

06309000 YELLOWSTONE RIVER AT MILES CITY, MT

LOCATION.--Lat 46°25'18", long 105°51'38" (NAD 27), in NE¹/₄ SW¹/₄ NW¹/₄ sec.28, T.8 N., R.47 E., Custer County, Hydrologic Unit 10100001, on left bank at upstream side of bridge on State Highway 22 at Miles City, 0.8 mi downstream from Tongue River, and at river mile 184.2.

DRAINAGE AREA.--48,253 mi².

PERIOD OF RECORD.--September 1922 to September 1923, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,333.3 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Prior to May 6, 1929, nonrecording gages 1.2 mi downstream at different elevations. May 6, 1929, to Sept. 30, 1931, nonrecording gage, and Oct. 1, 1931, to Nov. 10, 1937, water-stage recorder 300 ft upstream from present site at same elevation. Nov. 11, 1937, to Sept. 30, 1946, water-stage recorder 1.2 mi downstream at different elevation. Oct. 1, 1946, to Mar. 15, 1979, water-stage recorder at site 300 ft upstream at present elevation. Mar. 16, 1979, to Sept. 21, 1979, nonrecording gage at present site and elevation. Sept. 22, 1979, recording gage established at same site and elevation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by reservoirs on tributary streams. Diversions for irrigation of about 1,100,000 acres upstream from station (does not include flood irrigation). Several unpublished observations of water temperature and specific conductance were obtained during the year. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,250	7,040	4,680	e4,900	e4,600	3,920	3,670	7,010	22,000	e29,000	6,200	4,620
2	5,420	6,420	4,810	e4,700	e4,500	3,900	3,700	6,430	20,600	e27,000	6,020	4,620
3	5,480	6,120	4,730	e4,200	e4,500	3,880	3,640	6,040	19,500	e26,000	5,750	4,710
4	5,650	5,980	4,560	e4,000	e4,400	3,810	3,550	5,600	19,900	e25,000	5,550	4,660
5	5,650	5,760	4,830	e3,800	e4,400	3,760	3,570	5,400	19,000	e24,000	5,620	4,700
6	5,560	5,810	5,300	e3,800	e4,300	3,760	3,530	5,310	18,200	21,600	5,960	4,630
7	5,460	5,910	5,170	e3,500	e4,400	3,700	3,610	5,530	18,200	20,200	5,860	4,440
8	5,390	5,830	5,490	e4,000	e4,300	3,710	3,720	6,510	18,100	18,800	5,530	4,390
9	5,410	5,740	5,180	e4,200	e4,000	3,650	3,820	8,130	25,500	17,900	5,250	4,600
10	5,390	5,710	5,140	e4,200	e3,800	3,670	4,250	10,100	23,500	17,300	4,920	4,340
11	5,280	5,640	5,320	e4,000	e3,600	3,710	4,550	10,200	22,200	17,100	4,790	3,950
12	5,240	5,600	5,300	e4,000	e3,800	3,710	4,460	12,200	21,100	17,500	4,740	3,950
13	5,260	5,570	5,240	e4,200	e4,100	3,770	4,520	25,400	20,700	17,700	4,740	4,070
14	5,380	5,630	5,290	e4,200	e4,300	3,830	4,210	25,000	20,500	16,500	4,900	4,230
15	5,390	5,580	5,230	e4,200	e4,300	3,890	3,890	19,300	20,900	13,800	5,180	4,370
16	5,520	5,460	5,060	e4,000	e4,300	3,890	3,730	16,700	20,100	12,200	5,300	4,520
17	6,000	5,360	5,240	e3,800	e4,300	3,850	3,750	15,800	20,200	11,200	5,160	4,480
18	6,200	5,330	5,320	e3,900	e4,300	3,730	3,910	16,800	24,100	10,300	4,770	4,470
19	6,170	5,290	5,310	e4,100	e4,200	3,800	4,140	20,900	27,500	9,710	4,800	4,540
20	6,180	5,270	5,300	e3,700	e4,100	3,810	4,210	21,900	28,800	9,230	5,150	4,510
21	6,110	5,290	5,190	e4,600	e3,800	3,830	6,060	19,900	e30,000	8,460	5,610	4,570
22	6,030	5,290	e5,400	e5,100	e3,900	3,740	7,280	27,300	e31,000	7,660	6,060	4,360
23	5,990	5,240	e5,400	e5,700	e4,100	3,780	6,840	33,700	e31,000	7,170	6,580	4,490
24	5,950	5,080	e5,000	e5,800	e4,200	3,860	6,390	35,000	e33,000	6,850	5,990	5,010
25	5,950	5,110	4,690	e5,600	e4,200	3,890	6,040	34,100	e38,000	6,780	5,480	5,270
26	5,950	5,180	3,540	e5,500	e4,200	3,950	5,820	34,800	e40,000	6,710	5,400	5,680
27	5,940	5,260	4,410	e5,400	e4,100	3,870	5,730	30,200	e39,000	6,810	5,360	6,230
28	5,960	5,290	e4,600	e5,200	3,970	3,770	6,200	25,100	e35,000	7,090	5,300	6,320
29	6,080	5,180	e4,700	e5,100	---	3,710	7,150	22,100	e32,000	7,070	5,120	6,490
30	6,140	5,030	e5,000	e4,900	---	3,680	7,440	21,100	e31,000	6,790	5,040	6,330
31	6,710	---	e5,300	e4,800	---	3,650	---	21,900	---	6,370	4,760	---
TOTAL	178,090	167,000	155,730	139,100	116,970	117,480	143,380	555,460	770,600	439,800	166,890	143,550
MEAN	5,745	5,567	5,024	4,487	4,178	3,790	4,779	17,920	25,690	14,190	5,384	4,785
MAX	6,710	7,040	5,490	5,800	4,600	3,950	7,440	35,000	40,000	29,000	6,580	6,490
MIN	5,240	5,030	3,540	3,500	3,600	3,650	3,530	5,310	18,100	6,370	4,740	3,950
AC-FT	353,200	331,200	308,900	275,900	232,000	233,000	284,400	1,102,000	1,528,000	872,300	331,000	284,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2005, BY WATER YEAR (WY)*

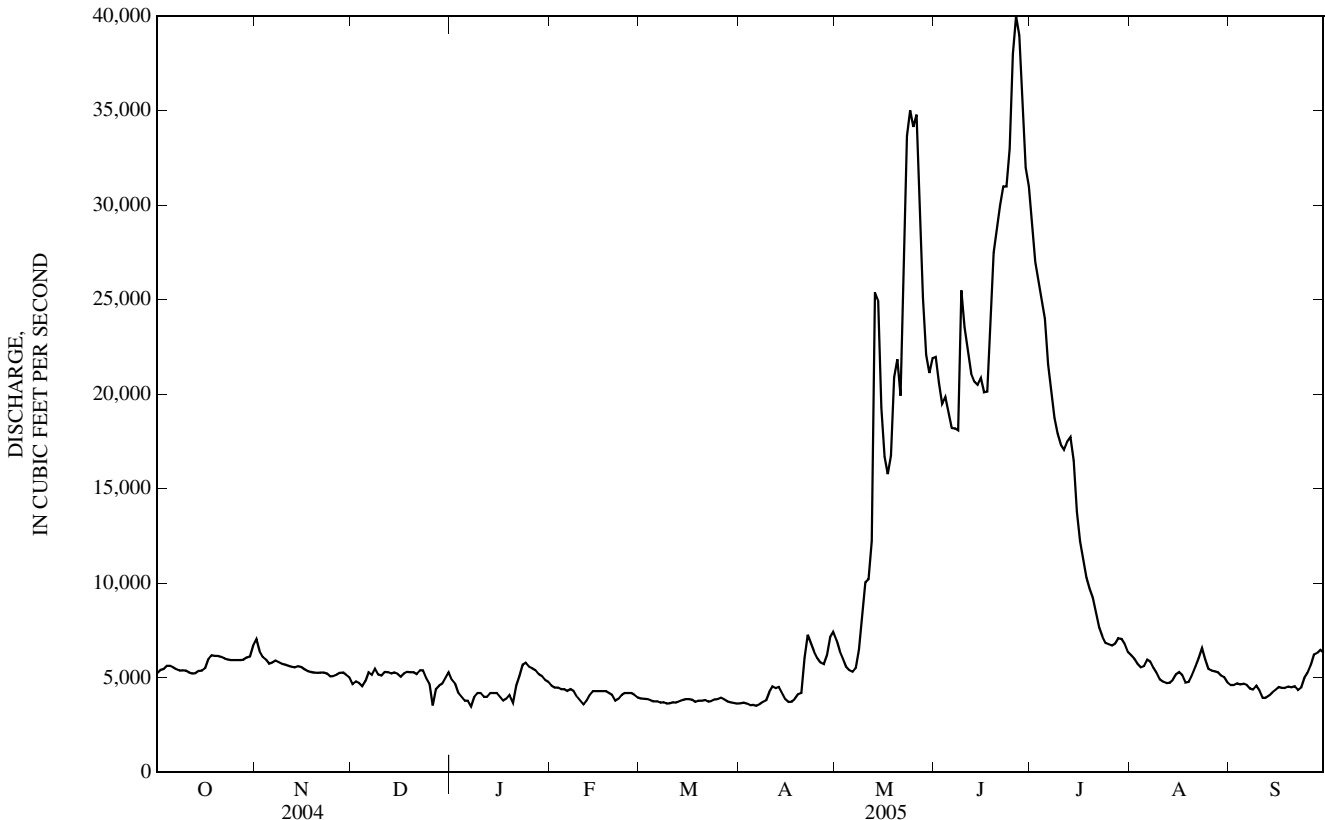
MEAN	7,629	7,042	5,702	5,262	6,112	8,172	8,148	17,140	34,340	19,910	8,033	7,104
MAX	12,970	10,850	9,342	8,897	16,160	18,560	15,210	29,100	61,860	46,310	16,540	13,710
(WY)	(1972)	(1973)	(1983)	(1968)	(1971)	(1929)	(1943)	(1978)	(1997)	(1967)	(1997)	(1941)
MIN	3,857	3,976	2,921	2,034	2,344	3,027	2,729	7,334	13,030	3,988	2,615	2,964
(WY)	(2004)	(1932)	(1933)	(1937)	(1932)	(2002)	(1961)	(1961)	(1934)	(1934)	(1961)	(1934)

06309000 YELLOWSTONE RIVER AT MILES CITY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1922 - 2005*	
ANNUAL TOTAL	2,398,390		3,094,050			
ANNUAL MEAN	6,553		8,477		11,220	
HIGHEST ANNUAL MEAN					17,470	
LOWEST ANNUAL MEAN					6,141	
HIGHEST DAILY MEAN	30,300	Jun 13	40,000	Jun 26	92,400	May 30, 1923
LOWEST DAILY MEAN	1,900	Jan 6	3,500	Jan 7	996	Dec 14, 1932
ANNUAL SEVEN-DAY MINIMUM	2,030	Jan 3	3,610	Apr 1	1,220	Dec 12, 1932
MAXIMUM PEAK FLOW			unknown		b102,000	May 22, 1978
MAXIMUM PEAK STAGE			a8.97		c21.70	Mar 20, 1944
INSTANTANEOUS LOW FLOW			3,500		1,800	Mar 7, 1995
ANNUAL RUNOFF (AC-FT)	4,757,000		6,137,000		8,130,000	
10 PERCENT EXCEEDS	11,600		21,100		25,000	
50 PERCENT EXCEEDS	5,300		5,300		7,420	
90 PERCENT EXCEEDS	3,800		3,800		4,000	

SUMMARY STATISTICS	WATER YEARS 1922 - 1961**		WATER YEARS 1967 - 2005***	
ANNUAL MEAN	10,710		11,560	
HIGHEST ANNUAL MEAN	16,600		17,470	
LOWEST ANNUAL MEAN	6,141		6,176	
HIGHEST DAILY MEAN	92,400	May 30, 1923	82,300	Jun 15, 1997
LOWEST DAILY MEAN	996	Dec 14, 1932	1,640	Nov 25, 1977
ANNUAL SEVEN-DAY MINIMUM	1,220	Dec 12, 1932	2,030	Jan 3, 2004
MAXIMUM PEAK FLOW	96,300	Jun 19, 1944	b102,000	May 22, 1978
MAXIMUM PEAK STAGE	c21.70	Mar 20, 1944	c20.78	Mar 15, 1979
ANNUAL RUNOFF (AC-FT)	7,756,000		8,372,000	
10 PERCENT EXCEEDS	25,000		24,800	
50 PERCENT EXCEEDS	6,620		8,060	
90 PERCENT EXCEEDS	3,500		4,560	

*--During period of operation (1922-23, 1928 to current year).
 **--Prior to construction of Yellowtail Dam, during period of operation (1922-23, 1928-61).
 ***--After completion of Yellowtail Dam.
 a--May have been higher during period of no gage-height record, June 20 to July 6.
 b--Gage height, 16.50 ft.
 c--Backwater from ice jam.
 e--Estimated.



06324500 POWDER RIVER AT MOORHEAD, MT

LOCATION.--Lat 45°03'28", long 105°52'39" (NAD 27), in SE¹/₄ NE¹/₄ NE¹/₄ sec.18, T.9S., R.48E., Powder River County, Hydrologic Unit 10090207, on left bank 25 ft downstream from bridge on Powder River, 7.3 mi upstream from Buffalo Creek, and at river mile 183.7.

DRAINAGE AREA.--8,086 mi²; Sept. 13, 1956 to Aug. 27, 2001 published as 8,088 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1929 to September 1972, October 1974 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1932 (M), WSP 1729: Drainage area. WDR MT-04-01: 2003, drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,350.6 ft (NGVD 29). Prior to Aug. 28, 1931, nonrecording gage at site 0.8 mi downstream at different elevation. Aug. 28, 1931, to Mar. 21, 1956, water-stage recorder at site 0.1 mi upstream at different elevation. Mar. 22 to July 24, 1956, nonrecording gage at site 1.4 mi downstream at different elevation. July 25 to Sept. 12, 1956, nonrecording gage at different site and elevation. Sept. 13, 1956 to Aug. 27, 2001, water-stage recorder during period of gage operation 1.1 mi downstream at different elevation.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor. Some regulation by three reservoirs in Wyoming with combined usable capacity of 36,800 acre-ft. Diversions for irrigation of about 66,300 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 30, 1923, reached a stage of 19 ft, site and elevation used 1931-56, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	258	e85	e130	e170	e180	182	314	908	861	118	88
2	86	243	e100	e100	e160	e200	183	357	853	744	134	83
3	92	244	e150	e120	e170	e240	184	365	1,070	644	251	78
4	110	243	e200	e130	e170	e230	187	304	978	608	170	67
5	122	254	e200	e100	e150	255	176	270	844	531	144	65
6	123	248	e180	e100	e140	246	170	277	718	452	130	63
7	108	232	e160	e150	e120	234	171	271	689	380	122	62
8	111	231	e150	e150	e110	220	164	323	841	341	111	57
9	116	236	e160	e130	e140	221	172	798	857	278	106	39
10	104	218	e160	e140	e140	206	229	1,190	748	225	114	35
11	102	216	e160	e110	e150	207	270	1,180	683	197	118	33
12	95	214	e160	e100	e170	188	301	2,430	622	189	182	29
13	96	212	e150	e90	e200	186	268	2,900	589	134	177	37
14	95	217	e130	e80	e180	182	250	2,880	887	92	168	37
15	112	223	e100	e70	e150	184	208	2,280	858	85	171	38
16	124	229	e120	e90	e150	191	185	1,930	793	81	189	42
17	131	224	e150	e120	e150	185	172	1,800	866	60	226	40
18	149	226	e150	e160	e140	185	154	1,830	1,010	48	234	37
19	165	227	e150	e200	e150	186	139	1,780	1,300	42	221	40
20	173	221	e140	e180	e170	179	178	1,720	1,320	45	193	45
21	205	233	e130	e160	e170	193	247	1,850	1,300	51	185	42
22	211	230	e120	e150	e150	204	306	2,050	1,320	41	162	36
23	206	232	e100	e170	e160	195	298	2,090	1,270	93	137	27
24	205	286	e110	e160	e170	187	383	2,050	1,350	182	127	28
25	226	325	e130	e150	e170	189	381	2,060	1,460	99	119	31
26	262	277	e150	e150	e180	187	398	1,820	1,330	76	134	35
27	332	e200	e150	e150	e180	193	386	1,530	1,150	68	121	43
28	286	e100	e150	e150	e170	195	311	1,310	995	72	117	55
29	259	e70	e140	e170	---	181	290	1,120	842	118	115	54
30	273	e80	e130	e170	---	165	312	1,010	784	109	106	54
31	275	---	e130	e170	---	169	---	965	---	94	92	---
TOTAL	5,030	6,649	4,395	4,200	4,430	6,163	7,255	43,054	29,235	7,040	4,694	1,420
MEAN	162	222	142	135	158	199	242	1,389	974	227	151	47.3
MAX	332	325	200	200	200	255	398	2,900	1,460	861	251	88
MIN	76	70	85	70	110	165	139	270	589	41	92	27
AC-FT	9,980	13,190	8,720	8,330	8,790	12,220	14,390	85,400	57,990	13,960	9,310	2,820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)*

MEAN	223	223	159	152	282	603	501	1,042	1,333	454	171	142
MAX	897	660	326	445	1,200	2,290	1,314	5,553	4,131	2,500	1,219	686
(WY)	(1995)	(1999)	(1981)	(1981)	(1930)	(1947)	(1965)	(1978)	(1967)	(1937)	(1941)	(1982)
MIN	16.1	80.0	56.2	27.2	20.9	185	117	82.6	31.1	33.9	0.60	1.28
(WY)	(1955)	(1936)	(1933)	(1950)	(1933)	(2002)	(1961)	(1934)	(2004)	(1961)	(1966)	(1960)

YELLOWSTONE RIVER BASIN

06324500 POWDER RIVER AT MOORHEAD, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005*	
ANNUAL TOTAL	48,989.8		123,565			
ANNUAL MEAN	134		339		440	
HIGHEST ANNUAL MEAN					1,091	1978
LOWEST ANNUAL MEAN					109	1961
HIGHEST DAILY MEAN	975	Mar 13	2,900	May 13	27,500	May 20, 1978
LOWEST DAILY MEAN	5.0	Aug 24	27	Sep 23	0.00	Jul 15, 1931
ANNUAL SEVEN-DAY MINIMUM	7.8	Aug 19	35	Sep 21	0.00	Sep 4, 1960
MAXIMUM PEAK FLOW			3,610	May 13	b33,000	May 20, 1978
MAXIMUM PEAK STAGE			6.33	May 13	c17.70	Mar 21, 1956
INSTANTANEOUS LOW FLOW			a24	Sep 23	d0.00	Jul 15, 1931
ANNUAL RUNOFF (AC-FT)	97,170		245,100		319,000	
10 PERCENT EXCEEDS	265		895		1,020	
50 PERCENT EXCEEDS	100		173		214	
90 PERCENT EXCEEDS	23		71		45	

*--During period of operation (1930-72, 1975 to current year).

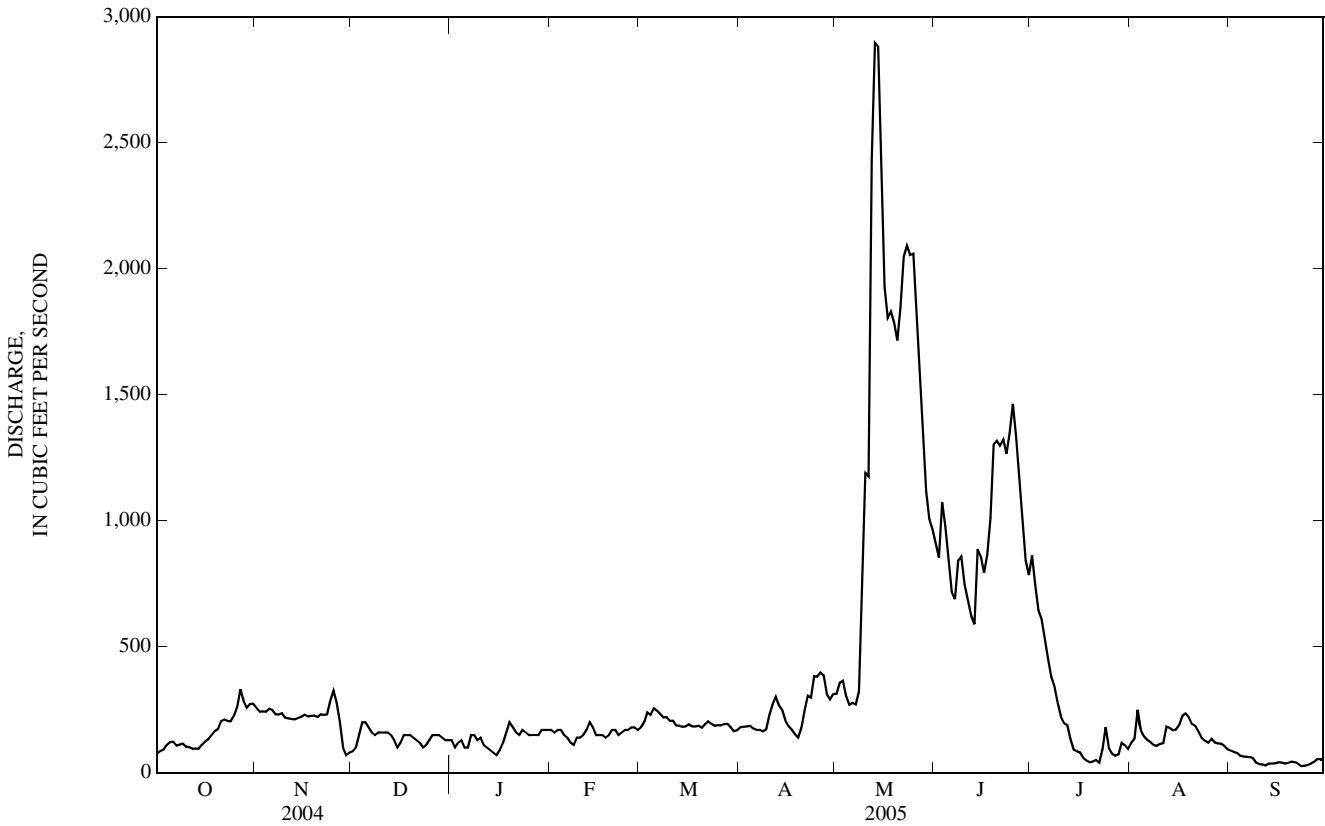
a--Gage height, 2.06 ft.

b--Gage height, 15.24 ft.

c--Ice jam, site and datum then in use.

d--Site and datum then in use.

e--Estimated.



06324500 POWDER RIVER AT MOORHEAD, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-53, 1956-67, 1969-72, 1975-77, 2001 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1986 to November 1989, May 2001 to current year (seasonal operation).

WATER TEMPERATURE: February 1951 to September 1953, October 1955 to September 1957, October 1974 to September 1977, March 1978 to September 1981 (seasonal records only).

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to September 1977, March 1978 to September 1996 (seasonal records only).

INSTRUMENTATION.--Specific conductance probe installed May 20, 2001.

REMARKS.--Specific conductance record is rated good to excellent except for the period June 2-4, which is rated fair, and June 5, 6, 10-29 and July 1-5 and 12, which are rated poor. Missing specific conductance data on May 11-31, July 6-9 and July 24 are due to equipment malfunction or sensor fouling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE : Maximum daily, 5,920 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, July 16, 2002; minimum, 406 $\mu\text{S}/\text{cm}$ at 25.0°C, June 24, 2005.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 14, 1981; minimum daily 0.0°C on many days during winter.

SEDIMENT CONCENTRATION: Maximum daily mean, 53,500 mg/L May 27, 1980; minimum daily mean, 3 mg/L Sept. 16-18, 1996.

SEDIMENT LOAD: Maximum daily, 2,230,000 tons May 20, 1978; minimum daily, 0.17 ton Aug. 1, 1988 and Sept. 16, 1996.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,890 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, July 25; minimum, 406 $\mu\text{S}/\text{cm}$ at 25.0°C, June 24.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd, std units (00400)	Specific conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
12...	1330	97	680	10.5	105	8.4	1,680	11.0	10.0	540	117	59.8	7.36
26...	0955	226	672	13.1	124	8.5	1,790	7.5	7.0	490	109	53.9	8.19
NOV													
03...	1300	268	677	12.2	108	8.4	1,900	17.5	5.0	570	128	59.4	8.43
17...	1720	226	678	11.9	102	8.4	1,910	5.0	3.5	540	118	58.4	7.61
DEC													
01...	1345	E85	678	13.7	106	8.3	2,540	9.0	0.0	680	146	77.1	9.64
23...	1030	E100	679	14.0	108	8.0	1,970	-15.0	0.0	640	151	62.8	8.22
JAN													
18...	1400	E160	675	10.7	83	7.7	2,220	13.0	0.0	700	171	65.9	8.65
26...	1315	150	672	11.8	92	8.3	1,660	7.0	0.0	540	131	53.0	7.47
FEB													
08...	1230	E110	671	13.4	105	8.4	1,870	-2.0	0.0	550	133	53.5	7.20
23...	1610	E160	675	12.6	98	8.4	1,940	6.0	0.0	580	137	58.4	7.20
MAR													
08...	1400	221	674	10.9	104	8.5	2,040	11.0	7.5	560	129	58.6	8.00
28...	1700	205	658	9.7	106	8.4	2,180	16.0	12.5	590	130	65.3	8.63
APR													
05...	1430	180	677	9.8	109	8.4	2,330	14.5	14.5	580	116	71.2	10.4
11...	1200	289	671	10.9	108	8.4	2,200	11.0	9.0	590	123	68.1	8.46
MAY													
05...	1300	275	674	9.1	107	8.5	1,870	21.0	17.0	500	113	54.1	8.21
25...	1540	2,050	680	9.3	102	8.3	500	13.0	14.5	140	33.6	13.8	2.65
JUN													
07...	1340	688	668	7.6	95	8.2	1,270	21.0	19.0	320	74.0	32.8	4.78
14...	1030	985	675	8.6	100	8.4	1,170	21.0	16.5	350	81.1	36.8	4.48
JUL													
07...	1825	382	676	6.6	97	8.3	953	32.5	28.5	270	64.7	26.1	3.41
12...	1445	200	677	7.6	113	8.4	1,170	41.0	29.5	350	79.9	36.1	4.17
AUG													
03...	1430	256	677	7.1	94	8.2	1,810	18.0	23.0	620	152	58.6	8.51
10...	1400	112	679	8.7	123	8.4	1,260	29.5	26.5	500	117	50.6	6.36
SEP													
06...	1730	73	681	9.6	124	8.4	1,150	25.0	22.0	470	102	51.1	5.79
27...	1530	46	675	9.9	117	8.4	1,320	21.0	17.0	530	110	62.5	5.93

E--Estimated.

