Water-Data Report 2012

05247500 CROW WING RIVER NEAR PILLAGER, MN

Mississippi Headwaters Basin
Crow Wing Subbasin

LOCATION.--Lat 46°18′18″, long 94°22′38″ referenced to North American Datum of 1927, in SW ¼ NE ¼ sec.30, T.133 N., R.29 W., Cass County, MN, 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^2.

SURFACE-WATER RECORDS

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.

REVISED RECORDS.--Unpublished, 2009: 1993(M).

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.

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

REMARKS.--Records good. Prior to January 16, 1991, discharges computed on the basis of power plant. 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.

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

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	852	1,060	1,100	910	712	772	1,810	2,990	8,020	3,090	1,530	636
2	939	1,190	670	901	727	894	1,810	3,040	7,210	2,670	1,360	529
3	903	987	836	788	758	872	1,820	2,900	6,560	2,720	1,170	521
4	985	1,030	921	859	770	844	1,760	2,900	5,900	2,500	1,300	505
5	891	1,070	920	871	763	829	1,670	3,010	5,320	2,400	1,250	501
6	894	1,070	819	849	772	838	1,770	3,110	4,120	2,560	1,340	553
7	986	1,210	751	832	787	954	1,720	2,910	3,350	2,540	1,090	583
8	973	1,080	1,010	900	792	895	1,540	3,040	3,040	2,560	1,220	519
9	1,030	1,030	859	833	793	754	1,560	3,040	2,920	2,470	1,150	592
10	1,040	1,120	922	953	742	980	1,530	2,900	2,630	2,480	1,340	495
11	1,030	1,150	1,080	886	615	877	1,350	2,750	2,370	2,340	1,170	493
12	1,140	1,120	1,080	831	732	1,090	1,380	2,660	2,190	2,140	1,150	488
13	1,120	1,090	1,060	889	633	1,080	1,340	2,490	2,070	1,880	1,130	455
14	1,120	1,120	1,070	647	564	1,490	1,460	2,360	2,160	1,590	975	531
15	1,010	1,140	1,130	792	683	1,420	1,580	2,210	2,130	1,390	942	546
16	1,160	1,120	1,100	746	640	1,790	2,350	2,040	1,950	1,310	916	461
17	1,090	1,060	948	769	696	1,890	3,000	2,020	1,820	1,240	837	460
18	1,080	830	1,090	700	714	2,310	3,240	1,760	1,800	1,190	845	467
19	1,080	979	960	718	694	2,080	3,480	1,900	2,180	1,170	895	486
20	998	637	1,060	618	763	2,300	3,710	2,160	3,310	1,130	714	496
21	991	815	1,030	687	758	2,250	3,760	2,160	5,060	1,150	796	517
22	1,030	865	941	562	721	2,280	3,770	2,270	6,320	905	717	531
23	1,030	1,110	979	626	733	2,130	3,910	2,460	6,570	974	737	443
24	1,020	1,400	935	590	713	2,130	3,720	3,270	6,810	743	767	472
