30	43,800	55,200	60,000	64,000	66,000	--
60	37,400	45,800	48,700	50,800	51,700	--
90	30,800	37,600	40,000	41,800	42,500	--

Magnitude and probability of seasonal low flow from July-October based on 43 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,150	2,310	1,960	1,700	1,450	--
3	3,280	2,530	2,220	1,990	1,770	--
7	3,380	2,680	2,390	2,200	2,010	--
14	3,470	2,780	2,510	2,320	2,140	--
30	3,650	2,970	2,710	2,540	2,370	--

Magnitude and probability of seasonal low flow from March-June based on 43 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,970	2,090	1,760	1,470	1,180	--
3	3,010	2,150	1,790	1,540	1,290	--
7	3,090	2,270	1,950	1,720	1,500	--
14	3,180	2,370	2,050	1,830	1,620	--
30	3,420	2,500	2,150	1,900	1,670	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	10,900	2,280	4,560	1,830	44
November	13,400	1,900	4,660	2,310	43
December	11,600	1,670	4,860	2,690	43
January	14,800	1,560	5,090	3,450	43
February	12,000	1,600	4,290	2,520	43
March	8,960	1,520	3,920	1,740	43
April	22,300	2,630	8,180	4,590	44
May	49,200	5,960	28,400	9,820	44
June	64,400	10,000	38,700	13,400	44
July	55,600	4,760	20,200	10,600	44
August	17,500	3,350	7,920	3,150	45
September	11,100	2,690	4,990	1,620	45
Annual	17,200	5,200	11,200	2,910	43

Magnitude and probability of seasonal low flow from November-February based on 43 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,800	1,910	1,520	1,350	1,100	--
3	2,830	2,040	1,710	1,470	1,230	--
7	2,900	2,140	1,840	1,620	1,410	--
14	2,980	2,220	1,930	1,740	1,550	--
30	3,110	2,310	2,010	1,810	1,630	--

Duration of daily mean flows based on 43 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
1,650	1,850	2,270	2,580	3,200	3,820	4,520	5,570
40%	30%	20%	15%	10%	5%	2%	1%
7,270	10,300	16,900	23,900	32,300	43,700	55,300	65,000

12372000 Flathead River near Polson, Mont.—Continued
Site Number 274

Regulated streamflow period

Magnitude and probability of annual low flow based on 50 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2,950	1,760	1,060	623	297	167
3	3,050	2,030	1,590	1,270	966	795
7	3,420	2,390	1,930	1,600	1,270	1,080
14	3,930	2,840	2,340	1,960	1,580	1,360
30	4,750	3,580	3,000	2,560	2,100	1,820
60	5,730	4,540	3,950	3,480	2,990	2,680
90	6,740	5,370	4,680	4,140	3,570	3,220
120	7,390	5,900	5,140	4,530	3,890	3,480
183	8,410	7,010	6,250	5,630	4,950	4,510

Magnitude and probability of annual high flow based on 51 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	39,800	51,000	55,500	59,100	60,700	62,600
3	38,400	49,800	54,600	58,500	60,500	62,500
7	35,100	46,600	52,100	57,200	60,100	62,300
15	31,600	42,800	48,800	55,000	58,800	62,100
30	28,100	38,000	43,500	49,300	53,100	56,300
60	23,000	30,500	34,800	39,700	42,900	45,900
90	19,700	25,700	29,200	33,200	36,000	38,600

Magnitude and probability of seasonal low flow from March-June based on 51 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4,990	3,200	2,510	2,050	1,620	1,380
3	5,670	3,680	2,880	2,340	1,830	1,550
7	6,080	4,000	3,180	2,610	2,080	1,780
14	6,540	4,520	3,730	3,180	2,670	2,370
30	7,440	5,240	4,360	3,760	3,170	2,840

Magnitude and probability of seasonal low flow from July-October based on 50 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,170	1,920	1,150	660	305	197
3	3,320	2,190	1,690	1,330	989	827
7	3,740	2,590	2,070	1,700	1,340	1,130
14	4,270	3,000	2,430	2,020	1,610	1,410
30	5,090	3,750	3,130	2,670	2,200	1,920

Magnitude and probability of seasonal low flow from November-February based on 50 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4,380	2,940	2,300	1,830	1,390	1,140
3	5,300	3,920	3,280	2,800	2,310	2,020
7	6,000	4,500	3,800	3,280	2,750	2,430
14	6,610	5,040	4,310	3,760	3,200	2,860
30	7,550	5,830	5,000	4,360	3,710	3,300

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	14,000	3,710	8,200	2,140	51
November	12,900	3,360	9,270	2,190	51
December	16,300	5,710	10,400	2,230	51
January	16,500	5,560	10,600	2,470	51
February	17,300	3,710	10,300	3,290	51
March	23,300	2,330	9,260	3,910	51
April	22,200	3,770	10,500	4,800	51
May	33,500	5,200	18,100	7,680	51
June	49,800	6,400	25,700	10,400	51
July	29,900	5,220	14,000	5,180	51
August	11,700	2,340	6,520	2,150	51
September	12,000	3,010	6,890	2,120	51
Annual	17,000	6,450	11,600	2,450	51

Duration of daily mean flows based on 51 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
2,340	3,090	3,780	4,750	6,330	7,480	8,630	9,850
40%	30%	20%	15%	10%	5%	2%	1%
11,100	12,600	15,300	16,700	21,500	29,900	40,400	46,400

12374250 Mill Creek above Bassoo Creek, near Niarada, Mont.
Site Number 275

LOCATION.--Lat 47°49'47", long 114°41'48" (NAD 27), in SE¼NW¼NE¼ sec.20, T.24 N., R.24 W., Sanders County, 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.