06324500 POWDER RIVER AT MOORHEAD, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)
OCT													
12...	4	193	43	201	198	106	.4	3.90	547	1,150	1.68	323	1,230
26...	4	215	48	268	204	113	.5	5.41	577	1,210	1.72	773	1,270
NOV													
03...	4	232	47	280	217	117	.6	7.31	642	1,330	1.88	1,000	1,380
17...	4	220	47	285	225	126	.5	7.71	594	1,270	1.82	819	1,340
DEC													
01...	5	329	51	314	305	182	.6	10.2	807	1,750	2.51	E401	1,850
23...	5	265	47	326	327	140	.6	11.9	599	1,440	2.01	E388	1,480
JAN													
18...	4	264	45	354	356	160	.6	13.8	621	1,520	2.15	E657	1,580
26...	4	197	44	278	274	101	.4	10.9	493	1,160	1.62	483	1,190
FEB													
08...	4	226	47	--	253	120	.6	8.89	588	1,290	1.84	E384	1,350
23...	4	245	47	--	260	135	.6	14.1	591	1,350	1.88	E581	1,380
MAR													
08...	5	274	51	296	243	152	.6	7.78	619	1,400	1.93	849	1,420
28...	5	290	51	279	244	165	.6	6.39	664	1,480	2.12	861	1,560
APR													
05...	6	359	57	263	223	173	.6	5.79	761	1,630	2.25	806	1,660
11...	5	280	50	280	216	154	.6	5.13	734	1,500	2.12	1,220	1,560
MAY													
05...	5	257	52	261	208	119	.6	7.06	597	1,280	1.82	994	1,340
25...	2	46.7	41	119	81	18.0	.2	8.83	129	302	.43	1,740	314
JUN													
07...	3	130	46	186	150	54.8	.4	9.91	412	809	1.21	1,650	886
14...	3	123	43	180	153	58.8	.3	9.91	365	772	1.09	2,140	803
JUL													
07...	2	91.3	42	--	126	51.3	.2	7.51	269	589	.85	642	622
12...	3	118	42	154	153	59.0	.3	7.21	350	747	1.07	425	787
AUG													
03...	3	183	39	265	184	74.2	.4	5.99	683	1,280	1.87	951	1,380
10...	2	101	30	131	140	29.1	.3	3.27	476	867	1.27	283	935
SEP													
06...	2	75.7	26	--	139	11.4	.3	3.13	447	780	1.16	168	852
27...	2	87.4	26	156	153	10.0	.2	2.04	543	914	1.43	130	1,050

E--Estimated.

06324500 POWDER RIVER AT MOORHEAD, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitro- gen, wat unf by anal ysis, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Alum- inum, water, unfltrd recover- able, ug/L (01105)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover- able, ug/L (01007)	Beryll- ium, water, unfltrd recover- able, ug/L (01012)	Boron, water, unfltrd recover- able, ug/L (01022)
OCT												
12...	<.010	<.016	<.002	.33	<.006	.033	311	.8	<2	37	<.06	201
26...	E.008	.151	E.001	1.06	<.006	.015	7,530	.7	--	174	.91	--
NOV												
03...	.022	.264	.002	1.19	E.003	.29	14,000	.8	7	164	.84	201
17...	.032	.207	.002	.81	E.004	.24	5,460	.8	--	116	.55	--
DEC												
01...	.059	.322	.004	.64	E.004	.064	1,100	1.3	E1	47	.10	283
23...	.054	.440	.007	.76	<.006	.068	1,600	.6	--	52	.11	--
JAN												
18...	.138	.597	.017	.96	<.006	.083	1,750	.7	E1	67	.15	268
26...	.098	.485	.016	.86	<.006	.166	860	.6	--	44	.08	--
FEB												
08...	.065	.536	.013	.82	E.003	.078	2,660	.9	E1	53	.12	195
23...	.041	.441	.011	.86	E.005	.19	4,150	.7	--	88	.32	--
MAR												
08...	.015	.245	.004	.87	E.005	.32	9,340	1.1	5	153	.53	213
28...	.014	.072	.003	.58	<.006	.25	5,170	1.0	--	116	.39	--
APR												
05...	E.006	.128	.002	.76	<.006	.23	5,050	1.7	4	129	.45	279
11...	.020	.021	E.001	.92	E.004	.40	6,450	1.2	--	165	.64	--
MAY												
05...	E.006	.357	.002	1.38	<.006	.54	7,650	1.2	4	156	1.07	212
25...	.013	.162	E.001	.94	E.003	.97	11,400	.9	--	264	1.30	--
JUN												
07...	E.009	.320	.002	1.53	.007	.56	12,600	.9	9	263	1.43	163
14...	<.010	<.016	E.001	.93	E.003	.44	7,870	.9	--	193	.83	--
JUL												
07...	E.006	<.016	E.001	.51	E.003	.176	1,750	.9	--	60	.18	--
12...	.010	<.016	E.001	.40	<.006	.092	698	1.1	E1	52	.06	125
AUG												
03...	<.010	.081	.004	2.64	<.006	.72	21,600	1.0	13	443	2.59	183
10...	<.010	<.016	<.002	.39	<.006	.035	404	.8	--	53	E.06	--
SEP												
06...	<.010	<.016	<.002	.42	<.006	.023	246	.62	.72	47	<.06	104
27...	<.010	E.011	<.002	.31	<.006	.010	94	.49	--	44	<.06	--

E--Estimated.

06324500 POWDER RIVER AT MOORHEAD, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, unfltrd recover- able, ug/L (01067)	Selen- ium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recover- able, ug/L (01092)
OCT												
12...	E.02	E.5	5.7	7	510	.62	5.2	20.4	--	4.53	1.9	4
26...	--	--	--	<6	--	--	.6	--	--	--	2.3	--
NOV												
03...	.40	11.5	24.8	<6	14,400	14.0	1.5	364	--	17.7	2.9	58
17...	--	--	--	<6	--	--	3.0	--	--	--	3.7	--
DEC												
01...	.06	1.4	13.9	<18	1,450	1.35	14.1	44.4	--	7.46	3.6	12
23...	--	--	--	E5	--	--	6.3	--	--	--	3.1	--
JAN												
18...	.08	5.0	12.6	E4	2,580	2.19	6.2	56.0	--	5.79	3.3	15
26...	--	--	--	7	--	--	6.6	--	--	--	2.3	--
FEB												
08...	.08	1.8	8.4	<6	2,060	1.87	6.4	40.1	--	5.30	3.8	12
23...	--	--	--	<30	--	--	4.2	--	--	--	3.9	--
MAR												
08...	.36	8.0	20.7	<6	11,600	11.2	4.0	246	--	14.9	3.5	57
28...	--	--	--	<6	--	--	3.9	--	--	--	2.5	--
APR												
05...	.26	5.6	25.0	<18	8,140	7.94	3.1	187	--	11.5	4.6	43
11...	--	--	--	<18	--	--	2.5	--	--	--	3.6	--
MAY												
05...	.46	8.1	29.5	<6	11,300	14.0	1.6	415	--	19.9	4.7	71
25...	--	--	--	19	--	--	1.3	--	--	--	1.8	--
JUN												
07...	.51	10.5	30.7	9	20,700	18.7	1.3	569	.04	27.3	3.2	105
14...	--	--	--	E4	--	--	3.3	--	--	--	2.0	--
JUL												
07...	--	--	--	8	--	--	1.2	--	--	--	1.1	--
12...	E.04	.9	3.2	E6	1,220	1.20	3.5	54.7	--	5.40	1.7	5
AUG												
03...	1.35	28.4	56.9	<6	47,100	40.9	E.6	902	--	55.3	2.9	179
10...	--	--	--	E5	--	--	4.1	--	--	--	1.7	--
SEP												
06...	E.03	.30	2.6	<6	410	.35	3.9	14.4	--	3.60	1.0	2
27...	--	--	--	<6	--	--	3.0	--	--	--	.38	--

E--Estimated.

06324500 POWDER RIVER AT MOORHEAD, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
OCT			
12...	96	51	13
26...	99	898	548
NOV			
03...	99	927	671
17...	98	571	348
DEC			
01...	97	186	E42.7
23...	83	169	E45.6
JAN			
18...	90	188	E81.2
26...	87	107	E43
FEB			
08...	94	179	E53.2
23...	91	417	E180
MAR			
08...	98	715	427
28...	98	478	265
APR			
05...	99	528	257
11...	98	851	664
MAY			
05...	98	1,100	817
25...	69	1,960	10,900
JUN			
07...	86	1,590	2,950
14...	57	1,560	4,150
JUL			
07...	*	*	*
12...	89	66	36
AUG			
03...	99	3,170	2,190
10...	97	57	17
SEP			
06...	98	52	10
27...	93	18	2.2

*--Sediment sample not collected.

E--Estimated.

YELLOWSTONE RIVER BASIN

06324500 POWDER RIVER AT MOORHEAD, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	OCTOBER 2004			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1,010	945	973	1,800	1,680	1,740	---	---	*2,620	---	---	*2,160
2	1,050	965	1,000	1,880	1,770	1,840	---	---	---	---	---	---
3	1,040	906	971	---	---	*1,950	---	---	---	---	---	---
4	979	912	948	---	---	---	---	---	---	---	---	*2,680
5	1,550	855	1,010	---	---	---	---	---	*2,010	---	---	---
6	1,720	1,550	1,660	---	---	*2,000	---	---	---	---	---	---
7	1,830	1,650	1,720	---	---	---	---	---	---	---	---	*2,170
8	1,870	1,630	1,770	---	---	---	---	---	---	---	---	---
9	1,630	1,550	1,590	---	---	*2,010	---	---	---	---	---	---
10	1,680	1,600	1,620	---	---	---	---	---	*2,150	---	---	---
11	1,680	1,640	1,660	---	---	---	---	---	---	---	---	*2,150
12	1,760	1,680	1,710	---	---	*2,000	---	---	---	---	---	---
13	1,770	1,720	1,740	---	---	---	---	---	---	---	---	---
14	1,720	1,640	1,700	---	---	---	---	---	*2,230	---	---	*2,270
15	1,660	1,570	1,630	---	---	---	---	---	---	---	---	---
16	1,780	1,660	1,720	---	---	*1,980	---	---	---	---	---	---
17	1,820	1,770	1,800	---	---	**1,910	---	---	---	---	---	---
18	1,890	1,820	1,860	---	---	---	---	---	*1,850	---	---	*2,230
19	1,990	1,880	1,960	---	---	*2,060	---	---	---	---	---	---
20	1,930	1,820	1,870	---	---	---	---	---	---	---	---	---
21	2,040	1,820	1,900	---	---	---	---	---	---	---	---	*1,980
22	2,040	1,940	1,980	---	---	---	---	---	*1,940	---	---	---
23	1,940	1,880	1,910	---	---	*2,240	---	---	**1,970	---	---	---
24	1,880	1,720	1,810	---	---	---	---	---	---	---	---	---
25	1,830	1,710	1,760	---	---	---	---	---	---	---	---	*1,640
26	1,820	1,780	1,800	---	---	*1,960	---	---	*1,980	---	---	**1,660
27	2,170	1,800	2,090	---	---	---	---	---	---	---	---	---
28	2,180	2,070	2,150	---	---	---	---	---	---	---	---	---
29	2,070	1,670	1,840	---	---	---	---	---	---	---	---	*1,700
30	1,760	1,620	1,680	---	---	---	---	---	---	---	---	---
31	1,760	1,680	1,720	---	---	---	---	---	---	---	---	---
MONTH	2,180	855	1,660	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	*1,790	2,230	2,210	2,220	2,290	2,160	2,210
2	---	---	*1,660	---	---	---	2,270	2,230	2,250	2,160	1,880	2,030
3	---	---	---	---	---	---	2,270	2,250	2,260	1,880	1,790	1,820
4	---	---	---	---	---	---	2,340	2,260	2,300	1,810	1,780	1,790
5	---	---	*1,700	---	---	*2,050	2,350	2,240	2,320	2,020	1,780	1,900
6	---	---	---	---	---	---	2,320	2,260	2,290	2,190	2,020	2,110
7	---	---	---	---	---	---	2,260	2,220	2,240	2,190	2,080	2,140
8	---	---	---	---	---	---	2,260	2,240	2,250	2,080	2,000	2,020
9	---	---	*2,080	2,150	2,050	2,100	2,260	2,110	2,170	2,100	875	1,730
10	---	---	---	2,130	2,060	2,100	2,300	2,190	2,230	---	---	#767
11	---	---	---	2,140	2,080	2,110	2,280	2,110	2,190	---	---	---
12	---	---	*1,920	2,140	2,090	2,110	2,260	2,100	2,190	---	---	---
13	---	---	---	2,120	2,080	2,100	2,280	1,940	2,150	---	---	---
14	---	---	---	2,120	2,090	2,110	1,960	1,870	1,910	---	---	---
15	---	---	*2,100	2,140	2,090	2,120	1,980	1,940	1,970	---	---	---
16	---	---	---	2,150	2,100	2,130	1,940	1,850	1,890	---	---	---
17	---	---	---	2,170	2,140	2,150	1,850	1,780	1,830	---	---	---
18	---	---	---	2,170	2,120	2,150	1,890	1,750	1,800	---	---	---
19	---	---	*2,000	2,200	2,160	2,180	1,910	1,880	1,900	---	---	---
20	---	---	---	2,180	2,120	2,150	1,950	1,830	1,890	---	---	---
21	---	---	---	2,120	2,070	2,100	1,850	1,640	1,750	---	---	---
22	---	---	---	2,130	2,100	2,110	1,720	1,630	1,680	---	---	---
23	---	---	*2,000	2,140	2,050	2,090	1,840	1,710	1,790	---	---	---
24	---	---	---	2,130	2,070	2,100	2,080	1,830	1,940	---	---	---
25	---	---	---	2,130	2,060	2,080	2,260	2,080	2,170	---	---	**500
26	---	---	*1,880	2,140	2,070	2,100	2,260	1,940	2,090	---	---	---
27	---	---	---	2,160	2,090	2,130	2,010	1,920	1,950	---	---	---
28	---	---	---	2,190	2,130	2,160	2,030	2,000	2,010	---	---	*712
29	---	---	---	2,180	2,140	2,160	2,130	2,030	2,090	---	---	---
30	---	---	---	2,180	2,150	2,160	2,290	2,050	2,170	---	---	---
31	---	---	---	2,220	2,140	2,170	---	---	---	---	---	*952
MONTH	---	---	---	2,220	2,050	2,110	2,350	1,630	2,060	---	---	---

*--Instantaneous value from observer grab sample.

**--Instantaneous value from USGS cross-section sample.

06324500 POWDER RIVER AT MOORHEAD, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	#1,040	813	699	745	1,350	1,250	1,300	1,210	1,190	1,200
2	1,210	1,080	1,140	817	693	749	1,430	1,350	1,390	1,190	1,180	1,190
3	1,390	1,110	1,290	851	760	814	1,880	1,250	1,640	1,200	1,180	1,190
4	1,380	1,270	1,330	876	752	813	1,720	1,540	1,610	1,220	1,180	1,200
5	1,360	1,270	1,320	---	---	813	1,580	1,490	1,540	1,220	1,200	1,210
6	1,380	1,290	1,340	---	---	---	1,490	1,330	1,400	1,210	1,170	1,190
7	1,320	1,270	1,280	---	---	**953	1,340	1,260	1,290	1,170	1,150	1,160
8	1,360	1,060	1,200	---	---	---	1,300	1,270	1,290	1,160	1,140	1,150
9	1,180	1,050	1,100	---	---	---	1,300	1,260	1,280	1,200	1,160	1,170
10	1,170	1,040	1,120	1,130	833	1,030	1,290	1,140	1,260	1,240	1,200	1,220
11	1,240	1,060	1,180	1,180	1,080	1,120	1,270	1,100	1,230	1,260	1,200	1,240
12	1,160	1,070	1,110	1,190	1,080	1,150	2,060	1,260	1,470	1,240	1,230	1,240
13	1,280	1,130	1,160	1,190	1,180	1,190	2,040	1,320	1,590	1,260	1,210	1,220
14	1,280	954	1,060	1,220	1,180	1,200	1,320	1,180	1,230	1,310	1,210	1,250
15	1,100	812	925	---	---	#1,220	1,330	1,190	1,290	1,340	1,260	1,300
16	1,080	915	989	1,260	1,240	1,250	1,420	1,300	1,370	1,350	1,300	1,330
17	1,010	881	970	1,350	1,260	1,320	1,320	1,210	1,260	1,320	1,300	1,310
18	894	752	838	1,470	1,330	1,400	1,810	1,300	1,660	1,350	1,320	1,340
19	765	663	718	1,530	1,400	1,470	1,970	1,560	1,830	1,360	1,340	1,360
20	695	650	676	1,630	1,520	1,570	1,960	1,720	1,830	1,340	1,300	1,340
21	676	541	617	1,570	1,380	1,470	1,880	1,560	1,660	1,320	1,300	1,310
22	545	508	529	1,440	1,400	1,420	1,560	1,480	1,510	1,340	1,260	1,310
23	534	415	502	---	---	#1,470	1,490	1,410	1,450	1,400	1,290	1,340
24	497	406	450	---	---	---	1,410	1,370	1,390	1,370	1,310	1,330
25	784	488	661	2,890	1,600	2,600	1,380	1,340	1,360	1,410	1,290	1,350
26	783	663	751	2,360	1,880	2,010	1,350	1,260	1,300	1,340	1,250	1,290
27	663	595	619	1,890	1,660	1,790	1,290	1,260	1,270	1,310	1,240	1,270
28	647	618	631	1,660	1,580	1,610	1,280	1,250	1,270	1,380	1,250	1,300
29	695	643	663	1,620	1,410	1,540	1,270	1,240	1,260	1,360	1,280	1,320
30	807	677	733	1,410	1,320	1,360	1,270	1,220	1,250	1,370	1,270	1,330
31	---	---	---	1,320	1,280	1,290	1,220	1,190	1,200	---	---	---
MONTH	1,390	406	931	2,890	693	1,320	2,060	1,100	1,410	1,410	1,140	1,270
OCTOBER 2005												
1	1,370	1,320	1,350									
2	1,330	1,260	1,300									
3	1,300	1,190	1,230									
4	1,190	1,060	1,120									
5	1,070	1,030	1,050									
6	1,150	1,060	1,120									
7	1,290	1,140	1,220									
8	1,320	1,290	1,310									
9	1,320	1,160	1,250									
10	1,510	1,320	1,370									
11	2,320	1,510	2,070									
12	2,320	1,950	2,140									
13	1,950	1,750	1,790									
14	1,800	1,760	1,780									
15	1,850	1,790	1,830									
16	1,790	1,750	1,770									
17	1,940	1,750	1,810									
18	1,850	1,760	1,810									
19	1,830	1,720	1,770									
20	1,730	1,700	1,710									
21	1,750	1,710	1,730									
22	1,770	1,730	1,760									
23	1,800	1,770	1,790									
24	1,780	1,750	1,760									
25	1,770	1,790	1,780									
26	1,790	1,760	1,780									
27	1,810	1,780	1,790									
28	1,820	1,800	1,810									
29	1,810	1,750	1,790									
30	1,760	1,730	1,750									
31	1,770	1,730	1,750									
MONTH	2,320	1,030	1,520									

#--Value computed from partial day with greater than 50 percent of day recorded.
 **--Instantaneous value from USGS sample.

YELLOWSTONE RIVER BASIN

06324710 POWDER RIVER AT BROADUS, MT

LOCATION.--Lat 45°25'37", long 105°24'05" (NAD 27), NE¹/₄NE¹/₄SE¹/₄ sec. 3, T.5S., R.51E., Powder River County, Hydrologic Unit 10090207, on right bank, 40 ft downstream from bridge on U.S. highway 212, 0.4 mi downstream from Doyle Creek, 1.0 mi south of Broadus, and 7.0 mi upstream from Little Powder River.

DRAINAGE AREA.--8,748 mi².

PERIOD OF RECORD.--Water years 1976 to September 1992, June 1995, July 2005.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE.--March 1976 to September 1979.

SUSPENDED-SEDIMENT DISCHARGE: October 1975 to September 1978, March 1979 to September 1992 (seasonal records only).

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE.--Maximum daily observed 34.0°C, July 12, 1976; minimum daily, 0.0°C, many days during winter.

SEDIMENT CONCENTRATION.--Maximum daily mean, 44,100 mg/L, July 29, 1977; minimum daily mean, 16 mg/L, Sept. 27, 1981.

SEDIMENT LOAD.--Maximum daily, 1,570,000 tons, May 31, 1978; minimum daily, 0.64 tons, Aug. 7, 1988.

GAGE.--None. Elevation at sampling site is 3,016 ft (NGVD 29).

REMARKS.--Biology samples (aquatic macroinvertebrates and fish) were collected and a habitat assessment was made in conjunction with the water-quality sample. Biology and habitat results were unavailable in time for publication in this report, but will be published at a future date.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	
JUL	19...	0930	111	18	678	8.2	108	8.3	1,690	33.0	22.5	570	130	59.3

Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat fltrd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	
JUL	19...	6.54	3	188	41	198	72.9	.3	9.86	608	1,190	1.62	358

06324970 LITTLE POWDER RIVER ABOVE DRY CREEK, NEAR WESTON, WY

LOCATION.--Lat 44°55'37", long 105°21'10" (NAD 27), in NW¹/₄SW¹/₄SW¹/₄sec.13, T.57 N., R.71 W., Campbell County, Hydrologic Unit 10090208, on left bank 3.1 mi upstream from Dry Creek, 5.0 mi south of the Wyoming-Montana State line, and 20 mi north of Weston.

DRAINAGE AREA.--1,237 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR WY-77-1: Drainage area. WDR WY-78-1: 1976(M).

