

Water-Data Report 2009

05207600 MISSISSIPPI RIVER AT WILLOW BEECH AT BALL CLUB, MN

Mississippi Headwaters Basin
Mississippi Headwaters Subbasin

LOCATION.--Lat 47°18'10", long 93°54'10" referenced to North American Datum of 1927, in NW ¼ SE ¼ sec.7, T.144 N., R.25 W., Itasca County, MN, Hydrologic Unit 07010101, on left bank 10 ft downstream from County Highway 18 bridge, 300 ft. below Leech Lake River, 2.4 mi southeast of Ball Club.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2007 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1270.04 ft above sea level (NGVD of 1929).

REMARKS.--Records fair to poor, except those for discharges below 500 ft³/s and estimated discharges, which are considered poor.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	368	976	e1,500	e1,450	e1,040	e1,050	1,550	2,090	2,220	1,190	294	222
2	360	1,010	e1,500	e1,450	e1,040	e1,050	1,550	2,090	2,210	1,150	286	217
3	355	1,040	e1,500	e1,450	e1,030	e1,070	1,540	2,090	2,200	1,090	281	219
4	349	1,060	e1,500	e1,460	e1,030	e1,110	1,530	2,050	2,190	1,030	268	221
5	344	1,080	e1,500	e1,450	e1,020	e1,180	1,540	2,050	2,160	968	254	222
6	357	1,110	e1,490	e1,450	e945	1,190	1,540	2,070	2,120	900	245	224
7	379	1,140	e1,490	e1,460	e946	1,180	1,550	2,070	2,090	832	235	226
8	385	1,170	e1,490	e1,460	e945	1,180	1,570	2,050	2,060	767	239	228
9	373	1,190	e1,490	e1,450	e967	1,170	1,580	2,040	2,050	696	240	232
10	377	1,210	e1,490	e1,310	e1,010	1,170	1,600	2,020	2,020	630	236	234
11	412	1,220	e1,490	e1,310	e1,040	e1,170	1,640	2,010	1,990	553	231	240
12	420	1,250	e1,490	e1,300	e1,040	e1,170	1,680	2,000	1,960	502	225	251
13	435	1,290	e1,490	e1,300	e1,040	e1,170	1,720	2,020	1,920	461	223	247
14	431	1,300	e1,480	e1,290	e1,040	e1,180	1,750	2,010	1,870	437	222	243
15	431	1,300	e1,460	e1,290	e1,040	e1,190	1,800	1,990	1,810	442	221	240
16	461	1,300	e1,460	e1,290	e1,040	1,260	1,840	2,050	1,760	420	233	238
17	492	1,310	e1,460	e1,290	e1,040	1,290	1,880	2,070	1,710	404	241	239
18	526	1,340	e1,460	e1,290	e1,040	1,280	1,910	2,090	1,660	388	240	240
19	555	1,340	e1,460	e1,290	e1,040	1,260	1,930	2,040	1,630	370	240	220
20	577	e1,350	e1,460	e1,290	e1,040	1,220	1,960	2,080	1,580	356	242	216
21	599	e1,390	e1,460	e1,290	e1,040	1,180	1,970	2,180	1,540	372	243	217
22	645	e1,420	e1,460	e1,140	e1,040	1,160	1,990	2,200	1,520	375	238	222
23	715	e1,440	e1,460	e1,150	e1,040	1,260	1,990	2,210	1,490	369	232	220
24	782	e1,450	e1,460	e1,150	e1,040	1,370	2,000	2,220	1,460	367	228	216
25	851	e1,460	e1,460	e1,140	e1,040	1,530	2,010	2,220	1,420	355	228	215
26	878	e1,470	e1,460	e1,140	e1,040	1,570	2,020	2,230	1,390	342	224	218
27	897	e1,480	e1,460	e1,050	e1,050	1,570	2,040	2,230	1,370	331	222	216
28	917	e1,490	e1,450	e1,040	e1,050	1,560	2,050	2,240	1,340	318	228	214
29	935	e1,490	e1,460	e1,050	---	1,550	2,060	2,230	1,290	307	228	209
30	948	e1,490	e1,450	e1,040	---	1,540	2,090	2,230	1,230	302	226	207
31	957	---	e1,450	e1,030	---	1,550	---	2,220	---	294	224	---
Total	17,511	38,566	45,690	39,550	28,713	39,380	53,880	65,390	53,260	17,318	7,417	6,773
Mean	565	1,286	1,474	1,276	1,025	1,270	1,796	2,109	1,775	559	239	226
Max	957	1,490	1,500	1,460	1,050	1,570	2,090	2,240	2,220	1,190	294	251
Min	344	976	1,450	1,030	945	1,050	1,530	1,990	1,230	294	221	207
Ac-ft	34,730	76,500	90,630	78,450	56,950	78,110	106,900	129,700	105,600	34,350	14,710	13,430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2008 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	531	1,004	1,175	1,029	807	901	1,257	1,717	1,788	821	301	289
Max	565	1,286	1,474	1,276	1,025	1,270	1,796	2,109	1,802	1,084	362	352
(WY)	(2009)	(2009)	(2009)	(2009)	(2009)	(2009)	(2009)	(2009)	(2008)	(2008)	(2008)	(2008)
Min	497	723	876	783	597	532	717	1,325	1,775	559	239	226
(WY)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2009)	(2009)	(2009)	(2009)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 2008 - 2009	
Annual total	331,870		413,448			
Annual mean	907		1,133		968	
Highest annual mean					1,133	2009
Lowest annual mean					804	2008
Highest daily mean	1,990	Jun 16	2,240	May 28	^a 2,240	May 28, 2009
Lowest daily mean	305	Sep 1	^b 207	Sep 30	^b 207	Sep 30, 2009
Annual seven-day minimum	315	Aug 26	214	Sep 24	214	Sep 24, 2009
Maximum peak flow			^a 2,240	May 26	^a 2,240	May 26, 2009
Maximum peak stage			9.82	May 26	9.82	May 26, 2009
Instantaneous low flow			^b 206	Sep 30	^b 206	Sep 30, 2009
Annual runoff (ac-ft)	658,300		820,100		701,500	
10 percent exceeds	1,550		2,040		1,830	
50 percent exceeds	778		1,180		870	
90 percent exceeds	353		234		321	

^a Affected by regulation.

^b Due in part to regulation.

