

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 fair except those for the periods of estimated daily discharge, which are 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)
Apr 4	(daily)	e6,600	--	May 28	1500	2,200	5.61
Apr 14	1200	*7,400	*12.28	Jun 17	(daily)	e3,290	--
Apr 26	(daily)	e5,250	--	Jul 24	1600	1,240	4.08
May 22	(daily)	e2,230	--				

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	16	30	e47	e34	e35	e36	e580	e2200	1310	612	418	53
2	20	30	e44	e34	e35	e37	e1700	e2100	1200	565	e375	47
3	23	29	e41	e36	e34	e37	e4590	1980	1070	526	e365	45
4	24	31	e39	e36	e35	e38	e6600	e1770	937	497	314	43
5	25	31	e38	e37	e36	e39	e6820	1610	872	460	275	41
6	28	36	e37	e37	e36	e40	e6040	1560	849	419	246	39
7	35	40	e37	e37	e36	e40	e5550	1650	884	421	223	47
8	32	45	e36	e37	e36	e40	e5340	1720	891	412	206	48
9	31	46	e36	e38	e36	e39	e5160	1590	866	391	184	44
10	35	44	e35	e38	e36	e39	e4670	1390	847	362	168	42
11	36	43	e35	e39	e36	e39	e4620	1240	814	332	143	39
12	39	48	e34	e39	e36	e40	e5330	1130	771	297	111	37
13	40	54	e33	e39	e37	e41	e6510	1020	1150	e260	102	35
14	39	80	e33	e39	e37	e41	e7180	925	e2340	e250	89	35
15	44	e105	e33	e39	e37	e41	e6120	858	e2850	e230	91	37
16	32	e97	e33	e39	e37	e41	e4960	786	e3140	e205	87	38
17	36	e88	e33	e38	e36	e41	e4200	701	e3290	e185	82	41
18	37	e82	e33	e38	e36	e42	e3500	642	e3220	e150	82	42
19	38	e71	e33	e37	e36	e41	e2960	595	e2910	131	80	42
20	43	e62	e32	e37	e36	e43	e2550	605	e2460	123	76	43
21	39	e55	e32	e37	e36	e44	e2390	1600	e1940	213	71	47
22	38	e56	e31	e37	e36	e46	e2550	e2230	e1540	475	68	59
23	33	e58	e30	e37	e36	e50	e3340	e2140	1300	697	67	73
24	26	e56	e29	e37	e37	e52	e4330	1950	1110	1140	62	70
25	23	e55	e28	e37	e38	e51	e5180	1740	971	1150	61	63
26	22	e54	e29	e37	e38	e50	e5250	1820	842	1020	58	55
27	22	e53	e30	e37	e37	e53	e4690	2030	752	864	57	51
28	21	e52	e31	e37	e36	e62	e3920	2170	688	732	55	45
29	21	e50	e32	e37	---	e78	e3150	e2060	637	625	52	43
30	24	e48	e33	e37	---	e130	e2560	e1790	617	543	53	39
31	25	---	e34	e36	---	e200	---	1490	---	474	55	---
TOTAL	947	1629	1061	1154	1013	1611	132340	47092	43068	14761	4376	1383
MEAN	30.5	54.3	34.2	37.2	36.2	52.0	4411	1519	1436	476	141	46.1
MAX	44	105	47	39	38	200	7180	2230	3290	1150	418	73
MIN	16	29	28	34	34	36	580	595	617	123	52	35
AC-FT	1880	3230	2100	2290	2010	3200	262500	93410	85430	29280	8680	2740
CFSM	.04	.06	.04	.04	.04	.06	5.18	1.79	1.69	.56	.17	.05
IN.	.04	.07	.05	.05	.04	.07	5.79	2.06	1.88	.65	.19	.06

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	189	236	141	69.3	105	579	986	639	870	482	239	189
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 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1940 - 2001

ANNUAL TOTAL		39398		250435								
ANNUAL MEAN		108		686						405		
HIGHEST ANNUAL MEAN										1330		1993
LOWEST ANNUAL MEAN										43.7		1989
HIGHEST DAILY MEAN				975	May 19		7180e	Apr 14		13400		Jun 20 1993
LOWEST DAILY MEAN				12	Sep 29		16	Oct 1		1.8		Dec 24 1989
ANNUAL SEVEN-DAY MINIMUM				14	Sep 25		23	Oct 25		1.9		Jan 20 1977
MAXIMUM PEAK FLOW							7400a	Apr 14		13900		Jun 20 1993
MAXIMUM PEAK STAGE							12.28a	Apr 14		15.91		Jun 20 1993
INSTANTANEOUS LOW FLOW							13b	Oct 1		1.8		Dec 24 1989
ANNUAL RUNOFF (AC-FT)			78150				496700			293500		
ANNUAL RUNOFF (CFM)			.13				.81			.48		
ANNUAL RUNOFF (INCHES)			1.72				10.95			6.47		
10 PERCENT EXCEEDS			320				2210			1080		
50 PERCENT EXCEEDS			40				51			137		
90 PERCENT EXCEEDS			15				33			13		

a From highwater mark.
 b Rising stage.
 e Estimated.