GAGE.--Water-stage recorder. Elevation of gage is 3,410 ft above NGVD of 1929, from topographic map. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor. Diversion upstream from station for irrigation of about 80 acres downstream from station. Flow occasionally affected by contributions from mine dewatering.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.52	0.71	0.80	1.0	e2.2	e2.0	4.8	6.7	5.8	5.1	1.8	0.00
2	e0.52	6.9	0.83	0.90	e2.0	e1.9	3.8	5.5	5.5	4.0	1.3	0.00
3	e0.52	15	0.83	e0.30	e2.3	e1.9	2.9	4.7	4.7	3.2	0.88	0.00
4	e0.30	6.7	0.92	e0.25	2.4	2.1	2.5	4.5	4.3	2.5	3.3	0.00
5	e0.25	3.6	0.94	e0.20	2.1	2.1	2.3	4.5	4.1	2.2	8.7	0.00
6	e0.25	2.4	0.91	e0.30	2.2	2.1	2.2	4.3	3.9	2.9	4.6	0.00
7	e0.25	1.5	0.84	e0.50	1.7	2.0	1.9	4.8	3.8	3.1	2.6	0.00
8	e0.25	1.3	0.93	0.65	1.5	2.1	1.7	7.1	3.8	2.2	1.5	0.00
9	e0.25	1.1	1.0	0.70	1.8	2.0	2.3	39	3.8	1.8	0.68	0.00
10	e0.25	0.86	1.0	0.83	1.8	1.8	2.3	148	3.7	1.4	0.36	0.00
11	e0.25	0.60	1.1	0.88	1.6	1.6	1.8	126	3.3	1.1	0.18	0.00
12	e0.25	0.60	1.1	0.94	1.6	1.7	1.7	158	3.2	0.85	0.05	0.00
13	e0.30	0.55	0.91	e0.80	2.0	1.8	1.5	319	3.8	0.51	0.05	0.01
14	e0.30	0.44	0.84	e0.50	2.3	1.9	1.4	415	3.3	0.72	0.04	0.01
15	e0.30	0.45	1.0	e0.30	1.9	1.9	1.3	264	3.0	0.44	0.04	0.01
16	e0.30	0.40	1.1	e0.25	1.8	1.7	1.2	146	3.1	0.32	0.02	0.01
17	e0.06	0.36	1.1	0.28	1.8	1.8	1.3	101	2.6	0.29	0.02	0.01
18	e0.03	0.34	1.1	0.51	1.7	2.0	1.2	75	2.2	0.16	0.05	0.02
19	0.03	0.40	1.1	0.86	1.7	2.1	1.2	42	1.9	0.11	0.04	0.02
20	0.03	0.41	e1.0	1.0	1.7	1.9	1.7	27	2.0	0.07	0.03	0.02
21	0.03	0.48	e0.90	1.4	1.9	1.9	3.4	21	1.9	0.07	0.02	0.02
22	0.04	0.49	0.96	1.3	1.8	2.1	5.0	15	6.7	0.05	0.01	0.03
23	0.03	0.61	0.73	1.4	e1.7	3.6	31	11	5.2	0.03	0.01	0.03
24	0.03	0.59	0.51	1.5	e1.8	13	88	9.4	3.6	0.03	0.01	0.03
25	0.77	0.72	0.72	3.2	e1.9	8.0	91	9.9	4.1	0.04	0.01	e0.02
26	5.3	0.87	1.1	7.5	e2.0	5.1	65	9.9	4.1	0.22	0.00	e0.02
27	2.6	0.62	1.2	4.9	e1.9	3.9	40	8.6	31	0.10	0.01	e0.04
28	1.4	e0.50	1.2	4.7	e2.0	3.9	22	8.0	13	6.0	0.01	e0.07
29	0.98	e0.60	1.2	4.4	---	18	12	7.1	8.2	5.7	0.00	e0.09
30	0.69	e0.70	e1.2	3.4	---	14	8.5	6.5	6.6	4.2	0.00	e0.11
31	0.74	---	e1.1	e2.4	---	7.5	---	6.3	---	2.5	0.00	---
TOTAL	17.82	50.80	30.17	48.05	53.1	119.4	406.9	2,014.8	156.2	51.91	26.32	0.57
MEAN	0.57	1.69	0.97	1.55	1.90	3.85	13.6	65.0	5.21	1.67	0.85	0.02
MAX	5.3	15	1.2	7.5	2.4	18	91	415	31	6.0	8.7	0.11
MIN	0.03	0.34	0.51	0.20	1.5	1.6	1.2	4.3	1.9	0.03	0.00	0.00
AC-FT	35	101	60	95	105	237	807	4,000	310	103	52	1.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2005, BY WATER YEAR (WY)

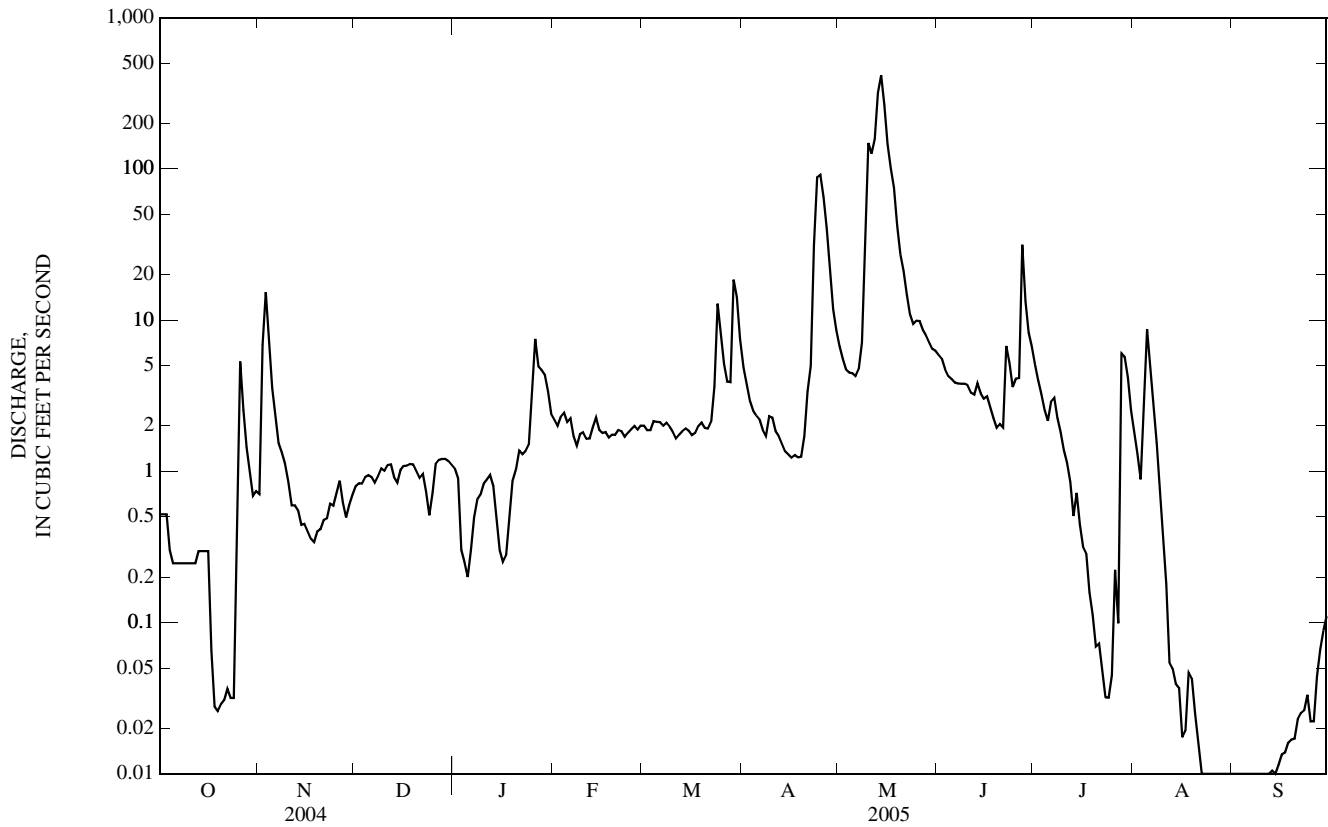
MEAN	10.3	3.56	2.40	7.42	34.6	56.6	22.4	55.1	26.2	10.2	5.06	3.64
MAX	172	25.4	9.97	89.0	336	613	99.3	703	187	68.8	44.8	60.8
(WY)	(1995)	(1999)	(1995)	(1974)	(1997)	(1978)	(1999)	(1978)	(1984)	(1982)	(1993)	(1986)
MIN	0.01	0.01	0.21	0.10	0.46	1.34	0.75	1.04	0.23	0.04	0.00	0.00
(WY)	(1992)	(1982)	(1982)	(1991)	(1989)	(1981)	(1981)	(1992)	(2004)	(1980)	(1991)	(1991)

YELLOWSTONE RIVER BASIN

06324970 LITTLE POWDER RIVER ABOVE DRY CREEK, NEAR WESTON, WY—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1973 - 2005	
ANNUAL TOTAL	790.60		2,976.04		--	
ANNUAL MEAN	2.16		8.15		19.7	
HIGHEST ANNUAL MEAN					127	1978
LOWEST ANNUAL MEAN					1.49	1992
HIGHEST DAILY MEAN	90	Feb 22	415	May 14	5,000	May 19, 1978
LOWEST DAILY MEAN	0.01	Jul 17-22,24	0.00	Many days	0.00	Many days, some years
ANNUAL SEVEN-DAY MINIMUM	0.01	Jul 16	0.00	Aug 29	0.00	Some years
MAXIMUM PEAK FLOW			485	May 14	a5,300	May 19, 1978
MAXIMUM PEAK STAGE			6.89	May 14	11.63	Mar 20, 1978
ANNUAL RUNOFF (AC-FT)	1,570		5,900		14,310	
10 PERCENT EXCEEDS	5.1		8.0		32	
50 PERCENT EXCEEDS	0.52		1.4		2.6	
90 PERCENT EXCEEDS	0.05		0.03		0.02	

a--Gage height, 11.62 ft.
 e--Estimated.



06324970 LITTLE POWDER RIVER ABOVE DRY CREEK, NEAR WESTON, WY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-82, 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT 25...	1800	.03	669	6.3	62	8.2	3,290	9.5	8.0	940	183	117	18.6
NOV 17...	1500	.34	677	12.1	109	8.0	1,540	13.0	5.5	340	70.5	38.6	11.8
DEC 16...	0930	.88	685	10.9	84	8.0	3,200	.0	.0	890	188	102	19.3
JAN 26...	1000	6.6	672	12.9	101	8.4	3,290	5.0	.0	840	169	101	20.9
FEB 23...	1330	1.7	674	13.6	108	8.3	2,870	7.0	.5	690	141	82.4	15.5
MAR 28...	1500	4.1	658	10.4	107	8.3	2,270	22.0	10.0	460	90.8	55.5	13.3
APR 11...	1630	1.8	668	11.9	131	8.4	2,070	13.5	13.0	490	102	57.9	12.0
MAY 25...	1820	9.9	678	8.6	101	8.4	2,820	15.0	17.0	840	145	117	18.8
JUN 14...	1345	3.3	674	10.5	133	8.3	3,590	24.0	20.5	1,100	189	145	21.4
JUL 08...	1000	2.4	679	6.4	84	8.0	1,940	32.5	22.5	470	102	53.2	13.6
AUG 11...	0745	.28	675	4.6	55	8.0	2,290	20.0	18.0	560	109	70.1	16.8
SEP 28...	0900	E.07	679	8.4	86	8.1	4,240	9.0	10.5	1,400	247	186	25.2

Date	Sodium adsorption ratio (00931)	Sodium water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia water, fltrd, mg/L as N (00608)
OCT 25...	6	446	50	412	98.1	.9	10.7	1,320	2,440	3.53	.21	2,600	--
NOV 17...	5	226	58	218	27.2	.5	8.93	542	1,060	1.47	.99	1,080	--
DEC 16...	7	480	53	419	43.3	.8	11.0	1,410	2,510	3.63	6.35	2,670	--
JAN 26...	8	504	56	425	80.0	.9	10.2	1,400	2,540	3.54	46.3	2,600	--
FEB 23...	7	435	57	367	65.1	.7	8.02	1,130	2,100	2.96	10.2	2,180	--
MAR 28...	8	370	63	312	36.9	.7	6.25	826	1,590	2.23	18.2	1,640	--
APR 11...	6	306	57	275	27.2	.6	6.02	797	1,470	2.06	7.36	1,510	--
MAY 25...	5	353	47	315	72.2	.6	11.0	1,130	2,030	2.94	57.8	2,160	--
JUN 14...	7	528	51	344	87.9	.7	11.2	1,540	2,730	3.90	25.8	2,870	--
JUL 08...	5	254	53	248	29.5	.6	7.49	720	1,330	1.87	8.89	1,370	<.04
AUG 11...	6	326	55	259	49.2	.7	7.15	907	1,640	2.34	1.30	1,720	<.04
SEP 28...	7	595	48	282	298	.6	6.52	1,960	3,490	5.18	--	3,810	<.04

E--Estimated.

06324970 LITTLE POWDER RIVER ABOVE DRY CREEK, NEAR WESTON, WY—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Nitrite + nitrate water, filtered, mg/L as N (00631)	Nitrite water, filtered, mg/L as N (00613)	Total nitrogen, water unfiltered, by analysis, mg/L (62855)	Orthophosphate, water, filtered, mg/L as P (00671)	Aluminum, water, unfiltered, recoverable, ug/L (01105)	Arsenic water, filtered, ug/L (01000)	Arsenic water unfiltered, ug/L (01002)	Barium, water, unfiltered, recoverable, ug/L (01007)	Beryllium, water, unfiltered, recoverable, ug/L (01012)	Boron, water, unfiltered, recoverable, ug/L (01022)	Cadmium water, unfiltered, ug/L (01027)	Chromium, water, unfiltered, recoverable, ug/L (01034)	Copper, water, unfiltered, recoverable, ug/L (01042)
OCT 25...	--	--	--	--	1,450	1.3	E2	74	.14	156	.14	1.7	23.1
NOV 17...	--	--	--	--	986	.8	<2	48	.09	100	E.03	.9	19.1
DEC 16...	--	--	--	--	109	.6	<2	61	<.12	193	<.08	<.8	28.9
JAN 26...	--	--	--	--	261	.9	<2	41	<.12	203	<.08	.8	32.1
FEB 23...	--	--	--	--	139	.9	<2	34	<.12	167	<.08	E.6	14.9
MAR 28...	--	--	--	--	2,470	1.2	E1	44	.16	141	.04	1.7	14.5
APR 11...	--	--	--	--	1,420	1.0	<2	57	.11	121	E.04	1.3	8.9
MAY 25...	--	--	--	--	1,040	2.3	E2	134	.13	234	E.07	3.1	19.6
JUN 14...	--	--	--	--	412	1.3	E1	80	<.12	302	E.04	.9	18.6
JUL 08...	<.06	<.008	2.73	<.02	2,080	1.2	E2	97	.17	111	.05	1.4	6.4
AUG 11...	<.06	<.008	.79	<.02	2,030	1.3	<2	64	.19	131	.04	1.4	4.9
SEP 28...	<.06	<.008	.50	<.02	535	.78	--	41	<.12	222	--	--	--

Date	Iron, water, filtered, ug/L (01046)	Iron, water, unfiltered, recoverable, ug/L (01045)	Lead, water, unfiltered, recoverable, ug/L (01051)	Manganese, water, filtered, ug/L (01056)	Manganese, water, unfiltered, recoverable, ug/L (01055)	Nickel, water, unfiltered, recoverable, ug/L (01067)	Selenium, water, unfiltered, ug/L (01147)	Zinc, water, unfiltered, recoverable, ug/L (01092)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT 25...	45	3,430	4.48	508	664	9.10	1.1	26	--	--	--
NOV 17...	13	930	1.86	105	123	6.14	2.5	10	--	67	.06
DEC 16...	<18	290	.21	190	186	14.1	1.7	18	--	--	--
JAN 26...	E17	100	.33	121	119	5.49	1.4	11	--	116	2.1
FEB 23...	E20	270	.20	122	129	7.88	1.6	7	--	47	.22
MAR 28...	7	1,430	2.83	143	173	6.90	1.1	14	--	154	1.7
APR 11...	E6	1,200	2.26	162	218	5.70	1.6	11	--	146	.71
MAY 25...	<18	1,740	3.41	79.1	172	8.69	1.9	16	97	214	5.7
JUN 14...	E9	680	.94	160	208	10.0	2.0	10	91	155	1.4
JUL 08...	<6	1,590	3.24	100	190	5.77	2.2	12	--	--	--
AUG 11...	<18	1,520	2.44	233	276	8.13	2.1	10	100	148	.11
SEP 28...	<18	--	--	178	202	--	--	--	98	47	--

E-- Estimated.

06325000 LITTLE POWDER RIVER AT BIDDLE, MT

LOCATION.--Lat 45°06'17", long 105°19'51" (NAD 27), in SE¹/₄ sec. 27, T.8 S., R.52 E., Powder River County, Hydrologic Unit 10090208, at highway bridge 0.5 mi downstream from Ranch Creek and 0.8 mi northeast of Biddle.

DRAINAGE AREA.--1,541 mi².

PERIOD OF RECORD.--June 2005.

GAGE.--None. Elevation of site is 3,250 ft (NGVD 29).

REMARKS.--Biology samples (aquatic macroinvertebrates and fish) were collected and a habitat assessment was made in conjunction with the water-quality sample. Biology and habitat results were unavailable in time for publication in this report, but will be published at a future date.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
JUN 27...	0900	7.6	810	676	6.4	76	7.9	2,720	16.0	17.5	730	152	84.8

Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water fltrd end lab, mg/L as CaCO ₃ (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)
JUN 27...	22.0	6	354	50	246	52.2	.9	7.51	1,240	2,060	2.80	42.1

06325500 LITTLE POWDER RIVER NEAR BROADUS, MT

LOCATION.--Lat 45°23'25", long 105°18'15" (NAD 27), in NW¹/₄NE¹/₄ sec. 21, T.5 S., R.52 E., Powder River County, Hydrologic Unit 10090208, 1.5 mi downstream from East Fork, 5.5 mi southeast of Broadus, and 8 mi upstream from mouth.

DRAINAGE AREA.--1,974 mi².

PERIOD OF RECORD.--March 2002 to current year. Data collected from April 2001 to February 2002 at station 06325550, Little Powder River at mouth, near Broadus. Site moved to current location in March 2002.

GAGE.--None. Elevation of site is 3,020 ft (NGVD 29).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	
OCT	12...	1100	2.5	686	11.2	107	8.6	1,650	16.5	8.5	110	28.4	10.5	2.53
NOV	03...	1030	5.9	684	13.6	117	8.3	2,490	15.0	4.0	570	130	60.4	19.7
DEC	01...	1100	6.4	686	12.8	98	8.3	2,330	3.0	0.0	600	133	64.4	16.6
JAN	18...	1045	6.2	682	12.7	98	7.8	2,820	10.0	0.0	690	165	67.8	18.6
FEB	08...	1500	E6.0	679	12.5	97	8.3	2,780	2.5	0.0	730	168	75.9	25.1
MAR	08...	1630	11	680	10.9	100	8.4	2,670	10.5	6.5	630	140	67.1	16.2
APR	06...	0900	11	685	9.5	91	8.3	2,870	7.0	8.5	630	134	72.9	17.6
MAY	05...	1600	7.2	682	8.9	111	8.4	2,490	24.5	20.0	420	94.7	45.2	10.2
JUN	07...	1100	20	675	7.7	95	8.2	3,010	20.5	19.0	610	120	75.7	15.9
JUL	12...	1200	7.3	685	8.2	114	8.4	2,460	34.5	26.0	470	92.1	59.3	15.2
AUG	03...	1130	6.3	685	6.5	85	8.3	3,360	21.0	22.5	830	147	112	25.6
SEP	06...	1230	1.4	710	8.1	96	8.8	1,690	24.0	20.0	86	19.8	8.95	2.41

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end lab, mg/L as CaCO ₃ (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue, water, fltrd, sum of constituents (70301)	Residue, water, fltrd, tons/acre-ft (70303)	Residue, water, fltrd, tons/d (70302)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)
OCT	14	348	87	412	3.95	.3	9.4	435	1,080	1.48	7.32	<.010	.043
NOV	7	388	59	355	45.8	.7	9.3	970	1,840	2.50	29.3	.056	.084
DEC	8	461	62	404	45.3	.7	12.0	1,010	1,980	2.70	34.3	.045	.036
JAN	7	451	58	446	41.5	.8	14.3	1,060	2,090	2.84	35.0	.097	.085
FEB	6	403	53	352	62.4	1.0	12.3	1,110	2,070	2.82	E33.6	.019	.020
MAR	7	413	58	375	38.8	.7	10.1	1,050	1,960	2.67	58.3	.017	<.016
APR	8	470	61	396	45.9	.7	7.0	1,140	2,130	2.89	63.2	E.008	<.016
MAY	10	454	69	393	24.7	.4	8.9	912	1,790	2.43	34.7	.010	E.013
JUN	8	427	59	369	41.9	.6	12.9	1,130	2,050	2.79	111	<.010	<.016
JUL	8	389	63	299	28.3	.6	9.1	938	1,710	2.33	33.7	E.008	<.016
AUG	8	558	58	244	52.9	.7	7.6	1,540	2,590	3.52	44.0	E.005	<.016
SEP	15	326	89	391	4.30	.2	5.5	465	1,070	1.45	4.03	<.010	<.016

E--Estimated.

06325500 LITTLE POWDER RIVER NEAR BROADUS, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover-able, ug/L (01007)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)
OCT 12...	.003	.74	<.006	.167	6	103	66	.15	6.5	12.0	7,150
NOV 03...	.005	.67	E.005	.107	5	77	112	.11	6.6	18.6	4,700
DEC 01...	.002	.44	E.004	.051	2	45	121	E.04	1.8	22.9	1,850
JAN 18...	.003	.48	E.003	.038	3	53	123	E.04	2.0	20.8	2,050
FEB 08...	E.001	.38	<.006	.036	E2	36	149	E.04	1.0	11.0	970
MAR 08...	<.002	.48	<.006	.186	E1	49	111	E.06	2.1	21.9	2,420
APR 06...	<.002	.52	<.006	.051	E2	40	138	<.08	1.0	22.0	870
MAY 05...	.002	3.27	<.006	.75	11	212	101	1.74	46.1	88.2	42,000
JUN 07...	<.002	.78	<.006	.092	4	89	168	E.06	1.8	19.2	2,340
JUL 12...	E.001	.75	<.006	.111	3	74	151	.07	2.5	5.8	2,730
AUG 03...	E.001	.70	<.006	.084	3	80	147	E.04	1.7	6.7	2,260
SEP 06...	<.002	.50	<.006	.106	4.3	61	83	.09	2.8	7.0	3,740

Date	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01055)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspnd. sedi-ment, percent <.063mm (70331)	Suspended sedi-ment concentration mg/L (80154)	Suspended sedi-ment discharge, tons/d (80155)
OCT 12...	7.29	238	10.0	.6	29	87	410	2.8
NOV 03...	4.32	190	9.31	1.5	18	97	249	4.0
DEC 01...	1.57	124	7.75	1.1	13	87	117	2.0
JAN 18...	1.93	230	6.61	.8	14	90	153	2.6
FEB 08...	.86	114	5.80	1.6	7	84	169	E2.7
MAR 08...	2.54	362	7.81	1.5	15	95	184	5.5
APR 06...	1.03	275	5.15	<.8	10	86	149	4.4
MAY 05...	28.8	2,020	108	2.8	261	99	5,660	110
JUN 07...	2.42	250	7.71	1.6	15	93	162	8.8
JUL 12...	3.41	174	7.68	1.7	12	89	198	3.9
AUG 03...	2.55	153	8.47	2.1	12	99	205	3.5
SEP 06...	3.47	103	5.49	.18	14	99	181	.68

E--Estimated.

453209105201201 POWDER RIVER BELOW LITTLE POWDER RIVER, NEAR BROADUS, MT

LOCATION.--Lat 45°32'09", long 105°20'12" (NAD 27), SW¹/₄NE¹/₄NW¹/₄ sec. 32, T.3S., R.52E., Powder River County, Hydrologic Unit 10090209, about 5 mi below Little Powder River and 10 mi northeast of Broadus.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--July 2005 .

GAGE.--None. Elevation at sampling site is 2,980 ft (NGVD 29).

REMARKS.--Biology samples (aquatic macroinvertebrates and fish) were collected and a habitat assessment was made in conjunction with the water-quality sample. Biology and habitat results were unavailable in time for publication in this report, but will be published at a future date.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
JUL 20...	1230	85	22	684	5.8	84	8.4	1,820	28.5	600	136	62.6	7.37
Date		Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	
JUL 20...		4	206	43	201	76.1	.3	10.8	664	1,280	1.75	295	

06326500 POWDER RIVER NEAR LOCATE, MT

LOCATION.--Lat 46°25'48", long 105°18'34" (NAD 27), in SW¹/₄ SW¹/₄ SE¹/₄ sec. 23, T.8 N., R.51 E., Custer County, Hydrologic Unit 10090209, on left bank at downstream side of bridge on U.S. Highway 12, 0.1 mi west of Locate, and 25 mi east of Miles City, and at river mile 29.4.

DRAINAGE AREA.--13,068 mi².

