

05319500 WATONWAN RIVER NEAR GARDEN CITY, MN

LOCATION.--Lat 44°02'47", long 94°11'43", in SW¹/₄NE¹/₄ 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)
May 21	1800	*1,270	4.14	No other peak greater than base discharge.			

Minimum discharge, 5.0 ft³/s, Sept. 9, gage height, 0.33 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	121	e64	e54	e22	e22	156	364	491	1,050	49	9.8
2	35	114	e66	e54	e22	e21	147	370	453	871	44	8.2
3	32	112	e62	e52	e21	e20	136	351	429	725	40	7.3
4	58	119	e56	e51	e20	e20	128	337	417	622	36	8.0
5	84	121	e54	e51	e19	e19	122	342	402	541	39	6.9
6	118	120	e54	e50	e19	e19	110	381	397	481	39	6.0
7	168	118	e56	e48	e19	e20	112	412	424	432	37	5.7
8	218	116	e58	e46	e19	e20	109	425	564	381	34	5.6
9	225	116	e56	e44	e20	e20	105	429	872	375	32	5.2
10	224	118	e58	e41	e21	e19	117	460	991	401	28	5.6
11	211	118	e59	e33	e20	e19	136	603	966	386	25	11
12	197	113	e60	e26	e19	e19	169	999	898	359	24	35
13	192	109	e60	e24	e20	e20	214	1,090	818	325	23	45
14	181	113	e60	e23	e20	e37	231	1,070	730	287	23	35
15	173	110	e62	e22	e20	e66	244	1,030	649	256	21	25
16	171	110	e62	e22	e20	e115	295	988	579	228	18	18
17	165	105	e63	e22	e21	e200	425	922	532	204	17	16
18	159	102	e63	e22	e21	e400	526	830	491	183	16	15
19	156	101	e64	e22	e22	e350	555	771	462	163	20	15
20	152	103	e62	e22	e22	e340	581	943	446	151	25	13
21	142	101	e60	e22	e22	e290	617	1,230	407	147	35	13
22	138	97	e58	e21	e22	e240	620	1,240	377	141	24	13
23	133	95	e56	e20	e21	e198	580	1,150	360	124	20	11
24	128	e92	e54	e19	e20	e165	533	1,040	406	111	18	11
25	127	e82	e54	e19	e20	e135	490	936	572	100	18	9.7
26	127	e76	e54	e19	e20	e120	454	840	762	91	17	10
27	125	e75	e55	e20	e21	150	421	756	882	82	15	9.5
28	126	e75	e56	e20	e22	214	396	693	916	72	15	8.7
29	126	e73	e57	e20	---	258	374	639	1,020	66	14	8.0
30	123	e62	e58	e21	---	210	355	586	1,130	61	12	7.0
31	121	---	e56	e22	---	173	---	555	---	55	11	---
TOTAL	4,371	3,087	1,817	952	575	3,919	9,458	22,782	18,843	9,471	789	397.2
MEAN	141	103	58.6	30.7	20.5	126	315	735	628	306	25.5	13.2
MAX	225	121	66	54	22	400	620	1,240	1,130	1,050	49	45
MIN	32	62	54	19	19	19	105	337	360	55	11	5.2
AC-FT	8,670	6,120	3,600	1,890	1,140	7,770	18,760	45,190	37,380	18,790	1,560	788
CFSM	0.17	0.12	0.07	0.04	0.02	0.15	0.37	0.86	0.74	0.36	0.03	0.02
IN.	0.19	0.13	0.08	0.04	0.03	0.17	0.41	1.00	0.82	0.41	0.03	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	183	226	137	67.6	102	550	943	631	852	466	234	180
MAX	686	826	530	319	626	2,105	4,411	2,025	4,494	2,389	1,095	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)

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	61,719		76,461.2			
ANNUAL MEAN	169		209		391	
HIGHEST ANNUAL MEAN					1,330	1993
LOWEST ANNUAL MEAN					43.7	1989
HIGHEST DAILY MEAN	896	Aug 24	1,240	May 22	13,400	Jun 20, 1993
LOWEST DAILY MEAN	27	Sep 24	5.2	Sep 9	1.8	Dec 24, 1989
ANNUAL SEVEN-DAY MINIMUM	31	Sep 20	6.1	Sep 4	1.9	Jan 20, 1977
MAXIMUM PEAK FLOW			1,270	May 21	13,900	Jun 20, 1993
MAXIMUM PEAK STAGE			4.15	May 22	15.91	Jun 20, 1993
INSTANTANEOUS LOW FLOW			5.0	Sep 9	1.8	Dec 24, 1989
ANNUAL RUNOFF (AC-FT)	122,400		151,700		283,500	
ANNUAL RUNOFF (CFSM)	0.20		0.25		0.46	
ANNUAL RUNOFF (INCHES)	2.70		3.34		6.25	
10 PERCENT EXCEEDS	396		609		1,050	
50 PERCENT EXCEEDS	101		91		138	
90 PERCENT EXCEEDS	50		18		14	

e Estimated.

