

05227500 MISSISSIPPI RIVER AT AITKIN, MN

LOCATION.--Lat 46°32'26", long 93°42'26", in SW¹/₄NW¹/₄ sec. 24, T.47 N., R.27 W., Aitkin County, Hydrologic Unit 07010104, on right bank upstream side of highway bridge at north edge of Aitkin, 1 mi downstream from Ripple River and at mile 1,055.9 upstream from Ohio River.

DRAINAGE AREA.--6,140 mi² (approximately).

PERIOD OF RECORD.--March 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,182.41 ft above sea level (NGVD of 1929, levels by U.S. Army Corps of Engineers). Mar. 1, 1945 to Mar. 14, 1961, nonrecording gage, and Mar. 15, 1961 to Sept. 30, 1967, water-stage recorder at same site at datum 3.0 ft higher. Diversion channel: Non-recording gage and crest-stage gage. Datum of gage is 1,182.02 ft above sea level (NGVD of 1929). Apr. 9, 1955 to Apr. 10, 1956, nonrecording gage at site 4 mi downstream at different datum. Apr. 11, 1956 to Sept. 30, 1967, non-recording gage at same site at datum 3.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Winnibigoshish Lake, Leech Lake, Pokegama Lake, and Sandy Lake. Water diverted at medium and high stages into Aitkin diversion channel 6.5 mi above station, bypasses station and returns to river 15.5 mi below station. Diversion began Apr. 2, 1955. These records include flow in diversion channel.

EXTREMES FOR CURRENT YEAR.--Main channel: maximum discharge, 4,890 ft³/s, Apr. 14; gage height, 13.10 ft. Diversion channel: maximum discharge, 3,690 ft³/s, Apr. 14, gage height, 12.79 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,310	4,040	e2,730	e2,700	e2,370	e2,160	e5,300	4,700	6,520	5,260	2,270	863
2	3,390	4,190	e2,600	e2,690	e2,370	e2,170	e6,300	4,350	6,560	5,150	2,210	841
3	3,470	4,220	e2,500	e2,680	e2,360	e2,180	e7,000	4,030	6,530	4,980	2,130	809
4	3,530	4,270	e2,460	e2,670	e2,350	e2,190	e7,600	3,740	6,460	4,830	2,080	795
5	3,540	4,290	e2,370	e2,660	e2,360	e2,200	7,350	3,450	6,490	4,690	2,030	778
6	3,510	4,300	e2,300	e2,650	e2,360	e2,230	7,100	3,180	6,570	4,540	2,000	779
7	3,420	4,290	e2,450	e2,640	e2,360	e2,250	7,210	2,960	6,560	4,320	1,970	772
8	3,320	4,220	e2,650	e2,630	e2,360	e2,250	7,370	2,730	6,720	4,070	1,890	782
9	3,230	4,150	e2,800	e2,620	e2,370	e2,240	7,480	2,500	6,980	3,890	1,860	794
10	3,180	4,090	e2,730	e2,610	e2,380	e2,200	7,600	2,390	7,000	3,730	1,800	781
11	3,150	4,010	e2,680	e2,590	e2,390	e2,190	7,860	2,390	6,940	3,580	1,710	784
12	3,110	3,920	e2,600	e2,570	e2,390	e2,190	8,160	2,460	7,010	3,470	1,640	817
13	3,080	3,820	e2,530	e2,550	e2,400	e2,180	8,350	2,500	7,020	3,340	1,570	962
14	3,040	3,750	e2,450	e2,530	e2,400	e2,180	8,400	2,480	7,380	3,180	1,470	992
15	3,040	3,680	e2,400	e2,510	e2,400	e2,180	8,370	2,490	7,650	3,060	1,390	997
16	3,090	3,620	e2,330	e2,490	e2,380	e2,170	8,300	2,550	7,530	2,970	1,310	1,150
17	3,140	3,550	e2,280	e2,470	e2,360	e2,170	8,190	2,580	7,180	2,970	1,250	1,320
18	3,190	3,500	e2,240	e2,460	e2,330	e2,170	8,050	2,540	6,830	2,930	1,180	1,360
19	3,200	3,440	e2,200	e2,450	e2,300	e2,160	7,890	2,600	6,570	2,780	1,090	1,290
20	3,180	3,400	e2,170	e2,430	e2,270	e2,160	7,780	2,910	6,530	2,700	1,000	1,190
21	3,110	3,380	e2,160	e2,410	e2,230	e2,170	7,610	3,260	6,740	2,690	966	1,140
22	3,040	3,360	e2,160	e2,410	e2,200	e2,180	7,420	3,520	6,760	2,660	993	1,120
23	3,070	3,340	e2,150	e2,400	e2,190	e2,190	7,160	3,610	6,600	2,560	999	1,100
24	3,250	3,250	e2,140	e2,400	e2,180	e2,190	6,870	3,550	6,400	2,460	936	1,070
25	3,450	3,170	e2,150	e2,400	e2,170	e2,200	6,610	3,590	6,090	2,390	919	1,050
26	3,530	3,130	e2,180	e2,400	e2,160	e2,220	6,350	4,420	5,650	2,390	939	1,060
27	3,520	3,160	e2,240	e2,390	e2,150	e2,260	6,110	5,330	5,250	2,380	910	1,060
28	3,480	3,130	e2,340	e2,380	e2,150	e2,360	5,890	5,920	4,990	2,400	880	1,060
29	3,490	3,160	e2,500	e2,380	---	e2,760	5,610	6,240	4,790	2,380	883	1,030
30	3,630	e2,900	e2,620	e2,380	---	e3,350	5,190	6,420	5,180	2,340	898	1,000
31	3,860	---	e2,680	e2,370	---	e4,200	---	6,480	---	2,300	890	---
TOTAL	102,550	110,730	74,790	77,920	64,690	71,900	216,480	111,870	195,480	103,390	44,063	29,546
MEAN	3,308	3,691	2,413	2,514	2,310	2,319	7,216	3,609	6,516	3,335	1,421	985
MAX	3,860	4,300	2,800	2,700	2,400	4,200	8,400	6,480	7,650	5,260	2,270	1,360
MIN	3,040	2,900	2,140	2,370	2,150	2,160	5,190	2,390	4,790	2,300	880	772
AC-FT	203,400	219,600	148,300	154,600	128,300	142,600	429,400	221,900	387,700	205,100	87,400	58,600
CFSM	0.54	0.60	0.39	0.41	0.38	0.38	1.18	0.59	1.06	0.54	0.23	0.16
IN.	0.62	0.67	0.45	0.47	0.39	0.44	1.31	0.68	1.18	0.63	0.27	0.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2005, BY WATER YEAR (WY)

