

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 fair. 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, 3,160 ft³/s, July 13; gage height, 8.47 ft. Diversion channel: maximum discharge, 739 ft³/s, July 13, gage height, 6.42 ft (determined based on change in stage at main gage, and observer's readings).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,530	2,610	e1,740	e1,900	e1,160	e940	e1,330	1,850	1,960	2,710	1,760	623
2	1,550	2,570	e1,760	e1,900	e1,120	e940	e1,360	1,710	1,880	2,730	1,810	623
3	1,560	2,530	e1,720	e1,890	e1,090	e930	e1,380	1,530	1,810	3,090	1,850	628
4	1,630	2,490	e1,690	e1,880	e1,060	e930	e1,390	1,420	1,750	3,200	1,820	619
5	1,820	2,470	e1,700	e1,880	e1,040	e920	e1,400	1,390	1,680	3,160	1,730	605
6	2,070	2,440	e1,760	e1,870	e1,030	e920	e1,390	1,440	1,560	3,080	1,700	585
7	2,370	2,390	e1,810	e1,850	e1,030	e910	e1,380	1,470	1,460	3,030	1,650	569
8	2,530	2,390	e1,900	e1,840	e1,020	e910	e1,370	1,450	1,390	2,960	1,550	549
9	2,670	2,380	e1,950	e1,840	e1,020	e910	e1,360	1,570	1,360	2,810	1,490	531
10	2,910	2,360	e2,020	e1,810	e1,010	e900	e1,340	1,920	1,410	2,980	1,420	537
11	3,210	2,360	e2,040	e1,790	e1,010	e900	e1,320	2,190	1,510	3,490	1,390	599
12	3,340	2,390	e2,060	e1,750	e1,010	e900	1,310	2,380	1,530	3,920	1,340	662
13	3,400	2,390	e2,070	e1,690	e1,010	e900	1,330	2,450	1,500	4,070	1,270	681
14	3,470	2,340	e2,080	e1,570	e1,010	e910	1,300	2,510	1,460	4,000	1,220	759
15	3,520	2,290	e2,080	e1,500	e1,010	e910	1,250	2,500	1,400	3,910	1,140	847
16	3,460	2,300	e2,070	e1,440	e1,000	e910	1,250	2,390	1,360	3,800	1,100	896
17	3,360	2,280	e2,060	e1,370	e1,000	e920	1,270	2,310	1,310	3,610	1,030	881
18	3,280	2,310	e2,040	e1,340	e990	e920	1,250	2,270	1,290	3,340	901	850
19	3,190	2,360	e2,030	e1,300	e980	e930	1,380	2,250	1,280	3,070	809	841
20	3,150	2,350	e2,010	e1,280	e980	e940	1,700	2,340	1,260	2,850	750	836
21	3,150	2,280	e2,010	e1,270	e980	e940	2,140	2,420	1,230	2,690	720	831
22	3,110	2,180	e2,020	e1,260	e980	e950	2,430	2,610	1,200	2,560	717	843
23	3,000	2,210	e2,020	e1,250	e980	e970	2,470	2,770	1,300	2,410	725	860
24	2,900	e2,210	e2,030	e1,240	e970	e990	2,420	2,780	1,440	2,300	703	824
25	2,780	e2,120	e2,010	e1,230	e970	e1,030	2,340	2,730	1,610	2,190	686	763
26	2,730	e1,800	e1,980	e1,220	e960	e1,080	2,240	2,610	1,860	2,080	683	735
27	2,770	e1,450	e1,970	e1,210	e950	e1,130	2,140	2,450	2,150	1,970	682	740
28	2,790	e1,540	e1,950	e1,200	e950	e1,170	2,070	2,370	2,330	1,910	699	736
29	2,770	e1,660	e1,930	e1,190	---	e1,220	1,970	2,270	2,270	2,580	692	723
30	2,750	e1,710	e1,910	e1,180	---	e1,260	1,910	2,160	2,700	1,810	668	706
31	2,690	---	e1,910	e1,170	---	e1,290	---	2,040	---	1,760	642	---
TOTAL	85,460	67,160	60,330	47,110	28,320	30,380	49,190	66,550	48,560	89,340	35,347	21,482
MEAN	2,757	2,239	1,946	1,520	1,011	980	1,640	2,147	1,619	2,882	1,140	716
MAX	3,520	2,610	2,080	1,900	1,160	1,290	2,470	2,780	2,700	4,070	1,850	896
MIN	1,530	1,450	1,690	1,170	950	900	1,250	1,390	1,200	1,760	642	531
AC-FT	169,500	133,200	119,700	93,440	56,170	60,260	97,570	132,000	96,320	177,200	70,110	42,610
CFSM	0.45	0.36	0.32	0.25	0.16	0.16	0.27	0.35	0.26	0.47	0.19	0.12
IN.	0.52	0.41	0.37	0.29	0.17	0.18	0.30	0.40	0.29	0.54	0.21	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2003, BY WATER YEAR (WY)

MEAN	2,705	2,828	2,318	1,997	1,894	2,236	5,156	5,238	3,659	3,153	2,358	2,210
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1945 - 2003	
ANNUAL TOTAL	956,352		629,229		2,973	
ANNUAL MEAN	2,620		1,724		4,985	
HIGHEST ANNUAL MEAN					1966	
LOWEST ANNUAL MEAN					1977	
HIGHEST DAILY MEAN	7,560	Jul 12	4,070	Jul 13	19,900	May 20, 1950
LOWEST DAILY MEAN	885	Jun 19	531	Sep 9	153	Sep 1, 1961
ANNUAL SEVEN-DAY MINIMUM	942	Jun 15	568	Sep 5	195	Aug 26, 1961
MAXIMUM PEAK FLOW			4,080	Jul 13	20,000	May 20, 1950
MAXIMUM PEAK STAGE			8.47	Jul 13	a22.49	May 20, 1950
INSTANTANEOUS LOW FLOW			517	Sep 9	151	Sep 1, 1961
ANNUAL RUNOFF (AC-FT)	1,897,000		1,248,000		2,154,000	
ANNUAL RUNOFF (CFSM)	0.43		0.28		0.48	
ANNUAL RUNOFF (INCHES)	5.79		3.81		6.58	
10 PERCENT EXCEEDS	4,410		2,770		5,830	
50 PERCENT EXCEEDS	2,280		1,630		2,370	
90 PERCENT EXCEEDS	1,460		839		980	

a Present datum.
 e Estimated.