PERIOD OF RECORD.--October 1982 to current year (2002).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 3,000 ft (NGVD 29). Prior to Sept. 23, 1987, at site 305 ft downstream at different datum.

Prior to July 23, 1991, at site 275 ft downstream at different datum.

REMARKS.-- No known regulation or diversion upstream from station.

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1.5	1.3	1.3	1.2	--	--
3	1.7	1.4	1.4	1.3	--	--
7	1.8	1.6	1.5	1.4	--	--
14	2.0	1.7	1.6	1.5	--	--
30	2.1	1.8	1.7	1.6	--	--
60	2.3	1.9	1.8	1.6	--	--
90	2.4	2.0	1.9	1.7	--	--
120	2.5	2.1	2.0	1.8	--	--
183	2.7	2.2	2.0	1.9	--	--

Magnitude and probability of annual high flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	40	72	99	142	--	--
3	38	67	91	129	--	--
7	34	59	79	110	--	--
15	30	49	64	88	--	--
30	26	42	55	76	--	--
60	21	35	46	63	--	--
90	18	29	38	52	--	--

Magnitude and probability of seasonal low flow from March-June based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.9	1.9	1.5	1.3	--	--
3	3.0	1.9	1.6	1.4	--	--
7	3.2	2.1	1.7	1.5	--	--
14	3.6	2.4	2.0	1.7	--	--
30	4.9	3.1	2.5	2.1	--	--

Magnitude and probability of seasonal low flow from July-October based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	2.0	1.7	1.5	1.4	--	--
3	2.1	1.7	1.6	1.4	--	--
7	2.1	1.8	1.6	1.5	--	--
14	2.2	1.9	1.7	1.5	--	--
30	2.3	2.0	1.8	1.6	--	--

Magnitude and probability of seasonal low flow from November-February based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1.7	1.4	1.3	1.2	--	--
3	1.8	1.5	1.4	1.3	--	--
7	2.0	1.7	1.5	1.4	--	--
14	2.1	1.8	1.6	1.6	--	--
30	2.3	1.9	1.8	1.7	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	5.1	1.9	2.7	0.70	20
November	8.6	2.0	3.5	1.6	20
December	17	2.1	3.6	3.3	20
January	9.8	1.9	3.3	1.9	20
February	14	1.7	3.9	3.1	20
March	35	2.5	7.5	7.4	20
April	50	5.0	21	14	20
May	87	11	26	17	20
June	38	4.9	16	9.3	20
July	13	2.5	5.8	2.9	20
August	5.6	1.9	3.1	.97	21
September	3.4	1.5	2.5	.50	20
Annual	19	3.9	8.2	4.1	20

Duration of daily mean flows based on 20 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
1.5	1.6	1.9	2.1	2.3	2.6	3.0	3.6
40%	30%	20%	15%	10%	5%	2%	1%
4.5	6.7	12	15	21	31	46	62

12375900 South Crow Creek near Ronan, Mont.
Site Number 276

LOCATION.--Lat 47°29'30", long 114°01'33" (NAD 27), in NW¼NE¼SW¼ sec.16, T.20 N., R.19 W., Lake County, 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.

PERIOD OF RECORD.--October 1982 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 3,320 ft (NGVD 29).

REMARKS.--No known regulation or diversion upstream from station.

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5.1	4.6	4.3	4.1	--	--
3	5.3	4.8	4.6	4.4	--	--
7	5.5	5.0	4.8	4.6	--	--
14	5.8	5.2	5.0	4.8	--	--
30	6.1	5.5	5.3	5.1	--	--
60	6.5	5.8	5.5	5.2	--	--
90	6.9	6.0	5.7	5.5	--	--
120	7.3	6.3	5.9	5.7	--	--
183	8.0	6.8	6.3	5.9	--	--

Magnitude and probability of annual high flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	130	193	236	294	--	--
3	111	157	189	231	--	--
7	95	127	149	177	--	--
15	83	106	122	141	--	--
30	75	93	103	116	--	--
60	62	77	85	95	--	--
90	50	62	68	76	--	--

Magnitude and probability of seasonal low flow from March-June based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5.9	5.2	5.0	4.8	--	--
3	6.1	5.4	5.1	4.9	--	--
7	6.3	5.6	5.3	5.0	--	--
14	6.7	5.8	5.4	5.2	--	--
30	7.5	6.4	5.9	5.6	--	--

Magnitude and probability of seasonal low flow from July-October based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.4	6.3	5.8	5.4	--	--
3	7.5	6.5	6.0	5.7	--	--
7	7.7	6.7	6.2	5.8	--	--
14	7.8	6.8	6.3	5.9	--	--
30	8.1	6.9	6.4	6.0	--	--

Magnitude and probability of seasonal low flow from November-February based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5.2	4.6	4.3	4.1	--	--
3	5.4	4.8	4.6	4.4	--	--
7	5.7	5.1	4.8	4.6	--	--
14	5.9	5.3	5.0	4.8	--	--
30	6.2	5.5	5.3	5.1	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	14	6.1	9.2	2.3	20
November	19	6.3	9.6	3.3	20
December	15	5.8	7.9	2.2	20
January	11	5.4	7.2	1.5	20
February	10	5.0	6.7	1.3	20
March	13	4.9	7.9	1.7	20
April	25	8.8	16	4.5	20
May	69	25	45	12	20
June	104	36	68	19	20
July	74	16	37	18	20
August	22	7.9	14	4.1	20
September	20	6.9	9.6	3.0	20
Annual	27	14	20	4.1	20

