

## UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05247500 CROW WING RIVER NEAR PILLAGER, MN

LOCATION.--Lat 46°18'18", long 94°22'38", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 30, T. 133 N., R. 29 W., Cass County, Hydrologic Unit 07010106, at Sylvan Dam power plant of Minnesota Power Co., 3.6 mi above mouth and 4.9 mi southeast of Pillager.

DRAINAGE AREA.--3,520 mi<sup>2</sup> (approximately).

PERIOD OF RECORD.--October 1968 to September 1986, October 1987 to current year. Records for August 1924 to September 1968 available in files of the Minnesota District Office.

GAGE.--Water stage recorder. Datum of gage is 1,151.00 ft above sea level, adjustment of 1912. Prior to January 16, 1991, staff gage attached to retaining wall approximately 20 ft below the turbine outlet bays, at datum 1150.17 ft, adjustment of 1912.

REMARKS.--Records good. Discharge computed on the basis of power plant records prior to January 16, 1991. Records for Oct. 1, 1968 to Sept. 30, 1975, were adjusted for storage change in the Sylvan dam reservoir. Flow partly regulated by Sylvan Dam power plant and Gull Lake reservoir.

COOPERATION.--Records collected by Minnesota Power Company prior to February 1991, in connection with a Federal Energy Regulatory Commission project.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum daily discharge since 1924, 18,300 ft<sup>3</sup>/s, Apr. 14, 1965.

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	843	2560	2590	1110	1030	1200	4070	2290	3440	1960	1840	2270
2	831	2450	2600	1150	983	1190	4290	2030	3620	1870	1610	2130
3	861	2160	2600	1090	983	1200	4270	2100	3610	1670	1600	2120
4	868	2070	2590	1090	1080	1230	4380	2230	2240	1660	1620	2540
5	905	2020	2590	1010	1120	1300	4380	2360	1440	1730	1630	2860
6	1030	1960	2570	1040	1080	1260	4610	2770	2580	1500	1470	3000
7	1130	1950	2470	1090	1070	1160	4930	3260	2820	1470	1460	3050
8	1100	1780	2070	1280	1060	1160	5180	3570	2660	1510	1300	2960
9	1040	1620	2000	1120	1040	1160	5320	3650	2720	1650	1220	3190
10	1150	1700	2100	1050	1210	1160	5190	3750	3000	1690	1350	3100
11	970	1730	2260	1050	1180	1150	4950	4090	2970	1460	1670	3210
12	1010	1870	1900	1060	1110	1110	4700	4740	2850	1460	2110	3290
13	1180	1550	2000	1030	1010	1070	4530	5770	2690	1470	2240	3180
14	1040	1770	2050	1030	1220	1080	4350	7110	2660	1430	2440	3140
15	1060	1940	2010	1020	1120	1230	4160	9500	2560	1240	2870	3270
16	1560	1830	1690	998	1160	1310	3630	9760	2210	1960	2970	3190
17	2390	1850	1530	993	1180	1380	3520	9500	2140	2500	2950	2970
18	2820	1850	1130	1030	1030	1380	3580	8870	2010	2820	2810	2800
19	3000	1820	1130	1150	1040	1470	3530	8200	1830	2870	2820	2350
20	3680	1770	779	1150	1120	1670	3500	7550	1640	2890	2810	2310
21	3690	1860	593	1030	1120	1950	3430	7050	1560	2950	2820	2320
22	3710	1850	825	990	1010	2130	3410	6530	1770	2930	2490	2130
23	3800	2240	915	1020	976	2330	3290	6030	1760	2870	2450	2110
24	3510	2290	1150	1020	1040	2830	3010	5690	2030	2740	2450	1850
25	3390	2090	1200	1020	1040	3020	2820	5400	2340	2610	2430	1640
26	3280	2110	1190	1040	1040	3140	2870	5040	2040	2760	2430	2190
27	3270	2160	1240	1060	1040	3140	2720	4680	1810	2560	2280	2220
28	3110	2200	1240	1060	1040	3310	2720	4430	1810	2570	2150	2040
29	2810	2220	1280	1060	---	3540	2710	3990	2140	2070	2140	1930
30	2560	2320	1260	1050	---	3510	2580	3750	2110	2150	2160	2000
31	2560	---	1130	1050	---	3980	---	3610	---	2020	2370	---
TOTAL	64158	59590	52682	32941	30132	57750	116630	159300	71060	65040	66960	77360
MEAN	2070	1986	1699	1063	1076	1863	3888	5139	2369	2098	2160	2579
MAX	3800	2560	2600	1280	1220	3980	5320	9760	3620	2950	2970	3290
MIN	831	1550	593	990	976	1070	2580	2030	1440	1240	1220	1640
AC-FT	127300	118200	104500	65340	59770	114500	231300	316000	140900	129000	132800	153400
CFSM	.63	.60	.51	.32	.33	.56	1.18	1.56	.72	.64	.65	.78
IN.	.72	.67	.59	.37	.34	.65	1.31	1.80	.80	.73	.75	.87

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1252	1218	861	701	721	1382	3371	2424	1663	1436	1020	964
MAX	3771	3674	1699	1188	1360	2996	7980	5671	3625	3295	3520	3309
(WY)	1974	1972	1999	1986	1998	1972	1997	1986	1993	1972	1972	1986
MIN	215	215	199	218	255	548	882	545	447	206	120	161
(WY)	1977	1977	1977	1977	1977	1981	1981	1977	1988	1988	1976	1976

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1969 - 1999
ANNUAL TOTAL	642972	853603	
ANNUAL MEAN	1762	2339	1419
HIGHEST ANNUAL MEAN			2564
LOWEST ANNUAL MEAN			446
HIGHEST DAILY MEAN	4050	May 19	16600
LOWEST DAILY MEAN	548	Sep 9	60
ANNUAL SEVEN-DAY MINIMUM	620	Sep 6	68
INSTANTANEOUS PEAK FLOW			10800
INSTANTANEOUS PEAK STAGE			9.97
INSTANTANEOUS LOW FLOW			247
ANNUAL RUNOFF (AC-FT)	1275000	1693000	1028000
ANNUAL RUNOFF (CFSM)	.53	.71	.43
ANNUAL RUNOFF (INCHES)	7.25	9.62	5.84
10 PERCENT EXCEEDS	2970	3770	2910
50 PERCENT EXCEEDS	1550	2070	961
90 PERCENT EXCEEDS	833	1040	437

