

RED RIVER OF THE NORTH BASIN--Continued

05061000 BUFFALO RIVER NEAR HAWLEY, MN

LOCATION.--Lat 46°51'00", long 96°19'45", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T.139 N., R.45 W., Clay County, Hydrologic Unit 09020106, near left downstream end of bridge on farm lane, 2 mi southwest of Hawley.

DRAINAGE AREA.--325 mi².

PERIOD OF RECORD.--March 1945 to current year, WY 1981 (annual maximum only), March 1982 to September 1985 (no winter records).

REVISED RECORDS.--WSP 1308: 1945-46(M), 1948(M).

GAGE.--Water-stage recorder. Datum of gage is 1,111.91 ft above sea level. Prior to Jan. 29, 1953, nonrecording gage at bridge 1,800 ft upstream at datum 3.17 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 11.3 ft, present datum, spring of 1921, from information by local resident.

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	51	162	294	e70	e65	98	526	146	199	135	80	83
2	50	151	275	e70	e65	111	510	138	191	127	76	97
3	49	144	260	e70	e65	e107	490	132	181	122	74	206
4	50	137	246	e70	e65	e103	488	139	171	219	74	386
5	62	128	225	e70	e64	e100	473	147	188	416	72	522
6	79	122	197	e70	e64	e98	459	179	260	508	70	529
7	84	116	171	e70	e64	e96	446	228	305	479	65	433
8	81	111	e152	e70	e64	e94	429	307	299	412	60	329
9	82	108	e138	e70	64	92	419	311	299	347	68	268
10	84	111	e126	e70	e64	91	401	e400	315	296	73	224
11	81	84	e117	e70	e64	94	370	e520	332	253	85	208
12	79	65	e120	e70	e65	97	338	660	318	216	124	207
13	79	e66	e123	e69	e65	95	312	718	285	187	182	208
14	75	e67	e120	e69	e65	98	293	779	244	165	166	196
15	81	e68	e112	e69	e66	116	278	781	211	149	137	185
16	97	e69	e105	e69	e67	155	268	727	189	141	118	169
17	189	e71	e96	e69	e67	202	254	683	182	133	104	153
18	269	e74	e90	e69	e66	218	242	634	169	125	96	138
19	272	e75	e86	e68	e66	217	235	557	157	119	90	126
20	250	e76	e82	e68	e66	293	230	479	149	112	83	115
21	241	e90	e80	e68	e65	353	226	409	141	105	79	106
22	239	e105	e78	e68	e65	334	220	368	134	100	81	100
23	210	e123	e77	e67	e64	361	210	341	168	98	128	99
24	186	148	e75	e67	e67	360	200	314	215	92	129	94
25	177	172	e74	e67	e68	307	192	293	171	97	108	86
26	197	184	e73	e67	e74	254	190	277	170	134	95	93
27	193	209	e72	e66	e81	267	186	261	157	123	85	96
28	189	225	e72	e66	e89	378	177	244	150	105	78	96
29	194	244	e71	e66	---	496	167	228	147	96	72	98
30	192	272	e70	e66	---	571	154	215	144	89	70	99
31	178	---	e70	e66	---	572	---	209	---	84	70	---
TOTAL	4340	3777	3947	2124	1874	6828	9383	11824	6241	5784	2892	5749
MEAN	140	126	127	68.5	66.9	220	313	381	208	187	93.3	192
MAX	272	272	294	70	89	572	526	781	332	508	182	529
MIN	49	65	70	66	64	91	154	132	134	84	60	83
AC-FT	8610	7490	7830	4210	3720	13540	18610	23450	12380	11470	5740	11400
CFSM	.43	.39	.39	.21	.21	.68	.96	1.17	.64	.57	.29	.59
IN.	.50	.43	.45	.24	.21	.78	1.07	1.35	.71	.66	.33	.66

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	42.1	39.5	28.2	22.7	25.7	91.2	268	139	107	109	53.2	41.4
MAX	151	176	127	68.5	170	434	1036	383	530	784	472	192
(WY)	1974	1972	1999	1999	1998	1966	1997	1998	1962	1993	1955	1999
MIN	11.6	12.2	10.6	9.94	9.88	15.0	33.3	21.5	12.7	10.1	5.87	8.52
(WY)	1979	1977	1977	1962	1949	1969	1981	1977	1977	1976	1976	1976

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1945 - 1999
ANNUAL TOTAL	72970	64763	
ANNUAL MEAN	200	177	81.0
HIGHEST ANNUAL MEAN			188 1977
LOWEST ANNUAL MEAN			16.7 1977
HIGHEST DAILY MEAN	1420	781	2360 ^a Apr 6 1997
LOWEST DAILY MEAN	41	49	3.2 Aug 25 1976
ANNUAL SEVEN-DAY MINIMUM	42	61	4.3 Aug 22 1976
INSTANTANEOUS PEAK FLOW		799	2360 Apr 6 1997
INSTANTANEOUS PEAK STAGE		8.74	10.77 ^b Apr 6 1997
INSTANTANEOUS LOW FLOW		46	2.8 Aug 26 1977
ANNUAL RUNOFF (AC-FT)	144700	128500	58710
ANNUAL RUNOFF (CFSM)	.62	.55	.25
ANNUAL RUNOFF (INCHES)	8.35	7.41	3.39
10 PERCENT EXCEEDS	513	364	192
50 PERCENT EXCEEDS	120	126	34
90 PERCENT EXCEEDS	50	67	14

a Estimated, backwater from ice.
 b Backwater from ice.

