

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 (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 250 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 8	1900	251	3.47	May 13	2000	*1,270	*5.59

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	8.1	33	e7.3	e6.4	9.1	161	36	36	43	71	28
2	1.5	9.2	32	e6.8	e6.4	9.6	149	32	32	39	57	27
3	1.4	8.0	31	e6.7	e6.5	e9.7	141	28	26	47	53	26
4	1.4	6.2	32	e6.3	e6.1	9.8	138	26	24	113	45	32
5	1.7	5.4	42	e6.2	e6.3	e10	149	39	40	170	36	29
6	1.8	5.2	45	e6.0	e6.4	10	174	48	52	171	32	26
7	1.5	4.5	47	e5.9	e6.6	e11	199	72	75	144	30	23
8	1.6	4.7	47	e5.7	e6.8	e11	226	105	103	131	27	23
9	1.7	5.0	47	e5.5	e6.9	e12	219	123	114	119	26	21
10	1.7	23	45	e5.7	e7.0	e12	185	152	118	109	28	20
11	1.9	24	42	e5.7	e7.0	e12	177	281	112	92	25	19
12	1.9	26	39	e5.7	e6.8	e13	157	568	93	76	65	20
13	1.9	26	36	e5.6	e6.6	e13	144	1080	79	66	136	17
14	1.9	27	33	e5.6	e6.8	13	139	1060	67	59	159	16
15	2.0	26	30	e5.5	e7.0	13	138	738	53	48	139	16
16	3.1	28	27	e5.6	e7.2	17	138	531	49	53	115	15
17	5.6	26	26	e5.8	e7.3	19	125	399	40	47	96	14
18	7.0	31	e20	e5.8	e7.3	21	117	309	34	40	91	14
19	7.5	36	e13	e5.9	e7.3	24	117	238	32	34	80	16
20	7.4	38	e9.6	e5.9	e7.4	27	110	193	30	29	67	15
21	7.6	41	e8.0	e6.0	e7.4	30	107	166	28	26	58	12
22	6.5	38	e7.4	e6.0	e7.4	33	106	138	37	22	51	11
23	6.5	40	e7.8	e6.0	7.6	34	83	120	42	24	59	12
24	6.6	41	e8.4	e5.9	7.7	33	70	103	35	21	57	10
25	8.2	40	e9.0	e5.8	7.8	33	65	91	28	25	50	9.9
26	8.3	40	e9.6	e5.7	8.0	33	63	74	31	57	46	15
27	8.3	39	e10	e5.7	8.2	34	60	66	47	48	45	16
28	7.7	38	e9.8	e5.8	8.7	70	53	55	49	42	39	16
29	8.3	36	e9.4	e5.9	---	116	44	47	45	41	35	14
30	8.2	35	e8.4	e6.0	---	151	40	41	42	61	31	12
31	9.0	---	e7.8	e6.3	---	165	---	40	---	83	29	---
TOTAL	141.4	755.3	772.2	184.3	198.9	1008.2	3794	6999	1593	2080	1878	544.9
MEAN	4.56	25.2	24.9	5.95	7.10	32.5	126	226	53.1	67.1	60.6	18.2
MAX	9.0	41	47	7.3	8.7	165	226	1080	118	171	159	32
MIN	1.4	4.5	7.4	5.5	6.1	9.1	40	26	24	21	25	9.9
AC-FT	280	1500	1530	366	395	2000	7530	13880	3160	4130	3730	1080
CFSM	.04	.25	.24	.06	.07	.32	1.24	2.21	.52	.66	.59	.18
IN.	.05	.28	.28	.07	.07	.37	1.38	2.55	.58	.76	.68	.20

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.2	41.0	25.1	13.1	14.1	67.9	228	106	58.1	52.7	30.8	35.0
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	11.4	3.06	.98	1.86	1.82
(WY)	1977	1990	1990	1977	1990	1975	1977	1998	1988	1988	1976	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1974 - 1999
ANNUAL TOTAL	9538.9	19949.2	
ANNUAL MEAN	26.1	54.7	60.2
HIGHEST ANNUAL MEAN			135 1986
LOWEST ANNUAL MEAN			16.8 1988
HIGHEST DAILY MEAN	193 Apr 4	1080 May 13	1790 Apr 6 1997
LOWEST DAILY MEAN	1.1 Aug 6	1.4 Oct 3	.76 Jul 7 1988
ANNUAL SEVEN-DAY MINIMUM	1.5 Jul 31	1.6 Oct 2	.86 Jul 23 1988
INSTANTANEOUS PEAK FLOW		1270 May 13	1870 Apr 6 1997
INSTANTANEOUS PEAK STAGE		5.59 May 13	6.69 ^a Nov 24 1977
INSTANTANEOUS LOW FLOW		1.2 Oct 2	.74 Jul 6 1988
ANNUAL RUNOFF (AC-FT)	18920	39570	43620
ANNUAL RUNOFF (CFSM)	.26	.54	.59
ANNUAL RUNOFF (INCHES)	3.48	7.28	8.02
10 PERCENT EXCEEDS	71	137	143
50 PERCENT EXCEEDS	9.8	28	21
90 PERCENT EXCEEDS	1.8	5.8	4.9

a From floodmarks, backwater from ice.

