

## UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05267000 MISSISSIPPI RIVER NEAR ROYALTON, MN

LOCATION.--Lat 45°51'41", long 94°21'33", in lot 2, sec. 20, T. 39 N., R. 32 W., Morrison County, Hydrologic Unit 07010104, at plant of Minnesota Power Co., 4 mi northwest of Royalton, 4.5 mi downstream from Swan River, and at mile 956 upstream from Ohio River.

DRAINAGE AREA.--11,600 mi<sup>2</sup> (approximately).

PERIOD OF RECORD.--March 1924 to current year.

REMARKS.--Records fair. Discharges flow-averaged based on nearby gaging stations, furnished record from Minnesota Power Co., and measured flow. 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 1999 TO SEPTEMBER 2000  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8800	6950	5900	4780	4020	7850	6500	5100	5300	6200	3870	2910
2	9050	6950	6200	4800	3980	8000	6500	5050	5250	6200	3640	2820
3	8650	7150	6300	4800	3980	8200	6300	5200	5100	5850	3350	2760
4	8500	7050	6250	4780	3920	8600	6200	5000	5150	5600	3300	2930
5	8750	6950	6200	4750	3820	8450	6100	5000	4990	5700	3210	2920
6	8400	6700	6000	4780	3750	8600	5950	4940	4850	5550	3300	2930
7	8100	6700	5800	4750	3700	8450	6250	4960	4960	5400	3100	3100
8	8350	6700	5750	4780	3700	8550	6500	5750	4700	5950	2980	3070
9	8200	6700	5550	4780	3700	9200	6800	6750	4400	7200	2890	3050
10	8300	6700	5700	4750	3700	9500	6400	7950	3960	7700	2740	3520
11	8250	6600	5850	4680	3700	9700	6300	9150	3580	7300	2540	3440
12	8150	6500	5400	4650	3700	9500	6350	9650	3480	7300	2620	2610
13	7900	6550	5150	4680	3620	8450	6350	10200	3270	7200	2580	3300
14	7900	6500	5250	4720	3620	7700	6400	10200	3690	7000	2450	3120
15	7950	6250	5500	4720	3620	7700	6200	10400	4200	7000	2390	3240
16	7800	6200	4840	4700	3620	7300	5700	10400	4580	6800	2340	3080
17	7850	6150	4110	4620	3600	6650	5650	10200	4960	6500	2900	2910
18	7750	6450	3700	4520	3580	6100	5250	9400	5500	6200	3360	2980
19	8000	6300	3320	4400	3550	6300	5550	8950	5900	5950	3660	3120
20	7800	6200	3120	4350	3550	6250	5500	8500	6700	5650	3780	3040
21	7400	6350	3080	4220	3620	6150	5500	8200	6750	5300	3900	2780
22	7600	6400	3080	4200	3800	5900	5600	7600	7000	4870	3920	2730
23	7600	6450	3400	4180	3980	5900	5600	7000	7100	4520	4000	3040
24	7450	6300	3920	4100	4060	6100	5650	6700	7100	4340	3680	2860
25	7500	6250	4250	4100	4540	6500	5650	6400	7100	4320	3360	2930
26	7200	6300	4450	4120	6150	7100	5600	6050	7300	4450	3580	3020
27	7300	6350	4550	4100	7250	7000	5600	5850	7500	4380	3050	3100
28	7250	6200	4620	4080	7300	7450	5300	5750	7400	4100	2840	2980
29	7250	6050	4680	4080	7750	7100	4960	5550	6900	4020	2860	2880
30	7400	5900	4750	4080	---	6950	5150	5550	6550	3910	2570	2960
31	7200	---	4780	4050	---	6500	---	5300	---	3830	3140	---
TOTAL	245600	194800	151450	139100	122880	233700	177360	222700	165220	176290	97900	90130
MEAN	7923	6493	4885	4487	4237	7539	5912	7184	5507	5687	3158	3004
MAX	9050	7150	6300	4800	7750	9700	6800	10400	7500	7700	4000	3520
MIN	7200	5900	3080	4050	3550	5900	4960	4940	3270	3830	2340	2610
AC-FT	487100	386400	300400	275900	243700	463500	351800	441700	327700	349700	194200	178800
CFSM	.68	.56	.42	.39	.37	.65	.51	.62	.47	.49	.27	.26
IN.	.79	.62	.49	.45	.39	.75	.57	.71	.53	.57	.31	.29

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4195	3994	3151	2759	2657	3897	9210	8660	6441	4947	3729	3590
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 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1924 - 2000
ANNUAL TOTAL	2935430	2017130	
ANNUAL MEAN	8042	5511	4796
HIGHEST ANNUAL MEAN			9555
LOWEST ANNUAL MEAN			1213
HIGHEST DAILY MEAN	27000	May 17	10400
LOWEST DAILY MEAN	3080	Dec 21	2340
ANNUAL SEVEN-DAY MINIMUM	3370	Dec 18	2520
ANNUAL RUNOFF (AC-FT)	5822000		4001000
ANNUAL RUNOFF (CFSM)	.69		.48
ANNUAL RUNOFF (INCHES)	9.41		6.47
10 PERCENT EXCEEDS	12700		7960
50 PERCENT EXCEEDS	7250		5550
90 PERCENT EXCEEDS	3810		3080