Duration of daily mean flows based on 20 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4.4	4.7	5.7	6.1	6.9	7.6	8.7	10
40%	30%	20%	15%	10%	5%	2%	1%
12	16	29	40	55	74	93	119

12377150 Mission Creek above reservoir, near St. Ignatius, Mont.
Site Number 277

LOCATION.--Lat 47°19'23", long 113°58'43" (NAD 27), in NW¼SW¼NE¼ 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 Bureau of Indian Affairs campground, 0.5 mi upstream from Mission Reservoir, and 5.3 mi east of St. Ignatius.

DRAINAGE AREA.--12.4 mi².

PERIOD OF RECORD.--October 1982 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 3,460 ft (NGVD 29).

REMARKS.--No known regulation or diversions upstream from station.

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.1	6.4	6.0	5.7	--	--
3	7.3	6.7	6.4	6.2	--	--
7	7.7	7.1	6.7	6.5	--	--
14	8.1	7.4	7.0	6.7	--	--
30	8.5	7.8	7.4	7.1	--	--
60	9.6	8.6	8.2	7.9	--	--
90	11	9.6	9.2	8.9	--	--
120	13	11	10	9.9	--	--
183	18	15	13	12	--	--

Magnitude and probability of annual high flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	353	417	450	483	--	--
3	301	359	389	420	--	--
7	258	311	341	374	--	--
15	222	266	291	318	--	--
30	193	224	241	259	--	--
60	163	188	201	215	--	--
90	134	156	167	180	--	--

Magnitude and probability of seasonal low flow from March-June based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	8.0	7.1	6.7	6.4	--	--
3	8.2	7.3	6.9	6.7	--	--
7	8.5	7.5	7.1	6.8	--	--
14	9.1	8.0	7.5	7.1	--	--
30	10	8.9	8.2	7.7	--	--

Magnitude and probability of seasonal low flow from July-October based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	19	15	13	12	--	--
3	19	15	14	12	--	--
7	20	16	14	12	--	--
14	21	16	14	13	--	--
30	22	17	15	13	--	--

Magnitude and probability of seasonal low flow from November-February based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.3	6.4	6.0	5.7	--	--
3	7.6	6.8	6.5	6.2	--	--
7	8.0	7.2	6.9	6.6	--	--
14	8.3	7.5	7.1	6.8	--	--
30	8.7	7.9	7.5	7.2	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	37	14	25	7.7	20
November	28	12	19	4.7	20
December	21	10	13	2.6	20
January	15	8.2	11	1.7	20
February	13	6.7	9.0	1.4	20
March	15	7.2	11	1.9	20
April	44	11	26	9.7	20
May	168	54	101	29	20
June	222	104	173	33	20
July	180	53	116	41	20
August	75	25	49	15	20
September	67	16	30	11	20
Annual	61	36	49	7.6	20

Duration of daily mean flows based on 20 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
6.3	6.8	8.2	9.2	11	14	17	23
40%	30%	20%	15%	10%	5%	2%	1%
30	44	77	106	139	186	254	302

12381400 South Fork Jocko River near Arlee, Mont.
Site Number 278

LOCATION.--Lat 47°11'44", long 113°50'59" (NAD 27), in NE¼NW¼NE¼ sec.35, T.17 N., R.18 W., Lake County, 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.

DRAINAGE AREA.--56.0 mi².

PERIOD OF RECORD.--October 1982 to current year (2002). Records published as "near Jocko" 1912-16 and in WSP 1246, 1316 are not equivalent.

GAGE.--Water-stage recorder. Altitude of gage is 3,970 ft (NGVD 29).

REMARKS.--No known regulation or diversion upstream from station. U.S. Geological Survey telemeter at station.

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.2	3.0	2.5	2.1	--	--
3	4.6	3.4	2.9	2.5	--	--
7	5.6	4.1	3.5	3.0	--	--
14	7.0	5.3	4.5	3.8	--	--
30	8.4	6.1	5.1	4.3	--	--
60	10	7.3	6.1	5.2	--	--
90	11	8.6	7.8	7.2	--	--
120	13	10	9.4	8.8	--	--
183	16	13	12	11	--	--

Magnitude and probability of annual high flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	346	510	639	827	--	--
3	326	475	590	757	--	--
7	303	428	519	644	--	--
15	269	370	443	541	--	--
30	233	322	390	488	--	--
60	185	250	299	368	--	--
90	151	200	235	284	--	--

Magnitude and probability of seasonal low flow from March-June based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	8.1	5.9	5.2	4.8	--	--
3	8.8	6.4	5.7	5.3	--	--
7	9.5	6.9	6.1	5.6	--	--
14	10	7.9	7.3	7.0	--	--
30	12	9.4	8.9	8.6	--	--

Magnitude and probability of seasonal low flow from July-October based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	17	15	13	13	--	--
3	18	15	14	13	--	--
7	18	15	14	13	--	--
14	19	16	14	13	--	--
30	20	17	15	14	--	--

