

**ST. CROIX RIVER BASIN**

**05337400 KNIFE RIVER NEAR MORA, MN**

LOCATION.--Lat 45° 55'12", long 93° 18'26", in SW¼SW¼ 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 mi<sup>2</sup>.

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 mean sea level (Kanabec County bench mark).

REMARKS.--Records good except those for periods of estimated daily discharges, which are 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 500 ft<sup>3</sup>/s and maximum (\*):

**DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997**

**DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
1	6.7	34	e36	e19	e13	e14	274	69	15
13	19	6.9							
2	8.4	33	e34	e19	e13	e14	670	67	14
13	17	11							
3	5.0	30	e33	e19	e13	e14	914	64	14
13	15	7.3							
4	4.0	29	e32	e27	e13	e15	1250	50	12
15	17	5.5							
5	3.7	28	e30	e40	e13	e15	1670	51	13
14	13	4.3							
6	3.9	28	e29	e28	e13	e15	1790	45	13
16	12	4.4							
7	5.4	32	e28	e23	e13	e15	1360	44	11
15	11	4.9							
8	4.4	e31	e28	e20	e13	e15	945	52	10
19	8.6	4.3							

9	4.8	e30	e27	e18	e13	e15	672	57	9.1
16	7.4	5.7							
10	5.6	e29	e27	e17	e13	e16	482	48	8.4
15	7.8	5.1							
11	4.4	e28	e26	e17	e13	e16	368	51	8.1
14	6.2	4.3							
12	4.2	e26	e26	e17	e13	e16	300	48	8.4
14	5.2	3.5							
13	5.0	e24	e25	e16	e13	e16	256	38	10
22	5.0	3.3							
14	5.6	e23	e25	e16	e13	e16	234	42	8.2
32	4.6	3.3							
15	5.5	e41	e24	e16	e13	e16	229	40	7.9
40	6.3	4.1							
16	5.3	e68	e24	e16	e13	e16	218	35	11
43	6.5	7.6							
17	24	e100	e23	e16	e12	e17	207	35	9.1
41	7.2	10							
18	24	e160	e23	e15	e12	e17	197	36	11
38	4.9	10							
19	23	e253	e23	e15	e12	17	185	35	8.5
32	6.1	15							
20	23	e200	e22	e15	e12	17	171	31	8.3
27	10	12							
21	21	e125	e22	e15	e12	19	162	28	7.8
26	9.4	7.6							
22	21	e92	e22	e14	e12	20	149	26	7.0
23	8.4	6.9							
23	31	e75	e22	e14	e12	22	137	26	6.3
20	6.9	8.0							
24	27	e65	e21	e14	e12	26	126	30	7.6
18	8.6	7.3							
25	27	e57	e21	e14	e12	32	114	32	15
41	7.6	8.1							
26	27	e51	e21	e14	e12	32	105	25	12
46	7.5	9.1							
27	25	e46	e21	e14	e12	37	102	20	9.6
45	7.2	8.5							
28	24	e43	e20	e14	e12	47	91	19	11
40	6.7	9.8							
29	29	e40	e20	e13	---	65	85	21	15
31	5.9	9.2							
30	39	e38	e20	e13	---	94	85	19	14
24	7.0	10							
31	33	---	e20	e13	---	141	---	17	---
20	7.8	---							
TOTAL	479.9	1859	775	541	352	847	13548	1201	315.3
786	272.8	217.0							
MEAN	15.5	62.0	25.0	17.5	12.6	27.3	452	38.7	10.5
25.4	8.80	7.23							

MAX	39	253	36	40	13	141	1790	69	15
46	19	15							
MIN	3.7	23	20	13	12	14	85	17	6.3
13	4.6	3.3							
AC-FT	952	3690	1540	1070	698	1680	26870	2380	625
1560	541	430							
CFSM	.15	.61	.25	.17	.12	.27	4.43	.38	.10
.25	.09	.07							
IN.	.18	.68	.28	.20	.13	.31	4.94	.44	.11
.29	.10	.08							

o e Estimated

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1997, BY WATER YEAR (WY)**

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
MEAN	51.5	42.8	25.6	13.6	13.8	70.1	238	105	59.5
53.6	30.7	37.1							
MAX	242	206	109	28.8	48.9	238	472	338	233
171	218	257							
(WY)	1985	1978	1978	1984	1984	1983	1986	1986	1984
1975	1995	1986							
MIN	1.84	1.38	1.17	1.14	1.16	14.3	30.5	12.5	3.06
.98	1.86	2.15							
(WY)	1977	1990	1990	1977	1990	1975	1977	1980	1988
1988	1976	1987							
<i>SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1974 - 1997</i>									
ANNUAL TOTAL			24787.7			21194.0			
ANNUAL MEAN			67.7			58.1			62.0
HIGHEST ANNUAL MEAN									
135		1986							
LOWEST ANNUAL MEAN									
16.8		1988							
HIGHEST DAILY MEAN			1080	Apr 19		1790	Apr 6		1790
Apr 6	1997								
LOWEST DAILY MEAN			2.0	Aug 29		3.3	Sep 13,14		.76
Jul 7	1988								
ANNUAL SEVEN-DAY MINIMUM			2.2	Aug 26		4.2	Sep 9		.86
23	1988								Jul
INSTANTANEOUS PEAK FLOW						1870	Apr 6		1870
Apr 6	1997								
INSTANTANEOUS PEAK STAGE						6.48	Apr 6		6.69
24	1977								Nov
INSTANTANEOUS LOW FLOW						3.2	Sep 12		.74
6,28	1988								Jul
ANNUAL RUNOFF (AC-FT)			49170			42040			44900
ANNUAL RUNOFF (CFSM)			.66			.57			.61
ANNUAL RUNOFF (INCHES)			9.04			7.73			8.25
10 PERCENT EXCEEDS			146			87			147
50 PERCENT EXCEEDS			24			17			21
90 PERCENT EXCEEDS			4.0			6.6			4.9