Water-Data Report 2008

06073500 DEARBORN RIVER NEAR CRAIG, MT

Upper Missouri Basin
Upper Missouri-Dearborn Subbasin

LOCATION.--Lat 47°11′57″, long 112°05′44″ referenced to North American Datum of 1927, in NW ¼ NW ¼ SE ¼ sec.27, T.17 N., R.4 W., Lewis and Clark County, MT, Hydrologic Unit 10030102, on left bank at upstream side of bridge on U.S. Highway 287, 7.0 mi downstream from South Fork Dearborn River, 10.5 mi northwest of Craig, 13.5 mi north of Wolf Creek, and at river mile 19.0.

DRAINAGE AREA.--325 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1945 to September 1969, October 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,800 ft, referenced to the National Geodetic Vertical Datum of 1929. Oct. 1, 1945 to Sept. 30, 1946, nonrecording gage; Oct. 1, 1946 to June 9, 1964, water-stage recorder on upstream side of bridge; June 10, 1964 to May 31, 1965, nonrecording gage; June 1, 1965 to Sept. 30 1969, water-stage recorder on downstream side of abandoned bridge 0.2 mi downstream, all at same previous elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. U.S. Geological Survey satellite telemeter is located at the station.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	38	40	e26	e30	e40	e44	36	143	1,580	367	79	73
2	38	40	e27	e30	e40	42	38	143	1,420	524	77	70
3	39	39	e52	e36	e40	38	37	146	1,270	443	78	63
4	42	39	e61	e42	e38	39	39	151	1,160	384	78	62
5	46	40	e61	e44	e36	41	42	173	1,070	362	75	63
6	51	40	e50	e40	e38	39	40	210	976	326	71	64
7	46	40	e40	e32	e38	39	39	250	927	290	69	83
8	44	39	e34	e32	e38	39	38	266	822	287	67	88
9	44	38	e30	e40	e36	40	38	264	712	276	66	84
10	46	38	e36	e38	e40	41	39	242	660	275	62	83
11	47	39	e32	e44	e42	44	39	221	680	258	56	85
12	48	38	e40	e44	e44	44	40	220	671	239	54	78
13	49	38	e42	e44	e46	42	41	215	593	211	51	79
14	48	36	e40	e39	e44	41	45	198	597	189	48	78
15	47	39	e42	e36	e40	41	53	183	634	179	46	74
16	47	38	e44	e34	e40	39	60	222	635	173	44	71
17	48	37	e42	e34	e40	38	63	332	650	168	40	71
18	46	38	e44	e40	e38	38	66	458	664	156	38	69
19	46	43	e44	e42	e38	40	72	627	660	146	37	67
20	47	43	e46	e34	e38	39	77	631	598	141	43	66
21	46	33	e40	e22	e40	38	83	677	546	133	41	65
22	45	28	e25	e28	e40	37	87	650	542	124	43	64
23	43	e31	e40	e32	e40	39	86	1,290	541	120	39	62
24	42	e40	e46	e34	e40	40	82	2,020	500	113	36	61
25	42	e40	e40	e36	e40	38	81	4,410	476	112	35	60
26	42	e27	e40	e38	e38	38	80	4,470	434	106	35	59
27	43	e41	e36	e40	e40	39	78	3,210	397	98	36	59
28	42	e40	e32	e28	e42	35	81	2,260	371	93	37	58
29	41	e35	e36	e34	e42	42	94	1,920	349	92	36	56
30	40	e30	e36	e38	---	37	122	1,830	348	88	34	56
31	40	---	e36	e39	---	39	---	1,760	---	84	41	---
Total	1,373	1,127	1,240	1,124	1,156	1,230	1,816	29,792	21,483	6,557	1,592	2,071
Mean	44.3	37.6	40.0	36.3	39.9	39.7	60.5	961	716	212	51.4	69.0
Max	51	43	61	44	46	44	122	4,470	1,580	524	79	88
Min	38	27	25	22	36	35	36	143	348	84	34	56
Ac-ft	2,720	2,240	2,460	2,230	2,290	2,440	3,600	59,090	42,610	13,010	3,160	4,110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2008, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	69.6	71.6	63.8	54.8	58.3	82.3	229	677	723	197	63.3	54.5
Max	187	165	155	104	184	187	519	1,337	2,104	583	163	230
(WY)	(1966)	(1947)	(1947)	(1947)	(1996)	(1947)	(1969)	(1995)	(1964)	(1951)	(1951)	(1993)
Min	17.0	31.9	23.9	22.2	22.5	33.8	51.0	135	113	27.2	13.1	18.8
(WY)	(1957)	(2006)	(2002)	(2002)	(2002)	(2002)	(1961)	(2000)	(2000)	(2000)	(2000)	(1956)

