

Water-Data Report 2011

## 12372000 FLATHEAD RIVER NEAR POLSON, MT

Pend Oreille Basin  
Lower Flathead Subbasin

LOCATION.--Lat 47°40'49", long 114°14'45" referenced to North American Datum of 1927, in SW ¼ NE ¼ SE ¼ sec.11, T.22 N., R.21 W., Lake County, MT, Hydrologic Unit 17010212, on left bank 0.5 mi downstream from Kerr Dam, 4.0 mi west of Polson, 5.0 mi downstream from Flathead Lake, and at river mile 71.5.

DRAINAGE AREA.--7,096 mi<sup>2</sup>.

### SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1907 to current year.

REVISED RECORDS.--Water Supply Paper (WSP) 652: 1926. WSP 752: 1932. WSP 1182: 1948. WSP 1216: Drainage area. WSP 1246: 1928, maximum discharge. WSP 1636: 1958, adjusted runoff.

GAGE.--Water-stage recorder. Elevation of gage is 2,692.70 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by The Montana Power Co.). Prior to Oct. 1, 1941, nonrecording gages or water-stage recorder at several sites near highway bridge at old site of Michell's ferry 6 mi downstream from present site, all at elevation 2,629.20 ft (from river-profile survey).

REMARKS.--Records are good. Flow is regulated by Flathead Lake (Kerr Dam) since April 1938 (station number 12371500) and Hungry Horse Reservoir (station number 12362000) since September 1951. Diversions occur upstream from station for irrigation of about 10,000 acres. Flathead project pumps can divert up to 12,000 acre-ft per month when required for irrigation of lands downstream from station. 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 Several unpublished observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--104 years, 11,510 ft<sup>3</sup>/s, 22.03 in/yr, 8,339,000 acre-ft/yr, adjusted for change in contents in Hungry Horse Reservoir and Flathead Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,800 ft<sup>3</sup>/s, May 29, 1928, gage height, 17.2 ft, site and elevation then in use; minimum probably less than 5.0 ft<sup>3</sup>/s, Apr. 13, 1938; minimum daily, 32 ft<sup>3</sup>/s, Apr. 12, 1938.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1894 reached a stage of about 21 ft, present elevation; discharge, about 110,000 ft<sup>3</sup>/s, from lake elevation-discharge study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 52,300 ft<sup>3</sup>/s, June 26, gage height, 15.90 ft; minimum daily, 5,000 ft<sup>3</sup>/s, Oct. 21.