Magnitude and probability of seasonal low flow from November-February based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.5	3.1	2.5	2.2	--	--
3	5.0	3.5	2.9	2.5	--	--
7	6.2	4.4	3.6	3.0	--	--
14	7.8	5.6	4.6	3.9	--	--
30	9.0	6.3	5.2	4.4	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	42	13	22	6.1	20
November	26	11	18	4.3	20
December	37	9.3	15	6.8	20
January	22	3.7	12	5.1	20
February	23	4.4	10	4.1	20
March	56	7.7	15	10	20
April	113	25	56	29	20
May	459	118	197	73	20
June	446	70	192	92	20
July	140	37	77	27	20
August	54	22	38	9.3	20
September	44	16	26	7.0	20
Annual	108	35	57	17	20

Duration of daily mean flows based on 20 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4.3	5.3	7.2	9.4	13	16	19	24
40%	30%	20%	15%	10%	5%	2%	1%
31	46	83	114	158	233	337	413

**12383500 Big Knife Creek near Arlee, Mont.
Site Number 279**

LOCATION.--Lat 47°08'51", long 113°58'24" (NAD 27), in NW¼SW¼NW¼ sec.14, T.16 N., R.19 W., Lake County, 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.

PERIOD OF RECORD.--August 1910 to September 1916 (no winter records), October 1982 to current year (2002). Monthly discharge only for some periods, published in WSP 1316. Published as "near Jocko" 1910-16 and in WSP 916, and as "above Big Knife Canal, near Jocko" in WSP 1246, 1316.

REVISED RECORDS.--WSP 1246: 1916. WSP 1316: 1910-12, 1915-16.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 3,720 ft (NGVD 29). Prior to July 28, 1998, at site 38 ft upstream at different datum.

REMARKS.-- No known regulation or diversion upstream from station.

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.5	2.7	2.2	1.9	--	--
3	3.6	2.9	2.5	2.2	--	--
7	3.8	3.2	2.8	2.5	--	--
14	4.0	3.5	3.2	2.9	--	--
30	4.1	3.6	3.4	3.1	--	--
60	4.5	4.0	3.7	3.5	--	--
90	5.1	4.5	4.1	3.9	--	--
120	5.5	4.8	4.4	4.1	--	--
183	6.8	5.9	5.4	5.0	--	--

Magnitude and probability of annual high flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	36	49	56	64	--	--
3	35	47	53	60	--	--
7	32	43	50	57	--	--
15	29	39	46	53	--	--
30	26	35	40	45	--	--
60	23	30	34	38	--	--
90	20	26	29	32	--	--

Magnitude and probability of seasonal low flow from March-June based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.8	3.3	3.1	3.0	--	--
3	3.9	3.4	3.2	3.0	--	--
7	4.0	3.5	3.3	3.1	--	--
14	4.1	3.6	3.4	3.2	--	--
30	4.3	3.7	3.5	3.3	--	--

Magnitude and probability of seasonal low flow from July-October based on 23 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7.6	6.5	5.8	5.2	--	--
3	7.6	6.5	5.8	5.2	--	--
7	7.8	6.5	5.8	5.3	--	--
14	7.9	6.7	6.0	5.5	--	--
30	8.2	7.0	6.4	5.8	--	--

Magnitude and probability of seasonal low flow from November-February based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.7	2.7	2.3	1.9	--	--
3	3.8	3.0	2.6	2.2	--	--
7	4.1	3.4	2.9	2.6	--	--
14	4.3	3.7	3.4	3.1	--	--
30	4.5	3.9	3.6	3.4	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	10	5.3	8.2	1.4	24
November	8.9	4.5	6.9	1.2	22
December	8.4	4.1	5.9	1.1	21
January	6.3	3.7	5.1	.79	20
February	6.5	3.0	4.5	.79	20
March	7.1	3.0	4.5	.90	20
April	8.9	3.9	6.1	1.5	22
May	28	9.0	15	4.1	25
June	48	8.5	28	9.7	26
July	55	9.6	21	8.7	26
August	28	8.1	14	3.7	27
September	18	6.6	10	2.2	27
Annual	15	6.6	10	2.0	20

Duration of daily mean flows based on 20 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
3.0	3.2	3.8	4.3	5.1	5.9	7.1	8.4
40%	30%	20%	15%	10%	5%	2%	1%
10	13	16	20	24	31	41	46

12388200 Jocko River at Dixon, Mont.
Site Number 280

LOCATION.--Lat 47°18'43", long 114°17'48" (NAD 27), in NW¼NW¼NE¼ sec.20, T.18 N., R.21 W., Sanders County, 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.

PERIOD OF RECORD.--April 1990 to current year (2002). Miscellaneous measurements made at this site 1977 and 1987 water years.

GAGE.--Water-stage recorder. Altitude of gage is 2,521.87 ft (NGVD 29).

REMARKS.--Some regulation and diversion upstream from gage for irrigation.