*During periods of operation (October 1945 to September 1969, October 1993 to current year).

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1946 - 2008*	
Annual total	44,720		70,561			
Annual mean	123		193		195	
Highest annual mean					363	1948
Lowest annual mean					58.3	2000
Highest daily mean	661	May 29	4,470	May 26	12,500	Jun 9, 1964
Lowest daily mean	18	Sep 3	22	Jan 21	8.5	Aug 17, 1961
Annual seven-day minimum	19	Aug 30	32	Jan 20	11	Aug 14, 1961
Maximum peak flow			5,150	May 25	[b]15,400	Jun 9, 1964
Maximum peak stage			8.44	May 25	[c]13.50	Jun 9, 1964
Instantaneous low flow			[a]15	Mar 3	[d]8.0	Aug 17, 1961
Annual runoff (ac-ft)	88,700		140,000		141,400	
10 percent exceeds	360		529		518	
50 percent exceeds	60		44		71	
90 percent exceeds	27		36		33	

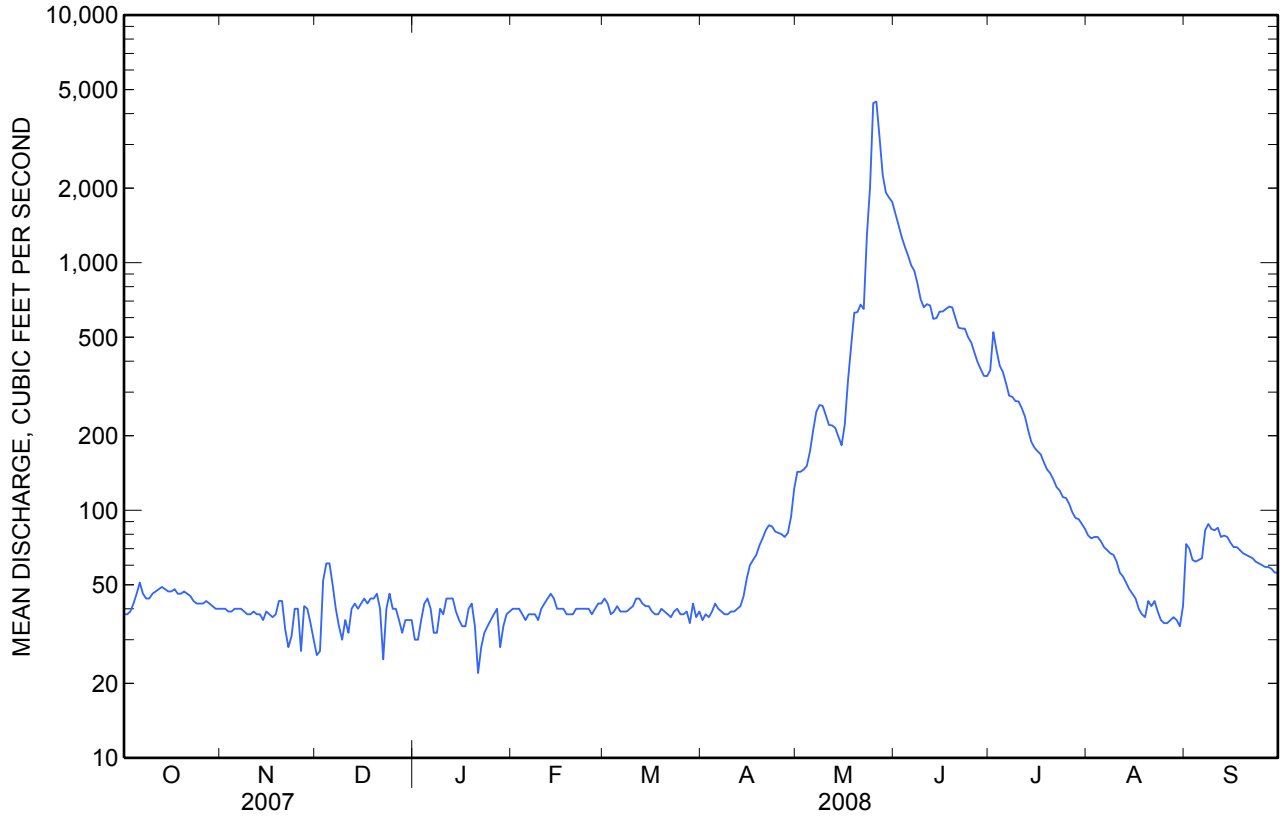
*During periods of operation (October 1945 to September 1969, October 1993 to current year).

