

## 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 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 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	478	1,390	834	894	603	544	1,330	2,050	1,840	5,870	1,230	666
2	489	1,390	1,040	894	608	568	1,430	2,010	1,820	5,510	1,320	675
3	445	1,390	948	960	686	574	1,440	1,660	1,810	5,530	1,220	657
4	708	1,400	866	879	683	573	1,020	1,700	1,800	5,290	1,190	624
5	1,030	1,390	863	821	682	565	1,050	2,020	1,740	4,980	1,170	613
6	1,150	1,380	1,080	895	682	564	1,260	2,090	1,480	4,670	1,120	599
7	1,240	1,280	996	892	683	566	1,260	2,500	1,590	4,530	1,100	574
8	1,370	1,250	994	889	681	570	1,260	2,800	2,000	4,050	1,100	586
9	1,340	1,250	962	890	680	565	1,190	3,000	2,040	3,770	1,010	571
10	1,320	1,330	927	916	680	566	1,070	3,540	2,190	3,850	907	577
11	1,310	1,500	928	895	678	565	985	3,610	2,540	3,820	951	710
12	1,280	1,420	952	844	661	565	971	3,560	2,740	3,640	954	776
13	1,300	1,310	963	791	613	567	979	3,500	2,740	3,560	952	770
14	1,330	1,240	996	739	586	569	1,020	3,350	2,360	3,640	953	764
15	1,320	1,120	1,040	744	582	567	1,020	3,150	2,090	3,410	936	742
16	1,300	961	1,040	690	581	600	1,700	3,050	2,080	3,270	848	684
17	1,290	1,160	1,020	635	574	751	2,080	3,020	2,060	3,120	735	614
18	1,160	1,190	1,020	636	590	956	2,130	3,110	2,040	2,860	705	595
19	1,180	1,380	1,020	635	594	1,070	2,710	3,040	1,890	2,750	786	591
20	1,280	1,500	997	636	604	1,070	3,020	3,240	1,710	2,690	786	679
21	1,290	1,490	1,000	695	591	1,060	3,170	3,240	1,630	2,710	774	697
22	1,320	1,230	1,000	683	610	1,070	3,100	3,240	1,600	2,470	769	698
23	1,330	1,230	1,010	605	635	1,080	3,110	2,990	2,270	2,100	706	693
24	1,340	1,150	975	599	631	1,410	3,030	2,950	3,190	1,990	668	720
25	1,220	966	941	599	618	1,460	2,940	2,730	3,540	1,780	676	766
26	1,230	668	966	597	581	1,590	2,810	2,530	3,960	1,710	673	723
27	1,320	752	917	587	570	1,540	2,810	2,470	5,460	1,550	661	669
28	1,340	965	878	580	523	1,470	2,600	2,490	6,950	1,550	647	622
29	1,360	1,230	884	548	---	1,390	2,330	2,220	6,890	1,560	639	633
30	1,370	1,320	958	549	---	1,360	2,070	2,150	6,340	1,390	629	627
31	1,380	---	940	591	---	1,370	---	2,130	---	1,160	627	---
TOTAL	36,820	37,232	29,955	22,808	17,490	27,735	56,895	85,140	82,390	100,780	27,442	19,915
MEAN	1,188	1,241	966	736	625	895	1,896	2,746	2,746	3,251	885	664
MAX	1,380	1,500	1,080	960	686	1,590	3,170	3,610	6,950	5,870	1,320	776
MIN	445	668	834	548	523	544	971	1,660	1,480	1,160	627	571
AC-FT	73,030	73,850	59,420	45,240	34,690	55,010	112,900	168,900	163,400	199,900	54,430	39,500
CFSM	0.36	0.38	0.29	0.22	0.19	0.27	0.57	0.83	0.83	0.99	0.27	0.20
IN.	0.42	0.42	0.34	0.26	0.20	0.31	0.64	0.96	0.93	1.14	0.31	0.22

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

MEAN	1,239	1,242	888	724	736	1,379	3,406	2,494	1,803	1,558	1,024	954
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1969 - 2003	
ANNUAL TOTAL	555,612		544,602		1,455	
ANNUAL MEAN	1,522		1,492		2,564	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					446	
HIGHEST DAILY MEAN	5,070	Jul 11	6,950	Jun 28	16,900	Apr 12, 2001
LOWEST DAILY MEAN	445	Oct 3	445	Oct 3	60	Aug 10, 1976
ANNUAL SEVEN-DAY MINIMUM	672	Sep 28	559	Feb 28	68	Aug 9, 1976
MAXIMUM PEAK FLOW			7,340	Jun 28	a17,500	Apr 12, 2001
MAXIMUM PEAK STAGE			7.67	Jun 28	a12.11	Apr 12, 2001
INSTANTANEOUS LOW FLOW			b413	Oct 4	b78	Jul 17, 2001
ANNUAL RUNOFF (AC-FT)	1,102,000		1,080,000		1,054,000	
ANNUAL RUNOFF (CFSM)	0.46		0.45		0.44	
ANNUAL RUNOFF (INCHES)	6.26		6.14		5.99	
10 PERCENT EXCEEDS	2,830		3,100		2,960	
50 PERCENT EXCEEDS	1,250		1,080		993	
90 PERCENT EXCEEDS	832		591		461	

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