MEAN	2,682	2,812	2,302	1,990	1,885	2,221	5,168	5,160	3,693	3,126	2,314	2,190
MAX	6,534	6,756	4,498	3,525	3,196	5,415	10,830	15,510	8,072	8,201	8,270	6,689
(WY)	(1966)	(1972)	(1997)	(1966)	(1966)	(1945)	(1966)	(1950)	(1965)	(1993)	(1953)	(1986)
MIN	313	328	324	345	398	638	1,074	669	540	346	273	321
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1958)	(1988)	(1961)	(1961)	(1976)

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1945 - 2005	
ANNUAL TOTAL	778,787		1,203,409			
ANNUAL MEAN	2,128		3,297		2,955	
HIGHEST ANNUAL MEAN					4,985	1966
LOWEST ANNUAL MEAN					796	1977
HIGHEST DAILY MEAN	4,740	Apr 9	8,400	Apr 14	19,900	May 20, 1950
LOWEST DAILY MEAN	447	Sep 3	772	Sep 7	153	Sep 1, 1961
ANNUAL SEVEN-DAY MINIMUM	474	Aug 28	781	Sep 5	195	Aug 26, 1961
MAXIMUM PEAK FLOW			8,420	Apr 14	20,000	May 20, 1950
MAXIMUM PEAK STAGE			13.10	Apr 14	a22.49	May 20, 1950
INSTANTANEOUS LOW FLOW			768	Sep 5	151	Sep 1, 1961
ANNUAL RUNOFF (AC-FT)	1,545,000		2,387,000		2,141,000	
ANNUAL RUNOFF (CFSM)	0.347		0.537		0.481	
ANNUAL RUNOFF (INCHES)	4.72		7.29		6.54	
10 PERCENT EXCEEDS	3,770		6,600		5,810	
50 PERCENT EXCEEDS	2,020		2,610		2,360	
90 PERCENT EXCEEDS	767		1,110		970	

a Present datum.
e Estimated.

