

Water-Data Report 2012

06023000 RUBY RIVER NEAR TWIN BRIDGES, MT

Missouri Headwaters Basin
Ruby Subbasin

LOCATION.--Lat 45°30'25", long 112°19'51" referenced to North American Datum of 1983, in SE ¼ NE ¼ NW ¼ sec.10, T.4 S., R.6 W., Madison County, MT, Hydrologic Unit 10020003, on right bank 50 ft downstream from county bridge, 1.2 mi upstream from mouth, and 2.6 mi south of Twin Bridges.

DRAINAGE AREA.--965 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August to October 1940, July 1941 to June 1943, July 1946 to September 1965, July 1979 to September 1981; July 2008 to current year (seasonal record only).

REVISED RECORDS.--Water Data Report MT-08: drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,660 ft, referenced to the National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. There are diversions for irrigation of about 28,500 acres, of which about 500 acres lies below the station. Some regulation occurs from Ruby River Reservoir, which is located upstream of the station. A 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 Several unpublished observations of water temperature and specific conductance were made during the year.

06023000 RUBY RIVER NEAR TWIN BRIDGES, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1										64	82	121
2										92	79	132
3										127	82	111
4										115	85	102
5										111	87	99
6										120	84	111
7										137	81	112
8										109	72	115
9										86	66	111
10										81	60	106
11										79	87	99
12										74	95	106
13										67	101	106
14										68	102	104
15										85	105	107
16										96	105	104
17										104	112	107
18										107	108	106
19										90	110	110
20										88	122	114
21										106	131	112
22										91	134	109
23										83	134	116
24										85	133	125
25										83	138	130
26										77	152	136
27										65	158	131
28										67	148	129
29										68	111	136
30										65	109	143
31										67	109	---
Total										2,757	3,282	3,450
Mean										88.9	106	115
Max										137	158	143
Min										64	60	99
Ac-ft										5,470	6,510	6,840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2012, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	213	219	183	144	143	159	187	191	407	257	141	200
Max	327	307	308	266	212	325	409	691	1,022	831	221	334
(WY)	(1949)	(1949)	(1948)	(1948)	(1943)	(1949)	(1948)	(1948)	(1948)	(2011)	(2011)	(1962)
Min	88.5	136	123	95.5	98.2	103	82.4	22.9	40.9	80.4	42.8	115
(WY)	(1955)	(1955)	(1962)	(1957)	(1959)	(1961)	(1961)	(1954)	(1951)	(1961)	(1961)	(2012)

*During periods of operation (August to October 1940, July 1941 to June 1943, July 1946 to September 1965, July 1979 to September 1981, and seasonal records July 2008 to current year).

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SUMMARY STATISTICS

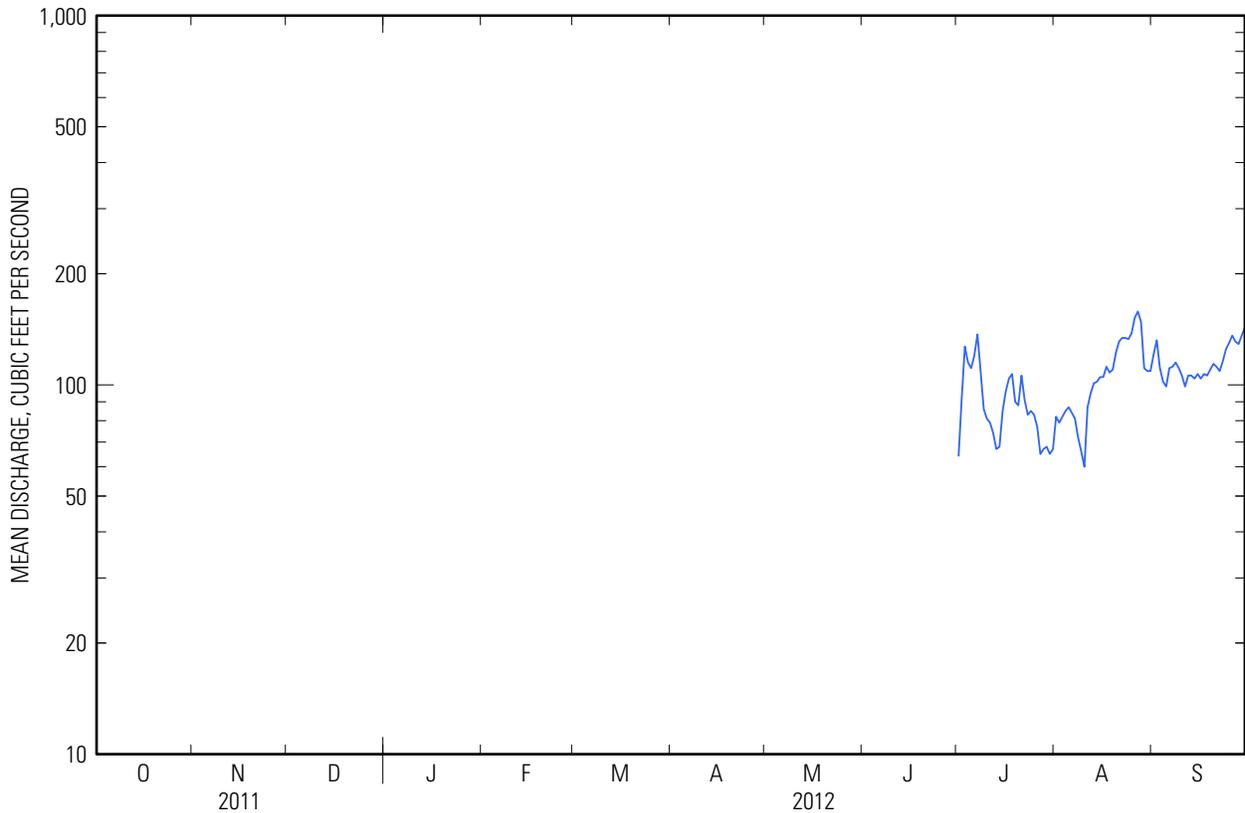
	Calendar Year 2011		Water Year 2012		Water Years 1940 – 2012*	
Annual mean					199	
Highest annual mean					370	1948
Lowest annual mean					108	1961
Highest daily mean	1,610	Jul 1	158	Aug 27	1,610	Jul 1, 2011
Lowest daily mean	143	Aug 23	60	Aug 10	1.8	May 20, 1954
Annual seven-day minimum					2.0	May 20, 1954
Maximum peak flow			163	Aug 28	^b 1,630	Jul 1, 2011
Maximum peak stage			2.54	Aug 28	^c 7.50	Jan 30, 1980
Instantaneous low flow			^a 50	Jul 1	1.8	May 20, 1954
Annual runoff (ac-ft)					144,400	
10 percent exceeds					321	
50 percent exceeds					162	
90 percent exceeds					95	