Magnitude and probability of annual low flow based on 11 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	97	85	79	74	--	--
3	101	90	83	77	--	--
7	108	97	91	85	--	--
14	112	104	100	96	--	--
30	117	108	105	102	--	--
60	122	114	111	110	--	--
90	132	121	116	113	--	--
120	142	128	123	118	--	--
183	155	140	133	127	--	--

Magnitude and probability of annual high flow based on 12 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	683	1,170	1,600	--	--	--
3	649	1,100	1,500	--	--	--
7	601	1,000	1,340	--	--	--
15	540	914	1,240	--	--	--
30	495	846	1,160	--	--	--
60	420	695	936	--	--	--
90	355	565	749	--	--	--

Magnitude and probability of seasonal low flow from March-June based on 12 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	113	102	98	96	--	--
3	115	103	100	98	--	--
7	119	108	105	103	--	--
14	124	113	110	109	--	--
30	135	121	117	115	--	--

Magnitude and probability of seasonal low flow from July-October based on 12 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	148	132	125	120	--	--
3	149	133	126	121	--	--
7	152	134	127	122	--	--
14	157	138	130	123	--	--
30	164	143	134	127	--	--

Magnitude and probability of seasonal low flow from November-February based on 12 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	97	86	80	75	--	--
3	102	90	84	78	--	--
7	109	98	92	86	--	--
14	114	105	100	96	--	--
30	118	108	105	102	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	227	145	184	25	12
November	227	138	175	27	12
December	265	123	158	38	12
January	188	102	133	23	12
February	208	108	131	29	12
March	246	118	149	38	12
April	390	130	222	87	13
May	1,300	203	425	283	13
June	1,540	149	562	387	13
July	512	140	271	104	13
August	228	131	174	30	13
September	225	137	181	24	13
Annual	445	157	228	82	12

Duration of daily mean flows based on 12 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
94	97	103	115	134	147	160	173
40%	30%	20%	15%	10%	5%	2%	1%
186	220	262	315	405	633	947	1,230

**12388400 Revais Creek below West Fork, near Dixon, Mont.
Site Number 281**

LOCATION.--Lat 47°15'59", long 114°24'21" (NAD 27), in SE¼NE¼NW¼ sec.4, T.17 N., R.22 W., Sanders County, 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.

PERIOD OF RECORD.--October 1982 to current year (2002).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 3,420 ft (NGVD 29).

REMARKS.--No known regulation or diversion upstream from station.

Magnitude and probability of annual low flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.4	2.9	2.8	2.7	--	--
3	3.6	3.1	2.9	2.8	--	--
7	3.8	3.3	3.1	3.0	--	--
14	4.0	3.5	3.3	3.2	--	--
30	4.2	3.6	3.4	3.3	--	--
60	4.5	3.8	3.5	3.3	--	--
90	4.7	4.0	3.7	3.5	--	--
120	5.0	4.2	3.9	3.7	--	--
183	5.4	4.4	4.1	3.9	--	--

Magnitude and probability of seasonal low flow from March-June based on 20 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4.4	3.3	3.0	2.8	--	--
3	4.6	3.5	3.1	3.0	--	--
7	4.9	3.7	3.3	3.1	--	--
14	5.1	3.9	3.5	3.3	--	--
30	6.2	4.4	3.9	3.6	--	--

Magnitude and probability of seasonal low flow from November-February based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3.7	3.0	2.8	2.7	--	--
3	3.9	3.2	2.9	2.8	--	--
7	4.1	3.4	3.1	3.0	--	--
14	4.2	3.5	3.3	3.2	--	--
30	4.3	3.6	3.4	3.3	--	--

Duration of daily mean flows based on 20 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
3.0	3.1	3.6	4.2	4.8	5.4	6.2	7.5
40%	30%	20%	15%	10%	5%	2%	1%
9.5	13	23	34	48	72	117	157

Magnitude and probability of annual high flow based on 20 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	139	195	234	287	--	--
3	128	176	209	252	--	--
7	112	155	185	226	--	--
15	92	129	157	196	--	--
30	76	107	133	173	--	--
60	58	79	97	123	--	--
90	46	63	76	96	--	--

Magnitude and probability of seasonal low flow from July-October based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5.1	4.2	3.8	3.5	--	--
3	5.1	4.2	3.8	3.5	--	--
7	5.2	4.3	3.8	3.5	--	--
14	5.3	4.3	3.9	3.6	--	--
30	5.5	4.5	4.1	3.8	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	12	4.0	6.4	2.2	20
November	15	4.3	6.9	2.8	20
December	28	3.8	6.7	5.3	20
January	12	3.5	5.4	2.2	20
February	20	3.5	5.7	3.7	20
March	24	4.0	8.0	5.3	20
April	56	9.1	23	12	20
May	165	45	67	26	20
June	134	19	57	32	20
July	26	10	17	5.8	20
August	11	5.5	8.1	1.5	20
September	11	4.2	6.4	1.6	20
Annual	35	12	18	6.0	20

12388700 Flathead River at Perma, Mont.
Site Number 282

LOCATION.--Lat 47°22'03", long 114°35'03" (NAD 27), in SE¼NE¼NE¼ 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.

PERIOD OF RECORD.--October 1983 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 2,469.31 ft (NGVD 29).