PERIOD OF RECORD.--March 1938 to current year.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 926: 1939. WSP 1309: 1938-39 (M). WSP 1729: Drainage area. WDR MT-04-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,384.79 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Prior to July 11, 1947, nonrecording gage at bridge 1.5 mi upstream, and July 11, 1947 to Sept. 30, 1965, water-stage recorder at site near upstream bridge at different elevation. Oct. 1, 1965 to Oct. 4, 1966, nonrecording gage, and Oct. 5, 1966 to Mar. 21, 1978, water-stage recorder at present site and elevation. Mar. 22, 1978 to Apr. 23, 1981, water-stage recorder 1.5 mi upstream at different elevation. Apr. 24 to Aug. 20, 1981, water-stage recorder at present site and elevation, and Aug. 21, 1981 to Sept. 30, 1981, water-stage recorder 1.5 mi upstream at different elevation. Oct. 1, 1981 to Apr. 5, 1995 water-stage recorder at site 1.5 miles downstream at different elevation. Apr. 7, 1995 to present, water-stage recorders located on each bank and used depending on control conditions.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor. Some regulation by three reservoirs in Wyoming with combined usable capacity of 36,800 acre-ft. Diversions for irrigation of about 101,800 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	190	e30	e60	e210	e250	160	e350	1,250	1,490	60	65
2	39	160	e50	e50	e250	e300	141	e350	1,810	1,180	54	64
3	38	196	e60	e50	e270	e370	127	e350	1,530	1,080	e50	64
4	37	196	e80	e50	e300	e350	120	e300	1,180	1,160	e60	63
5	35	189	e70	e60	e260	349	129	290	1,160	996	e55	63
6	32	177	e70	e60	e200	335	119	291	1,240	776	e50	62
7	37	176	e70	e80	e150	315	115	304	1,170	705	e45	55
8	47	179	e80	e100	e160	292	121	649	3,020	642	e45	54
9	44	182	e90	e90	e190	270	131	665	2,240	583	e50	50
10	34	180	e90	e80	e230	251	215	392	1,350	526	45	50
11	51	172	e100	e70	e250	233	156	377	1,230	472	33	48
12	46	167	e100	e60	e270	229	123	802	1,080	411	29	48
13	52	167	e90	e40	e250	215	131	1,170	1,340	354	31	61
14	46	165	e80	e50	e240	204	137	2,720	1,220	267	45	61
15	57	163	e100	e60	e230	203	132	2,900	996	206	48	60
16	70	155	e90	e70	e230	216	163	2,900	889	183	57	54
17	69	156	e90	e100	e220	224	174	2,720	1,120	180	61	59
18	70	154	e90	e140	e240	207	152	2,470	966	159	67	60
19	110	156	e90	e170	e230	203	170	2,070	1,040	135	60	44
20	126	154	e90	e200	e230	210	215	2,030	1,160	113	63	41
21	110	140	e80	e170	e250	205	292	2,050	1,270	103	78	38
22	111	140	e70	e150	e260	216	239	1,950	1,360	89	77	37
23	123	136	e50	e140	e270	222	196	2,110	1,340	78	88	37
24	137	134	e60	e200	e280	225	214	2,310	1,370	65	89	36
25	139	156	e70	e200	e280	223	242	2,420	1,350	60	100	36
26	147	172	e100	e190	e270	232	e260	2,350	1,450	56	97	35
27	148	154	e90	e200	e260	232	e280	2,270	3,120	53	89	35
28	153	e100	e90	e190	e250	228	e300	1,950	3,390	55	88	36
29	167	e30	e90	e200	---	232	e400	1,670	3,320	66	79	37
30	185	e25	e80	e200	---	224	e400	1,450	2,110	84	72	39
31	214	---	e70	e180	---	190	---	1,350	---	71	69	---
TOTAL	2,713	4,621	2,460	3,660	6,730	7,655	5,754	45,980	47,071	12,398	1,934	1,492
MEAN	87.5	154	79.4	118	240	247	192	1,483	1,569	400	62.4	49.7
MAX	214	196	100	200	300	370	400	2,900	3,390	1,490	100	65
MIN	32	25	30	40	150	190	115	290	889	53	29	35
AC-FT	5,380	9,170	4,880	7,260	13,350	15,180	11,410	91,200	93,370	24,590	3,840	2,960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2005, BY WATER YEAR (WY)

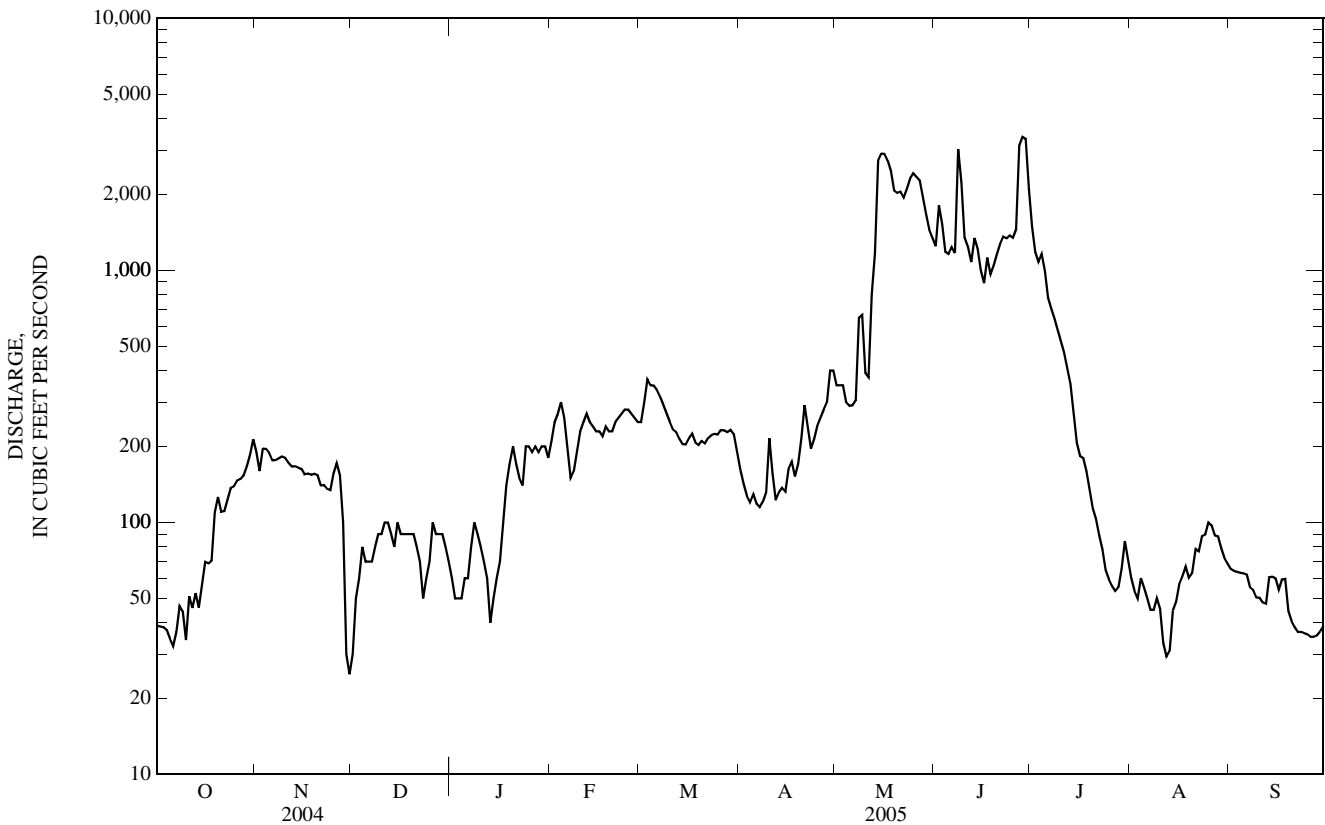
MEAN	246	216	148	142	422	1,201	724	1,132	1,577	554	208	165
MAX	921	790	417	476	3,850	4,627	3,062	5,970	8,045	2,015	1,096	898
(WY)	(1941)	(1999)	(1942)	(1981)	(1943)	(1972)	(1965)	(1978)	(1944)	(1993)	(1941)	(1941)
MIN	1.77	12.5	12.5	4.53	2.82	80.2	109	51.2	25.9	9.34	1.30	0.19
(WY)	(1961)	(1961)	(1961)	(1950)	(1950)	(1950)	(1961)	(2004)	(2004)	(2004)	(1988)	(1960)

YELLOWSTONE RIVER BASIN

06326500 POWDER RIVER NEAR LOCATE, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 2005	
ANNUAL TOTAL	31,941.8		142,468			
ANNUAL MEAN	87.3		390		561	
HIGHEST ANNUAL MEAN					1,622	1944
LOWEST ANNUAL MEAN					79.1	2004
HIGHEST DAILY MEAN	704	Mar 16	3,390	Jun 28	26,000	Feb 19, 1943
LOWEST DAILY MEAN	2.0	Jul 27	25	Nov 30	0.00	Jan 16, 1950
ANNUAL SEVEN-DAY MINIMUM	2.5	Aug 28	36	Sep 22	0.00	Jan 16, 1950
MAXIMUM PEAK FLOW			4,920	Jun 28	31,000	Feb 19, 1943
MAXIMUM PEAK STAGE			5.65	Jun 28	a12.20	Mar 16, 1978
INSTANTANEOUS LOW FLOW					b0.00	Many days
ANNUAL RUNOFF (AC-FT)	63,360		282,600		406,400	
10 PERCENT EXCEEDS	189		1,240		1,310	
50 PERCENT EXCEEDS	65		159		230	
90 PERCENT EXCEEDS	4.2		48		40	

a--Backwater from ice, previous datum.
 b--On many days in 1950, 1960-61, and 1998.
 e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-63, 1975 to September 1994, January 1999 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1951 to September 1962, October 1974 to September 1981, July 1988 to January 1990.

WATER TEMPERATURE: March 1951 to July 1963, October 1974 to September 1979.

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to September 1984.

REMARKS.--Several unpublished observations of specific conductance and water temperature were made during the year. Extremes for period of daily record for sediment concentration and sediment load incorrectly published since water year 1998; correct values shown below.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,000 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Apr. 1, 1977; minimum daily, 523 $\mu\text{S}/\text{cm}$ at 25.0°C, Mar. 11, 12, 1989.

WATER TEMPERATURE: Maximum, 30°C, July 26, 1959; minimum 0.0°C many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 60,000 mg/L Aug. 6, 1953; minimum daily mean, 17 mg/L Dec. 3, 1974.

SEDIMENT LOAD: Maximum daily, 1,020,000 tons May 26, 1952; minimum daily, less than 1 ton on several days during September 1950.

06326500 POWDER RIVER NEAR LOCATE, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT 13...	0815	55	626	10.3	99	8.4	1,970	3.0	5.0	590	122	68.9	7.71
NOV 02...	0815	170	701	13.4	103	8.6	1,850	4.5	1.0	490	107	55.1	7.81
DEC 09...	0840	E90	690	13.7	105	8.4	2,660	6.0	0.0	670	143	75.5	9.25
JAN 12...	0830	E60	--	--	--	8.0	2,870	-5.0	0.0	860	197	88.7	10.4
FEB 22...	1345	E260	--	--	--	8.3	1,770	1.5	0.5	620	146	62.4	8.01
MAR 09...	0830	277	694	12.1	101	8.4	2,090	5.5	3.5	590	138	59.8	8.15
APR 07...	0830	120	695	10.4	101	8.4	2,440	9.0	9.5	590	121	68.7	9.59
MAY 05...	0830	281	697	9.9	101	8.4	2,270	12.5	12.0	560	121	63.4	9.56
JUN 08...	0830	3,280	687	8.5	91	8.3	838	9.5	13.5	120	29.6	11.8	4.70
JUL 14...	0815	273	--	--	--	8.5	1,330	26.0	24.0	380	94.9	35.3	5.56
AUG 03...	0800	E50	701	8.3	100	8.3	2,160	20.0	20.0	560	122	62.0	9.69
SEP 07...	0745	58	701	9.6	103	8.1	2,050	22.0	14.5	610	133	66.9	9.03

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (90410)	Alkalinity, wat fltrd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, sum of constituents fltrd, mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)
OCT 13...	4	241	47	--	204	46.4	.3	3.3	792	1,400	1.91	209	<.010
NOV 02...	5	248	52	312	217	109	.5	5.8	660	1,320	1.80	608	E.006
DEC 09...	6	350	53	323	291	136	.5	10.6	942	1,840	2.51	E448	.066
JAN 12...	6	386	49	432	428	184	.6	13.3	923	2,060	2.81	E334	.058
FEB 22...	4	251	46	282	263	106	.5	8.5	626	1,370	1.86	E960	.028
MAR 09...	5	294	52	338	252	138	.5	8.8	698	1,500	2.04	1,120	.013
APR 07...	6	356	56	225	231	146	.5	8.1	862	1,710	2.33	554	E.005
MAY 05...	6	310	54	320	225	147	.6	7.2	762	1,560	2.12	1,180	.010
JUN 08...	5	121	67	260	118	30.6	.4	7.4	243	522	.71	4,630	.014
JUL 14...	4	165	48	--	185	65.0	.3	11.0	488	977	1.33	720	.010
AUG 03...	6	302	53	205	212	74.8	.4	13.5	819	1,530	2.08	E207	<.010
SEP 07...	4	254	47	202	186	65.2	.4	9.0	817	1,470	1.99	229	<.010

E--Estimated.

06326500 POWDER RIVER NEAR LOCATE, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Nitrite + nitrate water, filtered, mg/L as N (00631)	Nitrite water, filtered, mg/L as N (00613)	Total nitrogen, water, unfiltered, by analysis, mg/L (62855)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L (00665)	Arsenic water, unfiltered, ug/L (01002)	Barium, water, unfiltered, recoverable, ug/L (01007)	Boron, water, unfiltered, recoverable, ug/L (01022)	Cadmium water, unfiltered, ug/L (01027)	Chromium, water, unfiltered, recoverable, ug/L (01034)	Copper, water, unfiltered, recoverable, ug/L (01042)	Iron, water, unfiltered, recoverable, ug/L (01045)
OCT 13...	<.016	<.002	.43	<.006	.064	<2	53	150	.05	2.1	8.8	1,740
NOV 02...	.180	E.001	1.53	<.006	.32	8	204	189	.64	15.6	32.6	21,400
DEC 09...	.246	.002	.65	E.003	.050	E1	50	234	E.05	3.8	17.6	1,170
JAN 12...	.531	.007	.89	<.006	.069	<10	64	295	.10	1.6	29.1	1,980
FEB 22...	.422	.006	.88	<.006	.150	3	71	168	.13	3.9	11.0	4,490
MAR 09...	.400	.004	1.15	E.003	.40	7	220	223	.61	14.0	30.6	18,700
APR 07...	<.016	<.002	.33	<.006	.074	E1	51	245	.07	1.2	17.6	1,170
MAY 05...	.383	E.001	1.69	<.006	.58	4	167	194	.60	10.5	29.4	12,800
JUN 08...	.771	.009	6.69	.015	5.37	16	1,700	178	3.37	97.3	193	82,400
JUL 14...	<.016	<.002	.45	E.003	.124	2	90	132	.08	1.6	5.3	3,310
AUG 03...	<.016	E.001	.28	<.006	.011	<2	74	203	E.02	<.8	3.5	80
SEP 07...	<.016	<.002	.37	<.006	.032	.86	62	190	E.04	.29	3.9	360

Date	Lead, water, unfiltered, recoverable, ug/L (01051)	Manganese, water, unfiltered, recoverable, ug/L (01055)	Mercury, water, unfiltered, recoverable, ug/L (71900)	Nickel, water, unfiltered, recoverable, ug/L (01067)	Selenium, water, unfiltered, ug/L (01147)	Zinc, water, unfiltered, recoverable, ug/L (01092)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT 13...	1.81	68.7	--	6.44	1.1	10	98	185	27
NOV 02...	19.0	778	--	27.4	2.6	94	98	1,280	586
DEC 09...	1.12	37.0	--	7.41	3.1	11	90	197	E48
JAN 12...	1.75	65.0	--	11.7	4.3	17	93	211	E34
FEB 22...	3.91	123	--	8.79	3.6	21	89	319	E224
MAR 09...	18.1	520	--	23.2	3.2	88	93	1,180	885
APR 07...	1.11	42.7	--	4.66	2.0	10	92	132	43
MAY 05...	16.8	640	--	22.6	4.7	75	94	1,400	1,060
JUN 08...	117	2,380	--	220	3.1	537	71	18,700	166,000
JUL 14...	3.01	126	--	7.33	1.7	11	77	161	119
AUG 03...	.09	11.2	<.01	5.27	1.4	7	85	36	E4.9
SEP 07...	.33	25.9	--	3.65	1.3	3	96	60	9.4

E--Estimated.

06327500 YELLOWSTONE RIVER AT GLENDIVE, MT

LOCATION.--Lat 47°06'21", long 104°43'07" (NAD 27), in SE¹/₄NW¹/₄NE¹/₄ sec. 35, T. 16N., R. 55E., Dawson County, Hydrologic Unit 10100004, on right bank at City of Glendive water treatment plant, 50 feet downstream from Bell Street Bridge, and at river mile 92.4.

DRAINAGE AREA.--65,900 mi².

PERIOD OF RECORD.--October 1897 to December 1910, October 1931 to September 1934, October 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,881.3 ft (NGVD 29) from City of Glendive. October 1897 to December 1910, October 1931 to September 1934 nonrecording gage at different datum.

REMARKS.-- Records good except those for estimated daily discharges, which are poor. Some regulation on tributary streams, notably Bighorn Lake, usable capacity 1,312,000 acre-ft, on the Bighorn River and other tributary streams in Wyoming and Montana. Diversions for irrigation of about 1,200,000 acres upstream of station. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were obtained during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,110	6,450	5,090	e5,500	e5,100	e4,300	4,320	7,650	23,600	33,300	5,930	4,520
2	5,020	6,740	4,730	e5,200	e4,900	e4,200	4,300	7,280	22,700	30,400	5,710	4,430
3	5,090	6,180	4,750	e4,900	e4,900	e4,200	4,300	6,700	22,000	27,400	5,580	4,420
4	5,180	5,870	4,710	e4,400	e4,900	e4,300	4,250	6,320	21,200	26,100	5,450	4,480
5	5,320	5,740	4,610	e4,200	e4,800	e4,200	4,190	5,900	21,100	25,500	5,230	4,500
6	5,250	5,590	4,770	e4,000	e4,700	e4,200	4,170	5,660	19,400	24,000	5,280	4,490
7	5,130	5,570	5,130	e3,900	e4,500	e4,400	4,090	5,770	20,800	22,100	5,500	4,480
8	5,050	5,710	4,910	e4,000	e4,600	4,850	4,120	8,360	25,000	20,100	5,490	4,420
9	5,000	5,660	5,120	e4,200	e4,600	4,520	4,240	9,220	30,500	18,700	5,290	4,360
10	4,920	5,590	5,510	e4,400	e4,400	4,440	4,500	9,340	28,200	17,800	6,060	4,450
11	4,920	5,560	5,330	e4,400	e4,200	4,360	5,060	10,900	24,300	17,200	5,430	4,380
12	4,910	5,510	5,290	e4,200	e4,000	4,380	5,290	11,200	22,700	16,900	4,960	4,100
13	4,900	5,460	5,650	e4,200	e4,100	4,350	4,930	20,100	22,200	17,400	4,900	4,130
14	4,920	5,430	5,480	e4,300	e4,400	4,370	4,930	32,600	22,300	17,200	4,900	4,190
15	5,000	5,480	5,400	e4,400	e4,600	4,430	4,650	27,700	21,300	15,500	5,020	4,280
16	5,040	5,450	5,160	e4,300	e4,600	4,490	4,420	23,600	21,300	13,000	5,360	4,420
17	5,180	5,360	5,090	e4,100	e4,600	4,500	4,260	20,000	20,400	11,700	5,900	4,550
18	5,570	5,270	5,160	e4,000	e4,600	4,490	4,300	19,200	21,600	10,700	5,570	4,550
19	5,950	5,270	5,240	e4,100	e4,500	4,380	4,410	19,900	26,000	9,820	4,980	4,570
20	5,840	5,210	5,350	e4,300	e4,500	4,380	4,640	24,200	30,900	9,160	4,930	4,620
21	5,860	5,180	5,450	e4,100	e4,400	4,430	4,740	25,000	33,800	8,690	5,110	4,610
22	5,770	5,250	5,590	e5,000	e4,200	4,450	6,380	23,600	31,700	7,910	5,450	4,630
23	5,650	5,230	e5,600	e5,500	e4,200	4,380	7,600	32,100	31,000	7,200	5,770	4,570
24	5,730	5,190	e5,600	e6,000	e4,400	4,450	7,060	37,500	32,600	6,750	6,180	4,610
25	5,640	5,110	e5,300	e6,100	e4,500	4,510	6,600	36,500	35,100	6,610	5,720	5,060
26	5,620	5,160	e4,900	e6,000	e4,500	4,520	6,270	37,400	40,100	6,410	5,250	5,400
27	5,630	5,180	e3,900	e5,800	e4,500	4,580	6,160	36,000	41,900	6,340	5,120	5,770
28	5,630	5,240	e4,700	e5,700	e4,400	4,540	6,050	30,300	39,900	6,380	5,060	6,240
29	6,170	5,430	e4,800	e5,600	---	4,450	6,470	25,600	40,800	6,640	4,970	6,360
30	6,490	5,610	e5,000	e5,400	---	4,390	7,400	23,000	35,800	6,620	4,830	6,520
31	6,040	---	e5,300	e5,200	---	4,380	---	22,700	---	6,340	4,750	---
TOTAL	167,530	165,680	158,620	147,400	126,600	136,820	154,100	611,300	830,200	459,870	165,680	142,110
MEAN	5,404	5,523	5,117	4,755	4,521	4,414	5,137	19,720	27,670	14,830	5,345	4,737
MAX	6,490	6,740	5,650	6,100	5,100	4,850	7,600	37,500	41,900	33,300	6,180	6,520
MIN	4,900	5,110	3,900	3,900	4,000	4,200	4,090	5,660	19,400	6,340	4,750	4,100
AC-FT	332,300	328,600	314,600	292,400	251,100	271,400	305,700	1,213,000	1,647,000	912,200	328,600	281,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2005, BY WATER YEAR (WY)*

MEAN	6,426	5,485	4,609	4,486	4,595	8,374	9,148	20,890	44,760	27,840	10,660	7,458
MAX	9,503	7,390	6,670	5,700	5,940	18,790	23,500	44,700	74,220	72,000	24,110	12,100
(WY)	(1909)	(1902)	(1898)	(1904)	(1902)	(1910)	(1899)	(1901)	(1909)	(1899)	(1907)	(1909)
MIN	4,270	4,200	2,924	3,268	3,361	4,414	4,374	8,749	12,950	4,054	2,785	2,856
(WY)	(2004)	(1900)	(1932)	(1932)	(1933)	(2005)	(1905)	(2004)	(1934)	(1934)	(1934)	(1934)

06327500 YELLOWSTONE RIVER AT GLENDIVE, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1898 - 2005*	
ANNUAL TOTAL	2,430,720		3,265,910			
ANNUAL MEAN	6,641		8,948		12,960	
HIGHEST ANNUAL MEAN					19,610	1899
LOWEST ANNUAL MEAN					6,061	1934
HIGHEST DAILY MEAN	30,900	Jun 13	41,900	Jun 27	107,000	Jun 9, 1909
LOWEST DAILY MEAN	2,000	Jan 7	3,900	Dec 27	1,060	Dec 14, 1932
ANNUAL SEVEN-DAY MINIMUM	2,160	Jan 5	4,160	Jan 4	1,380	Dec 12, 1932
MAXIMUM PEAK FLOW			45,100	Jun 29	a118,000	Jun 8, 1909
MAXIMUM PEAK STAGE			48.78	Jun 29	b60.16	Mar 16, 2003
INSTANTANEOUS LOW FLOW			3,900	Dec 27	c1,060	Dec 14, 1932
ANNUAL RUNOFF (AC-FT)	4,821,000		6,478,000		9,389,000	
10 PERCENT EXCEEDS	13,200		23,200		33,400	
50 PERCENT EXCEEDS	5,360		5,250		6,490	
90 PERCENT EXCEEDS	4,000		4,300		4,140	

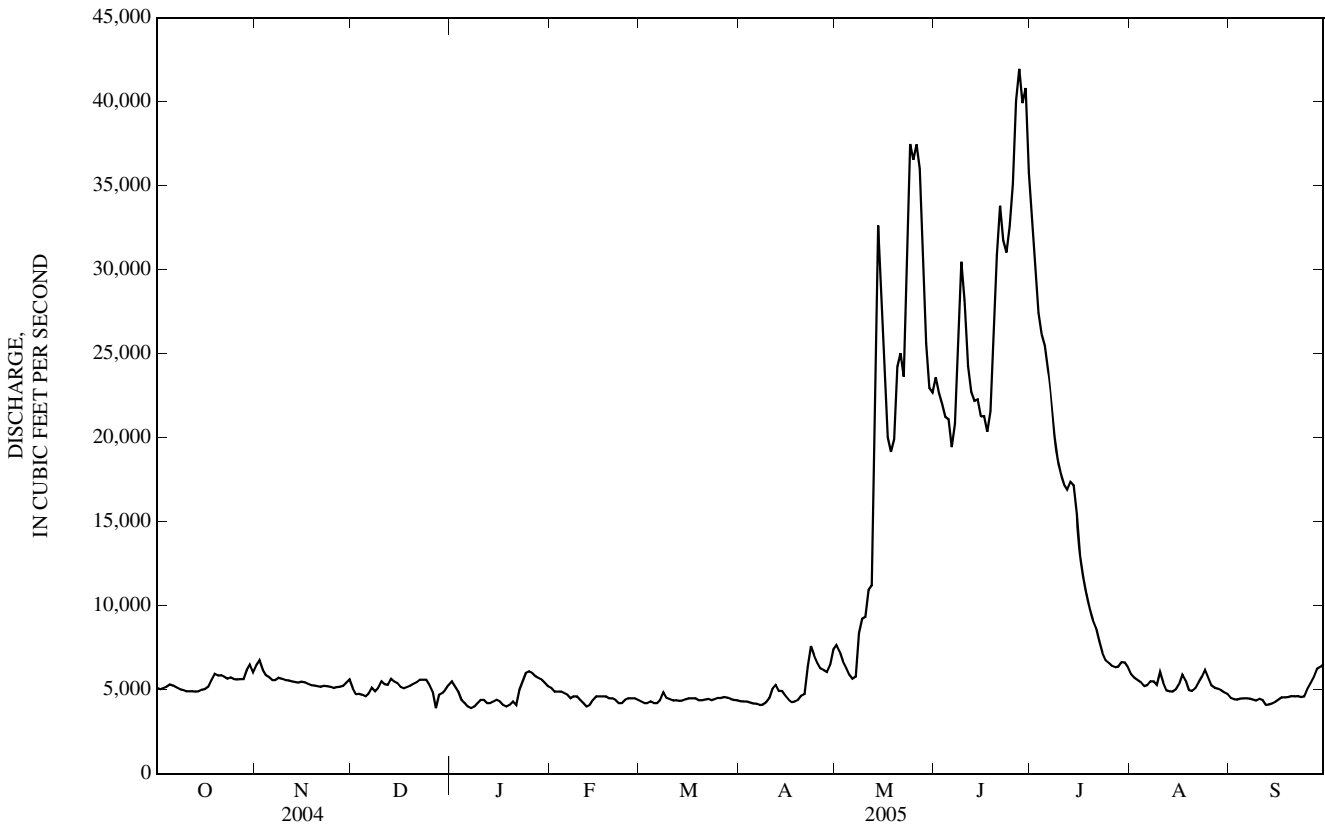
*--During periods of operation (October 1897 to December 1910, October 1931 to September 1934, October 2002 to current year).

a--Observed, gage height, 12.70 ft, datum then in use.

b--Backwater from ice.

c--Observed.

e--Estimated.



06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT
(National Water-Quality Assessment Program)

LOCATION.--Lat 47°40'42", long 104°09'22" (NAD 27), in SW¹/₄ NE¹/₄ SW¹/₄ sec.9, T.22 N., R.59 E., Richland County, Hydrologic Unit 10100004, on left bank at Montana-Dakota Utilities Company powerplant, 0.2 mi downstream from bridge on State Highway 23, 2.5 mi south of Sidney, 3.0 mi downstream from Fox Creek, and at river mile 29.2.

DRAINAGE AREA.--69,083 mi². Area at site 4.5 mi upstream, 68,812 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to September 1931 (published as "at Intake"), October 1933 to current year. If monthly figures of diversions to Lower Yellowstone Canal at Intake are added to records at this site, records equivalent to those published as Yellowstone River at Glendive (1898-1910, 1931-34) can be obtained. Monthly discharge only for some periods, published in WSP 1309. Monthly figures of diversions into Lower Yellowstone Canal prior to 1951 published in WSP 1309, 1951-60 published in WSP 1729, 1961-65 published in WSP 1916, 1966-70 published in WSP 2116, and 1971 to current year are published in annual reports.

