

MINNESOTA RIVER BASIN--Continued

05319500 WATONWAN RIVER NEAR GARDEN CITY, MN

LOCATION.--Lat 44°02'47", long 94°11'43", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T.107 N., R.28 W., Blue Earth County, Hydrologic Unit 07020010, on left bank 25 ft downstream from bridge on County Highway 13, 1.5 miles west of Garden City, 7.3 mi upstream from mouth, and 9.2 mi downstream from Perch Creek.

DRAINAGE AREA.--851 mi².

PERIOD OF RECORD.--March 1940 to September 1945, September 1976 to current year. 1953, 1960, 1961, and 1969 (one or more discharge measurements each year).

REVISED RECORDS.--WDR MN-78-2: 1977. WRIR 97-4249: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 905.05 ft above sea level (NGVD of 1929). Prior to September 30, 1945, nonrecording gage at site 200 ft upstream and at datum 0.17 ft higher.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 7, 1965, reached a stage of 18.89 ft at datum 0.17 ft higher, from floodmarks, discharge, 19,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug 23	1900	*920	*3.44	No other peak greater than base discharge.			

Minimum discharge, 26 ft³/s, Sep. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	e33	128	e50	e50	e60	371	367	365	268	47	189
2	35	e35	120	e49	e49	e58	337	359	358	231	40	157
3	36	e33	111	e49	e49	e57	265	337	459	206	39	133
4	32	e33	112	e50	e49	e57	190	312	546	186	44	113
5	29	e33	122	e52	e50	e58	212	290	692	163	58	96
6	28	e33	130	e53	e52	e60	202	268	795	145	275	83
7	28	e34	141	e54	e54	e61	186	257	711	134	467	71
8	28	e34	159	e55	e56	e62	196	253	629	121	461	62
9	29	e33	e155	e57	e58	e62	192	270	567	114	379	56
10	35	33	151	e58	e61	e62	186	282	509	114	309	51
11	31	33	150	e58	e64	e62	199	286	567	121	240	48
12	31	32	138	e58	e65	e62	261	291	686	156	199	43
13	35	34	133	e58	e67	e63	308	309	621	171	176	41
14	38	38	e120	e58	e70	e65	310	333	541	135	168	44
15	38	38	e110	e57	e74	e67	309	339	489	113	154	41
16	37	36	e105	e56	e77	e69	297	338	438	98	131	41
17	37	35	e99	e54	e80	e70	288	322	401	86	110	37
18	43	38	e90	e52	e82	e70	271	300	469	78	95	35
19	40	36	e82	e51	e86	e70	249	277	447	73	82	36
20	36	35	e74	e51	e93	e70	223	256	402	67	70	34
21	39	35	e67	e51	e98	e69	212	238	425	61	120	33
22	37	35	e59	e52	e96	e68	208	222	525	58	480	32
23	38	37	e55	e52	e93	e68	217	218	626	55	859	29
24	37	64	e54	e52	e85	e68	224	221	602	50	896	27
25	36	118	e54	e52	e76	e69	230	204	545	55	779	31
26	33	150	e54	e53	e70	e70	224	194	486	51	638	33
27	35	156	e53	e54	e65	e74	220	186	428	45	519	38
28	33	179	e53	e54	e62	e115	244	354	383	43	417	39
29	36	167	e52	e53	---	198	316	302	344	54	347	38
30	33	142	e52	e52	---	297	355	403	308	58	287	37
31	e33	---	e51	e51	---	392	---	418	---	58	230	---
TOTAL	1072	1772	3034	1656	1931	2753	7502	9006	15364	3368	9116	1748
MEAN	34.6	59.1	97.9	53.4	69.0	88.8	250	291	512	109	294	58.3
MAX	43	179	159	58	98	392	371	418	795	268	896	189
MIN	28	32	51	49	49	57	186	186	308	43	39	27
AC-FT	2130	3510	6020	3280	3830	5460	14880	17860	30470	6680	18080	3470
CFSM	0.04	0.07	0.12	0.06	0.08	0.10	0.29	0.34	0.60	0.13	0.35	0.07
IN.	0.05	0.08	0.13	0.07	0.08	0.12	0.33	0.39	0.67	0.15	0.40	0.08

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	184	230	139	68.8	104	563	963	628	859	471	241	185
MAX	686	826	530	319	626	2105	4411	2025	4494	2389	1095	819
(WY)	1993	1993	1992	1992	1983	1992	2001	1993	1993	1993	1979	1993
MIN	5.37	7.69	3.76	2.70	2.39	19.3	33.7	16.1	17.3	8.27	6.56	3.63
(WY)	1990	1977	1990	1977	1977	1940	1990	1940	1989	1940	1989	1976

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1940 - 2002

ANNUAL TOTAL		252676		58322								
ANNUAL MEAN		692		160					397			
HIGHEST ANNUAL MEAN									1330			1993
LOWEST ANNUAL MEAN									43.7			1989
HIGHEST DAILY MEAN			7180		Apr 14		896	Aug 24	13400		Jun 20	1993
LOWEST DAILY MEAN			28		Oct 6		27	Sep 24	1.8		Dec 24	1989
ANNUAL SEVEN-DAY MINIMUM			30		Oct 5		30	Oct 5	1.9		Jan 20	1977
MAXIMUM PEAK FLOW							920	Aug 23	13900		Jun 20	1993
MAXIMUM PEAK STAGE							3.44	Aug 23	15.91		Jun 20	1993
INSTANTANEOUS LOW FLOW							26	Sep 24	1.8		Dec 24	1989
ANNUAL RUNOFF (AC-FT)			501200				115700		287800			
ANNUAL RUNOFF (CFSM)			0.81				0.19		0.47			
ANNUAL RUNOFF (INCHES)			11.05				2.55		6.34			
10 PERCENT EXCEEDS			2210				396		1080			
50 PERCENT EXCEEDS			59				73		141			
90 PERCENT EXCEEDS			35				35		14			

e Estimated.