REMARKS.--Flow affected by regulation from Hungry Horse Reservoir (station number 12362000) and by Flathead Lake (station number 12371500). Diversions for irrigation of about 160,500 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 18 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4,480	3,740	3,380	3,100	--	--
3	4,590	3,800	3,430	3,150	--	--
7	4,690	3,890	3,550	3,300	--	--
14	4,990	4,230	3,900	3,660	--	--
30	5,870	4,820	4,290	3,880	--	--
60	6,750	5,420	4,730	4,190	--	--
90	7,860	6,100	5,230	4,540	--	--
120	8,700	6,800	5,780	4,960	--	--
183	9,420	7,620	6,620	5,790	--	--

Magnitude and probability of annual high flow based on 19 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	32,500	45,000	51,500	58,100	--	--
3	31,300	43,500	50,200	57,300	--	--
7	28,400	40,100	47,000	55,000	--	--
15	25,800	37,000	44,200	53,100	--	--
30	22,700	32,900	40,200	49,800	--	--
60	19,100	26,700	32,300	40,000	--	--
90	16,900	23,100	27,400	33,300	--	--

Magnitude and probability of seasonal low flow from March-June based on 19 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5,660	4,110	3,580	3,240	--	--
3	5,970	4,290	3,700	3,310	--	--
7	6,260	4,480	3,880	3,490	--	--
14	6,600	4,940	4,400	4,060	--	--
30	7,530	5,790	5,210	4,840	--	--

Magnitude and probability of seasonal low flow from July-October based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	4,620	4,070	3,850	3,680	--	--
3	4,860	4,150	3,870	3,680	--	--
7	5,170	4,300	3,940	3,690	--	--
14	5,550	4,540	4,110	3,800	--	--
30	6,430	5,090	4,450	3,960	--	--

Magnitude and probability of seasonal low flow from November-February based on 18 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6,050	4,820	4,250	3,820	--	--
3	6,590	5,120	4,440	3,920	--	--
7	7,160	5,420	4,610	4,000	--	--
14	7,540	5,670	4,790	4,130	--	--
30	8,350	6,260	5,250	4,480	--	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	12,100	4,300	8,900	2,240	19
November	13,200	4,050	10,700	1,970	19
December	17,300	6,160	11,100	2,660	19
January	15,200	6,100	10,700	2,610	19
February	18,300	4,230	9,930	3,290	19
March	23,400	4,120	9,450	4,160	19
April	23,400	4,400	10,400	4,470	19
May	36,900	5,880	15,500	7,640	19
June	45,500	9,090	23,100	10,700	19
July	22,800	6,280	13,300	4,980	19
August	12,700	4,160	8,160	2,600	19
September	13,100	4,010	8,160	2,570	19
Annual	18,000	7,040	11,600	2,860	19

Duration of daily mean flows based on 19 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
3,340	3,590	4,350	5,450	6,960	8,190	9,340	10,400
40%	30%	20%	15%	10%	5%	2%	1%
11,500	13,100	15,100	16,100	17,400	24,900	36,300	44,100

**12389000 Clark Fork near Plains, Mont.
Site Number 283**

LOCATION.--Lat 47°25'47", long 114°51'18" (NAD 27), in E½SW¼ 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.

PERIOD OF RECORD.--October 1910 to current year (2002). Monthly discharge only for some periods, published in WSP 1316.

REVISED RECORDS.--WSP 1246: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,449.11 ft (NGVD 29, levels by U.S. Army Corps of Engineers). Prior to Nov. 28, 1911, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Flow partly regulated by Hungry Horse Reservoir (station number 12362000) and by Flathead Lake (station number 12371500). Diversions for irrigation of about 335,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 91 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	5,930	4,800	4,260	3,840	3,410	3,140
3	6,190	4,990	4,430	4,000	3,560	3,280
7	6,460	5,190	4,600	4,150	3,690	3,410
14	6,750	5,370	4,750	4,270	3,790	3,490
30	7,270	5,710	5,000	4,460	3,910	3,570
60	8,140	6,290	5,440	4,800	4,140	3,740
90	8,910	6,730	5,750	5,020	4,270	3,830
120	9,510	7,120	6,040	5,240	4,420	3,930
183	10,500	7,890	6,660	5,720	4,770	4,200

Magnitude and probability of seasonal low flow from March-June based on 92 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	8,620	6,340	5,460	4,860	4,290	3,970
3	8,940	6,530	5,600	4,960	4,350	3,990
7	9,240	6,740	5,770	5,100	4,470	4,100
14	9,650	6,990	5,960	5,240	4,550	4,150
30	10,500	7,560	6,420	5,620	4,870	4,430

Magnitude and probability of seasonal low flow from November-February based on 91 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	7,240	5,490	4,700	4,110	3,520	3,150
3	7,680	5,750	4,880	4,230	3,570	3,290
7	8,130	6,000	5,050	4,340	3,700	3,420
14	8,560	6,210	5,180	4,420	3,800	3,500
30	9,160	6,540	5,400	4,580	3,920	3,590

Duration of daily mean flows based on 92 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
4,400	4,690	5,560	6,570	8,100	9,730	11,500	13,400
40%	30%	20%	15%	10%	5%	2%	1%
15,500	18,900	25,700	33,600	45,200	63,400	84,800	95,600

Magnitude and probability of annual high flow based on 92 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	76,900	101,000	113,000	123,000	130,000	135,000
3	75,700	99,700	111,000	122,000	128,000	133,000
7	72,300	96,100	108,000	119,000	126,000	131,000
15	67,600	90,800	103,000	114,000	121,000	127,000
30	61,500	82,400	93,100	104,000	110,000	115,000
60	51,800	67,900	75,900	83,700	88,200	91,900
90	43,300	56,300	62,800	69,300	73,100	76,300

Magnitude and probability of seasonal low flow from July-October based on 91 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6,540	5,290	4,740	4,320	3,900	3,640
3	6,800	5,510	4,940	4,520	4,080	3,820
7	7,100	5,760	5,160	4,720	4,270	3,990
14	7,460	6,020	5,380	4,910	4,430	4,140
30	8,040	6,440	5,710	5,170	4,620	4,280

