

Water-Data Report 2010

**06327500 YELLOWSTONE RIVER AT GLENDIVE, MT**

Yellowstone Basin  
Lower Yellowstone Subbasin

LOCATION.--Lat 47°06'21", long 104°43'07" referenced to North American Datum of 1927, in SE ¼ NW ¼ NE ¼ sec.35, T.16 N., R.55 E., Dawson County, MT, 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.--66,739 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

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

REVISED RECORDS.--Water Data Report 2006: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,040 ft (referenced to the National Geodetic Vertical Datum of 1929) from City of Glendive. October 1897 to December 1910, October 1931 to September 1934 nonrecording gage at different datum.

REMARKS.--Records are good except for estimated daily discharges, which are poor. Some regulation occurs 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 occur upstream of station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were obtained during the year.

## 06327500 YELLOWSTONE RIVER AT GLENDIVE, MT—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,700	8,580	7,490	e5,200	e5,400	e5,600	6,220	9,460	35,400	44,000	11,100	9,090
2	6,900	8,470	7,450	e5,400	e5,700	e5,600	6,430	10,300	34,500	43,400	10,500	11,200
3	7,160	8,380	7,200	e5,500	e5,700	e5,600	6,720	11,100	31,600	45,300	10,300	10,500
4	7,530	8,430	e7,000	e5,500	e5,700	e5,700	6,710	10,400	30,500	46,400	10,100	e9,700
5	7,840	8,490	e6,500	e5,700	e5,700	e5,800	6,680	9,610	34,100	43,400	10,200	9,170
6	8,530	8,560	e6,100	e6,100	e5,700	e6,000	6,530	9,040	40,000	39,200	9,960	9,520
7	8,840	8,430	e5,800	e6,100	e5,700	e6,300	6,260	9,480	49,100	35,400	9,700	9,510
8	9,340	8,010	e5,700	e6,000	e5,700	e6,400	6,030	9,980	57,400	33,500	9,630	9,160
9	9,090	7,740	e5,600	e5,600	e5,700	e6,600	5,910	10,600	62,200	31,800	9,490	9,030
10	8,940	7,710	e5,400	e5,200	e5,700	e6,500	5,870	10,300	58,600	28,600	9,460	9,330
11	8,930	7,790	e5,000	e5,200	e5,700	e6,300	5,890	9,980	60,000	26,100	9,480	9,450
12	8,950	7,820	e4,300	e5,200	e5,700	e6,200	5,850	9,450	56,800	24,600	9,380	9,280
13	8,820	7,770	e4,500	e5,500	e5,600	e6,300	5,840	9,060	53,700	23,900	9,300	9,220
14	8,680	7,740	e5,000	e5,700	e5,600	e7,300	5,850	9,090	51,300	23,500	9,400	9,380
15	8,680	7,780	e5,600	e5,900	e5,600	e8,500	5,780	9,650	46,100	22,000	9,210	9,560
16	8,750	8,050	e5,500	e6,100	e5,500	e9,000	5,800	10,900	41,900	21,100	9,040	9,600
17	8,900	7,940	e5,500	e6,100	e5,400	e8,900	5,760	12,500	42,600	19,600	9,060	9,510
18	9,240	7,750	e5,500	e6,100	e5,300	e9,100	5,850	12,600	45,800	18,100	8,880	9,710
19	9,540	7,680	e5,800	e6,100	e5,500	e8,500	5,800	12,500	50,000	17,500	8,350	9,380
20	9,310	7,760	e6,400	e5,900	e5,700	e7,600	5,630	13,300	53,200	16,700	7,830	9,220
21	8,840	7,710	e6,500	e5,900	e5,700	e7,200	5,570	15,000	48,900	16,300	7,430	9,170
22	8,470	7,760	e6,500	e5,900	e5,600	e7,100	5,690	18,300	46,300	17,500	7,050	9,170
23	8,120	7,760	e6,500	e5,700	e5,500	e7,000	6,240	20,700	48,100	20,700	6,920	9,240
24	7,500	7,750	e6,500	e5,700	e5,400	e6,900	6,960	23,000	46,200	19,100	6,860	9,090
25	8,960	7,710	e6,500	e5,500	e5,300	6,840	7,720	32,200	45,300	16,700	6,730	8,910
26	9,000	7,600	e6,500	e5,500	e5,400	6,740	9,240	39,800	43,700	15,000	6,670	9,030
27	9,030	7,600	e6,100	e5,400	e5,500	6,790	10,600	33,000	43,000	13,800	6,480	8,890
28	8,920	7,500	e5,600	e5,400	e5,600	6,700	10,700	29,200	43,300	12,800	6,340	8,730
29	8,950	7,520	e5,600	e5,400	---	6,530	10,500	29,900	45,500	12,000	6,270	8,440
30	8,920	7,510	e5,600	e5,500	---	6,340	9,990	26,900	45,100	11,700	6,210	8,280
31	8,770	---	e5,400	e5,500	---	6,240	---	28,000	---	11,400	6,670	---
<b>Total</b>	266,150	237,300	184,640	175,500	156,300	212,180	204,620	505,300	1,390,200	771,100	264,000	279,470
<b>Mean</b>	8,585	7,910	5,956	5,661	5,582	6,845	6,821	16,300	46,340	24,870	8,516	9,316
<b>Max</b>	9,540	8,580	7,490	6,100	5,700	9,100	10,700	39,800	62,200	46,400	11,100	11,200
<b>Min</b>	6,700	7,500	4,300	5,200	5,300	5,600	5,570	9,040	30,500	11,400	6,210	8,280
<b>Ac-ft</b>	527,900	470,700	366,200	348,100	310,000	420,900	405,900	1,002,000	2,757,000	1,529,000	523,600	554,300