25	1,020	1,470	857	694	851	2,160	3,640	3,520	6,470	1,360	626	456
26	1,080	1,460	1,040	638	770	1,950	3,450	3,630	6,180	1,600	685	460
27	1,060	1,340	917	751	774	1,930	3,430	4,790	5,850	1,870	716	464
28	1,010	1,160	910	722	754	1,810	3,290	7,190	4,570	1,920	563	462
29	1,060	1,050	956	731	851	1,730	3,170	7,690	3,640	1,820	705	520
30	1,010	1,030	857	754	---	1,670	2,960	8,150	3,370	1,860	513	485
31	1,020	---	962	734	---	1,770	---	8,410	---	1,850	516	---
Total	31,652	32,793	29,770	23,781	21,275	46,769	74,980	105,730	125,890	57,422	29,665	15,127
Mean	1,021	1,093	960	767	734	1,509	2,499	3,411	4,196	1,852	957	504
Max	1,160	1,470	1,130	953	851	2,310	3,910	8,410	8,020	3,090	1,530	636
Min	852	637	670	562	564	754	1,340	1,760	1,800	743	513	443
Ac-ft	62,780	65,040	59,050	47,170	42,200	92,770	148,700	209,700	249,700	113,900	58,840	30,000
Cfsm	0.27	0.29	0.26	0.20	0.20	0.40	0.66	0.91	1.12	0.49	0.25	0.13
In.	0.31	0.32	0.29	0.24	0.21	0.46	0.74	1.05	1.25	0.57	0.29	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2012, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,272	1,303	919	758	753	1,500	3,420	2,556	1,942	1,513	1,043	968
Max	3,771	3,674	1,699	1,394	1,360	3,938	8,266	5,671	5,307	3,295	3,520	3,309
(WY)	(1974)	(1972)	(1999)	(2006)	(1998)	(2009)	(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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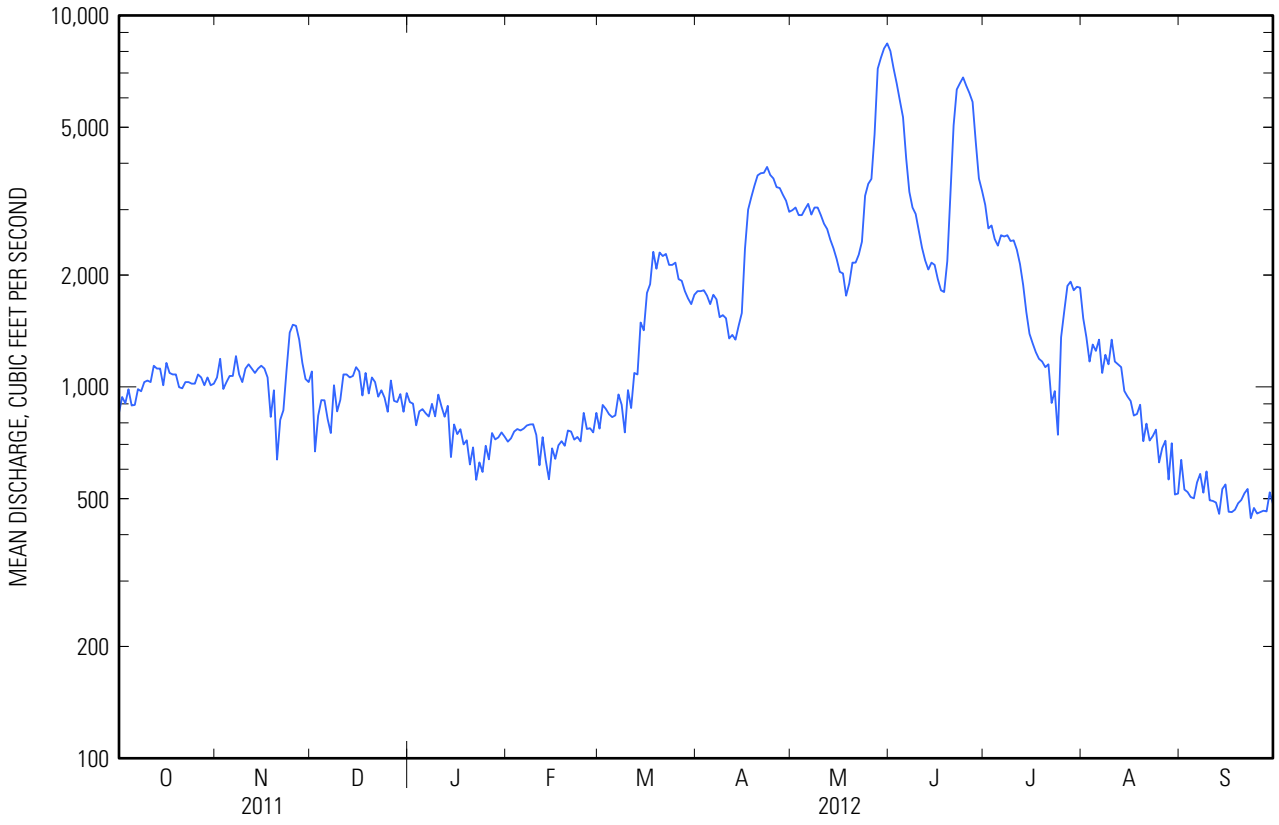
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1969 - 2012	
Annual total	811,234		594,854			
Annual mean	2,223		1,625		1,497	
Highest annual mean					2,564	1972
Lowest annual mean					446	1977
Highest daily mean	7,320	Apr 9	8,410	May 31	16,900	Apr 12, 2001
Lowest daily mean	637	Nov 20	443	Sep 23	60	Aug 10, 1976
Annual seven-day minimum	847	Dec 2	468	Sep 23	68	Aug 9, 1976
Maximum peak flow			[a]8,530	May 31	17,500	Apr 12, 2001
Maximum peak stage			[a]8.13	May 31	[b]12.11	Apr 12, 2001
Instantaneous low flow			[c]269	Sep 8	[c,d]78	Jul 17, 2001
Annual runoff (ac-ft)	1,609,000		1,180,000		1,084,000	
Annual runoff (cfsm)	0.591		0.432		0.398	
Annual runoff (inches)	8.03		5.89		5.41	
10 percent exceeds	5,110		3,250		3,020	
50 percent exceeds	1,340		1,070		1,030	
90 percent exceeds	990		617		478	

[a] Affected by regulation.
[b] Since USGS stage record began, Jan. 16, 1991.
[c] Result of regulation.
[d] Also occurred, Aug. 10, 2007.