REVISED RECORDS.--WDR MT-04-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,881.3 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Jan. 1, 1911, to Sept. 30, 1931, nonrecording gage at site 32 miles upstream at different elevation. Apr. 9, 1934, water-stage recorder at two sites within 500 ft of highway bridge 0.2 mi upstream and May 17, 1945, to Apr. 3, 1952, nonrecording gage on same bridge at elevation 1.36 ft higher. Apr. 4, 1952, to Nov. 19, 1967, water-stage recorder at site 4.5 mi upstream at different elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow regulated to some extent by Bighorn Lake, usable capacity, 1,312,000 acre-ft, on the Bighorn River and on other tributary streams in Wyoming and Montana. Diversion for irrigation of about 1,250,000 acres upstream from station. Lower Yellowstone Project Main Canal diverts from left bank in NW¹/₄ sec.36, T.18 N., R.56 E., at Lower Yellowstone diversion dam at Intake about 36.6 mi upstream for irrigation of about 52,000 acres of which about one-third lies upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,970	6,720	5,900	e5,500	e5,400	e4,400	4,210	6,850	21,700	32,900	4,960	3,360
2	5,810	7,150	5,380	e4,800	e5,300	e4,400	4,150	6,920	22,000	30,600	4,540	3,180
3	5,750	7,180	5,120	e3,200	e5,200	e4,300	4,150	6,420	20,900	27,500	4,380	3,110
4	5,840	6,680	5,070	e2,400	e5,000	e4,300	4,140	5,840	20,100	25,500	4,350	3,150
5	5,870	6,400	5,030	e2,100	e5,000	e4,300	4,080	5,460	19,800	24,600	4,170	3,220
6	6,000	6,280	4,870	e2,000	e4,900	e4,400	4,030	4,980	19,200	23,600	3,960	3,170
7	5,900	6,090	5,110	e1,800	e4,800	e4,400	4,010	4,800	19,400	21,900	3,980	3,170
8	5,790	6,130	5,390	e1,500	e4,800	e4,600	3,920	5,180	19,300	19,900	4,230	3,170
9	5,700	6,220	5,230	e1,500	e4,700	e5,000	3,980	8,820	27,200	18,100	4,130	3,190
10	5,620	6,130	5,180	e1,600	e4,700	e4,600	4,120	8,460	27,900	16,900	4,090	3,160
11	5,540	6,060	5,610	e1,800	e4,600	4,500	4,490	9,150	24,600	16,100	5,410	3,300
12	5,570	6,050	5,590	e2,400	e4,400	4,420	5,020	10,700	22,300	15,500	4,090	3,200
13	5,590	5,980	5,710	e3,600	e4,200	4,360	5,100	11,600	21,500	15,300	3,730	3,010
14	5,530	5,930	5,690	e4,400	e4,300	4,300	4,790	21,600	22,000	15,900	3,730	3,080
15	5,560	5,910	5,960	e4,400	e4,500	4,350	4,750	26,800	20,600	15,100	3,720	3,190
16	5,650	5,960	5,610	e4,500	e4,700	4,410	4,480	21,900	20,200	13,100	3,800	3,340
17	5,720	5,900	5,800	e4,400	e4,800	4,460	4,250	20,000	19,800	11,300	4,520	3,490
18	5,890	5,800	5,620	e4,300	e4,800	4,420	4,090	18,400	19,200	10,200	4,570	3,620
19	6,320	5,710	5,850	e4,200	e4,800	4,390	4,130	18,000	21,900	9,170	4,210	3,640
20	6,600	5,690	5,840	e4,400	e4,700	4,280	4,300	20,000	25,600	8,320	3,780	3,740
21	6,490	5,630	e5,600	e4,400	e4,600	4,320	4,510	23,400	30,900	7,670	3,740	3,830
22	6,500	5,590	e5,200	e4,500	e4,500	4,370	4,770	22,000	30,700	7,190	3,920	3,830
23	6,390	5,650	4,760	e5,300	e4,300	4,380	6,760	24,600	29,200	6,520	4,210	3,890
24	6,310	5,620	4,250	e5,900	e4,400	4,300	7,440	31,500	29,600	5,840	4,520	3,940
25	6,390	5,580	5,270	e6,200	e4,500	4,360	6,730	34,400	31,300	5,470	4,790	4,160
26	6,250	5,540	5,340	e6,200	e4,600	4,400	5,840	33,400	35,300	5,690	4,290	4,730
27	6,230	5,560	4,820	e6,100	e4,600	4,410	5,720	34,500	39,300	5,290	3,920	5,120
28	6,230	5,540	4,730	e5,900	e4,500	4,480	5,520	31,200	39,600	5,110	3,870	5,550
29	6,670	5,780	4,200	e5,800	---	4,400	5,320	26,100	42,900	5,170	3,770	5,920
30	7,550	5,720	e5,000	e5,700	---	4,290	5,950	22,500	38,100	5,360	3,600	6,030
31	7,000	---	e5,200	e5,600	---	4,230	---	21,200	---	5,280	3,420	---
TOTAL	188,230	180,180	163,930	126,400	131,600	136,530	144,750	546,680	782,100	436,080	128,400	112,490
MEAN	6,072	6,006	5,288	4,077	4,700	4,404	4,825	17,630	26,070	14,070	4,142	3,750
MAX	7,550	7,180	5,960	6,200	5,400	5,000	7,440	34,500	42,900	32,900	5,410	6,030
MIN	5,530	5,540	4,200	1,500	4,200	4,230	3,920	4,800	19,200	5,110	3,420	3,010
AC-FT	373,400	357,400	325,200	250,700	261,000	270,800	287,100	1,084,000	1,551,000	865,000	254,700	223,100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2005, BY WATER YEAR (WY)*

MEAN	8,204	7,277	5,918	5,673	6,790	10,790	10,170	18,090	38,310	22,640	8,548	7,046
MAX	29,130	12,150	9,594	13,110	17,750	25,980	39,160	38,100	77,280	55,000	20,470	16,000
(WY)	(1924)	(1924)	(1976)	(1925)	(1971)	(1972)	(1924)	(1928)	(1918)	(1917)	(1912)	(1941)
MIN	3,726	3,700	3,019	2,087	2,702	3,235	2,821	5,409	11,580	3,311	1,602	2,389
(WY)	(1922)	(1922)	(1961)	(1937)	(1936)	(2002)	(1961)	(1961)	(1919)	(1919)	(1961)	(1934)

06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1911 - 2005*	
ANNUAL TOTAL	2,204,390		3,077,370			
ANNUAL MEAN	6,023		8,431		12,470	
HIGHEST ANNUAL MEAN					21,250 1924	
LOWEST ANNUAL MEAN					5,673 2004	
HIGHEST DAILY MEAN	24,900	Jun 14	42,900	Jun 29	142,000	Jun 21, 1921
LOWEST DAILY MEAN	1,480	Aug 22	1,500	Jan 8	570	May 17, 1961
ANNUAL SEVEN-DAY MINIMUM	1,650	Aug 19	1,760	Jan 5	1,010	Aug 8, 1961
MAXIMUM PEAK FLOW			48,100	Jun 29	a159,000	Jun 21, 1921
MAXIMUM PEAK STAGE			13.49	Jun 29	b24.03	Mar 6, 1994
INSTANTANEOUS LOW FLOW					c470	May 17, 1961
ANNUAL RUNOFF (AC-FT)	4,372,000		6,104,000		9,033,000	
10 PERCENT EXCEEDS	10,100		21,900		27,800	
50 PERCENT EXCEEDS	5,500		5,320		8,000	
90 PERCENT EXCEEDS	2,860		3,740		4,040	

SUMMARY STATISTICS	WATER YEARS 1911 - 1965**		WATER YEARS 1967 - 2005***	
ANNUAL MEAN	12,890		12,100	
HIGHEST ANNUAL MEAN	21,250	1924	19,150	1997
LOWEST ANNUAL MEAN	5,814	1934	5,673	2004
HIGHEST DAILY MEAN	142,000	Jun 21, 1921	104,000	May 23, 1978
LOWEST DAILY MEAN	570	May 17, 1961	800	Jan 2, 1989
ANNUAL SEVEN-DAY MINIMUM	1,010	Aug 8, 1961	1,060	Aug 23, 2001
MAXIMUM PEAK FLOW	a159,000	Jun 21, 1921	d111,000	May 23, 1978
MAXIMUM PEAK STAGE	b21.85	Mar 22, 1947	b24.03	Mar 6, 1994
INSTANTANEOUS LOW FLOW	c470	May 17, 1961		
ANNUAL RUNOFF (AC-FT)	9,341,000		8,695,000	
10 PERCENT EXCEEDS	29,900		25,800	
50 PERCENT EXCEEDS	7,690		8,410	
90 PERCENT EXCEEDS	3,820		4,500	

*--During period of operation 1911-31, 1934 to current year. Published as "At Intake" 1911-31.

**--Prior to Bighorn Lake reaching operational level.

***--After Bighorn Lake reached operational level.

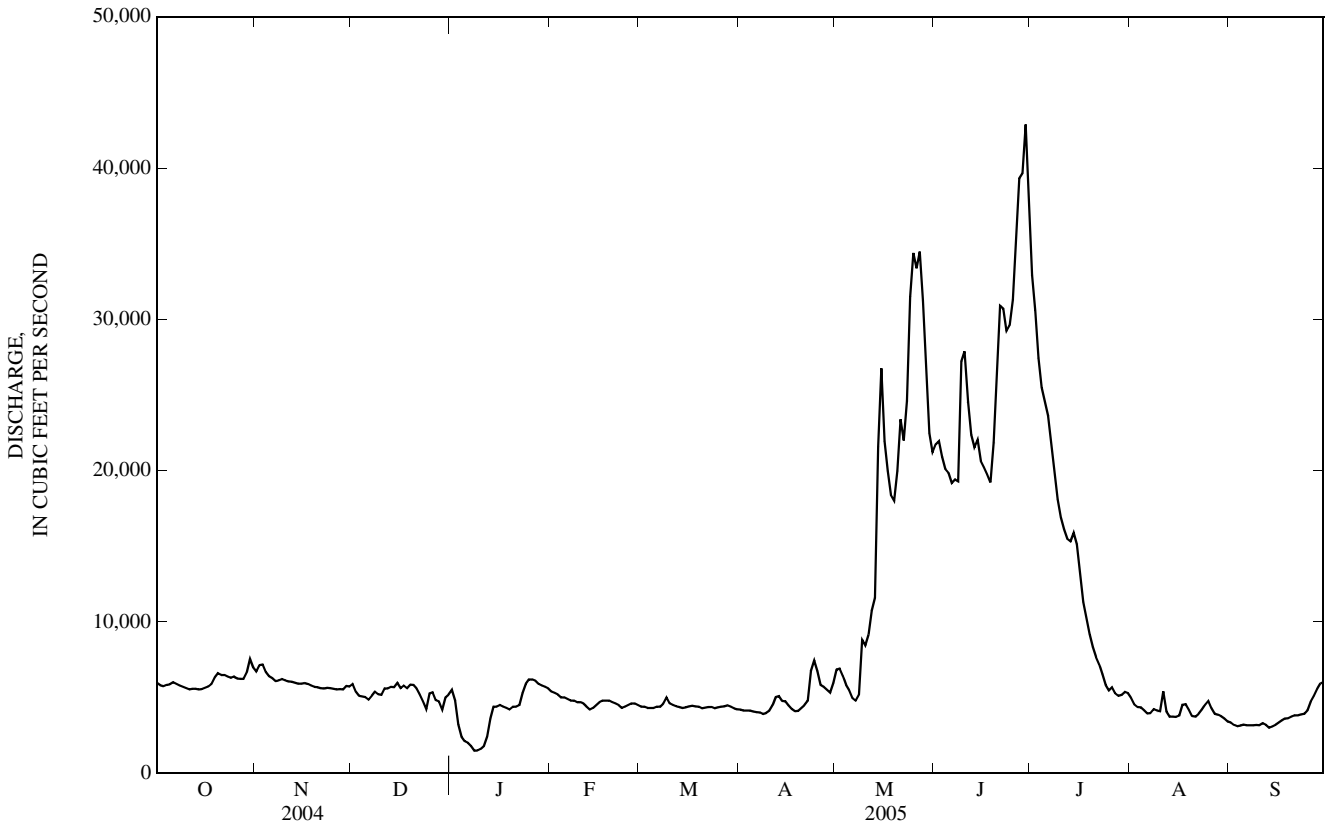
a--Gage height, 12.60 ft, site and datum then in use.

b--Backwater from ice.

c--Gage height, 2.73 ft, site and datum then in use.

d--Gage height, 20.02 ft.

e--Estimated.



06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1964 to September 1981.

WATER TEMPERATURE: January 1951 to September 1985.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1981, October 1982 to September 1991, seasonal records (March to November) only from October 1991 to current year.

REMARKS.--Daily sediment records rated good except for several periods of storm runoff, which are rated poor. Daily sediment data collected during open water; no data available during ice effect from Dec. 1 to Mar. 6. Water-quality samples were collected this year as part of the National Water-Quality Assessment Program (NAWQA) for the Yellowstone River study unit under the direction of the USGS Wyoming Water Science Center. Suspended and bed sediment samples plus the seasonal daily sediment record were obtained as part of the Corps of Engineers program. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,220 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Apr. 6, 1979; minimum daily, 261 $\mu\text{S}/\text{cm}$ at 25.0°C, June 4, 1966.

WATER TEMPERATURE: Maximum, 29.0°C July 23, 1960; minimum, 0.0°C on many days during winter.

SEDIMENT CONCENTRATION: Maximum daily mean, 26,800 mg/L May 8, 1975; minimum daily mean, 8 mg/L Jan. 9, 1973.

SEDIMENT LOAD: Maximum daily, 3,030,000 tons May 8, 1975; minimum daily, 63 tons Jan. 2, 1989.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION (seasonal records): Maximum daily mean, 7,710 mg/L, May 10; minimum daily mean, 24 mg/L, Sept. 7.

SEDIMENT LOAD (seasonal records): Maximum daily, 394,000 tons, June 29; minimum daily, 205 tons, Sep. 7.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, $\mu\text{S}/\text{cm}$ at 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt fxd end lab, mg/L as CaCO_3 (29801)	Alkalinity, wat flt inc tit field, mg/L as CaCO_3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)
Date	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	1-Naphthol, water, fltrd 0.7u GF ug/L (49295)	2,6-Diethyl-aniline water fltrd 0.7u GF ug/L (82660)	2-Chloro-2',6'-diethyl acetanilide wat flt ug/L (61618)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl-6-methyl-aniline water, fltrd, ug/L (61620)
NOV 22...	1215	5,560	703	13.7	106	8.3	720	5.0	1.5	161	--	--	--
JAN 11...	1300	1,820	699	13.2	99	8.1	941	-5.0	0.0	223	171	208	.0
MAR 09...	1230	5,760	704	12.6	94	8.0	761	13.0	0.2	160	175	210	1
MAY 17...	1330	19,800	697	8.9	97	8.0	587	20.0	15.0	114	104	127	--
JUL 26...	1300	5,910	718	8.5	103	8.3	531	24.0	21.5	128	104	53	36
SEP 06...	1430	3,140	719	8.9	104	8.5	671	22.5	19.8	160	145	172	2
NOV 22...	12.2	182	<.04	.26	<.008	.44	<.006	.030	<.09	<.006	<.005	<.006	<.004
JAN 11...	17.3	263	.08	.71	E.005	1.08	<.006	.010	<.09	<.006	<.005	<.006	<.004
MAR 09...	18.3	211	E.02	.27	<.008	1.27	<.006	.36	<.09	<.006	<.005	<.006	<.004
MAY 17...	9.50	154	E.02	.45	.010	2.86	.009	.84	<.09	<.006	<.005	<.006	<.004
JUL 26...	7.45	127	<.04	<.06	<.008	.35	<.006	.091	<.09	<.006	<.005	<.006	<.004
SEP 06...	9.85	169	<.04	<.06	<.008	.39	<.006	.030	<.09	<.006	<.005	<.006	<.004

E--Estimated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	3,4-Di-chloro-aniline water, fltrd, ug/L (61625)	3,5-Di-chloro-aniline water, fltrd, ug/L (61627)	4Chloro-2methyl phenol, water, fltrd, ug/L (61633)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-Endo-sulfan, water, fltrd, ug/L (34362)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl oxon, water, fltrd, ug/L (61635)	Azin-phos-methyl, water, fltrd, 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd, 0.7u GF ug/L (82673)	Car-baryl, water, fltrd, 0.7u GF ug/L (82680)	Carbo-furan, water, fltrd, 0.7u GF ug/L (82674)	Chlor-pyrifos oxon, water, fltrd, ug/L (61636)
NOV 22...	<.004	--	<.006	<.006	<.005	--	<.009	<.07	<.050	<.010	<.041	--	<.06
JAN 11...	<.004	--	<.006	<.006	<.005	--	<.007	<.07	<.050	<.010	<.041	--	<.06
MAR 09...	<.004	--	<.006	<.006	<.005	--	<.007	<.07	<.050	<.010	<.041	--	<.06
MAY 17...	<.004	--	<.006	<.006	<.005	--	.008	<.07	<.050	<.010	<.041	--	<.06
JUL 26...	<.004	<.004	<.006	E.007	<.005	<.005	<.007	<.07	<.050	<.010	<.041	<.020	<.06
SEP 06...	<.004	<.004	<.006	<.006	<.005	<.005	<.007	<.07	<.050	<.010	<.041	<.020	<.06
Date	Chlor-pyrifos water, fltrd, ug/L (38933)	cis-Per-methrin water, fltrd, 0.7u GF (82687)	cis-Propi-cona-zole, water, fltrd, ug/L (79846)	Cyana-zine, water, fltrd, ug/L (04041)	Cyflu-thrin, water, fltrd, ug/L (61585)	lambda-Cyhalo-thrin, water, fltrd, ug/L (61595)	Cyper-methrin water, fltrd, ug/L (61586)	DCPA, water fltrd, 0.7u GF ug/L (82682)	Desulf-inyl fipro-nil, water, fltrd, ug/L (62170)	Diaz-inon oxon, water, fltrd, ug/L (61638)	Diazi-non, water, fltrd, ug/L (39572)	Dicro-tophos, water, fltrd, ug/L (38454)	Diel-drin, water, fltrd, ug/L (39381)
NOV 22...	<.005	<.006	--	--	<.008	--	<.009	<.003	<.012	<.01	<.005	<.08	<.009
JAN 11...	<.005	<.006	--	--	<.008	--	<.009	<.003	<.012	<.01	<.005	<.08	<.009
MAR 09...	<.005	<.006	--	--	<.027	--	<.009	<.003	<.012	<.01	<.005	<.08	<.009
MAY 17...	<.005	<.006	--	--	<.027	--	<.009	<.003	<.012	<.01	<.005	<.08	<.009
JUL 26...	<.005	<.006	<.008	<.018	<.027	<.009	<.009	<.003	<.012	--	<.005	<.08	<.009
SEP 06...	<.005	<.006	<.008	<.018	<.027	<.009	<.009	<.003	<.012	--	<.005	<.08	<.009
Date	Dimeth-oate, water, fltrd, 0.7u GF ug/L (82662)	Disulf-oton sulfone water, fltrd, ug/L (61640)	Disul-foton, water, fltrd, 0.7u GF ug/L (82677)	Endo-sulfan sulfate water, fltrd, ug/L (61590)	EPTC, water, fltrd, 0.7u GF ug/L (82668)	Ethion monooxon water, fltrd, ug/L (61644)	Ethion, water, fltrd, ug/L (82346)	Etho-prop, water, fltrd, 0.7u GF ug/L (82672)	Fenami-phos sulfone water, fltrd, ug/L (61645)	Fenami-phos sulf-oxide, water, fltrd, ug/L (61646)	Fenami-phos, water, fltrd, ug/L (61591)	Desulf-inyl-fipro-nil amide, wat flt ug/L (62169)	Fipro-nil sulfide water, fltrd, ug/L (62167)
NOV 22...	<.006	--	--	--	--	<.002	<.004	--	<.049	<.04	<.03	<.029	<.013
JAN 11...	<.006	--	--	--	--	<.002	<.004	--	<.049	<.04	<.03	<.029	<.013
MAR 09...	<.006	--	--	--	--	<.002	<.004	--	<.049	<.04	<.03	<.029	<.013
MAY 17...	<.006	--	--	--	--	<.002	<.004	--	<.049	<.04	<.03	<.029	<.013
JUL 26...	<.006	<.01	<.02	<.014	<.004	<.002	<.004	<.005	<.049	<.04	<.03	<.029	<.013
SEP 06...	<.006	<.01	<.02	<.014	<.004	<.002	<.004	<.005	<.049	<.04	<.03	<.029	<.013

E--Estimated.

06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Fipronil sulfone water, fltrd, ug/L (62168)	Fipronil, water, fltrd, ug/L (62166)	Fonofos, water, fltrd, ug/L (61649)	Fonofos, water, fltrd, ug/L (04095)	Hexazinone, water, fltrd, ug/L (04025)	Iprodione, water, fltrd, ug/L (61593)	Isofenphos, water, fltrd, ug/L (61594)	Malaoxon, water, fltrd, ug/L (61652)	Malathion, water, fltrd, ug/L (39532)	Metaxyl, water, fltrd, ug/L (61596)	Methion, water, fltrd, ug/L (61598)	Methyl paraxon, water, fltrd, ug/L (61664)	Methyl parathion, water, fltrd, 0.7u GF ug/L (82667)
NOV 22...	<.024	<.016	<.003	<.003	<.013	<.387	<.003	<.030	<.027	<.005	<.006	<.03	<.015
JAN 11...	<.024	<.016	<.003	<.003	<.013	<.387	<.003	<.030	<.027	<.005	<.006	<.03	<.015
MAR 09...	<.024	<.016	--	<.003	<.013	<.538	<.003	<.030	<.027	<.010	<.006	<.03	<.015
MAY 17...	<.024	<.016	--	<.003	<.013	<.538	<.003	<.030	<.027	<.005	<.006	<.03	<.015
JUL 26...	<.024	<.016	--	<.003	<.013	<.538	<.003	<.030	<.027	<.005	<.006	<.03	<.015
SEP 06...	<.024	<.016	--	<.003	<.013	<.538	<.003	<.030	<.027	<.005	<.006	<.03	<.015
Date	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd, 0.7u GF ug/L (82671)	Myclobutanil, water, fltrd, ug/L (61599)	Oxyfluorfen, water, fltrd, ug/L (61600)	Pendimethalin, water, fltrd, 0.7u GF ug/L (82683)	Phorate, water, fltrd, ug/L (61666)	Phorate, water, fltrd, 0.7u GF ug/L (82664)	Phosmet, water, fltrd, ug/L (61668)	Phosmet, water, fltrd, ug/L (61601)	Prometon, water, fltrd, ug/L (04037)	Prometryn, water, fltrd, ug/L (04036)	Propyzamide, water, fltrd, 0.7u GF ug/L (82676)
NOV 22...	.009	<.006	--	<.008	--	<.022	<.10	<.011	<.05	<.008	<.01	<.005	<.004
JAN 11...	<.010	<.006	--	<.008	--	<.022	<.10	<.011	--	<.008	<.01	<.005	<.004
MAR 09...	<.006	<.006	--	<.008	--	.025	<.10	<.011	<.05	<.008	<.01	<.005	<.004
MAY 17...	E.003	<.006	--	<.008	--	<.022	<.10	<.011	<.05	<.008	<.01	<.005	<.004
JUL 26...	.010	<.006	<.003	<.008	<.007	<.022	<.10	<.011	<.05	<.008	<.01	<.005	<.004
SEP 06...	.011	<.006	<.003	<.008	<.007	<.022	<.10	<.011	<.05	<.008	<.01	<.005	<.004
Date	Propanil, water, fltrd, 0.7u GF ug/L (82679)	Propargite, water, fltrd, 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebu-thiuron, water, fltrd, 0.7u GF ug/L (82670)	Tefluthrin, water, fltrd, ug/L (61606)	Terbufos oxon sulfone, water, fltrd, ug/L (61674)	Terbufos, water, fltrd, 0.7u GF ug/L (82675)	Terbuthylazine, water, fltrd, ug/L (04022)	Thio-bencarb, water, fltrd, 0.7u GF ug/L (82681)	trans-Propiconazole, water, fltrd, ug/L (79847)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-fluralin, water, fltrd, 0.7u GF ug/L (82661)	Di-chlorvos, water, fltrd, ug/L (38775)
NOV 22...	--	--	<.005	<.02	--	<.07	<.02	<.01	--	--	--	<.009	<.01
JAN 11...	--	--	<.005	<.02	--	<.07	<.02	<.01	--	--	--	<.009	<.01
MAR 09...	--	--	<.005	<.02	--	<.07	<.02	<.01	--	--	--	<.009	<.01
MAY 17...	--	--	<.005	<.02	--	<.07	<.02	<.01	--	--	--	<.009	<.01
JUL 26...	<.011	<.02	<.005	<.02	<.008	<.07	<.02	<.01	<.010	<.01	<.004	<.009	<.01
SEP 06...	<.011	<.02	<.005	<.02	<.008	<.07	<.02	<.01	<.010	<.01	<.004	<.009	<.01

E--Estimated.