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2010, BY WATER YEAR (WY)\***

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	6,632	5,816	4,881	4,748	4,801	7,977	9,012	20,610	43,060	26,140	9,935	7,306
<b>Max</b>	9,503	8,175	6,670	6,600	6,104	18,790	23,500	44,700	74,220	72,000	24,110	12,100
<b>(WY)</b>	(1909)	(2009)	(1898)	(2006)	(2009)	(1910)	(1899)	(1901)	(1909)	(1899)	(1907)	(1909)
<b>Min</b>	4,270	4,200	2,924	3,268	3,361	4,414	4,374	8,749	12,950	4,054	2,785	2,856
<b>(WY)</b>	(2004)	(1900)	(1932)	(1932)	(1933)	(2005)	(1905)	(2004)	(1934)	(1934)	(1934)	(1934)

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

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1898 - 2010*	
<b>Annual total</b>	4,969,290		4,646,760			
<b>Annual mean</b>	13,610		12,730		12,620	
<b>Highest annual mean</b>					19,610	1899
<b>Lowest annual mean</b>					6,061	1934
<b>Highest daily mean</b>	55,300	Jun 25	62,200	Jun 9	107,000	Jun 9, 1909
<b>Lowest daily mean</b>	4,300	Dec 12	4,300	Dec 12	1,060	Dec 14, 1932
<b>Annual seven-day minimum</b>	5,040	Dec 10	5,040	Dec 10	1,380	Dec 12, 1932
<b>Maximum peak flow</b>			64,000	Jun 9	<sup>a</sup> 118,000	Jun 8, 1909
<b>Maximum peak stage</b>			50.59	Jun 9	<sup>b</sup> 60.16	Mar 16, 2003
<b>Instantaneous low flow</b>					<sup>c</sup> 1,060	Dec 14, 1932
<b>Annual runoff (ac-ft)</b>	9,857,000		9,217,000		9,139,000	
<b>10 percent exceeds</b>	37,300		33,700		31,200	
<b>50 percent exceeds</b>	8,470		8,120		6,600	
<b>90 percent exceeds</b>	6,060		5,600		4,200	

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

<sup>a</sup>Observed, gage height, 12.70 ft, datum then in use.

<sup>b</sup>Backwater from ice.

<sup>c</sup>Observed.

