

ST. CROIX RIVER BASIN--Continued

05337400 KNIFE RIVER NEAR MORA, MN

LOCATION.--Lat 45°55'12", long 93°18'26", in SW¹/₄SW¹/₄ sec. 26, T.40 N., R.24 W., Kanabec County, Hydrologic Unit 07030004, on left bank 400 ft upstream from bridge on County Highway 77, 1.1 mi upstream from mouth and 2.5 mi north of Mora.

DRAINAGE AREA.--102 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1969-74; July 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 991.20 ft above sea level (NGVD of 1929, Kanabec County benchmark).

REMARKS.--Records good except those for periods of estimated daily discharges, which are fair to poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 26, 1972, reached a stage of 14.0 ft, from information by local resident (discharge not determined). Result of dam failure and backwater from collapsed bridge.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 8	1930	2,290	6.79	May 24	1530	275	3.56
Apr 23	1600	*3,450	*7.76	Jun 15	1130	2,470	6.96

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	20	e21	e5.2	e9.0	e8.8	23	237	117	78	31	8.3
2	1.4	15	e18	e5.6	e9.2	e8.8	25	206	137	62	30	6.5
3	1.4	20	e16	e5.7	e9.4	e8.9	28	179	150	56	26	7.0
4	1.4	20	e15	e5.9	e9.7	e9.0	35	156	141	50	23	5.9
5	1.4	18	e14	e6.3	e10	e9.3	53	135	120	40	20	4.8
6	1.4	32	e13	e6.4	e9.3	e9.5	96	146	104	33	20	4.1
7	1.5	57	e12	e6.5	e10	e9.7	585	184	93	32	17	7.1
8	1.5	65	e8.6	e6.8	e10	e10	1950	217	83	30	14	9.9
9	1.5	73	e6.4	e6.9	e10	e10	2060	212	77	26	14	9.1
10	1.5	68	e6.2	e7.0	e9.2	e11	1590	201	82	23	9.1	8.1
11	1.6	65	e5.5	e7.0	e8.7	e11	1330	178	87	18	6.4	7.2
12	1.6	72	e5.0	e7.1	e9.4	e11	1420	149	93	16	5.7	7.4
13	3.0	87	e5.1	e7.2	e10	e12	1240	131	96	13	4.8	5.6
14	2.9	90	e5.3	e7.2	e9.3	e12	893	118	889	12	3.5	4.6
15	1.9	65	e5.4	e7.2	e8.9	e13	688	105	2250	10	3.6	4.0
16	1.9	64	e5.4	e7.2	e8.8	e12	576	94	1710	9.8	6.5	3.8
17	1.9	52	e5.5	e7.4	e8.9	12	440	80	1010	10	4.8	4.0
18	1.9	48	e5.5	e7.1	e9.5	12	347	68	963	30	16	4.5
19	2.0	e45	e5.4	e6.9	e10	12	297	61	939	28	14	5.3
20	2.0	e42	e5.4	e6.7	e8.5	13	270	56	662	26	11	5.1
21	2.0	e38	e5.6	e7.2	e8.4	14	289	78	449	24	10	6.1
22	2.0	e34	e5.6	e7.4	e8.4	14	470	92	328	23	10	6.4
23	2.1	e33	e5.6	e7.6	e8.4	14	2620	155	248	22	10	10
24	1.9	e32	e5.3	e7.6	e8.5	e14	2590	232	202	21	8.1	6.5
25	2.3	30	e4.7	e7.7	e8.5	e14	1500	227	170	19	6.7	4.9
26	7.2	28	e4.8	e7.8	e8.6	e13	959	227	153	15	6.0	4.5
27	12	26	e5.0	e7.1	e8.6	e13	642	229	136	13	9.1	4.3
28	9.1	25	e5.1	e7.8	e8.7	e14	445	215	116	30	8.4	4.4
29	7.5	25	e5.2	e8.7	---	15	323	186	104	28	7.4	3.7
30	9.5	e23	e5.2	e10	---	16	275	153	97	26	13	3.4
31	10	---	e5.2	e8.5	---	21	---	125	---	25	11	---
TOTAL	100.7	1312	241.0	220.7	255.9	377.0	24059	4832	11806	848.8	380.1	176.5
MEAN	3.25	43.7	7.77	7.12	9.14	12.2	802	156	394	27.4	12.3	5.88
MAX	12	90	21	10	10	21	2620	237	2250	78	31	10
MIN	1.4	15	4.7	5.2	8.4	8.8	23	56	77	9.8	3.5	3.4
AC-FT	200	2600	478	438	508	748	47720	9580	23420	1680	754	350
CFSM	.03	.43	.08	.07	.09	.12	7.86	1.53	3.86	.27	.12	.06
IN.	.04	.48	.09	.08	.09	.14	8.77	1.76	4.31	.31	.14	.06

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.9	36.8	21.9	13.0	15.8	69.5	243	113	75.2	44.9	33.4	35.3
MAX	242	78.4	63.6	28.8	48.9	238	802	338	394	133	218	257
(WY)	1985	1984	1984	1984	1984	1983	2001	1986	2001	1991	1995	1986
MIN	3.25	1.38	1.17	1.23	1.16	12.2	35.2	11.4	3.06	.98	1.94	1.69
(WY)	2001	1990	1990	1990	1990	2001	1987	1998	1988	1988	1988	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1979 - 2001
ANNUAL TOTAL	12115.9	44609.7	
ANNUAL MEAN	33.1	122	62.6
HIGHEST ANNUAL MEAN			135 1986
LOWEST ANNUAL MEAN			16.8 1988
HIGHEST DAILY MEAN	355 Jul 10	2620 Apr 23	2620 Apr 23 2001
LOWEST DAILY MEAN	1.3 Sep 8	1.4 Oct 1-6	.76 Jul 7 1988
ANNUAL SEVEN-DAY MINIMUM	1.4 Sep 13	1.4 Oct 1	.86 Jul 23 1988
MAXIMUM PEAK FLOW		3450 Apr 23	3450 Apr 23 2001
MAXIMUM PEAK STAGE		7.76 Apr 23	7.76 Apr 23 2001
INSTANTANEOUS LOW FLOW		1.1 Oct 2	.74 Jul 6 1988
ANNUAL RUNOFF (AC-FT)	24030	88480	45330
ANNUAL RUNOFF (CFSM)	.32	1.20	.61
ANNUAL RUNOFF (INCHES)	4.42	16.27	8.33
10 PERCENT EXCEEDS	80	230	145
50 PERCENT EXCEEDS	18	12	22
90 PERCENT EXCEEDS	1.8	4.5	5.3

e Estimated.