YELLOWSTONE RIVER BASIN

06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV 22...	95	33	495
JAN 11...	98	23	113
MAR 09...	96	664	10,300
MAY 17...	94	2,670	143,000
JUL 26...	91	77	1,230
SEP 06...	97	26	220

Date	Time	Instantaneous discharge, cfs (00061)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)	Bed sediment, dry svd sve dia percent <.063mm (80164)	Bed sediment, dry svd sve dia percent <.125mm (80165)
MAR 30...	1145	4,310	900	8.5	94	121	1,410	3	21
JUN 10...	1130	27,000	455	16.5	93	4,670	340,000	19	68
JUN 14...	1000	23,300	435	17.5	88	3,510	221,000	1	11
JUN 28...	1230	38,000	347	20.0	85	1,910	196,000	--	--
AUG 10...	1200	3,960	648	22.5	91	40	428	1	3
AUG 23...	1300	4,160	650	24.0	95	64	719	6	18

Date	Bed sediment, dry svd sve dia percent <.25mm (80166)	Bed sediment, dry svd sve dia percent <.5 mm (80167)	Bed sediment, dry svd sve dia percent <1 mm (80168)	Bed sediment, dry svd sve dia percent <2 mm (80169)	Bed sediment, dry svd sve dia percent <4 mm (80170)	Bed sediment, dry svd sve dia percent <8 mm (80171)	Bed sediment, dry svd sve dia percent <16 mm (80172)	Bed sediment, dry svd sve dia percent <32 mm (80173)
MAR 30...	65	70	71	71	73	79	92	100
JUN 10...	98	99	100	--	--	--	--	--
JUN 14...	98	100	--	--	--	--	--	--
JUN 28...	--	--	--	--	--	--	--	--
AUG 10...	62	84	84	85	85	89	97	100
AUG 23...	50	61	62	63	66	76	91	100

06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Day	Mean	Load	Mean	Load	Mean	Load	Mean	Load	Mean	Load	Mean	Load
	concentration (mg/l)	(tons/ day)	concentration (mg/l)	(tons/ day)	concentration (mg/l)	(tons/ day)	concentration (mg/l)	(tons/ day)	concentration (mg/l)	(tons/ day)	concentration (mg/l)	(tons/ day)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	65	1,050	695	12,600							---	---
2	55	863	440	8,490							---	---
3	45	699	458	8,880							---	---
4	38	599	328	5,920							---	---
5	42	666	225	3,890							---	---
6	50	810	164	2,780							---	---
7	50	796	205	3,370							431	5,120
8	44	688	289	4,780							535	6,640
9	39	600	292	4,900							726	9,800
10	36	546	220	3,640							541	6,720
11	35	524	155	2,540							260	3,160
12	35	526	118	1,930							200	2,390
13	34	513	105	1,700							169	1,990
14	31	463	90	1,440							122	1,420
15	28	420	77	1,230							107	1,260
16	28	427	73	1,170							93	1,110
17	29	448	74	1,180							80	963
18	29	461	78	1,220							80	955
19	49	836	79	1,220							83	984
20	250	4,460	75	1,150							78	901
21	344	6,030	71	1,080							72	840
22	289	5,070	68	1,030							63	743
23	241	4,160	64	976							56	662
24	205	3,490	60	910							59	685
25	185	3,190	55	829							58	683
26	174	2,940	48	718							68	808
27	158	2,660	44	661							49	583
28	167	2,810	42	628							56	677
29	380	6,840	41	640							72	855
30	1,280	26,100	41	633							109	1,260
31	1,500	28,400	---	---							93	1,060
TOTAL	---	108,085	---	82,135							---	52,269

YELLOWSTONE RIVER BASIN

06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT—Continued

SUSPENDED-SEDIMENT—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Day	Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)	
	concentration (mg/l)	Load (tons/day)	concentration (mg/l)	Load (tons/day)	concentration (mg/l)	Load (tons/day)	concentration (mg/l)	Load (tons/day)	concentration (mg/l)	Load (tons/day)	concentration (mg/l)	Load (tons/day)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	88	1,000	468	8,660	700	41,000	1,640	146,000	46	616	41	372
2	73	818	441	8,240	780	46,300	1,190	98,300	44	539	35	301
3	69	773	308	5,340	520	29,300	1,000	74,200	42	497	32	269
4	80	894	212	3,340	635	34,500	839	57,800	92	1,080	33	281
5	63	694	184	2,710	969	51,800	710	47,200	62	698	32	278
6	48	522	150	2,020	660	34,200	593	37,800	56	599	27	231
7	57	617	157	2,030	1,900	99,500	479	28,300	55	591	24	205
8	54	572	220	3,080	4,200	219,000	363	19,500	54	617	25	214
9	49	527	2,480	59,100	5,350	393,000	286	14,000	52	580	25	215
10	54	601	7,710	176,000	4,800	362,000	250	11,400	49	541	26	222
11	90	1,090	6,320	156,000	2,250	149,000	224	9,740	1,170	17,100	27	241
12	290	3,930	2,800	80,900	1,360	81,900	207	8,660	3,700	40,900	27	233
13	1,370	18,900	2,120	66,400	890	51,700	204	8,430	1,950	19,600	26	211
14	1,470	19,000	4,570	267,000	2,180	129,000	232	9,960	730	7,350	25	208
15	1,060	13,600	4,420	320,000	1,410	78,400	234	9,540	100	1,000	25	215
16	515	6,230	3,500	207,000	700	38,200	223	7,890	75	770	25	225
17	260	2,980	2,770	150,000	459	24,500	194	5,920	400	4,880	26	245
18	168	1,860	3,590	178,000	465	24,100	163	4,490	2,390	29,500	26	254
19	175	1,950	5,530	269,000	671	39,700	132	3,270	350	3,980	27	265
20	200	2,320	2,100	113,000	1,020	70,500	102	2,290	80	816	28	283
21	178	2,170	3,130	198,000	1,730	144,000	79	1,640	72	727	28	290
22	142	1,830	2,180	129,000	1,350	112,000	68	1,320	68	720	27	279
23	304	5,550	2,220	147,000	680	53,600	66	1,160	65	739	27	284
24	960	19,300	2,290	195,000	600	48,000	62	978	73	891	26	277
25	1,390	25,300	2,270	211,000	592	50,000	58	857	79	1,020	28	314
26	921	14,500	1,420	128,000	830	79,100	71	1,090	62	718	37	473
27	510	7,880	1,240	116,000	1,440	153,000	70	1,000	46	487	46	636
28	360	5,370	870	73,300	1,780	190,000	68	938	37	387	53	794
29	318	4,570	730	51,400	3,400	394,000	80	1,120	43	438	60	959
30	317	5,090	589	35,800	3,600	370,000	72	1,040	49	476	67	1,090
31	---	---	520	29,800	---	---	54	770	48	443	---	---
TOTAL	---	170,438	---	3,392,120	---	3,591,300	---	616,603	---	139,300	---	10,364

Total load for year = 8,162,614 tons.

06334500 LITTLE MISSOURI RIVER AT CAMP CROOK, SD

LOCATION.--Lat 45°32'53", long 103°58'16" (revised), in SW¹/₄ sec.2, T.18 N., R.1 E., Harding County, Hydrologic Unit 10110201, on left bank 15 ft upstream from bridge on State Highway 20 at east edge of Camp Crook.

DRAINAGE AREA.--1,970 mi², approximately.

PERIOD OF RECORD.--September 1903 to November 1906, May 1956 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1904. WSP 1729: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3,108.98 ft above NGVD of 1929. Sept. 2, 1903, to Nov. 30, 1906, nonrecording gage at site 0.5 mi upstream at different datum. May 1956 to Oct. 8, 1957, nonrecording gage at site 15 ft downstream, and Oct. 9, 1957, to Sept. 30, 1976, water-stage recorder at present site both at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Small diversions upstream from station for irrigation. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1952 reached a stage of about 18 ft, present datum, from local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	14	3.8	e2.8	e2.7	e4.0	2.6	8.3	21	3.7	1.1	1.2
2	1.5	9.1	3.9	e2.8	e2.9	e4.1	2.6	12	13	3.0	0.91	0.82
3	1.6	7.3	4.2	e2.7	e3.0	e4.4	2.3	9.6	13	2.9	1.8	0.58
4	1.6	6.1	4.1	e2.6	e3.1	e4.4	2.2	8.9	8.6	2.7	1.9	0.43
5	1.5	5.1	e3.6	e2.5	e3.2	e4.3	2.9	6.0	7.4	2.6	1.8	0.52
6	1.3	15	e3.5	e2.4	e3.2	e4.2	2.8	4.8	7.4	2.7	1.2	0.56
7	1.2	15	e3.4	e2.3	e3.1	e4.1	2.5	4.5	6.5	2.3	0.80	e0.65
8	0.85	15	e3.3	e2.1	e3.0	e4.1	2.2	5.1	3.8	1.9	1.1	e0.73
9	1.5	12	e3.3	e1.9	e2.9	e4.3	2.2	4.5	5.5	1.3	1.4	e0.64
10	1.6	8.9	e3.3	e1.5	e2.9	e4.6	2.0	12	5.6	1.0	0.85	e0.66
11	1.4	7.1	e3.2	e1.4	e3.0	e4.4	2.2	8.8	6.0	1.2	1.1	e0.45
12	1.8	5.8	e3.2	e1.0	e3.0	e4.1	2.0	27	6.3	1.1	1.4	e0.39
13	2.3	e4.8	e3.2	e0.90	e3.0	e3.8	2.2	110	6.7	0.98	2.0	e0.70
14	2.8	e4.5	e3.2	e0.80	e3.1	e3.5	2.2	259	7.1	1.1	1.4	e0.49
15	3.0	4.4	e3.1	e0.90	e3.2	e3.5	1.9	254	5.9	0.98	1.1	e0.37
16	3.3	4.4	e3.0	e1.1	e3.2	e3.5	1.7	741	5.1	0.93	1.1	e0.36
17	3.5	4.1	e3.0	e1.7	e3.2	e3.6	2.0	424	4.1	1.0	1.0	e0.43
18	3.7	3.9	e2.9	e1.9	e3.3	e3.7	1.8	339	3.3	1.1	1.0	e0.61
19	3.5	3.7	e2.8	e2.0	e3.3	e3.6	2.1	180	2.8	1.2	1.5	e0.88
20	4.1	3.5	e2.6	e2.1	e3.4	e3.5	3.2	113	1.1	1.1	1.1	e0.79
21	4.4	3.4	e2.5	e2.2	e3.5	e3.6	3.5	65	1.5	1.2	1.0	e0.77
22	6.8	e3.4	e2.4	e2.3	e3.6	e3.7	3.3	39	2.0	1.1	0.94	e1.1
23	32	3.5	e2.3	e2.4	e3.7	e3.6	7.5	23	1.9	1.0	1.3	e1.3
24	14	3.7	e2.4	e2.6	e3.8	e4.2	5.2	14	1.7	1.2	2.0	e1.7
25	7.0	4.3	e3.0	e2.7	e3.8	e4.1	3.5	24	1.3	1.8	1.5	e1.5
26	5.5	4.3	e3.3	e2.5	e3.9	3.9	2.5	19	1.5	2.0	2.2	e1.5
27	4.7	3.2	e3.4	e2.4	e3.9	3.8	2.4	14	4.0	2.0	2.8	e1.5
28	4.5	e3.4	e3.5	e2.2	e4.0	3.7	2.2	14	4.3	1.8	3.9	e1.6
29	21	e3.7	e3.1	e2.1	---	4.3	2.2	9.5	5.1	1.5	3.8	e1.2
30	27	3.8	e3.0	e2.4	---	3.6	2.2	10	4.7	1.1	3.0	e1.2
31	24	---	e2.8	e2.7	---	3.0	---	12	---	0.92	2.0	---
TOTAL	194.25	190.4	98.3	63.90	91.9	121.2	80.1	2,775.0	168.2	50.41	50.00	25.63
MEAN	6.27	6.35	3.17	2.06	3.28	3.91	2.67	89.5	5.61	1.63	1.61	0.85
MAX	32	15	4.2	2.8	4.0	4.6	7.5	741	21	3.7	3.9	1.7
MIN	0.85	3.2	2.3	0.80	2.7	3.0	1.7	4.5	1.1	0.92	0.80	0.36
AC-FT	385	378	195	127	182	240	159	5,500	334	100	99	51

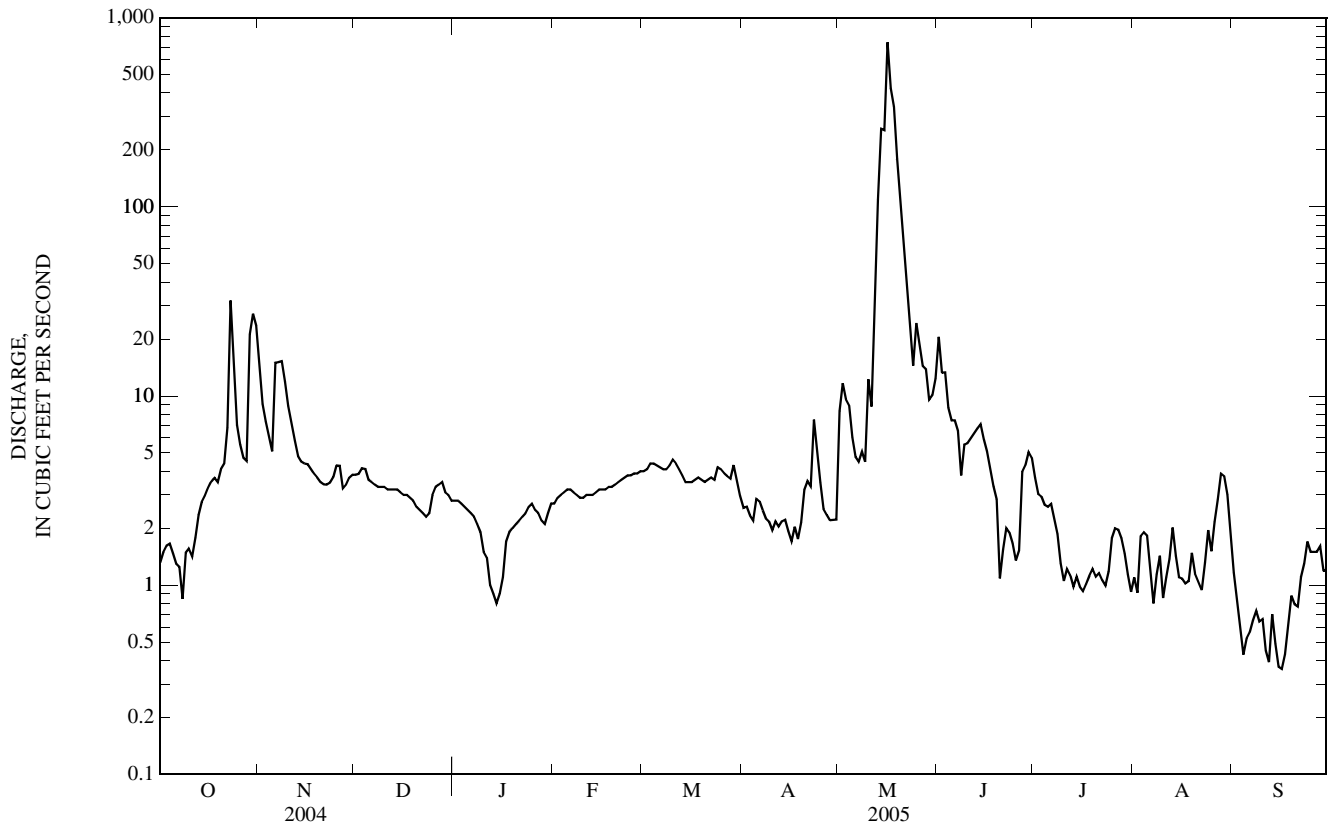
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2005, BY WATER YEAR (WY)*

MEAN	54.2	12.5	6.63	7.21	80.1	330	196	320	244	92.4	40.3	29.0
MAX	876	103	34.9	59.7	1,112	2,121	1,198	1,894	1,107	961	537	244
(WY)	(1972)	(1972)	(1972)	(1974)	(1996)	(1978)	(1971)	(1978)	(1967)	(1905)	(1906)	(1905)
MIN	0.29	0.00	0.00	0.00	0.00	1.95	1.97	1.12	0.11	0.00	0.00	0.61
(WY)	(1905)	(1905)	(1905)	(1905)	(1969)	(1992)	(1981)	(1992)	(1961)	(1961)	(1904)	(1958)

06334500 LITTLE MISSOURI RIVER AT CAMP CROOK, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1904--2005*	
ANNUAL TOTAL	9,992.75		3,909.29		a118	
ANNUAL MEAN	27.3		10.7		492 1978	
HIGHEST ANNUAL MEAN					4.68 1961	
LOWEST ANNUAL MEAN					8,560 Mar 24, 1978	
HIGHEST DAILY MEAN	783	Aug 6	741	May 16		
LOWEST DAILY MEAN	0.06	Aug 1	0.36	Sep 16	b0.00 Jul 31, 1904	
ANNUAL SEVEN-DAY MINIMUM	0.15	Jul 26	0.46	Sep 11	0.00 Jul 31, 1904	
MAXIMUM PEAK FLOW			834	May 16	9,420 Mar 24, 1978	
MAXIMUM PEAK STAGE			6.32	May 16	16.90 Mar 24, 1978	
ANNUAL RUNOFF (AC-FT)	19,820		7,750		85,520	
10 PERCENT EXCEEDS	78		9.3		220	
50 PERCENT EXCEEDS	3.6		3.0		9.5	
90 PERCENT EXCEEDS	1.1		1.0		1.2	

*--During period of operation (1904-1905, 1957 to current year).
 a--Median of annual mean discharges, 98 ft³/s.
 b--No flow at times in some years.
 c--Estimated.

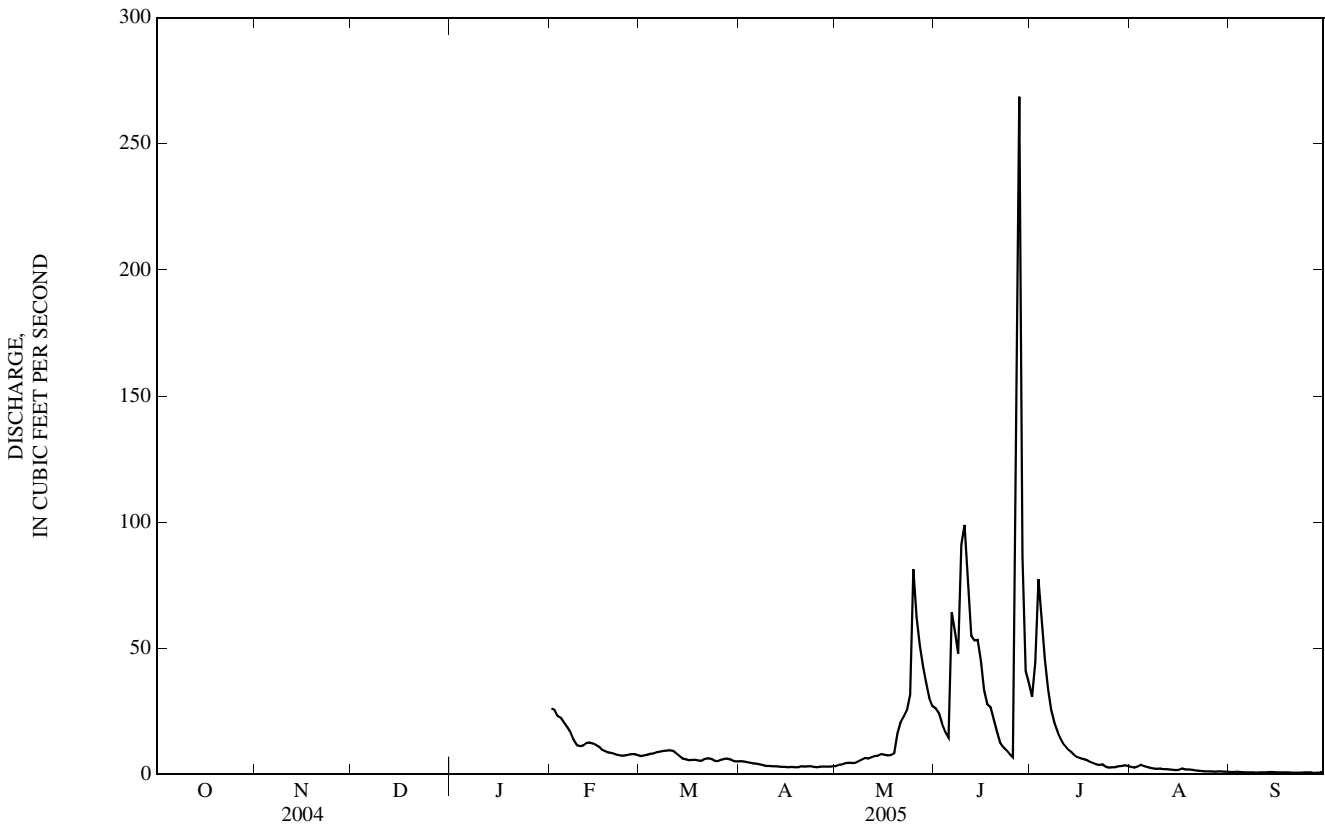


SUMMARY STATISTICS

WATER YEARS 1978 - 2005

ANNUAL MEAN	a33.3	
HIGHEST ANNUAL MEAN	a79.7	1978
LOWEST ANNUAL MEAN	a2.77	1981
HIGHEST DAILY MEAN	2,500	Mar 22, 1978
LOWEST DAILY MEAN	0.00	Aug 1, 1981
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 10, 1981
MAXIMUM PEAK FLOW	b2,720	Mar 29, 1978
MAXIMUM PEAK STAGE	c19.27	Mar 22, 1978
ANNUAL RUNOFF (AC-FT)	a24,110	
10 PERCENT EXCEEDS	51	
50 PERCENT EXCEEDS	2.8	
90 PERCENT EXCEEDS	0.03	

a--Based on complete water years only (1978-83).
 b--Gage height, 18.61 ft.
 c--Backwater from ice.
 e--Estimated.



06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

WATER-QUALITY RECORDS

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

REMARKS.--Quality assurance sample also collected at this location.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unfltrd lab, uS/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
Date	Sodium, percent (00932)	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Aluminum, water, fltrd, ug/L (01106)	Antimony, water, fltrd, ug/L (01095)	Arsenic, water, fltrd, ug/L (01000)	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)
MAR 09...	1145	9.2	8.2	8.3	1,600	1,600	7.0	0.0	60.9	48.1	6.00	5	218
AUG 17...	1020	2.1	8.4	8.4	2,410	2,420	21.0	19.1	68.5	79.9	11.0	7	357
MAR 09...	57	248	7.0	.17	<2.00	621	1,110	27.7	<50	<1	2.3	15.7	<1
AUG 17...	60	363	10.2	.25	3.82	989	1,730	9.91	<50	<1	3.5	57.0	<1
Date	Boron, water, fltrd, ug/L (01020)	Cadmium, water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Manganese, water, fltrd, ug/L (01056)	Nickel, water, fltrd, ug/L (01065)	Selenium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Thallium, water, fltrd, ug/L (01057)	Zinc, water, fltrd, ug/L (01090)	
MAR 09...	310	<1	<1	4.9	30	<1	10	2.57	<1	<1	<1	3.9	
AUG 17...	830	<1	11	7.2	60	<1	30	3.89	6.9	<1	<1	2.8	

12301300 TOBACCO RIVER NEAR EUREKA, MT

LOCATION.--Lat 48°53'37", long 115°05'13" (NAD 27), in NW¹/₄SE¹/₄SE¹/₄ 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.

