

UPPER MISSISSIPPI RIVER MAIN STEM--Continued

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 (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. 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. Gage height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Main channel: Maximum discharge, 5080 ft³/s, May 17; maximum gage height, 14.06 ft, May 18. Diversion channel: Maximum discharge, 4480 ft³/s, May 17, gage height 14.00 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	838	4180	4140	e2200	e2050	e1700	2380	3720	6680	2960	6030	6220
2	853	4180	4180	e2200	e2020	e1820	2590	3540	6330	3020	5910	6120
3	866	4170	4220	e2200	e2000	e1920	2660	3380	6080	3100	5900	6000
4	852	4130	4280	e2210	e2000	e2000	2990	3260	5950	3280	5770	6080
5	915	4040	4350	e2220	e2000	e2070	3640	3200	5880	3390	5500	6200
6	935	3940	4380	e2230	e2000	e2150	4270	3200	5870	3460	5280	6250
7	959	3850	4430	e2240	e2010	e2200	4950	3380	5830	3570	5170	6240
8	1010	3770	4400	e2250	e2040	e2240	5800	3900	5640	3810	5070	6240
9	1170	3690	4340	e2260	e2060	e2280	6410	4400	5280	4130	4930	6250
10	1280	3700	4290	e2270	e2090	e2300	6730	4720	5110	4470	4860	6270
11	1300	3660	4340	e2270	e2100	e2320	7020	5610	4760	4840	4830	6220
12	1310	3500	4550	e2250	e2130	e2340	7150	7030	4610	5200	4950	6240
13	1320	3450	4480	e2250	e2150	e2360	7260	8420	4480	5490	5540	6300
14	1290	3500	4400	e2250	e2160	e2400	7350	8990	4390	5820	6030	6290
15	1270	3540	4340	e2250	e2180	e2400	7440	9090	4260	6070	6130	6200
16	1290	3560	4200	e2250	e2200	e2450	7410	9270	4130	6580	6140	6080
17	1450	3540	e3850	e2250	e2210	e2490	7310	9570	4030	6940	6120	5940
18	1850	3530	e3350	e2250	e2200	e2510	7180	9230	3880	7120	6180	5780
19	2590	3580	e3000	e2250	e2200	e2530	7020	8940	3730	7180	6480	5610
20	3110	3600	e2400	e2250	e2170	e2510	6820	8680	3610	7130	6610	5430
21	3480	3510	e1950	e2260	e2110	e2480	6630	8490	3480	7090	6590	5230
22	3690	3610	e2020	e2260	e2050	e2430	6380	8430	3410	6900	6610	4990
23	3920	3800	e2120	e2260	e1960	e2380	6080	8460	3370	6800	6670	4790
24	4150	3940	e2140	e2270	e1880	e2300	5680	8520	3360	6590	6710	4630
25	4220	4020	e2160	e2280	e1780	e2230	5370	8500	3340	6330	6700	4510
26	4240	4070	e2160	e2260	e1700	e2170	5130	8380	3270	6230	6650	4660
27	4300	4120	e2160	e2230	e1650	e2130	4910	8210	3160	6210	6610	5110
28	4310	4140	e2150	e2200	e1660	e2090	4640	7970	3030	6220	6590	5550
29	4280	4100	e2170	e2140	---	e2070	4360	7620	3010	6260	6550	5830
30	4260	4120	e2170	e2120	---	2070	4030	7310	2990	6240	6460	5960
31	4220	---	e2180	e2100	---	2190	---	6990	---	6160	6360	---
TOTAL	71528	114540	105300	69180	56760	69530	167590	210410	132950	168590	185930	173220
MEAN	2307	3818	3397	2232	2027	2243	5586	6787	4432	5438	5998	5774
MAX	4310	4180	4550	2280	2210	2530	7440	9570	6680	7180	6710	6300
MIN	838	3450	1950	2100	1650	1700	2380	3200	2990	2960	4830	4510
AC-FT	141900	227200	208900	137200	112600	137900	332400	417300	263700	334400	368800	343600
CFSM	.38	.62	.55	.36	.33	.37	.91	1.11	.72	.89	.98	.94
IN.	.43	.69	.64	.42	.34	.42	1.02	1.27	.81	1.02	1.13	1.05

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2665	2767	2284	1962	1881	2245	5214	5276	3677	3125	2378	2263
MAX	6534	6756	4498	3525	3196	5415	10830	15510	8072	8201	8270	6689
(WY)	1966	1972	1997	1966	1966	1945	1966	1950	1965	1993	1953	1986
MIN	313	328	324	345	398	638	1074	669	540	346	273	321
(WY)	1977	1977	1977	1977	1977	1977	1977	1958	1988	1961	1961	1976

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1945 - 1999
ANNUAL TOTAL	942011	1525528	
ANNUAL MEAN	2581	4180	2971
HIGHEST ANNUAL MEAN			4985
LOWEST ANNUAL MEAN			796
HIGHEST DAILY MEAN	6180	Jun 28	19900
LOWEST DAILY MEAN	611	Aug 20	153
ANNUAL SEVEN-DAY MINIMUM	711	Sep 9	195
INSTANTANEOUS PEAK FLOW		838 ^a	20000
INSTANTANEOUS PEAK STAGE		14.06	22.49 ^b
INSTANTANEOUS LOW FLOW		830 ^a	151
ANNUAL RUNOFF (AC-FT)	1868000	3026000	2152000
ANNUAL RUNOFF (CFSM)	.42	.68	.48
ANNUAL RUNOFF (INCHES)	5.71	9.24	6.57
10 PERCENT EXCEEDS	4320	6810	5910
50 PERCENT EXCEEDS	2200	4030	2360
90 PERCENT EXCEEDS	862	2030	970

a Rising stage
b Present datum.

