

# RAINY RIVER BASIN

## 05130500 STURGEON RIVER NEAR CHISHOLM, MN

LOCATION.--Lat 4740'25", long 9254'00", in NE 1 / 4 NW 1 / 4 sec. 20, T.60 N., R.20 W., St. Louis County, Hydrologic Unit 09030005, on left bank 1,000 ft upstream from highway bridge, 0.6 mi downstream from East Branch Sturgeon River, and 11.5 mi north of Chisholm.

DRAINAGE AREA.--180 mi<sup>2</sup> (revised).

PERIOD OF RECORD.--August 1942 to current year.

REVISED RECORDS.--WSP 1438: 1946.

GAGE.--Water-stage recorder. Datum of gage is 1,305.7 ft above sea level. Prior to Aug. 24, 1944, nonrecording gage at site 1,000 ft downstream at different datum. Aug. 25, 1944 to Sept. 30, 1975 at present site at datum 1.00 ft higher.

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

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge	Gage height (ft)	Date	Time	Discharge	Gage height (ft)
		(ft <sup>3</sup> /s)				(ft <sup>3</sup> /s)	
Mar.01	2400	*246	*3.19				(No peaks greater than base discharge.)

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

### DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	90	62	e32	e26	227	206	85	55	82	32	27
2	49	103	61	e31	e26	235	223	79	59	78	31	25
3	48	112	62	e31	e26	218	235	75	59	114	30	24
4	49	112	61	e30	e26	210	235	72	54	111	31	23
5	52	107	57	e30	e25	182	217	72	51	97	30	23
6	53	105	e57	e30	e25	168	206	71	48	98	28	22

7	52	103	e57	e29	e25	143	204	64	44	95	26	21
8	54	105	e56	e29	e25	127	220	59	40	98	26	20
9	58	109	e54	e28	e24	105	234	57	37	91	25	20
10	56	112	e53	e28	e24	100	231	54	36	83	24	20
11	74	106	e52	e28	e24	85	216	57	38	74	23	19
12	94	104	e50	e27	e24	76	208	62	46	68	24	18
13	142	95	e49	e27	e24	67	209	69	49	62	22	19
14	160	90	e48	e27	e24	60	215	75	48	60	25	39
15	159	86	e47	e27	e24	58	209	84	47	69	23	47
16	147	83	e46	e27	e25	54	195	137	47	64	23	43
17	134	79	e44	e27	e26	53	186	165	47	61	27	44
18	123	77	e43	e27	e30	52	174	172	49	57	31	42
19	112	75	e42	e27	e33	52	163	168	115	56	37	39
20	106	73	e41	e27	e38	51	154	145	165	52	50	38
21	100	70	e40	e27	e42	50	148	127	177	51	44	37
22	94	69	e39	e27	e46	47	142	105	170	50	41	35
23	89	68	e39	e27	56	49	139	91	156	45	42	31
24	85	67	e38	e27	68	48	131	80	149	42	36	32
25	83	68	e37	e27	76	48	127	70	129	40	32	33
26	81	68	e36	e26	91	53	113	63	132	38	30	33
27	80	68	e35	e26	155	60	104	58	106	38	33	40
28	79	67	e35	e26	199	70	98	65	95	37	36	48
29	77	65	e34	e26	---	84	96	64	91	35	34	40
30	75	63	e33	e26	---	127	90	61	89	34	31	36
31	79	---	e32	e26	---	170	---	59	---	33	29	---
TOTAL	2692	2599	1440	860	1257	3129	5328	2665	2428	2013	956	938
MEAN	86.8	86.6	46.5	27.7	44.9	101	178	86.0	80.9	64.9	30.8	31.3
MAX	160	112	62	32	199	235	235	172	177	114	50	48
MIN	48	63	32	26	24	47	90	54	36	33	22	18
AC-FT	5340	5160	2860	1710	2490	6210	10570	5290	4820	3990	1900	1860

CFSM	.46	.46	.25	.15	.24	.54	.95	.46	.43	.35	.16	.17
IN.	.54	.52	.29	.17	.25	.62	1.06	.53	.48	.40	.19	.19

e Estimated

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	122	94.0	47.9	29.2	23.7	50.6	367	300	183	119	71.0	92.1
MAX	600	264	115	66.0	47.7	337	868	1451	528	623	268	424
(WY)	1996	1978	1978	1966	1984	1945	1948	1950	1944	1993	1988	1977
MIN	7.85	8.90	4.82	3.98	4.54	10.0	41.0	22.9	14.7	5.99	12.6	4.60
(WY)	1977	1977	1977	1977	1977	1957	1977	1977	1988	1988	1961	1976

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1942 - 1998		
ANNUAL TOTAL	47731		26305				
ANNUAL MEAN	131		72.1			125	
HIGHEST ANNUAL MEAN						218	1996
LOWEST ANNUAL MEAN						63.1	1977
HIGHEST DAILY MEAN	1350	Apr 6	235	Mar 2	3530	May 8	1950
LOWEST DAILY MEAN	25	Sep 14	18	Sep 12	2.5	Jul 30	1988
ANNUAL SEVEN-DAY MINIMUM	27	Sep 9	20	Sep 7	3.0	Jul 24	1988
INSTANTANEOUS PEAK FLOW			246	Mar 1	3630	May 7	1950
INSTANTANEOUS PEAK STAGE			3.19	Mar 1	7.41a	May 7	1950
INSTANTANEOUS LOW FLOW			18	Sep 12			
ANNUAL RUNOFF (AC-FT)	94670		52180		90680		
ANNUAL RUNOFF	.70		.39		.67		

(CFSM)							
ANNUAL RUNOFF (INCHES)	9.50		5.23		9.09		
10 PERCENT EXCEEDS	254		155		294		
50 PERCENT EXCEEDS	62		54		58		
90 PERCENT EXCEEDS	37		26		18		

a Present datum.