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

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	156	169	143	e220	142	174	343	614	416	107	54
2	187	161	164	e143	e200	141	181	317	673	387	107	52
3	180	220	162	e146	e195	139	181	304	740	378	103	51
4	175	206	161	e150	e180	139	179	301	784	361	98	49
5	172	191	158	e140	e177	141	177	307	714	345	88	48
6	167	186	152	e150	e173	147	175	349	718	336	82	48
7	168	192	149	e155	e170	151	183	417	758	324	80	47
8	163	189	148	e148	e167	156	227	530	880	305	78	46
9	161	185	146	e150	e165	166	285	580	888	300	74	46
10	167	182	155	e150	e166	166	277	559	833	291	78	67
11	157	177	246	e160	174	171	265	539	807	284	79	111
12	153	173	309	e170	190	179	258	519	770	268	79	107
13	150	170	292	e165	193	184	251	515	711	254	79	102
14	145	165	280	e150	183	177	242	563	680	241	77	124
15	148	163	275	e150	164	172	232	633	668	231	73	120
16	155	163	249	e155	159	169	221	712	627	230	69	116
17	182	162	231	e170	162	170	237	809	652	236	71	111
18	183	159	215	e195	153	166	269	833	733	225	100	108
19	183	158	211	e230	163	152	265	768	687	214	85	104
20	181	154	201	e300	165	161	257	739	627	202	79	101
21	192	145	186	e380	180	158	258	663	585	193	74	98
22	198	147	179	e410	167	154	268	607	553	191	72	98
23	196	142	153	e380	163	148	297	573	545	195	79	96
24	189	144	163	e350	169	143	340	532	515	188	86	95
25	183	201	166	e325	163	142	406	500	482	166	81	94
26	176	227	166	e300	150	140	455	482	455	160	73	94
27	172	211	166	e280	144	151	485	479	437	152	69	94
28	167	186	158	e265	141	183	460	500	455	131	67	93
29	163	175	155	e240	---	206	413	525	459	123	69	94
30	161	173	152	e235	---	199	374	539	446	107	63	111
31	161	---	147	e230	---	184	---	552	---	102	57	---
TOTAL	5,329	5,263	5,864	6,715	4,796	4,997	8,292	16,589	19,496	7,536	2,476	2,579
MEAN	172	175	189	217	171	161	276	535	650	243	79.9	86.0
MAX	198	227	309	410	220	206	485	833	888	416	107	124
MIN	145	142	146	140	141	139	174	301	437	102	57	46
AC-FT	10,570	10,440	11,630	13,320	9,510	9,910	16,450	32,900	38,670	14,950	4,910	5,120
CFSM	0.39	0.40	0.43	0.49	0.39	0.37	0.63	1.22	1.48	0.55	0.18	0.20
IN.	0.45	0.44	0.50	0.57	0.41	0.42	0.70	1.40	1.65	0.64	0.21	0.22

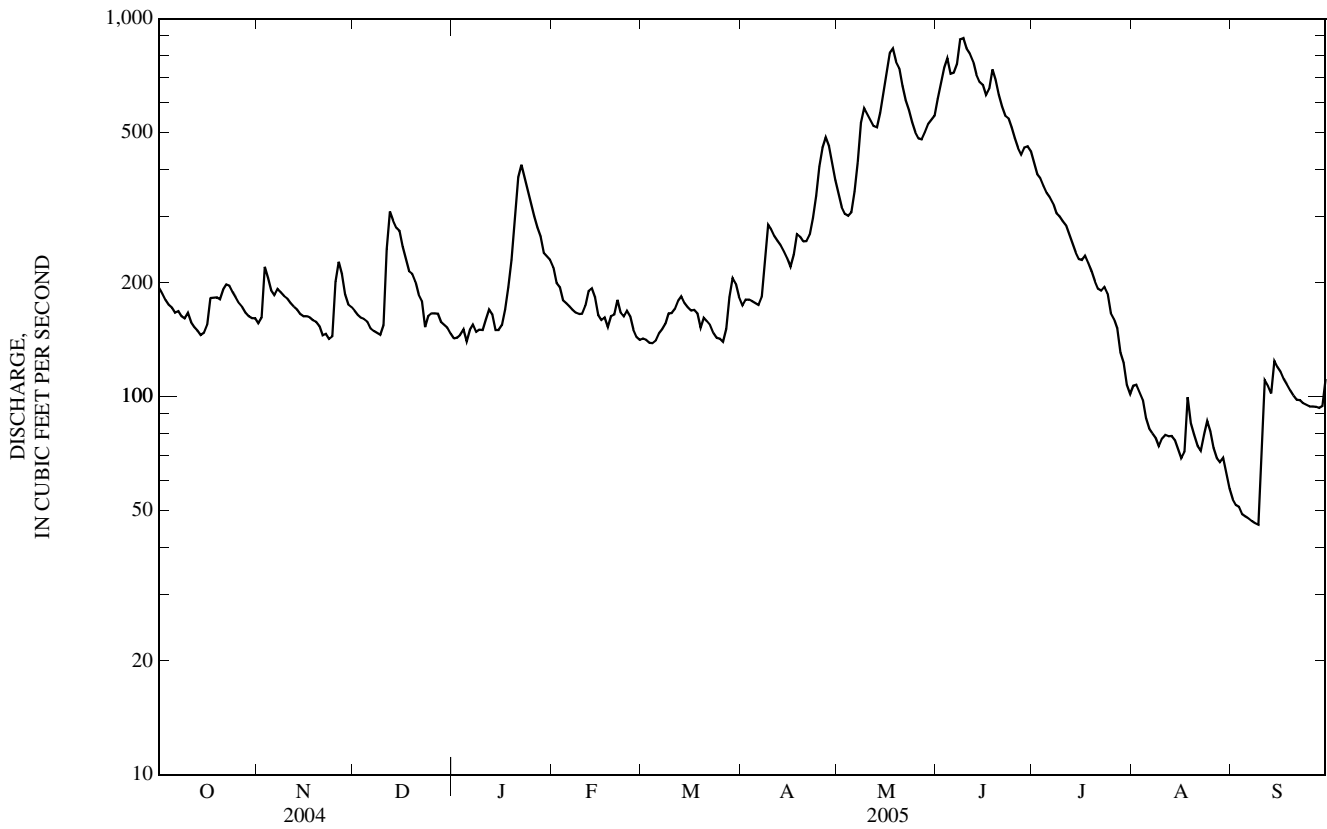
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2005, BY WATER YEAR (WY)

MEAN	113	131	114	103	110	155	421	758	728	303	125	110
MAX	343	368	415	248	492	422	883	1,469	1,498	576	235	253
(WY)	(1960)	(1990)	(1996)	(1974)	(1996)	(1972)	(1996)	(1997)	(1974)	(1974)	(1993)	(2004)
MIN	50.7	56.3	60.3	53.5	49.9	66.6	140	371	196	79.7	36.7	28.9
(WY)	(1995)	(1995)	(2002)	(1989)	(1988)	(2001)	(1970)	(2001)	(1992)	(1977)	(1988)	(2001)

12301300 TOBACCO RIVER NEAR EUREKA, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1959 - 2005	
ANNUAL TOTAL	80,170		89,932			
ANNUAL MEAN	219		246		264	
HIGHEST ANNUAL MEAN					496	1996
LOWEST ANNUAL MEAN					109	2001
HIGHEST DAILY MEAN	814	Apr 15	888	Jun 9	2,510	May 13, 1991
LOWEST DAILY MEAN	44	Aug 18	46	Sep 8	20	Jan 11, 1963
ANNUAL SEVEN-DAY MINIMUM	48	Jan 4	48	Sep 3	23	Sep 6, 1988
MAXIMUM PEAK FLOW			943	Jun 9	3,180	May 13, 1991
MAXIMUM PEAK STAGE			4.32	Jun 9	7.16	May 13, 1991
INSTANTANEOUS LOW FLOW			a45	Sep 8	22	Feb 7, 2001
ANNUAL RUNOFF (AC-FT)	159,000		178,400		191,600	
ANNUAL RUNOFF (CFSM)	0.498		0.560		0.601	
ANNUAL RUNOFF (INCHES)	6.78		7.60		8.17	
10 PERCENT EXCEEDS	451		541		698	
50 PERCENT EXCEEDS	177		175		132	
90 PERCENT EXCEEDS	59		91		67	

a--Also occurred on Sept. 9.
 e--Estimated.



12301920 LAKE KOOCANUSA NEAR LIBBY, MT

LOCATION.--Lat 48°24'38", long 115°18'47" (NAD 27), in NW¹/₄ sec.33, T.31 N., R.29 W., Lincoln County, Hydrologic Unit 17010101, Kootenai National Forest, in block 18 of Libby Dam on Kootenai River, 11 mi east of Libby and at river mile 221.8.

DRAINAGE AREA.--8,985 mi², approximately.

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

GAGE.--Water-stage recorder. Elevation of gage is 2,201.5 (NGVD 29) (levels by U.S. Army Corps of Engineers). Prior to July 2, 1973, nonrecording gage on upstream face of dam at same elevation.

REMARKS.--Reservoir and flow completely controlled by gravity type dam with taintor gated spillway; construction began in 1967; completed in 1973. Storage began Mar. 21, 1972. Usable capacity, 5,748,000 acre-ft between elevation 2,201.5 ft, bottom of sluice gate, and 2,459 ft, controlled spillway elevation. Dead storage, 121,200 acre-ft below elevation 2,201.5 ft. Minimum operating level, 768,700 acre-ft, elevation 2,287.0 ft for on-site power generation. All elevations are referenced to the National Geodetic Vertical Datum of 1929. Figures given herein represent usable contents. Water is used for power production, flood control, irrigation, and recreation.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,753,000 acre-ft, Aug. 6, 1976 and Aug. 16, 1982, maximum elevation, 2,459.12 ft, Aug. 16, 1982; minimum contents observed since normal low operating level reached in May 1972, 139,600 acre-ft, Dec. 16-21, 1972, elevation, 2,226.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 5,719,000 acre-ft, July 10, elevation, 2,458.37 ft; minimum, 3,648,000 acre-ft, Jan. 19, elevation, 2,408.24 ft.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

Elevation	Contents
2,360	2,232,000
2,380	2,765,000
2,400	3,367,000
2,420	4,085,000
2,440	4,899,000
2,460	5,795,000

ELEVATION ABOVE NGVD 1929, FEET, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,446.74	2,447.39	2,434.17	2,410.27	2,411.89	2,412.63	2,413.20	2,419.45	2,439.07	2,457.14	2,451.55	2,439.29
2	2,446.69	2,447.01	2,433.17	2,409.87	2,411.92	2,412.61	2,413.22	2,419.88	2,440.06	2,457.40	2,451.14	2,439.02
3	2,446.60	2,446.38	2,432.18	2,409.68	2,412.03	2,412.61	2,413.26	2,420.22	2,440.94	2,457.51	2,450.73	2,438.70
4	2,446.49	2,445.80	2,431.47	2,409.41	2,412.15	2,412.61	2,413.26	2,420.70	2,441.96	2,457.35	2,450.35	2,438.45
5	2,446.42	2,445.14	2,430.95	2,409.21	2,412.23	2,412.59	2,413.23	2,421.07	2,442.97	2,457.64	2,449.84	2,438.17
6	2,446.31	2,444.80	2,430.14	2,409.10	2,412.42	2,412.61	2,413.28	2,421.62	2,444.04	2,457.78	2,449.37	2,438.00
7	2,446.20	2,444.36	2,429.09	2,409.05	2,412.46	2,412.56	2,413.28	2,422.30	2,445.32	2,457.95	2,448.94	2,437.77
8	2,446.10	2,443.79	2,428.08	2,408.98	2,412.52	2,412.63	2,413.28	2,423.30	2,446.54	2,458.15	2,448.53	2,437.59
9	2,445.98	2,443.23	2,427.36	2,408.90	2,412.52	2,412.63	2,413.28	2,424.30	2,447.70	2,458.31	2,448.00	2,437.36
10	2,445.96	2,442.56	2,426.73	2,408.84	2,412.55	2,412.63	2,413.40	2,425.32	2,448.61	2,458.31	2,447.48	2,437.35
11	2,445.96	2,441.90	2,426.48	2,408.72	2,412.63	2,412.66	2,413.45	2,426.16	2,449.26	2,458.19	2,447.07	2,437.16
12	2,446.04	2,441.24	2,426.16	2,408.75	2,412.63	2,412.73	2,413.55	2,427.05	2,449.77	2,457.97	2,446.58	2,437.10
13	2,446.08	2,440.82	2,425.40	2,408.72	2,412.68	2,412.82	2,413.58	2,428.01	2,450.44	2,457.62	2,446.05	2,437.03
14	2,446.14	2,440.39	2,424.17	2,408.61	2,412.70	2,412.84	2,413.60	2,429.00	2,450.79	2,457.36	2,445.57	2,437.03
15	2,446.20	2,439.92	2,423.23	2,408.54	2,412.73	2,412.84	2,413.65	2,430.27	2,451.09	2,457.10	2,445.06	2,437.06
16	2,446.30	2,439.38	2,422.13	2,408.47	2,412.75	2,412.89	2,413.76	2,431.62	2,451.29	2,456.75	2,444.50	2,437.06
17	2,446.50	2,438.89	2,421.25	2,408.35	2,412.82	2,412.94	2,413.79	2,433.35	2,451.36	2,456.44	2,444.10	2,437.10
18	2,446.54	2,438.43	2,420.40	2,408.27	2,412.73	2,413.04	2,413.90	2,435.18	2,451.94	2,456.13	2,443.69	2,437.08
19	2,446.72	2,438.16	2,419.64	2,408.40	2,412.77	2,413.04	2,413.99	2,436.17	2,452.77	2,455.82	2,443.35	2,437.06
20	2,446.75	2,437.88	2,418.91	2,408.77	2,412.75	2,413.04	2,414.07	2,436.90	2,453.44	2,455.44	2,443.01	2,437.06
21	2,446.85	2,437.60	2,418.00	2,409.11	2,412.73	2,413.04	2,414.13	2,437.41	2,453.98	2,455.04	2,442.61	2,437.06
22	2,446.91	2,437.41	2,417.25	2,409.45	2,412.75	2,413.10	2,414.27	2,437.72	2,454.47	2,454.73	2,442.09	2,436.99
23	2,447.04	2,437.17	2,416.39	2,409.72	2,412.72	2,413.10	2,414.50	2,437.66	2,455.08	2,454.52	2,441.88	2,436.89
24	2,447.14	2,436.89	2,415.78	2,410.10	2,412.68	2,413.00	2,414.83	2,437.48	2,455.58	2,454.31	2,441.35	2,436.83
25	2,447.22	2,436.67	2,415.21	2,410.37	2,412.66	2,412.98	2,415.26	2,437.22	2,455.79	2,454.03	2,441.00	2,436.68
26	2,447.30	2,436.47	2,414.68	2,410.68	2,412.66	2,413.00	2,415.90	2,436.95	2,455.93	2,453.70	2,440.70	2,436.62
27	2,447.34	2,436.30	2,413.60	2,410.91	2,412.66	2,413.03	2,416.60	2,436.70	2,455.98	2,453.36	2,440.51	2,436.65
28	2,447.36	2,435.98	2,412.58	2,411.15	2,412.60	2,413.05	2,417.70	2,436.86	2,456.23	2,453.08	2,440.31	2,436.49
29	2,447.36	2,435.73	2,411.76	2,411.31	---	2,413.11	2,418.37	2,437.22	2,456.58	2,452.66	2,440.08	2,436.43
30	2,447.42	2,435.14	2,411.18	2,411.48	---	2,413.14	2,418.96	2,437.78	2,456.91	2,452.33	2,439.79	2,436.62
31	2,447.45	---	2,410.72	2,411.67	---	2,413.20	---	2,438.33	---	2,451.95	2,439.54	---
MEAN	2,446.65	2,440.43	2,422.20	2,409.51	2,412.55	2,412.86	2,414.35	2,430.43	2,450.20	2,456.00	2,444.99	2,437.32
MAX	2,447.45	2,447.39	2,434.17	2,411.67	2,412.82	2,413.20	2,418.96	2,438.33	2,456.91	2,458.31	2,451.55	2,439.29
MIN	2,445.96	2,435.14	2,410.72	2,408.27	2,411.89	2,412.56	2,413.20	2,419.45	2,439.07	2,451.95	2,439.54	2,436.43

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

5,224 4,694 3,738 3,772 3,806 3,828 4,045 4,828 5,652 5,425 4,880 4,756

CHANGE IN CONTENTS, IN ACRE-FEET

+27,000 -53,000 -956,000 +34,000 +34,000 +22,000 +217,000 +783,000 +824,000 -227,000 -545,000 -124,000

CALENDAR YEAR 2004 +39,000

WATER YEAR 2005 -441,000

12301933 KOOTENAI RIVER BELOW LIBBY DAM, NEAR LIBBY, MT

LOCATION.--Lat 48°24'03", long 115°19'11" (NAD 27), in SW¹/₄ SW¹/₄ SW¹/₄ 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.

GAGE.--Water-stage recorder. Elevation 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 elevation.

REMARKS.--Records good. Flow completely regulated by Lake Koocanusa since 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. Several unpublished observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--34 years, 11,020 ft³/s, 16.65 in/yr, 7,984,000 acre-ft/yr, adjusted for change in contents in Lake Koocanusa since Mar. 21, 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,200 ft³/s, Aug. 5, 1974, gage height, 27.50 ft; minimum daily, 1,900 ft³/s, Jan. 29, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,500 ft³/s, Dec. 14, gage height, 24.21 ft; minimum daily, 3,950 ft³/s, Feb. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,820	7,950	24,100	11,000	3,980	4,030	4,050	4,090	17,600	24,200	19,000	11,900
2	9,990	16,000	25,900	9,250	3,980	4,110	4,050	4,090	14,900	24,200	19,000	11,900
3	9,990	19,800	25,900	7,280	3,980	4,100	4,040	4,100	13,900	24,300	19,100	11,900
4	9,840	19,800	20,500	6,050	3,980	4,030	4,050	4,250	13,900	24,200	19,100	11,900
5	9,750	19,800	15,300	5,570	3,980	4,030	4,050	4,090	13,900	19,400	19,000	11,900
6	9,750	14,900	22,600	5,040	3,990	4,020	4,050	4,100	13,900	19,200	19,000	9,150
7	9,760	14,800	26,400	4,490	3,980	4,050	4,050	4,080	13,800	19,200	19,100	9,200
8	9,690	18,300	24,800	3,990	3,970	4,060	4,060	4,080	14,200	19,100	19,100	9,790
9	8,430	20,100	19,100	3,990	3,980	4,030	4,060	4,060	14,100	18,800	19,200	9,810
10	7,800	20,100	15,600	3,990	3,980	4,030	4,060	4,060	16,700	22,700	19,200	9,780
11	6,750	20,100	15,600	4,000	3,970	4,010	4,060	4,080	24,000	24,100	19,200	9,860
12	5,800	20,000	15,700	4,000	3,970	3,990	4,570	4,100	24,100	24,200	19,300	9,770
13	5,310	14,900	23,000	4,000	3,970	3,990	4,060	4,110	21,700	24,100	19,300	7,990
14	4,880	12,300	27,200	4,000	3,960	3,990	4,150	4,080	23,500	24,200	19,200	7,990
15	4,840	15,700	26,900	4,010	3,950	3,970	4,060	4,080	24,500	24,100	19,200	7,980
16	4,840	17,200	26,700	4,010	3,970	3,990	4,070	4,070	24,700	24,200	19,200	7,970
17	4,840	17,200	26,500	4,010	3,970	4,000	4,070	4,060	24,700	24,200	19,100	7,960
18	4,820	14,100	20,600	4,020	3,980	3,990	4,070	5,110	24,000	24,200	16,400	7,980
19	4,830	12,200	20,700	4,020	3,970	3,990	4,060	14,200	24,300	24,200	16,400	8,010
20	4,830	9,950	20,900	3,990	3,960	3,990	4,070	15,300	24,600	24,300	16,400	8,040
21	4,820	9,950	21,100	4,020	3,960	4,000	4,070	19,400	24,300	23,900	16,400	8,010
22	4,810	9,950	21,100	4,020	3,970	3,990	4,120	20,500	24,300	19,200	16,400	8,040
23	4,830	9,950	20,600	4,020	3,970	3,990	4,110	24,600	24,200	19,100	16,500	7,990
24	4,830	9,950	15,500	4,020	4,000	3,990	4,110	25,800	24,400	19,300	16,500	7,970
25	4,830	9,950	15,600	4,020	4,020	4,000	4,110	25,900	24,100	19,300	15,900	8,000
26	4,820	9,960	15,600	4,010	4,030	3,990	4,160	25,900	24,300	19,300	13,700	7,950
27	4,820	9,900	22,500	4,000	4,020	3,990	4,110	24,400	24,300	19,300	11,900	7,010
28	4,850	9,870	25,600	4,000	4,020	4,010	4,090	18,600	24,200	18,900	11,900	7,060
29	4,790	9,900	20,100	3,990	---	3,990	4,130	17,300	24,200	18,900	11,900	7,020
30	4,800	16,700	15,200	3,990	---	4,000	4,100	15,800	24,200	18,900	11,900	6,990
31	4,790	---	12,900	3,990	---	4,030	---	17,600	---	18,900	11,900	---
TOTAL	199,550	431,280	649,800	144,790	111,460	124,380	122,870	339,990	629,500	672,100	529,400	266,820
MEAN	6,437	14,380	20,960	4,671	3,981	4,012	4,096	10,970	20,980	21,680	17,080	8,894
MAX	9,990	20,100	27,200	11,000	4,030	4,110	4,570	25,900	24,700	24,300	19,300	11,900
MIN	4,790	7,950	12,900	3,990	3,950	3,970	4,040	4,060	13,800	18,800	11,900	6,990
AC-FT	395,800	855,400	1,289,000	287,200	221,100	246,700	243,700	674,400	1,249,000	1,333,000	1,050,000	529,200
CFSM	0.72	1.60	2.33	0.52	0.44	0.45	0.46	1.22	2.34	2.41	1.90	0.99
IN.	0.83	1.79	2.69	0.60	0.46	0.51	0.51	1.41	2.61	2.78	2.19	1.10

ADJUSTED FOR CHANGE IN CONTENTS OF LAKE KOOCANUSA

MEAN	6,876	5,468	5,416	5,224	4,593	4,370	7,742	23,700	34,840	17,990	8,213	6,810
CFSM	.77	.61	.60	.58	.51	.49	.86	2.64	3.88	2.00	.91	.76
IN	.88	.68	.69	.67	.53	.56	.96	3.04	4.33	2.31	1.05	.85
AC-FT	422,800	325,400	333,000	321,200	255,100	268,700	460,700	1,457,400	2,073,000	1,106,000	505,000	405,200

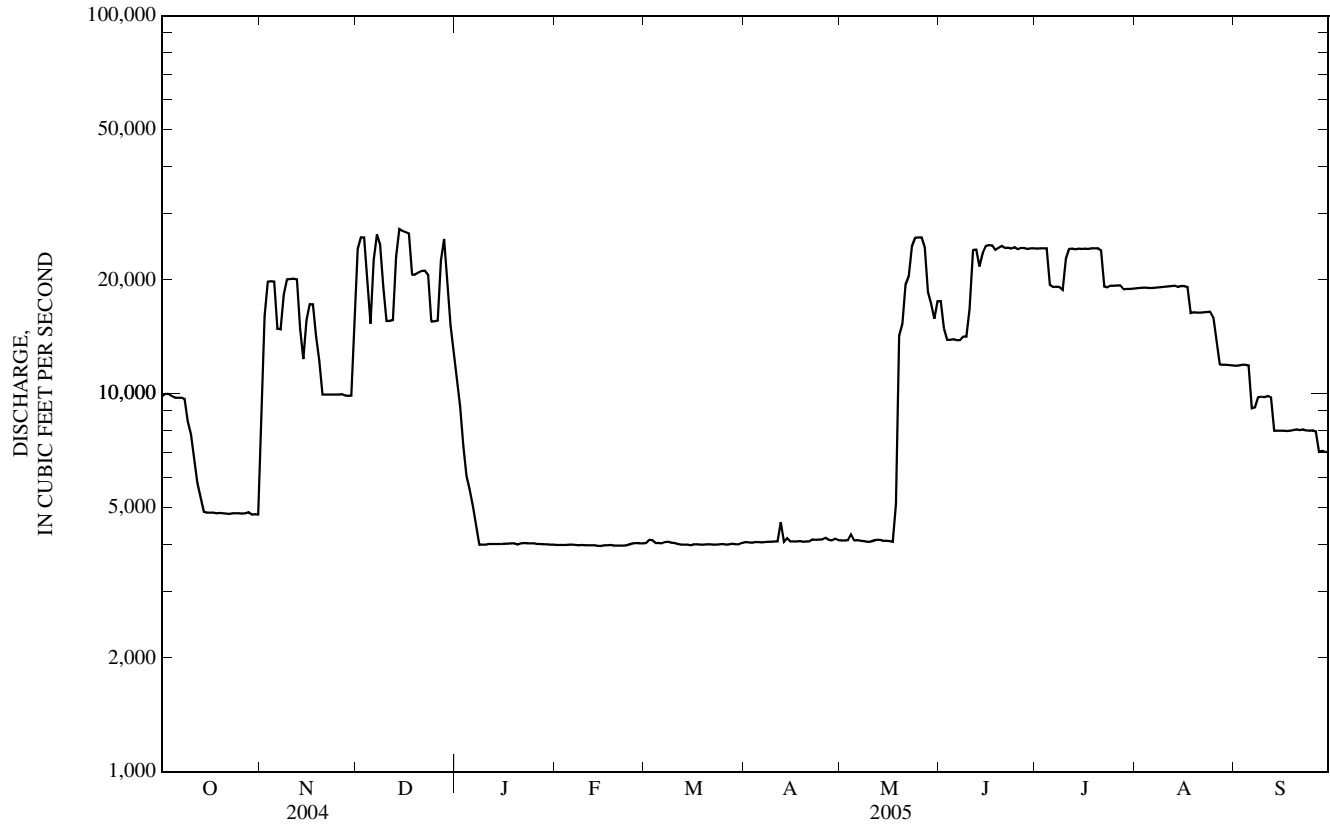
OBSERVED

CALENDAR YEAR 2004	TOTAL	3,556,640	MEAN	9,718	MAX	27,200	MIN	3,940	AC-FT	7,055,000
WATER YEAR 2005	TOTAL	4,221,940	MEAN	11,570	MAX	27,200	MIN	3,950	AC-FT	8,374,000

ADJUSTED

CALENDAR YEAR 2004	TOTAL	3,553,617	MEAN	9,709	CFSM	1.08	IN	14.80	AC-FT	7,094,000
WATER YEAR 2005	TOTAL	3,999,748	MEAN	10,960	CFSM	1.22	IN	16.55	AC-FT	7,933,000

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



12302055 FISHER RIVER NEAR LIBBY, MT

LOCATION.--Lat 48°21'20", long 115°18'50" (NAD 27), in NW¹/₄NE¹/₄NW¹/₄ 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.