[a]Gage height, 2.01 ft.

[b]From rating curve extended above 7,000 ft^3/s on basis of slope-area measurement of peak flow.

[c]From floodmark.

[d]Gage height, 2.88 ft, site and datum then in use.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--August to September 1991, June 1999 to July 2003.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1993 to 2004, seasonal records beginning April 2005 to current year.

INSTRUMENTATION. --Water temperature recorder was installed Nov. 3, 1993.

REMARKS.--Daily water temperature records are rated good except for missing record Apr. 30 to May 5, which was due to equipment malfunction. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 28.5°C, Aug. 1, 2, 2000; minimum, 0.0°C on many days during winter.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: During seasonal operation, maximum, 24.0°C, Aug. 17; minimum for seasonal period, 0.0°C, Apr. 19-21.

TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2008 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		April			May			June	
1	8.0	0.5	3.5	---	---	---	10.5	7.0	9.0
2	8.0	0.5	4.0	---	---	---	10.5	7.0	9.0
3	8.5	0.5	4.0	---	---	---	10.5	6.0	8.0
4	7.0	3.0	5.0	---	---	---	9.5	7.0	8.0
5	6.5	1.5	4.0	13.5	---	---	12.0	7.0	9.5
6	8.5	1.0	4.5	12.5	7.5	10.0	12.5	7.5	10.0
7	9.0	2.0	5.0	11.0	8.0	9.5	10.0	6.0	8.5
8	11.0	3.0	6.5	12.0	6.0	9.0	11.0	6.5	8.5
9	10.0	3.0	6.5	9.5	6.5	7.5	11.5	7.0	9.5
10	8.5	4.0	6.0	10.5	4.5	7.5	10.5	7.5	8.5
11	11.5	2.0	6.5	13.0	6.5	9.5	7.5	5.0	6.0
12	13.5	3.5	8.5	10.0	5.5	7.5	11.0	6.0	8.0
13	15.0	6.0	10.0	12.0	4.5	8.0	14.0	7.5	10.5
14	16.0	7.5	11.5	11.0	7.5	9.5	15.0	8.5	11.5
15	11.5	7.0	9.0	15.5	7.5	11.5	14.5	8.5	11.5
16	10.0	3.5	6.5	17.5	9.0	13.5	15.0	8.5	12.0
17	12.5	4.0	8.0	16.0	9.5	13.0	15.0	9.0	12.0
18	13.0	5.5	9.0	14.0	9.5	11.5	15.0	9.0	12.0
19	9.5	0.0	4.5	13.0	9.0	11.0	15.0	8.5	12.0
20	4.5	0.0	1.5	12.0	7.5	10.0	15.5	8.5	12.0
21	6.0	0.0	2.5	11.0	7.0	8.0	16.5	10.0	13.5
22	11.5	0.5	5.5	7.5	6.0	6.5	17.0	11.5	14.0
23	6.5	2.5	4.0	7.0	6.0	6.0	16.0	10.5	13.5
24	10.5	2.5	6.5	7.5	6.0	6.5	17.0	11.0	14.0
25	9.0	4.0	6.5	6.5	5.5	6.0	16.5	10.0	13.5
26	13.0	2.5	7.5	6.5	6.0	6.0	15.5	10.5	13.0
27	14.5	4.5	9.5	7.0	5.5	6.0	17.0	10.5	13.5
28	16.5	8.0	12.0	11.5	5.5	8.0	18.0	10.5	14.0
29	14.5	7.5	11.0	11.0	6.5	8.5	19.0	12.0	15.5
30	---	6.5	---	10.0	6.5	8.5	19.5	13.5	16.5
31	---	---	---	12.0	6.5	9.5	---	---	---
Month	---	0.0	---	---	---	---	19.5	5.0	11.0