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	23,600	4,760	10,600	3,340	92
November	21,200	4,590	11,500	3,910	92
December	27,600	4,080	12,000	4,590	92
January	22,300	3,340	12,000	4,720	92
February	30,100	3,940	11,900	5,060	92
March	31,400	4,640	11,900	5,050	92
April	47,800	6,110	19,400	8,470	92
May	89,800	10,000	44,500	16,000	92
June	102,000	10,000	54,900	21,500	92
July	76,900	7,840	25,900	11,700	92
August	24,800	5,660	11,000	3,510	92
September	16,900	4,770	9,660	2,740	92
Annual	29,400	8,840	19,600	4,830	92

**12389500 Thompson River near Thompson Falls, Mont.
Site Number 284**

LOCATION.--Lat 47°35'31", long 115°13'43" (NAD 27), in NW¼NE¼SE¼ sec.7, T.21 N., R.28 W., Sanders County, 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.

PERIOD OF RECORD.--March to September 1911, October 1911 to September 1916 (occasional gage heights, discharges, and discharge measurements), April 1956 to current year (2002).

REVISED RECORDS.--WSP 1246: 1911.

GAGE.--Water-stage recorder. Altitude of gage is 2,429.97 ft (NGVD 29, Bureau of Public Roads bench mark). October 1911 to September 1916, nonrecording gage at site 0.2 mi upstream at different datum.

REMARKS.--Minor diversions upstream from station for irrigation, acreage unknown. Diversion from headwaters of Alder Creek in SW¼ sec.16, T.23 N., R.25 W., to supplement water supply for storage in Upper Dry Fork Reservoir in Little Bitterroot River basin. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 45 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	100	82	74	67	61	--
3	111	92	83	76	69	--
7	125	103	92	84	76	--
14	136	113	102	94	85	--
30	145	122	111	102	93	--
60	156	130	117	108	97	--
90	161	134	121	110	99	--
120	169	139	124	113	102	--
183	185	149	133	121	109	--

Magnitude and probability of annual high flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	2,160	3,270	3,980	4,840	5,450	--
3	2,050	3,030	3,630	4,340	4,820	--
7	1,850	2,670	3,150	3,680	4,040	--
15	1,610	2,320	2,750	3,240	3,570	--
30	1,420	2,050	2,430	2,890	3,200	--
60	1,190	1,700	2,000	2,340	2,560	--
90	1,020	1,440	1,680	1,950	2,120	--

Magnitude and probability of seasonal low flow from March-June based on 47 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	196	137	116	102	89	--
3	200	142	121	108	95	--
7	210	151	131	117	106	--
14	225	164	143	130	118	--
30	285	199	168	148	129	--

Magnitude and probability of seasonal low flow from July-October based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	163	135	121	110	98	--
3	165	137	122	110	98	--
7	167	138	123	111	99	--
14	170	140	125	113	100	--
30	175	144	128	115	102	--

Magnitude and probability of seasonal low flow from November-February based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	102	82	74	68	61	--
3	114	93	84	77	69	--
7	130	104	93	85	76	--
14	139	113	102	95	88	--
30	150	123	114	108	103	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	343	112	183	45	46
November	501	115	200	75	46
December	880	101	209	125	46
January	719	112	208	111	46
February	1,230	103	254	183	46
March	1,340	120	354	228	47
April	1,830	238	794	396	48
May	3,150	374	1,340	602	48
June	2,370	244	1,040	519	48
July	724	140	414	148	48
August	382	113	242	64	48
September	288	105	196	45	48
Annual	804	176	447	158	46

Duration of daily mean flows based on 46 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
96	100	113	133	160	186	218	252
40%	30%	20%	15%	10%	5%	2%	1%
308	409	658	869	1,120	1,580	2,160	2,720

**12390700 Prospect Creek at Thompson Falls, Mont.
Site Number 285**

LOCATION.--Lat 47°35'10", long 115°21'15" (NAD 27), in lot 12, SE¼SE¼SE¼ sec.7, T.21 N., R.29 W., Sanders County, Hydrologic Unit 17010213, 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.

PERIOD OF RECORD.--April 1956 to current year (2002).

GAGE.--Water-stage recorder. Altitude of gage is 2,382.40 ft (NGVD 29).

REMARKS.--No known regulation or diversions upstream from station. U.S. Geological Survey satellite telemeter at station.

Magnitude and probability of annual low flow based on 45 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	40	33	29	27	24	--
3	41	33	30	27	25	--
7	42	34	31	28	25	--
14	43	35	32	29	26	--
30	45	36	33	30	27	--
60	47	38	34	31	28	--
90	50	40	35	32	29	--
120	53	42	37	34	30	--
183	67	49	42	37	33	--

Magnitude and probability of annual high flow based on 46 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	1,460	2,160	2,650	3,280	3,760	--
3	1,370	1,910	2,230	2,610	2,860	--
7	1,210	1,610	1,830	2,060	2,210	--
15	1,030	1,370	1,560	1,770	1,900	--
30	880	1,190	1,360	1,560	1,680	--
60	730	971	1,100	1,230	1,320	--
90	619	819	921	1,020	1,080	--

Magnitude and probability of seasonal low flow from March-June based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	107	62	46	35	25	--
3	110	64	47	35	26	--
7	114	66	48	37	27	--
14	125	72	53	40	29	--
30	173	99	71	53	37	--

