

UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05267000 MISSISSIPPI RIVER NEAR ROYALTON, MN

LOCATION.--Lat 45°49'34", long 94°21'18", sec. 32, T. 39 N., R. 32 W., Morrison County, Hydrologic Unit 07010201, on left bank at upstream side of bridge on County Highway 26, 2.5 mi west of Royalton, and at mile 954 upstream from Ohio River.

DRAINAGE AREA.--11,600 mi² (approximately).

PERIOD OF RECORD.--March 1924 to Sept. 30, 1993, discharges obtained from Minnesota Power and adjusted to U.S. Geological Survey streamflow measurements; Oct. 1993 to Sept. 30, 2000, discharges flow-averaged between Mississippi River at Ft. Ripley (05261000) and Mississippi River at St. Cloud (05270700); Oct. 2000 to July 2001, discharges obtained from Minnesota Power and adjusted to U.S. Geological Survey streamflow measurements; July 2001 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records good except those for adjusted and estimated discharge, which are fair. Discharges based on furnished record from Minnesota Power Co. and adjusted to measured flow - to July 2, 2001. Flow partly regulated by power plants and Winnibigoshish, Leech, Pokegama, Sandy, and Gull Lakes and by Pine River Reservoir.

COOPERATION.--Furnished records collected by Minnesota Power Co. in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2970	5730	8250	4710	4240	3620	5060	24700	e16700	10800	4850	3280
2	2690	6120	6770	4440	4230	3630	5400	23800	e16500	9850	4670	3680
3	2590	6370	6110	4620	4160	3620	6060	23600	16000	e9670	4640	3370
4	2820	7040	5980	4670	4060	3630	6610	22400	15300	9320	4940	3470
5	2840	7020	4200	4480	4070	3760	6850	21100	14500	8820	4580	3190
6	3100	7590	4730	4520	4070	3840	7860	20500	13900	8530	4580	3040
7	3140	9000	4340	4580	4090	3850	10500	19900	13300	8160	4900	3610
8	3020	9880	4660	4520	4340	3850	17000	19100	12800	8230	4680	3500
9	2960	10800	4240	4490	4230	4010	21200	18900	12400	7220	4410	3280
10	3040	11100	4310	4540	4020	4250	24400	18500	12400	6500	4380	3280
11	3090	11200	3350	4680	4020	4240	28900	18000	12100	5680	4270	3110
12	3110	11400	4180	4490	4060	4390	34200	17000	12000	5850	4280	3250
13	3250	11400	4710	4500	3840	4400	35500	16600	12100	5850	4440	3140
14	3360	11600	4810	4530	3660	4050	34900	16000	15900	5480	4170	2860
15	3300	11700	4810	4480	3870	4330	33300	15400	17600	5190	4230	3200
16	3190	11400	4960	4560	3940	4350	31400	14900	18600	e5540	4460	3320
17	3220	11300	4960	4500	3820	4430	29700	14600	20200	e6000	4490	3430
18	3620	10800	5080	4480	4050	4520	27800	14200	23000	4670	4210	3160
19	3920	10500	5150	4460	4040	4570	26600	13300	25100	4910	4130	3250
20	3980	10200	4940	4460	3840	4340	24900	13100	24600	5360	4260	3510
21	4200	7840	5030	4340	3830	4580	24200	14000	23100	5300	4260	3290
22	3910	6980	5050	4360	4070	4780	23800	13700	22300	5310	4490	3200
23	3840	6750	4780	4470	4030	4770	26300	13000	20700	5520	4180	3230
24	4110	7530	4750	4300	3980	4660	28100	14900	19300	5150	4100	2950
25	4030	8620	4720	4280	3850	4720	27700	15500	18700	5400	3730	2830
26	4220	7220	4630	4290	3930	5000	28200	16900	16500	4510	3780	3240
27	4380	8190	4750	4300	4030	5040	27700	16900	15300	5040	3450	3510
28	4050	7910	4740	4290	3730	5020	26900	16800	13700	5300	3540	3160
29	3790	8860	4730	4320	---	5880	26200	16800	12300	5120	3650	3070
30	4730	8400	4620	4460	---	5140	25400	16900	11500	4950	3620	3340
31	4780	---	4580	4350	---	4950	---	e16800	---	4720	3520	---
TOTAL	109250	270450	152920	138470	112100	136220	682640	537800	498400	197950	131890	97750
MEAN	3524	9015	4933	4467	4004	4394	22750	17350	16610	6385	4255	3258
MAX	4780	11700	8250	4710	4340	5880	35500	24700	25100	10800	4940	3680
MIN	2590	5730	3350	4280	3660	3620	5060	13000	11500	4510	3450	2830
AC-FT	216700	536400	303300	274700	222400	270200	1354000	1067000	988600	392600	261600	193900
CFSM	.30	.78	.43	.39	.35	.38	1.96	1.50	1.43	.55	.37	.28
IN.	.35	.87	.49	.44	.36	.44	2.19	1.72	1.60	.63	.42	.31

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4186	4059	3172	2787	2683	3904	9384	8771	6571	4965	3736	3586
MAX	12930	14640	7297	5713	5480	12290	25430	24600	18160	15250	15230	12940
(WY)	1966	1972	1997	1966	1997	1966	1997	1950	1965	1993	1953	1986
MIN	632	618	627	534	758	968	1924	1663	1071	648	449	535
(WY)	1937	1937	1935	1935	1937	1940	1931	1977	1988	1988	1934	1934

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1924 - 2001
ANNUAL TOTAL	1957900	3065840	
ANNUAL MEAN	5349	8400	4844
HIGHEST ANNUAL MEAN			9555
LOWEST ANNUAL MEAN			1213
HIGHEST DAILY MEAN	11700	Nov 15	35500
LOWEST DAILY MEAN	2340	Aug 16	2590
ANNUAL SEVEN-DAY MINIMUM	2520	Aug 10	2880
ANNUAL RUNOFF (AC-FT)	3883000	6081000	3509000
ANNUAL RUNOFF (CFSM)	.46	.72	.42
ANNUAL RUNOFF (INCHES)	6.28	9.83	5.67
10 PERCENT EXCEEDS	8420	19500	9870
50 PERCENT EXCEEDS	4800	4720	3530
90 PERCENT EXCEEDS	3020	3310	1330

e Estimated.