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TEMPERATURE, WATER, DEGREES CELSIUS
SEASON APRIL 2008 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		July			August			September	
1	17.0	13.5	15.5	22.5	14.0	18.0	11.5	9.5	10.5
2	15.0	12.0	13.0	22.0	15.5	18.0	16.5	9.0	12.5
3	19.0	11.0	14.5	21.5	14.0	17.5	16.5	11.0	13.5
4	19.0	14.0	16.5	22.0	13.0	17.5	14.0	11.5	12.5
5	17.5	13.0	15.5	22.5	13.5	18.0	15.0	9.5	12.0
6	17.5	12.0	15.0	23.0	14.5	18.5	14.5	11.5	12.5
7	18.5	12.5	15.5	22.5	16.0	19.0	14.0	11.0	12.5
8	19.5	12.5	16.0	22.0	17.0	19.5	16.0	9.0	12.5
9	19.5	12.5	16.5	21.0	16.0	18.5	15.5	10.0	12.5
10	19.0	13.5	16.5	21.5	14.5	17.5	13.0	10.0	11.5
11	18.0	12.0	15.0	21.0	13.5	17.0	16.0	8.0	11.5
12	19.0	11.0	15.0	22.5	13.0	17.5	17.5	10.0	13.5
13	20.0	12.5	16.0	20.5	14.0	17.5	14.5	11.0	12.5
14	20.5	13.5	17.0	20.5	14.0	17.0	16.5	8.5	12.5
15	17.0	13.5	15.0	23.0	13.5	18.0	17.5	10.0	13.5
16	19.5	12.5	16.0	23.5	14.0	18.5	18.0	10.5	14.0
17	19.5	13.0	16.5	24.0	15.0	19.0	18.0	10.5	14.5
18	20.0	13.5	16.5	23.5	15.0	19.0	17.0	10.5	14.0
19	20.0	13.0	16.5	21.5	16.0	18.0	18.0	11.0	14.5
20	20.0	13.0	16.5	19.0	15.0	17.0	17.0	11.5	14.5
21	21.5	13.5	17.5	16.5	13.0	14.5	15.0	11.0	13.0
22	19.0	16.0	17.5	20.5	11.5	15.5	14.0	10.0	11.5
23	21.5	14.0	17.5	21.5	12.5	17.0	13.5	8.0	10.5
24	22.5	15.0	18.5	22.0	13.0	17.5	13.5	9.0	11.0
25	23.0	14.0	18.5	22.0	14.5	18.0	14.5	8.5	11.5
26	23.5	16.0	19.5	19.0	14.5	16.5	15.5	9.5	12.5
27	23.0	16.0	19.5	17.0	12.0	14.0	14.5	9.5	12.0
28	22.5	15.0	18.5	18.0	11.5	14.5	15.5	9.5	12.0
29	22.0	14.5	18.0	21.0	13.0	16.5	15.0	8.0	11.5
30	21.5	15.5	18.0	21.0	13.5	17.0	15.5	8.5	12.0
31	21.0	12.5	17.0	16.5	11.5	14.0	---	---	---
Month	23.5	11.0	16.5	24.0	11.5	17.5	18.0	8.0	12.5