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

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions of about 700 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about May 22, 1948, reached a discharge of 6,560 ft³/s, by slope-area measurement at site 0.5 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	141	186	183	409	182	315	547	370	226	88	58
2	107	141	177	180	385	181	335	510	438	210	84	57
3	105	206	170	180	364	178	336	490	518	205	79	57
4	103	214	166	197	352	177	334	482	581	201	77	55
5	101	195	162	162	380	175	330	485	506	192	76	54
6	99	183	158	166	354	177	325	507	489	178	74	55
7	101	175	157	e210	325	182	329	572	471	168	71	56
8	99	169	157	e200	307	190	383	635	536	158	74	56
9	99	164	163	e190	300	198	494	642	546	153	73	55
10	103	160	175	e170	284	207	509	644	473	158	71	63
11	103	157	721	e170	270	209	496	618	429	155	70	72
12	101	154	1,190	e180	272	218	489	570	398	148	71	73
13	99	151	751	e180	267	230	474	549	379	139	78	76
14	99	148	584	e170	260	224	451	573	357	132	77	73
15	97	146	500	e170	236	218	432	590	345	127	72	69
16	98	144	429	e180	213	213	414	646	325	126	71	67
17	126	144	382	e190	218	217	428	716	353	131	68	68
18	169	142	345	e230	214	216	468	641	447	127	70	67
19	167	143	321	e400	225	211	466	567	405	118	73	66
20	157	140	310	e700	225	210	450	545	360	112	69	65
21	155	135	288	e900	202	211	444	527	326	105	67	62
22	183	134	269	933	200	206	448	509	301	102	71	62
23	183	132	236	849	197	203	478	505	287	102	71	62
24	176	130	243	790	193	196	572	464	272	100	70	62
25	165	179	235	711	189	192	734	436	255	97	70	63
26	156	262	227	647	186	189	772	416	241	96	67	63
27	149	239	217	596	182	213	889	405	235	92	64	62
28	144	220	209	549	179	286	834	397	244	89	61	62
29	139	204	203	502	---	319	696	397	244	86	59	62
30	140	195	198	465	---	335	608	390	243	82	58	72
31	148	---	195	433	---	328	---	368	---	80	58	---
TOTAL	3,980	5,047	9,724	11,783	7,388	6,691	14,733	16,343	11,374	4,195	2,202	1,894
MEAN	128	168	314	380	264	216	491	527	379	135	71.0	63.1
MAX	183	262	1,190	933	409	335	889	716	581	226	88	76
MIN	97	130	157	162	179	175	315	368	235	80	58	54
AC-FT	7,890	10,010	19,290	23,370	14,650	13,270	29,220	32,420	22,560	8,320	4,370	3,760
CFSM	0.15	0.20	0.37	0.45	0.31	0.26	0.59	0.63	0.45	0.16	0.08	0.08
IN.	0.18	0.22	0.43	0.52	0.33	0.30	0.65	0.73	0.50	0.19	0.10	0.08

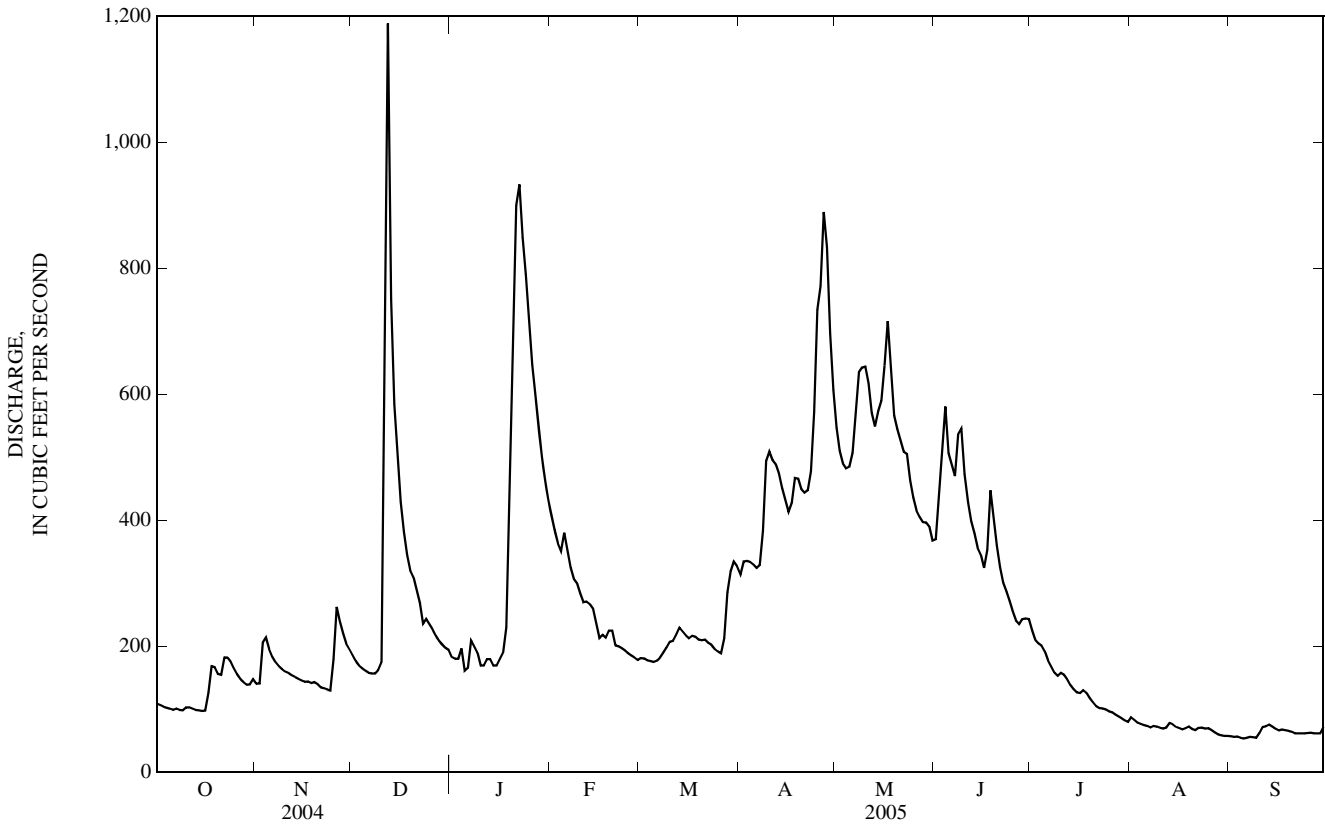
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2005, BY WATER YEAR (WY)

MEAN	133	224	240	254	344	576	1,191	1,357	804	285	136	117
MAX	305	819	1,174	1,272	1,965	2,401	2,752	3,300	1,796	532	244	204
(WY)	(1986)	(1996)	(1996)	(1974)	(1996)	(1972)	(1997)	(1997)	(1974)	(1971)	(1997)	(1968)
MIN	76.4	87.0	90.4	77.9	95.0	134	318	482	221	92.7	56.0	54.6
(WY)	(2002)	(1980)	(1993)	(1979)	(1993)	(2001)	(2001)	(1977)	(1977)	(1977)	(1994)	(2001)

12302055 FISHER RIVER NEAR LIBBY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1968 - 2005	
ANNUAL TOTAL	117,039		95,354			
ANNUAL MEAN	320		261		472	
HIGHEST ANNUAL MEAN					938	
LOWEST ANNUAL MEAN					169	
HIGHEST DAILY MEAN	1,340	Apr 15	1,190	Dec 12	7,790	Feb 9, 1996
LOWEST DAILY MEAN	60	Jan 7	54	Sep 5	35	Jan 2, 1977
ANNUAL SEVEN-DAY MINIMUM	71	Jan 3	55	Sep 3	50	Aug 18, 1994
MAXIMUM PEAK FLOW			a1,520	Dec 11	c12,000	Feb 9, 1996
MAXIMUM PEAK STAGE			b5.95	Jan 19	10.35	Feb 9, 1996
INSTANTANEOUS LOW FLOW					29	Jan 2, 1977
ANNUAL RUNOFF (AC-FT)	232,100		189,100		341,600	
ANNUAL RUNOFF (CFSM)	0.382		0.312		0.563	
ANNUAL RUNOFF (INCHES)	5.20		4.23		7.65	
10 PERCENT EXCEEDS	764		545		1,220	
50 PERCENT EXCEEDS	170		195		206	
90 PERCENT EXCEEDS	101		70		96	

a--Gage height, 5.56 ft.
 b--Backwater from ice jam.
 c--From indirect measurement.
 e--Estimated.



12304500 YAAK RIVER NEAR TROY, MT

LOCATION.--Lat 48°33'43", long 115°58'09" (NAD 27), in NE¹/₄SE¹/₄SE¹/₄ 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.

GAGE.--Water-stage recorder. Elevation 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 elevations.

REMARKS.--Records good. Minor diversions for irrigation upstream from station. U.S. Army Corps of Engineers satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May to June 1948 reached a stage of 11.0 ft, from floodmarks; discharge, 12,500 ft³/s. Flood in May 1954 reached a stage of 11.4 ft, from floodmarks; discharge, 13,400 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	187	296	307	760	331	627	1,310	968	906	222	121
2	136	250	285	244	722	330	743	1,240	1,180	819	215	120
3	133	521	276	268	691	326	729	1,220	1,240	780	207	118
4	132	397	278	252	679	324	698	1,250	1,140	728	200	113
5	129	320	274	210	716	323	672	1,350	1,020	669	195	110
6	128	285	263	234	690	329	649	1,520	1,000	623	188	108
7	133	285	252	293	630	344	676	1,720	1,060	591	182	108
8	129	296	254	e260	576	376	879	1,900	1,500	554	176	105
9	132	287	250	e240	522	398	993	1,950	1,460	576	170	103
10	157	271	271	e230	511	422	943	1,960	1,340	580	168	115
11	143	260	1,790	e220	502	434	912	1,840	1,260	584	171	194
12	138	247	1,890	e230	502	478	900	1,740	1,180	551	172	235
13	132	231	1,150	e250	523	490	859	1,760	1,090	500	169	234
14	128	223	945	e230	e470	473	822	1,830	1,050	460	164	203
15	127	225	831	e210	412	457	792	1,830	1,060	431	160	177
16	129	243	731	218	375	452	770	2,170	1,000	417	154	158
17	187	251	664	254	385	457	901	2,300	1,150	480	152	147
18	198	250	612	308	390	446	977	2,000	1,470	446	190	139
19	209	249	580	e540	409	421	934	2,020	1,380	401	193	136
20	203	234	565	854	402	411	907	1,900	1,220	371	176	129
21	252	215	522	1,000	374	413	932	1,760	1,080	348	160	123
22	284	206	470	e1,040	364	401	1,030	1,660	986	332	150	119
23	289	208	386	1,060	357	388	1,200	1,540	917	325	146	116
24	259	216	408	1,090	350	374	1,420	1,400	851	312	153	115
25	232	526	425	1,050	343	367	1,730	1,310	800	296	151	115
26	214	587	425	989	337	373	1,970	1,220	762	287	146	115
27	200	477	408	938	332	430	2,160	1,180	726	274	139	113
28	190	387	384	903	327	724	1,920	1,150	848	264	133	109
29	182	328	365	858	---	803	1,640	1,110	982	252	127	113
30	191	305	356	813	---	727	1,440	1,040	1,000	240	125	161
31	201	---	350	784	---	645	---	974	---	230	123	---
TOTAL	5,437	8,967	16,956	16,377	13,651	13,667	31,825	49,154	32,720	14,627	5,177	4,072
MEAN	175	299	547	528	488	441	1,061	1,586	1,091	472	167	136
MAX	289	587	1,890	1,090	760	803	2,160	2,300	1,500	906	222	235
MIN	127	187	250	210	327	323	627	974	726	230	123	103
MED	157	255	408	293	441	413	910	1,660	1,060	446	168	119
AC-FT	10,780	17,790	33,630	32,480	27,080	27,110	63,120	97,500	64,900	29,010	10,270	8,080
CFSM	0.23	0.39	0.71	0.69	0.64	0.58	1.38	2.07	1.42	0.62	0.22	0.18
IN.	0.26	0.44	0.82	0.80	0.66	0.66	1.55	2.39	1.59	0.71	0.25	0.20

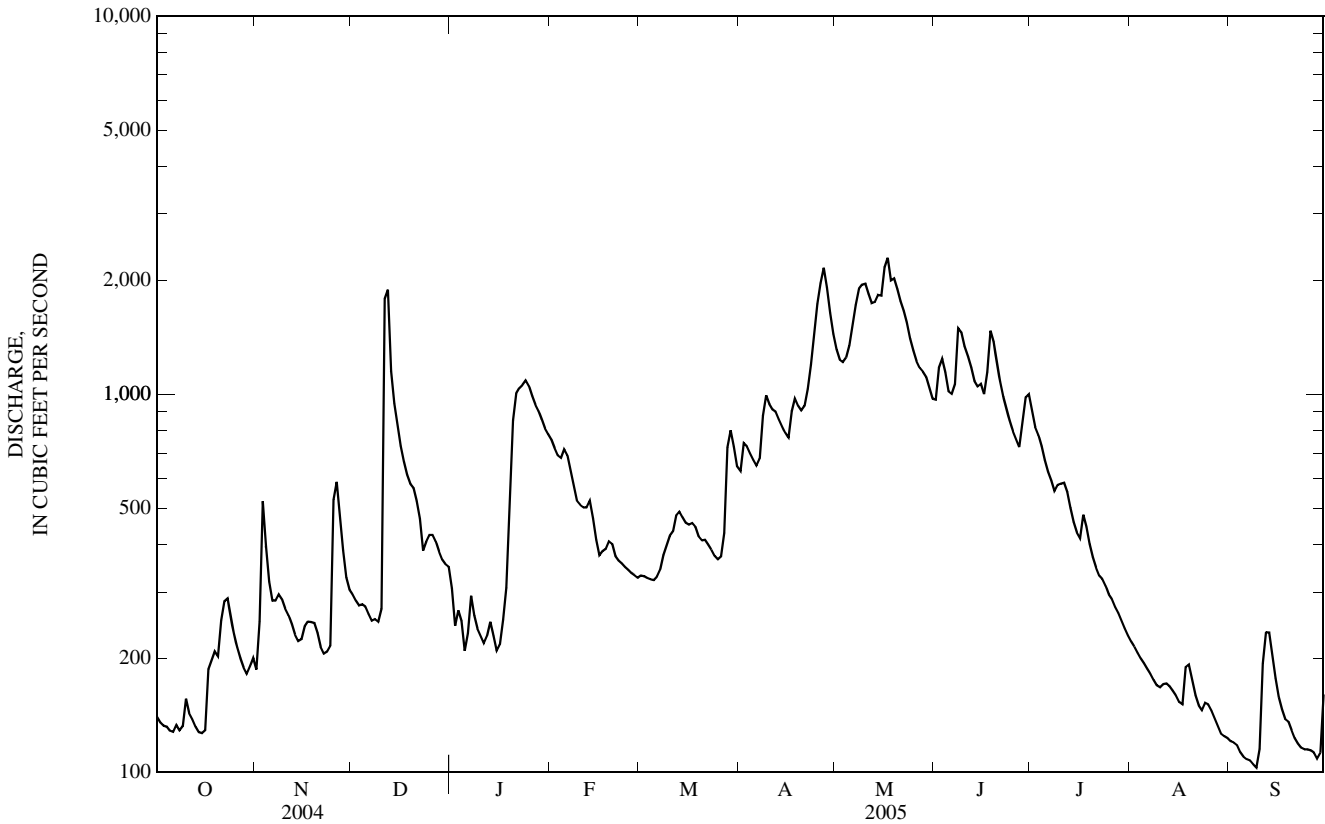
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2005, BY WATER YEAR (WY)

MEAN	195	315	320	294	353	593	1,904	3,418	1,886	490	194	162
MAX	833	1,192	1,630	1,552	1,626	1,872	3,754	6,463	4,992	970	373	506
(WY)	(1960)	(1996)	(1996)	(1974)	(1996)	(1972)	(1969)	(1997)	(1974)	(1969)	(1993)	(1959)
MIN	84.0	93.2	94.0	94.6	83.0	134	421	1,026	377	151	80.9	53.2
(WY)	(1988)	(1980)	(2003)	(1988)	(2001)	(2001)	(2001)	(1977)	(1992)	(1977)	(2001)	(2001)

12304500 YAAK RIVER NEAR TROY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1957 - 2005	
ANNUAL TOTAL	203,520		212,630			
ANNUAL MEAN	556		583		845	
HIGHEST ANNUAL MEAN					1,562	1974
LOWEST ANNUAL MEAN					278	1977
HIGHEST DAILY MEAN	2,830	Apr 9	2,300	May 17	11,600	May 16, 1997
LOWEST DAILY MEAN	65	Jan 7	103	Sep 9	49	Sep 19, 2001
ANNUAL SEVEN-DAY MINIMUM	76	Jan 2	109	Sep 4	49	Sep 19, 2001
MAXIMUM PEAK FLOW			2,550	Dec 11	b12,600	May 17, 1997
MAXIMUM PEAK STAGE			6.10	Dec 11	c9.70	May 21, 1956
INSTANTANEOUS LOW FLOW			a102	Sep 9	47	Sep 22, 2001
ANNUAL RUNOFF (AC-FT)	403,700		421,800		612,100	
ANNUAL RUNOFF (CFSM)	0.726		0.761		1.10	
ANNUAL RUNOFF (INCHES)	9.88		10.33		14.99	
10 PERCENT EXCEEDS	1,550		1,280		2,500	
50 PERCENT EXCEEDS	252		387		285	
90 PERCENT EXCEEDS	116		136		119	

a--Gage height, 2.94 ft.
 b--Gage height, 9.58 ft.
 c--Gage height in well, from outside gage.
 e--Estimated.



12305000 KOOTENAI RIVER AT LEONIA, ID

LOCATION.--Lat 48°37'04", long 116°02'47", in NW¹/₄NW¹/₄NW¹/₄ sec.20, T.33 N., R.34 W., principal Meridian, Lincoln County, Montana, Leonia quad., Hydrologic Unit 17010104, on right bank at Leonia, 450 ft east 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 current year.

GAGE.--Water-stage recorder. Datum of gage is 1,790.25 ft above NGVD of 1929. 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.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry. Diversions above station for irrigation of about 14,600 acres. Flow regulated by Libby Dam and power plant since Mar. 21, 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (1929-71), 123,000 ft³/s, May 28, 1948, gage height, 33.40 ft; minimum, 996 ft³/s, Dec. 9, 1936; minimum gage height, 7.56 ft, Dec. 10, 1929. Maximum discharge since regulation began in 1972, 62,000 ft³/s, Jan. 16, 1974, gage height, 24.15 ft; maximum gage height, 25.06 ft, Feb. 9, 1996; minimum daily discharge, 2,270 ft³/s, Dec. 9, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of June 1894 and 1916 reached stages of 34.6 and 31.6 ft, respectively, present datum, from information by Great Northern Railway.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 31,500 ft³/s, Dec. 14; gage height, 19.72 ft; minimum daily, 4,850 ft³/s, Jan. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,400	6,790	22,700	12,600	7,170	5,530	6,740	8,370	20,100	25,600	18,400	11,700
2	10,500	13,000	26,400	11,000	6,990	5,540	7,010	8,130	19,300	25,400	18,400	11,700
3	10,500	20,800	26,600	9,720	6,880	5,610	6,960	8,110	17,100	25,300	18,400	11,800
4	10,500	20,400	22,600	8,070	6,830	5,550	6,870	8,240	16,800	25,200	18,400	11,800
5	10,300	20,300	17,300	7,190	6,970	5,490	6,790	8,380	16,500	21,800	18,300	11,800
6	10,300	17,000	19,400	6,620	6,860	5,500	6,710	8,720	16,400	19,500	18,300	10,500
7	10,300	15,300	26,800	6,230	6,680	5,550	6,740	9,240	16,200	19,400	18,300	9,540
8	10,300	16,900	27,000	5,730	6,510	5,670	7,170	9,620	16,900	19,400	18,400	9,980
9	9,880	20,200	21,100	5,380	6,360	5,750	7,530	9,840	16,800	19,100	18,400	10,100
10	9,000	20,200	16,500	5,300	6,280	5,790	7,540	9,780	16,500	21,300	18,400	10,200
11	8,350	20,200	24,100	5,300	6,220	5,820	7,490	9,490	25,300	24,800	18,500	10,300
12	7,340	20,200	24,300	5,340	6,190	5,910	7,710	9,220	26,200	24,700	18,500	10,300
13	6,570	16,700	24,500	5,280	6,210	5,970	7,520	9,210	24,300	24,600	18,600	9,470
14	6,030	13,700	31,200	e4,850	6,130	5,940	7,190	9,470	25,000	24,500	18,500	8,800
15	5,760	14,400	30,500	e4,950	5,890	5,890	7,150	9,510	26,600	24,500	18,500	8,740
16	5,750	17,200	29,700	5,080	5,750	5,860	6,990	10,300	26,500	24,600	18,500	8,690
17	6,230	17,400	29,400	5,220	5,720	5,910	7,290	10,500	27,200	24,600	18,500	8,690
18	6,390	15,400	24,500	5,510	5,720	5,890	7,470	9,860	27,400	24,600	16,800	8,670
19	6,310	13,500	22,400	7,150	5,760	5,830	7,390	15,300	27,000	24,500	15,900	8,670
20	6,260	11,600	22,400	9,310	5,750	5,810	7,310	19,600	26,800	24,300	15,900	8,700
21	6,390	10,900	22,600	9,330	5,640	5,800	7,330	21,600	26,400	24,500	15,900	8,640
22	6,510	10,800	22,400	9,360	5,590	5,740	7,490	24,600	26,300	20,400	15,900	8,630
23	6,520	10,800	22,100	9,040	5,580	5,700	7,860	26,700	26,000	18,900	15,900	8,620
24	6,410	10,800	17,900	8,950	5,570	5,640	8,550	29,500	26,000	18,900	15,900	8,590
25	6,300	11,600	16,600	8,700	5,590	5,610	9,610	29,300	25,500	19,000	15,600	8,580
26	6,220	11,900	16,500	8,380	5,570	5,620	10,100	29,200	25,600	18,900	14,100	8,600
27	6,170	11,600	20,100	8,120	5,550	5,880	10,700	29,100	25,500	18,900	12,400	8,090
28	6,110	11,300	27,100	7,900	5,530	6,820	10,100	22,800	25,600	18,500	11,900	7,670
29	6,080	11,200	22,600	7,670	---	7,060	9,310	20,700	25,900	18,400	11,800	7,710
30	6,060	14,000	17,300	7,430	---	6,950	8,780	17,800	25,800	18,400	11,800	7,930
31	6,070	---	14,500	7,280	---	6,770	---	19,800	---	18,300	11,800	---
TOTAL	235,810	446,090	709,100	227,990	171,490	182,400	233,400	471,990	693,500	680,800	514,900	283,210
MEAN	7,607	14,870	22,870	7,355	6,125	5,884	7,780	15,230	23,120	21,960	16,610	9,440
MAX	10,500	20,800	31,200	12,600	7,170	7,060	10,700	29,500	27,400	25,600	18,600	11,800
MIN	5,750	6,790	14,500	4,850	5,530	5,490	6,710	8,110	16,200	18,300	11,800	7,670
AC-FT	467,700	884,800	1,406,000	452,200	340,200	361,800	462,900	936,200	1,376,000	1,350,000	1,021,000	561,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1971, BY WATER YEAR (WY) (UNREGULATED)

MEAN	6,511	5,700	4,765	4,024	4,338	4,896	14,480	38,710	45,100	22,770	9,926	7,020
MAX	15,540	11,280	13,700	11,330	10,630	10,390	39,940	61,770	74,280	47,510	16,910	16,560
(WY)	(1948)	(1934)	(1934)	(1934)	(1951)	(1934)	(1934)	(1956)	(1967)	(1954)	(1954)	(1959)
MIN	3,532	2,748	2,477	1,922	1,994	2,693	4,334	18,630	20,630	9,819	6,142	4,744
(WY)	(1937)	(1937)	(1945)	(1937)	(1936)	(1944)	(1945)	(1944)	(1941)	(1944)	(1941)	(1936)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2005, BY WATER YEAR (WY) (REGULATED)

MEAN	13,950	16,080	16,400	14,820	12,340	8,715	10,920	15,220	17,570	13,360	11,740	11,070
MAX	31,980	26,400	28,140	28,610	24,790	15,160	25,570	31,670	39,200	29,740	20,310	20,960
(WY)	(1973)	(1992)	(1991)	(1976)	(1990)	(1990)	(1996)	(1997)	(1972)	(2002)	(1976)	(1972)
MIN	5,042	5,004	3,423	3,109	3,724	4,350	5,588	8,352	5,374	4,139	3,956	5,539
(WY)	(2004)	(1972)	(1972)	(1972)	(1973)	(1973)	(2001)	(1977)	(1977)	(1988)	(1975)	(1994)

12305000 KOOTENAI RIVER AT LEONIA, ID—Continued

SUMMARY STATISTICS

WATER YEARS 1929 - 1971*

ANNUAL TOTAL					
ANNUAL MEAN					14,050
HIGHEST ANNUAL MEAN					19,240
LOWEST ANNUAL MEAN					7,416
HIGHEST DAILY MEAN					122,000
LOWEST DAILY MEAN					1,070
ANNUAL SEVEN-DAY MINIMUM					1,310
ANNUAL RUNOFF (AC-FT)					10,180,000
10 PERCENT EXCEEDS					37,400
50 PERCENT EXCEEDS					6,710
90 PERCENT EXCEEDS					3,230

SUMMARY STATISTICS

FOR 2004 CALENDAR YEAR

FOR 2005 WATER YEAR

WATER YEARS 1972 - 2005**

ANNUAL TOTAL	4,301,420		4,850,680		
ANNUAL MEAN	11,750		13,290		13,520
HIGHEST ANNUAL MEAN					20,400
LOWEST ANNUAL MEAN					7,466
HIGHEST DAILY MEAN	31,200	Dec 14	31,200	Dec 14	56,200
LOWEST DAILY MEAN	4,510	Jan 19	4,850	Jan 14	2,270
ANNUAL SEVEN-DAY MINIMUM	4,530	Jan 19	5,150	Jan 11	2,420
ANNUAL RUNOFF (AC-FT)	8,532,000		9,621,000		9,795,000
10 PERCENT EXCEEDS	18,200		25,100		24,300
50 PERCENT EXCEEDS	11,100		10,300		11,800
90 PERCENT EXCEEDS	4,940		5,750		5,040

*--Unregulated.

**--Regulated, adjusted.

e--Estimated.