## 12372000 FLATHEAD RIVER NEAR POLSON, MT—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	13,300	5,570	9,730	9,870	12,600	13,700	12,400	18,800	41,100	50,500	17,000	8,560
2	13,300	5,630	9,720	9,890	14,100	14,000	12,300	18,900	40,500	51,100	17,600	8,060
3	13,300	5,660	9,710	9,870	14,500	13,700	12,400	18,700	40,800	51,200	17,900	7,750
4	12,400	5,940	9,680	9,780	14,500	13,500	13,100	18,900	41,500	51,000	17,900	7,580
5	11,100	6,160	9,730	9,710	14,400	13,400	14,200	18,900	41,800	50,800	17,700	7,660
6	10,000	6,180	9,910	9,640	14,500	13,200	14,400	18,900	42,200	49,700	17,100	7,280
7	8,950	6,160	9,850	9,710	14,500	12,900	14,900	19,000	43,100	46,100	16,000	6,940
8	8,090	6,380	9,780	9,720	15,200	12,700	15,400	19,400	44,400	41,200	15,400	6,810
9	7,700	7,160	9,720	9,780	16,200	12,400	15,500	19,800	45,800	40,100	15,400	6,710
10	7,230	7,610	9,710	9,850	16,300	12,200	15,500	20,100	46,700	37,500	14,200	6,710
11	6,800	7,570	9,690	9,910	16,300	12,000	15,700	20,500	47,600	34,300	13,200	6,680
12	6,240	7,580	9,710	9,960	16,300	11,800	16,200	21,100	48,300	32,100	12,600	6,700
13	5,860	7,590	9,740	9,840	16,200	11,800	16,800	21,900	48,800	30,400	12,000	6,720
14	5,870	7,620	9,620	9,740	16,200	11,700	16,600	23,100	49,400	29,000	11,500	6,590
15	5,850	8,010	9,620	9,850	16,200	11,700	16,400	24,300	49,800	30,300	11,200	6,380
16	5,900	8,630	9,680	9,890	16,200	11,700	16,800	25,600	50,300	33,300	10,800	6,270
17	5,930	8,600	9,790	9,880	16,100	11,700	17,000	27,500	50,700	33,300	10,600	6,050
18	5,910	9,060	9,950	9,910	16,100	11,900	17,400	29,100	50,700	32,400	10,100	5,860
19	5,910	9,560	9,930	9,990	16,100	12,000	17,600	30,200	50,500	30,500	9,760	5,640
20	5,410	9,560	9,860	10,000	15,500	12,100	17,800	31,100	50,400	29,100	9,480	5,530
21	5,000	9,590	9,820	10,000	14,500	12,200	17,900	31,800	50,400	27,800	9,390	5,380
22	5,010	9,610	9,810	10,100	14,700	12,200	18,000	32,600	50,300	27,400	9,400	5,430
23	5,020	9,620	9,790	10,100	15,100	12,200	18,000	33,700	50,500	27,000	8,730	5,470
24	5,020	9,660	9,800	10,100	15,100	12,200	18,000	35,200	50,800	25,700	8,280	5,470
25	5,010	9,880	9,810	10,700	14,900	12,300	17,900	36,600	51,500	24,200	8,250	5,500
26	5,040	9,720	9,810	11,100	14,400	12,300	17,800	37,500	51,800	22,600	8,240	5,510
27	5,280	9,700	9,770	11,100	14,100	12,400	18,100	39,000	51,600	20,200	8,280	5,490
28	5,550	9,700	9,740	11,100	13,600	12,400	18,200	40,400	51,000	17,800	8,410	5,490
29	5,560	9,710	9,930	11,000	---	12,400	18,300	41,400	50,200	16,800	8,400	5,520
30	5,570	9,730	9,850	11,000	---	12,400	18,700	41,400	49,900	16,700	8,440	5,530
31	5,580	---	9,850	11,800	---	12,400	---	41,300	---	16,900	8,490	---
<b>Total</b>	222,690	243,150	303,110	314,890	424,400	385,500	489,300	856,700	1,432,400	1,027,000	371,750	191,270
<b>Mean</b>	7,184	8,105	9,778	10,160	15,160	12,440	16,310	27,640	47,750	33,130	11,990	6,376
<b>Max</b>	13,300	9,880	9,950	11,800	16,300	14,000	18,700	41,400	51,800	51,200	17,900	8,560
<b>Min</b>	5,000	5,570	9,620	9,640	12,600	11,700	12,300	18,700	40,500	16,700	8,240	5,380
<b>Ac-ft</b>	441,700	482,300	601,200	624,600	841,800	764,600	970,500	1,699,000	2,841,000	2,037,000	737,400	379,400
<b>Cfsm</b>	1.01	1.14	1.38	1.43	2.14	1.75	2.30	3.89	6.73	4.67	1.69	0.90
<b>In.</b>	1.17	1.27	1.59	1.65	2.22	2.02	2.57	4.49	7.51	5.38	1.95	1.00

**CHANGE IN CONTENTS IN ACRE-FEET, IN HUNGRY HORSE RESERVOIR AND FLATHEAD LAKE**

-188,000	-94,000	-263,000	-174,000	-566,000	-417,000	-201,000	894,000	1,037,000	486,000	-106,000	-123,000
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**ADJUSTED FOR CHANGE IN CONTENTS IN HUNGRY HORSE RESERVOIR AND FLATHEAD LAKE**

Mean	4,858	6,173	5,712	8,239	4,966	5,653	12,930	42,170	65,170	41,030	10,270	4,390
Ac-Ft	298,700	367,300	351,200	506,600	275,800	347,600	769,500	2,593,000	3,878,000	2,523,000	631,400	256,400
Cfsm	0.68	0.87	0.80	1.16	0.70	0.80	1.82	5.94	9.18	5.78	1.45	0.61
In.	0.79	0.97	0.93	1.34	0.73	0.92	2.03	6.85	10.25	6.67	1.67	0.68

12372000 FLATHEAD RIVER NEAR POLSON, MT—Continued

OBSERVED										
<b>Calendar Year 2010</b>	<b>Total</b>	3,832,230	<b>Mean</b>	10,500	<b>Max</b>	35,300	<b>Min</b>	3,430	<b>Ac-ft</b>	<sup>a</sup> 7,601,000
<b>Water Year 2011</b>	<b>Total</b>	6,262,160	<b>Mean</b>	17,160	<b>Max</b>	51,800	<b>Min</b>	5,000	<b>Ac-ft</b>	<sup>b</sup> 12,421,000

ADJUSTED										
<b>Calendar Year 2010</b>	<b>Total</b>	3,821,023	<b>Mean</b>	10,470	<b>Cfsm</b>	1.48	<b>In</b>	20.03	<b>Ac-ft</b>	7,579,000
<b>Water Year 2011</b>	<b>Total</b>	6,452,483	<b>Mean</b>	17,680	<b>Cfsm</b>	2.49	<b>In</b>	33.57	<b>Ac-ft</b>	12,706,000

<sup>a</sup>Change in contents in Hungry Horse Reservoir and Flathead Lake was 29,000 ac-ft.

<sup>b</sup>Change in contents in Hungry Horse Reservoir and Flathead Lake was 285,000 ac-ft.

