

## 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.--3,760 mi<sup>2</sup> (revised).

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 1,150.00 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.--Prior to February 1991, records collected by Minnesota Power Company 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 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	600	884	836	730	e490	806	3,050	1,380	2,130	749	792	540
2	626	839	755	804	e440	861	2,950	1,380	2,550	702	853	564
3	636	831	689	791	e425	841	2,580	1,300	2,610	711	869	564
4	641	843	689	751	e410	843	2,260	1,260	2,530	966	856	564
5	647	799	658	696	e400	847	2,130	1,250	2,450	1,060	805	981
6	646	685	611	648	e410	946	2,030	1,190	2,430	1,130	809	1,160
7	641	509	961	617	e430	925	1,740	965	2,310	1,440	778	972
8	637	369	844	572	e460	850	1,830	1,130	2,100	1,750	743	1,140
9	641	422	524	475	e470	849	1,790	1,090	1,990	1,800	796	1,080
10	642	933	690	472	e470	843	1,730	1,080	1,830	1,620	842	996
11	680	850	886	474	e475	863	1,650	981	1,680	1,610	834	963
12	727	1,080	766	553	e500	865	1,570	978	1,620	1,660	827	953
13	743	673	670	620	e560	929	1,500	1,090	1,610	1,900	776	886
14	773	636	641	612	e590	916	1,410	1,420	1,480	2,120	710	874
15	787	875	626	603	e600	929	1,330	1,490	1,190	1,900	703	891
16	784	1,010	683	609	e570	928	1,300	1,490	1,380	1,670	708	1,210
17	786	1,000	735	608	e560	904	1,280	1,600	1,430	1,510	716	1,590
18	729	952	760	609	e580	926	1,290	1,860	1,120	1,410	696	1,860
19	681	913	771	608	e600	980	1,310	2,130	1,060	1,180	659	1,850
20	677	846	772	575	e620	1,060	1,560	2,150	1,130	1,120	633	1,710
21	624	790	767	544	641	1,130	1,790	1,980	1,180	1,120	517	1,780
22	618	792	770	521	653	1,330	1,880	1,940	1,080	1,010	463	2,360
23	628	625	813	e480	654	1,370	2,150	1,870	910	870	468	2,650
24	697	226	808	e440	652	1,270	1,980	1,680	941	760	585	2,760
25	736	191	797	e420	733	1,640	1,830	1,720	1,010	761	608	2,890
26	687	483	751	e415	759	1,930	1,690	1,900	954	714	604	2,850
27	697	752	733	e416	720	2,430	1,760	1,950	870	660	601	2,590
28	730	751	710	e475	723	2,720	1,750	2,030	907	643	599	2,770
29	815	796	807	e540	748	2,920	1,510	2,110	952	620	582	2,710
30	877	833	850	e530	---	3,030	1,370	2,140	891	661	539	2,380
31	878	---	805	e520	---	3,010	---	1,970	---	722	517	---
TOTAL	21,711	22,188	23,178	17,728	16,343	40,691	54,000	48,504	46,325	36,549	21,488	47,088
MEAN	700	740	748	572	564	1,313	1,800	1,565	1,544	1,179	693	1,570
MAX	878	1,080	961	804	759	3,030	3,050	2,150	2,610	2,120	869	2,890
MIN	600	191	524	415	400	806	1,280	965	870	620	463	540
AC-FT	43,060	44,010	45,970	35,160	32,420	80,710	107,100	96,210	91,890	72,490	42,620	93,400
CFSM	0.21	0.22	0.23	0.17	0.17	0.40	0.55	0.47	0.47	0.36	0.21	0.48
IN.	0.24	0.25	0.26	0.20	0.18	0.46	0.61	0.55	0.52	0.41	0.24	0.53

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2004, BY WATER YEAR (WY)

MEAN	1,223	1,228	884	719	731	1,377	3,360	2,467	1,796	1,547	1,014	972
MAX	3,771	3,674	1,699	1,188	1,360	2,996	8,266	5,671	5,307	3,295	3,520	3,309
(WY)	(1974)	(1972)	(1999)	(1986)	(1998)	(1972)	(2001)	(1986)	(2001)	(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)

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SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1969 - 2004	
ANNUAL TOTAL	507,672		395,793			
ANNUAL MEAN	1,391		1,081		1,444	
HIGHEST ANNUAL MEAN					2,564 1972	
LOWEST ANNUAL MEAN					446 1977	
HIGHEST DAILY MEAN	6,950	Jun 28	3,050	Apr 1	16,900	Apr 12, 2001
LOWEST DAILY MEAN	191	Nov 25	191	Nov 25	60	Aug 10, 1976
ANNUAL SEVEN-DAY MINIMUM	546	Nov 22	425	Feb 2	68	Aug 9, 1976
MAXIMUM PEAK FLOW			3,150	Sep 25	17,500	Apr 12, 2001
MAXIMUM PEAK STAGE			5.26	Sep 25	a12.11	Apr 12, 2001
INSTANTANEOUS LOW FLOW			b87	Nov 24	b78	Jul 17, 2001
ANNUAL RUNOFF (AC-FT)	1,007,000		785,100		1,046,000	
ANNUAL RUNOFF (CFSM)	0.421		0.328		0.438	
ANNUAL RUNOFF (INCHES)	5.72		4.46		5.95	
10 PERCENT EXCEEDS	3,100		1,980		2,920	
50 PERCENT EXCEEDS	833		844		986	
90 PERCENT EXCEEDS	587		540		462	

a Since stage record began, Jan. 16, 1991.  
 b Result of regulation.  
 c Estimated.

