

Water-Data Report 2006

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 (REVISED).--66,739 mi², formerly published as 65,900 mi².

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 1,881.3 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 those 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 Several unpublished observations of water temperature and specific conductance were obtained during the year.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 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,420	6,920	e7,100	e7,000	e6,000	e6,000	6,440	8,370	23,800	12,300	4,070	2,930
2	6,270	7,020	7,080	e6,900	e6,000	e6,500	7,400	8,770	20,200	11,800	4,000	2,890
3	6,370	7,100	7,020	e6,900	e6,200	e7,400	7,790	9,020	17,800	11,600	3,850	2,960
4	6,500	7,100	e6,800	e6,900	e6,100	e8,500	7,740	10,400	16,400	11,700	3,700	2,950
5	7,560	7,110	e6,400	e6,900	e6,100	e8,300	7,240	11,500	16,600	11,800	3,590	2,940
6	8,270	7,120	e6,400	e7,000	e6,200	e7,200	7,010	11,800	19,400	11,600	3,470	2,940
7	9,040	7,440	e6,400	e7,100	e6,100	e7,400	9,720	11,200	23,200	11,400	3,360	2,960
8	9,630	7,560	e6,300	e7,300	e6,100	e6,900	10,800	11,000	27,000	10,900	3,400	2,890
9	9,730	7,630	e6,000	e7,400	e6,100	e6,600	10,000	10,800	28,600	11,000	3,340	2,850
10	10,400	7,680	e6,300	e7,300	e6,000	e6,500	9,410	11,400	29,200	11,600	3,270	2,810
11	9,520	7,770	e6,200	e7,400	e5,800	e6,200	8,990	12,400	31,400	11,000	3,090	2,920
12	8,520	7,490	e6,300	e6,900	e5,800	e6,100	8,210	12,300	34,200	10,200	3,000	2,950
13	7,940	7,450	e6,300	e6,600	e5,700	e6,000	7,390	11,500	34,600	9,310	3,010	2,900
14	7,730	7,320	e6,300	e6,500	e5,500	5,950	7,110	10,500	31,700	8,650	3,010	2,870
15	7,530	7,550	e6,500	e6,600	e5,600	5,770	7,060	9,820	29,100	8,190	3,090	2,850
16	7,350	7,500	e6,700	e6,500	e5,600	5,690	6,900	9,690	27,700	8,050	3,220	3,020
17	7,290	7,440	e6,700	e6,500	e5,800	5,610	6,780	11,400	27,800	7,800	3,350	3,430
18	7,260	7,350	e6,400	e6,500	e5,800	5,670	8,560	14,400	25,100	7,430	3,340	3,850
19	7,150	7,290	e6,000	e6,400	e5,200	5,810	11,300	17,000	21,900	6,960	3,400	4,530
20	7,110	7,160	e5,900	e6,200	e4,800	5,770	14,500	20,200	19,700	6,550	3,610	5,430
21	7,060	7,030	e5,800	e6,200	e5,000	5,740	14,500	23,900	18,600	6,210	3,980	5,490
22	7,060	7,100	e5,900	e6,200	e5,500	5,790	13,000	28,200	17,800	6,050	3,820	5,870
23	7,040	7,070	e5,800	e6,200	e5,500	5,790	12,000	31,200	17,200	5,770	3,750	6,170
24	6,990	7,080	e5,900	e6,100	e5,500	5,720	11,100	36,400	16,500	5,570	3,570	6,010
25	7,030	7,070	e6,800	e6,000	e5,500	5,700	9,900	37,000	15,400	5,250	3,360	5,970
26	7,030	7,060	e7,200	e6,100	e5,700	5,660	9,150	33,100	14,400	5,000	3,290	5,870
27	7,010	7,210	e7,700	e6,100	e6,000	5,690	9,690	30,100	13,800	4,820	3,220	5,960
28	7,030	7,310	e7,500	e6,300	e5,800	5,780	9,840	28,700	13,400	4,620	3,140	5,630
29	7,010	7,340	e7,300	e6,300	---	5,810	9,140	29,900	13,000	4,460	3,160	5,290
30	6,880	7,050	e7,200	e6,200	---	5,900	8,630	31,000	12,600	4,340	3,080	5,170
31	6,840	---	e7,100	e6,100	---	6,110	---	28,300	---	4,200	3,020	---
Total	234,570	218,320	203,300	204,600	161,000	193,560	277,300	571,270	658,100	256,130	105,560	121,300
Mean	7,567	7,277	6,558	6,600	5,750	6,244	9,243	18,430	21,940	8,262	3,405	4,043
Max	10,400	7,770	7,700	7,400	6,200	8,500	14,500	37,000	34,600	12,300	4,070	6,170
Min	6,270	6,920	5,800	6,000	4,800	5,610	6,440	8,370	12,600	4,200	3,000	2,810
Ac-ft	465,300	433,000	403,200	405,800	319,300	383,900	550,000	1,133,000	1,305,000	508,000	209,400	240,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,483	5,575	4,706	4,598	4,656	8,262	9,153	20,770	43,620	26,860	10,300	7,287
Max	9,503	7,390	6,670	6,600	5,940	18,790	23,500	44,700	74,220	72,000	24,110	12,100
(WY)	(1909)	(1902)	(1898)	(2006)	(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)

* 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 2005		Water Year 2006		Water Years 1898 – 2006*	
Annual total	3,430,270		3,205,010			
Annual mean	9,398		8,781		12,740	
Highest annual mean					19,610	1899
Lowest annual mean					6,061	1934
Highest daily mean	41,900	Jun 27	37,000	May 25	107,000	Jun 9, 1909
Lowest daily mean	3,900	Jan 7	2,810	Sep 10	1,060	Dec 14, 1932
Annual seven-day minimum	4,160	Jan 4	2,880	Sep 9	1,380	Dec 12, 1932
Maximum peak flow			38,500	May 25	^a 118,000	Jun 8, 1909
Maximum peak stage			48.07	May 25	^b 60.16	Mar 16, 2003
Instantaneous low flow					^c 1,060	Dec 14, 1932
Annual runoff (ac-ft)	6,804,000		6,357,000		9,230,000	
10 percent exceeds	23,200		16,400		31,000	
50 percent exceeds	6,240		6,920		6,500	
90 percent exceeds	4,300		3,420		4,100	

* 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.