Magnitude and probability of seasonal low flow from July-October based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	48	39	34	31	27	--
3	48	39	35	31	27	--
7	49	40	35	31	28	--
14	50	40	36	32	28	--
30	52	42	37	33	29	--

Magnitude and probability of seasonal low flow from November-February based on 46 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	42	33	29	27	25	--
3	42	33	30	28	26	--
7	44	34	31	29	26	--
14	45	35	32	30	28	--
30	50	37	33	30	28	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	168	29	55	21	46
November	469	29	81	82	46
December	701	30	115	125	46
January	735	29	118	117	46
February	875	26	161	153	46
March	828	32	221	153	46
April	1,330	84	498	240	47
May	1,600	297	812	302	47
June	1,470	142	546	288	47
July	317	74	163	62	47
August	109	48	84	17	47
September	80	36	62	12	47
Annual	441	86	240	83	46

Duration of daily mean flows based on 46 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
28	33	37	43	54	64	81	106
40%	30%	20%	15%	10%	5%	2%	1%
148	228	378	510	685	976	1,340	1,570

**12391400 Clark Fork below Noxon Rapids Dam, near Noxon, Mont.
Site Number 286**

LOCATION.--Lat 47°57'40", long 115°43'58" (NAD 27), in SW¼ 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.

PERIOD OF RECORD.--May 1960 to current year (2002).

GAGE.--Plant generator rating or discharge through powerplant. Water-stage recorder on reservoir determines head on taintor gates. Altitude of gage is 2,320 ft (NGVD 29, levels by the Washington Water Power Co.).

REMARKS.--Flow regulated by Hungry Horse Reservoir (station number 12362000) and Flathead Lake (station number 12371500). Diversions for irrigation of about 350,000 acres upstream from station. Some subsurface flow indicated by comparison with records for adjacent gaging stations. Figures of discharge given herein are combined flows through turbines and spillway.

Magnitude and probability of annual low flow based on 41 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,350	395	183	90	38	--
3	6,380	4,610	3,780	3,150	2,530	--
7	6,380	4,610	3,780	3,150	2,530	--
14	7,300	5,490	4,620	3,950	3,270	--
30	8,240	6,350	5,420	4,700	3,950	--
60	9,500	7,560	6,570	5,800	4,980	--
90	10,600	8,580	7,540	6,700	5,800	--
120	11,200	9,230	8,150	7,280	6,340	--
183	12,200	10,300	9,320	8,540	7,680	--

Magnitude and probability of seasonal low flow from March-June based on 42 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	6,290	3,340	2,310	1,680	1,150	--
3	9,770	6,520	5,230	4,340	3,500	--
7	12,200	8,530	6,970	5,850	4,750	--
14	13,300	9,460	7,770	6,530	5,320	--
30	14,700	10,700	8,970	7,760	6,570	--

Magnitude and probability of seasonal low flow from November-February based on 42 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	3,670	1,460	734	369	149	--
3	6,540	4,760	3,850	3,260	2,600	--
7	9,020	6,860	5,780	4,940	4,080	--
14	10,000	7,930	6,900	6,090	5,240	--
30	10,900	8,790	7,820	7,080	6,320	--

Duration of daily mean flows based on 42 years of record

Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time							
99%	98%	95%	90%	80%	70%	60%	50%
3,180	4,140	5,610	7,270	9,750	11,800	13,600	15,300
40%	30%	20%	15%	10%	5%	2%	1%
17,200	21,400	26,400	32,300	41,800	58,900	80,200	93,300

Magnitude and probability of annual high flow based on 42 years of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent					
	2	5	10	25	50	100
	50%	20%	10%	4%	2%	1%
1	72,000	98,300	113,000	128,000	137,000	--
3	70,200	96,900	111,000	127,000	136,000	--
7	65,700	92,100	107,000	123,000	133,000	--
15	60,400	85,300	99,600	115,000	125,000	--
30	54,400	76,700	89,400	104,000	113,000	--
60	46,100	63,100	72,700	83,100	89,800	--
90	39,500	53,100	60,600	68,600	73,800	--

Magnitude and probability of seasonal low flow from July-October based on 42 seasons of record

Period of consecutive days	Discharge, in ft ³ /s, for indicated recurrence interval, in years, and non-exceedance probability, in percent					
	2	5	10	20	50	100
	50%	20%	10%	5%	2%	1%
1	1,930	521	225	170	78	--
3	6,860	4,980	4,060	3,370	2,670	--
7	6,860	4,980	4,060	3,370	2,670	--
14	7,650	5,760	4,850	4,150	3,440	--
30	8,550	6,550	5,580	4,820	4,040	--

Monthly and annual mean discharges

Month	Maximum (ft ³ /s)	Minimum (ft ³ /s)	Mean (ft ³ /s)	Standard deviation (ft ³ /s)	Years of record
October	16,200	6,170	11,800	2,430	42
November	19,900	6,830	13,200	2,820	42
December	31,500	8,610	14,200	3,920	42
January	22,200	7,620	14,400	3,150	42
February	34,600	6,180	15,100	5,260	42
March	33,700	6,920	16,400	5,780	42
April	46,400	4,870	22,600	9,050	42
May	88,200	10,000	40,600	16,100	42
June	92,600	10,000	50,800	21,800	43
July	40,700	8,330	23,300	8,660	43
August	17,700	5,350	10,600	2,900	43
September	16,400	4,840	10,300	2,840	43
Annual	31,900	10,000	20,300	5,090	42