*During periods of operation (August to October 1940, July 1941 to June 1943, July 1946 to September 1965, July 1979 to September 1981, and seasonal records July 2008 to current year).

^aGage height, 1.98 ft.

^bGage height, 6.95 ft, site and datum then in use.

^cBackwater from ice, site and datum then in use.



06023000 RUBY RIVER NEAR TWIN BRIDGES, MT—Continued**WATER-QUALITY RECORDS**

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: September 1979 to September 1981, July 2008 to current (seasonal records).

INSTRUMENTATION.--Water temperature recorder was installed July 10, 2008.

REMARKS.--Daily water temperature record is rated excellent. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum 23.6°C, July 9, 2012; minimum 0.0°C, on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: During period of seasonal operation, (July through September) maximum, 23.6°C, July 9; minimum, 9.3°C, Sept. 13.

**TEMPERATURE, WATER, DEGREES CELSIUS
SEASON JULY 2012 TO SEPTEMBER 2012**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	July			August			September		
1	22.0	16.6	19.2	23.2	16.9	20.1	18.6	15.0	16.5
2	22.9	15.6	19.1	22.0	16.9	19.5	17.7	13.5	15.6
3	22.0	17.7	19.8	20.8	15.7	18.2	17.0	12.5	14.9
4	22.2	15.7	18.8	21.2	14.5	17.8	17.2	12.2	14.7
5	19.3	16.2	16.9	22.0	15.3	18.6	17.0	12.0	14.4
6	21.3	14.5	17.6	21.0	16.6	18.7	15.9	12.2	13.8
7	22.2	16.4	19.1	22.5	15.9	19.2	16.9	11.0	13.8
8	22.3	16.8	19.4	20.7	16.6	18.8	16.9	11.5	14.2
9	23.6	16.8	20.0	21.4	15.7	18.5	17.0	12.0	14.5
10	23.0	17.8	20.2	19.7	16.1	17.3	17.6	12.9	15.2
11	21.4	16.6	18.9	21.0	14.2	17.4	16.0	11.9	14.0
12	23.5	15.7	19.4	21.8	15.3	18.5	14.3	9.7	12.1
13	21.1	17.6	19.1	21.5	15.8	18.7	14.5	9.3	11.9
14	22.0	17.1	19.3	20.7	15.1	18.0	15.1	10.0	12.5
15	21.6	17.1	19.5	18.5	14.1	16.1	15.4	10.7	13.1
16	21.0	16.6	18.8	19.7	12.6	16.0	13.9	11.5	12.9
17	21.4	16.2	18.8	20.7	14.6	17.6	15.1	10.3	12.6
18	22.3	16.4	19.3	20.6	14.8	17.8	15.3	10.5	12.9
19	23.3	16.1	19.6	18.2	14.8	16.0	15.4	10.9	13.2
20	23.5	18.2	20.7	19.6	13.9	16.5	15.1	10.9	13.1
21	23.5	16.7	20.1	18.6	15.4	17.2	15.2	10.7	13.0
22	22.9	17.4	20.2	20.3	14.9	17.5	14.7	10.6	12.7
23	21.1	17.5	19.5	20.1	15.1	17.6	14.1	11.1	12.7
24	22.8	16.6	19.6	18.4	14.6	16.6	15.1	11.3	13.2
25	22.3	15.9	19.1	17.7	12.1	14.9	15.4	12.3	13.8
26	21.7	15.9	18.9	17.8	12.8	15.3	15.6	11.7	13.6
27	21.0	16.7	18.8	19.8	14.2	16.9	15.0	11.1	13.1
28	21.3	15.1	18.1	20.0	14.6	17.2	14.0	10.9	12.6
29	22.4	15.6	18.9	19.3	14.5	16.9	15.7	11.7	13.5
30	23.0	16.4	19.7	18.7	13.6	16.1	15.6	12.0	13.7
31	23.3	16.7	20.1	17.7	13.6	15.8	---	---	---
Month	23.6	14.5	19.2	23.2	12.1	17.5	18.6	9.3	13.6