STREAMS TRIBUTARY TO LAKE SUPERIOR

04024000 ST. LOUIS RIVER AT SCANLON, MN

LOCATION.--Lat 4642'12", long 9225'07", in NW *1* / *4* sec. 30, T.49 N., R.16 W., Carlton County, Hydrologic Unit 04010201, on right bank 25 ft downstream from lower bridge on U.S. Highway 61 at Scanlon, 0.6 mi downstream from Minnesota Power Co. power plant, 3 mi upstream from Thomson Reservoir, and 3.2 mi upstream from Midway River.
DRAINAGE AREA.--3,430 mi *2* , approximately.
PERIOD OF RECORD.--January 1908 to current year. Monthly discharge only for some periods published in WSP 1307. Published as "near Thomson" 1908-50.
REVISED RECORDS.--WSP 1337: 1911-12.
GAGE.--Water-stage recorder. Datum of gage is 1,101.23 ft above sea level. Oct. 5, 1909 to Sept. 5, 1914, nonrecording gage 3 mi downstream and 50 ft below power plant at datum about 420 ft lower. Sept. 6, 1914 to Aug. 4, 1953, power plant record at Thomson hydroelectric plant.
REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation caused by power plant upstream.

Flow regulated by Whiteface Reservoir and Boulder, Island, Rice and Fish Lakes, combined capacity, 332,160 acre-ft; the water-discharge table shows the monthly change in contents (+).

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	855	1760	1460	e750	e1000	5130	4430	1680	1160	2720	501	375
2	912	2010	1420	e1050	e1050	4980	4140	1590	2330	2220	513	371
3	871	2250	1430	e1050	e1050	4770	4570	1550	3880	1870	517	368
4	866	2400	1420	662	e1030	4330	5490	1370	3510	1790	514	361
5	834	2340	1260	785	e1030	3890	5380	1420	2860	1800	435	323
6	811	2270	1250	1190	997	3630	5060	1280	2400	1820	490	377
7	901	2200	1270	1020	1070	3150	5520	1260	2120	1810	458	334
8	850	2180	1090	1010	1000	2980	7800	1240	1870	1800	440	320

9	975	2200	1280	1050	1060	2540	7940	1180	1680	1710	462	354
10	1020	2320	1280	e650	1030	2390	7240	1160	1510	1570	465	268
11	975	2260	1220	e900	1020	1980	6510	1020	1470	1390	480	279
12	1440	1970	1210	e950	1040	1980	6070	1070	4530	1290	419	278
13	2210	1570	1120	e950	1050	1760	6150	1120	9150	1160	423	370
14	2760	1650	1170	e850	1110	1300	6440	1240	7110	1140	417	667
15	2960	1700	1210	e750	1120	e1000	6550	1450	5140	1310	371	1700
16	2910	1670	1190	e950	1150	1310	6170	1840	3800	1170	389	2160
17	2640	1470	1130	e1000	1360	1480	5670	2350	3030	1290	425	1880
18	2490	1580	1200	e1000	1340	1540	5230	2640	2650	1120	348	1620
19	2380	1300	1080	e1050	1460	1530	4880	2300	4230	1010	338	1400
20	2160	1430	1130	e1100	1700	1600	4510	2000	7950	945	322	1340
21	2020	1470	980	e1000	1800	1800	4130	1960	7800	933	297	1160
22	1910	1480	1050	e1000	1770	1650	3500	1520	6620	791	360	1120
23	2000	1300	1070	e850	1980	1690	3200	1500	5530	752	446	1080
24	1890	1250	1020	e1050	2310	1650	2900	1330	4810	666	457	987
25	1800	1350	1050	e1100	2560	1730	2730	1270	4210	643	470	915
26	1680	1750	1070	e1100	2720	1820	2470	1130	3720	645	398	937
27	1600	1640	917	e1050	3750	2070	2350	1150	3460	579	403	835
28	1580	1590	787	e1120	4860	2530	2080	1120	3200	593	424	867
29	1550	1520	914	e1050	---	2830	1940	945	3380	501	428	925
30	1510	1460	704	e1100	---	3670	1790	1110	3050	586	407	874
31	1580	---	e800	e1000	---	4420	---	1150	---	542	398	---
TOTAL	50940	53340	35182	30137	44417	79130	142840	44945	118160	38166	13215	24845
MEAN	1643	1778	1135	972	1586	2553	4761	1450	3939	1231	426	828
MAX	2960	2400	1460	1190	4860	5130	7940	2640	9150	2720	517	2160
MIN	811	1250	704	650	997	1000	1790	945	1160	501	297	268
	135	-174	-444	-414	-341	50	1480	-133	161	-231	-227	42
	1778	1604	691	558	1245	2603	6241	1317	4100	1000	199	870
	.52	.47	.20	.16	.36	.76	1.82	.38	1.20	.29	.06	.25

	.60	.52	.23	.18	.37	.88	2.03	.44	1.34	.33	.07	.28
CAL YR 97		TOTAL 1036927		MEAN 2841	MAX	21100	MIN	461	MEAN 2826	CFSM .82	IN 11.19	
WTR YR 98		TOTAL 675317		MEAN 1850	MAX	915	MIN	268	MEAN 1841	CFSM .54	IN 7.29	

+ Change in contents, equivalent in cubic feet per second, in Whiteface Reservoir, and Boulder, Island, Rice and Fish Lakes; records furnished by Minnesota Power Co.
Adjusted for change in reservoir contents.
e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1998, BY WATER YEAR (WY)

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MEAN	2019	1726	1272	1073	1058	1453	5658	5081	3577	2408	1654	1756
MAX	7508	8518	2993	2272	2200	6026	15230	22210	16480	9492	9197	7594
(WY)	1974	1972	1972	1966	1966	1945	1948	1950	1908	1993	1953	1928
MIN	407	473	282	265	249	301	667	593	458	199	377	402
(WY)	1935	1935	1911	1911	1924	1924	1977	1977	1988	1988	1977	1934

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1908 - 1998		
ANNUAL TOTAL	1036927		675317				
ANNUAL MEAN	2841		1850		2382		
HIGHEST ANNUAL MEAN					4276		1972
LOWEST ANNUAL MEAN					945		1924
HIGHEST DAILY MEAN	21100	Apr 8	9150	Jun 13	37900	May 9	1950
LOWEST DAILY MEAN	461	Sep 14	268	Sep 10	88	Aug 24	1977
ANNUAL SEVEN-DAY MINIMUM	485	Sep 10	315	Sep 7	134	Jul 26	1988
INSTANTANEOUS PEAK FLOW			9570	Jun 13	37900	May 9	1950

INSTANTANEOUS PEAK STAGE			7.39	Jun 13	15.80	May 9	1950
ANNUAL RUNOFF (AC-FT)	2057000		1339000		1726000		
ANNUAL RUNOFF (CFSM)	.83		.54		.69		
ANNUAL RUNOFF (INCHES)	11.25		7.32		9.44		
10 PERCENT EXCEEDS	7150		4170		5300		
50 PERCENT EXCEEDS	1600		1310		1390		
90 PERCENT EXCEEDS	721		464		643