

**LAKE OF THE WOODS BASIN**

**05130500 STURGEON RIVER NEAR CHISHOLM, MN**

LOCATION.--Lat 47° 40'25", long 92°54'00", in NE¼NW¼ 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.--187 mi<sup>2</sup>.

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 (\*):

**DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997**

**DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
1	87	325	e112	e74	e49	e44	e130	340	127
245	59	35							
2	80	299	e110	e73	e49	e44	e230	306	117
220	56	32							
3	74	262	e109	e72	e48	e44	e300	278	110
219	52	30							
4	70	241	e108	e71	e48	e43	e480	255	103
263	50	30							
5	69	248	e107	e70	e48	e43	e720	237	99
287	48	31							
6	76	245	e106	e69	e47	e42	1350	225	95
295	46	30							
7	66	263	e105	e68	e47	e42	e1320	213	94
253	45	30							
8	63	263	e104	e68	e47	e42	e1250	211	88
212	42	30							
9	65	254	e103	e68	e47	e42	e1100	211	81
174	41	30							
10	63	e220	e102	e68	e47	e41	e1000	207	75

148	39	28							
11	63	e200	e100	e67	e47	e41	830	203	68
127	37	27							
12	60	e185	e99	e67	e47	e41	681	200	60
115	35	26							
13	60	e175	e98	e66	e47	e40	638	198	57
117	33	26							
14	60	e167	e97	e66	e47	e40	641	198	48
123	31	25							
15	61	e160	e96	e65	e47	e40	689	213	45
130	30	26							
16	60	e165	e95	e65	e46	e40	650	218	43
121	32	47							
17	138	e230	e93	e64	e46	e39	618	207	39
108	32	60							
18	255	e280	e92	e64	e46	e39	613	194	46
95	31	59							
19	275	e300	e90	e63	e46	e39	684	225	37
88	34	59							
20	258	e270	e89	e63	e46	e39	748	239	38
95	49	57							
21	230	e220	e87	e62	e45	e38	776	238	34
89	51	52							
22	201	e190	e85	e61	e45	e38	738	225	32
84	53	47							
23	188	e165	e83	e60	e45	e38	670	230	39
78	53	42							
24	187	e145	e82	e59	e45	e38	595	238	77
74	50	40							
25	180	e135	e80	e57	e45	e38	532	231	150
70	48	36							
26	174	e125	e79	e56	e45	e39	481	214	158
74	46	33							
27	173	e122	e78	e55	e45	e43	448	193	147
80	42	33							
28	161	e118	e77	e54	e44	e49	422	179	183
79	39	41							
29	169	e116	e76	e53	---	e59	396	159	244
77	37	47							
30	297	e114	e75	e51	---	e72	357	147	256
68	36	47							
31	340	---	e75	e50	---	e90	---	136	---
62	35	---							
TOTAL	4303	6202	2892	1969	1301	1367	20087	6768	2790
4270	1312	1136							
MEAN	139	207	93.3	63.5	46.5	44.1	670	218	93.0
138	42.3	37.9							
MAX	340	325	112	74	49	90	1350	340	256
295	59	60							
MIN	60	114	75	50	44	38	130	136	32

62	30	25							
AC-FT	8540	12300	5740	3910	2580	2710	39840	13420	5530
8470	2600	2250							
CFSM	.74	1.11	.50	.34	.25	.24	3.58	1.17	.50
.74	.23	.20							
IN.	.86	1.23	.58	.39	.26	.27	4.00	1.35	.56
.85	.26	.23							

- a Backwater from ice.

e Estimated

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1997, BY WATER YEAR (WY)**

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
MEAN	122	94.1	47.9	29.3	23.3	49.7	371	304	185
120	71.7	93.1							
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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1942 - 1997**

ANNUAL TOTAL		65538				54397			
ANNUAL MEAN		179				149			126
HIGHEST ANNUAL MEAN									
218		1996							
LOWEST ANNUAL MEAN									
63.1		1977							
HIGHEST DAILY MEAN			1720	Apr 20		1350	Apr 6		
3530	May 8	1950							
LOWEST DAILY MEAN			27	Feb 18		25	Sep 14		
2.5	Jul 30	1988							
ANNUAL SEVEN-DAY MINIMUM			28	Feb 16		27	Sep 9		
3.0	Jul 24	1988							
INSTANTANEOUS PEAK FLOW						1520	Apr 6		
3630a	May 7	1950							
INSTANTANEOUS PEAK STAGE						5.71b	Apr 8		
7.41c	May 7	1950							
INSTANTANEOUS LOW FLOW						24	Sep 12		
ANNUAL RUNOFF (AC-FT)			130000			107900			
91380									
ANNUAL RUNOFF (CFSM)			.96			.80			.67
ANNUAL RUNOFF (INCHES)			13.04			10.82			

9.17

10 PERCENT EXCEEDS	393	290	298
50 PERCENT EXCEEDS	91	75	58
90 PERCENT EXCEEDS	36	38	17

a From rating extended above 1600 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

b Backwater from ice.

c Present datum.