

Water-Data Report 2006

06127500 MUSSELSHELL RIVER AT MUSSELSHELL, MT

Upper Missouri Basin
Middle Musselshell Subbasin

LOCATION.--Lat 46°31'23", long 108°06'30" referenced to North American Datum of 1927, in SE ¼ SW ¼ SW ¼ sec.20, T.9 N., R.29 E., Musselshell County, MT, Hydrologic Unit 10040202, on left bank 0.9 mi upstream from Hawk Creek, 1 mi west of Musselshell, and at river mile 164.5.

DRAINAGE AREA.--4,568 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1928 to September 1932 (no records December to February for the water years 1930-31), August 1945 to September 1979, October 1982 to September 1983, October 1983 to current season (seasonal record only). Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,984.72 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 8, 1949, nonrecording gage located at site 1 mi downstream at different elevations.

REMARKS.--Records are good except those for estimated daily discharges, which are fair. Some regulation occurs by Bair (station number 06116500), Martinsdale (station number 06119000), and Deadman's Basin (station number 06122500) Reservoirs. Diversions for irrigation of about 44,600 acres occur upstream from station, of which about 39,400 acres is flood irrigated. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

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

[e, estimated]

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				34	136	156	113	50	30	37		
2				43	113	114	102	46	26	34		
3				41	106	99	100	38	27	36		
4				35	88	83	117	45	26	38		
5				34	55	94	146	58	23	40		
6				42	76	113	160	71	29	43		
7				45	79	116	142	73	35	45		
8				39	49	136	121	64	34	49		
9				37	30	127	111	57	35	52		
10				172	20	133	115	57	35	62		
11				220	17	186	106	60	35	80		
12				168	11	270	100	68	35	89		
13				130	34	448	107	84	33	89		
14				110	39	461	116	104	32	85		
15				90	27	302	112	110	41	82		
16				78	19	217	110	118	54	85		
17				76	29	230	126	105	56	94		
18				e80	21	210	118	102	54	96		
19				e100	26	173	118	99	54	95		
20				e130	75	142	126	97	48	100		
21				e160	89	115	110	95	50	102		
22				127	125	103	93	96	54	100		
23				100	144	133	98	96	58	97		
24				110	164	128	95	81	51	95		
25				148	116	92	98	73	47	98		
26				154	86	81	100	65	45	98		
27				187	102	73	88	57	43	95		
28				179	175	57	73	40	42	91		
29				162	236	70	61	35	40	75		
30				150	329	105	61	32	39	72		
31				---	339	---	53	29	---	66		
Total				3,181	2,955	4,767	3,296	2,205	1,211	2,320		
Mean				106	95.3	159	106	71.1	40.4	74.8		
Max				220	339	461	160	118	58	102		
Min				34	11	57	53	29	23	34		
Ac-ft				6,310	5,860	9,460	6,540	4,370	2,400	4,600		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 – 1983 AND SEASONS 1984 – 2006*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	71.0	108	273	181	340	552	229	134	103	74.1	76.5	77.5
Max	222	460	1,356	859	1,670	4,223	1,376	534	477	328	236	269
(WY)	(1976)	(1971)	(1979)	(1975)	(1976)	(1967)	(1975)	(1993)	(1993)	(1994)	(1976)	(1976)
Min	0.00	0.04	12.7	1.05	0.36	0.49	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1932)	(1932)	(1932)	(2004)	(1931)	(1931)	(1930)	(1931)	(1931)	(1932)	(1932)	(1932)

* During period of operation.

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SUMMARY STATISTICS

	2006 Season		Water Years 1929 – 1983*		Seasons 1984 – 2006**	
Annual mean			215			
Highest annual mean			609	1975		
Lowest annual mean			34.1	1961		
Highest daily mean	461	Jun 14	8,600	Jun 19, 1967	6,270	Jun 16, 1997
Lowest daily mean	11	May 12	0.00	Sep 1, 1929	0.00	Aug 14, 2001
Annual seven-day minimum			0.00	Sep 8, 1929		
Maximum peak flow	518	Jun 14	^a 9,850	Jun 16, 1967	6,420	Jun 16, 1997
Maximum peak stage	4.40	Jun 14	^b 12.96	Jun 6, 1979	11.25	Jun 16, 1997
Annual runoff (ac-ft)			155,800			
10 percent exceeds			464			
50 percent exceeds			105			
90 percent exceeds			24			

* During period of continuous operation 1928-29, 1931-32, 1945-70, 1982-83.

** Seasonal records October 1983 to current year.

^a Gage height, 11.57 ft.

^b Ice jam.

