

04024000 ST. LOUIS RIVER AT SCANLON, MN

LOCATION.--Lat 46°42'12", long 92°25'07", in NW¹/₄ sec. 30, T.49 N., R.16 W., Carlton County, Hydrologic Unit 04010201, on right bank 80 ft downstream from 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 mi² (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 (NGVD of 1929). 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, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,660	2,650	1,230	e1,030	e1,070	e1,090	8,390	2,530	5,770	2,990	568	292
2	1,890	2,560	1,210	e1,030	e1,060	e1,080	9,840	2,400	5,100	2,820	520	280
3	2,180	2,480	1,100	e1,010	e1,060	e1,070	10,700	2,360	4,490	2,520	611	317
4	2,140	2,470	1,300	e1,000	e1,070	e1,080	12,400	2,210	4,040	2,210	699	248
5	1,900	2,320	1,300	e1,010	e1,080	e1,110	14,200	2,070	4,100	2,060	629	247
6	1,830	2,290	1,240	e1,030	e1,100	e1,110	14,300	2,060	4,810	1,940	483	344
7	1,590	2,240	1,400	e1,040	e1,110	e1,110	12,700	1,960	5,210	1,820	562	353
8	1,640	2,090	1,410	e1,030	e1,110	e1,110	11,000	2,020	5,450	1,710	580	256
9	1,460	1,950	1,370	e1,040	e1,110	e1,120	10,100	2,090	6,590	2,010	657	235
10	1,440	2,000	1,400	e1,060	e1,120	e1,100	9,340	2,160	6,710	2,080	486	231
11	1,320	1,910	1,310	e1,080	e1,130	e1,100	8,860	2,400	6,200	1,550	501	287
12	1,350	1,780	1,330	e1,080	e1,120	e1,090	8,770	2,670	6,390	1,400	538	336
13	1,270	1,730	e1,050	e1,060	e1,150	e1,090	8,370	2,880	6,080	1,230	530	443
14	1,230	1,620	e800	e1,050	e1,150	e1,090	7,770	3,040	5,880	995	432	469
15	1,290	1,510	e1,130	e1,040	e1,140	e1,090	7,080	3,190	6,920	1,050	498	345
16	1,300	1,590	1,370	e1,030	e1,120	e1,090	6,420	3,260	8,010	1,010	455	481
17	1,310	1,590	1,080	e1,030	e1,100	e1,090	5,860	3,140	7,500	1,150	462	417
18	1,240	1,580	1,020	e1,030	e1,060	e1,100	5,350	3,010	6,750	1,260	453	503
19	1,230	1,530	e992	e1,030	e1,050	e1,100	5,080	3,500	6,130	934	442	532
20	1,150	1,530	e923	e1,030	e1,060	e1,110	5,050	4,250	5,930	972	494	470
21	1,160	1,500	e952	e1,040	e1,060	e1,130	4,910	4,370	6,640	849	478	477
22	1,150	1,590	e974	e1,050	e1,080	1,320	4,510	4,180	6,160	742	435	484
23	1,330	1,560	e963	e1,060	e1,090	1,140	4,100	4,010	5,170	757	428	464
24	1,550	1,420	e950	e1,070	e1,100	1,160	3,720	4,090	4,350	656	422	469
25	1,780	1,200	e963	e1,090	e1,100	1,140	3,410	3,980	3,400	658	410	499
26	1,890	1,280	e981	e1,110	e1,110	1,190	3,190	5,800	2,740	683	361	566
27	1,970	1,390	e1,010	e1,110	e1,110	1,310	3,100	8,560	2,320	664	354	470
28	1,870	1,420	e1,020	e1,090	e1,100	1,360	2,990	8,530	2,150	688	311	502
29	1,870	1,500	e1,030	e1,080	---	1,650	2,880	7,950	1,970	606	296	455
30	2,200	1,280	e1,040	e1,080	---	2,500	2,710	7,280	2,650	595	293	434
31	2,560	---	e1,030	e1,080	---	5,020	---	6,620	---	613	300	---
TOTAL	49,750	53,560	34,878	32,600	30,720	40,850	217,100	118,570	155,610	41,222	14,688	11,906
MEAN	1,605	1,785	1,125	1,052	1,097	1,318	7,237	3,825	5,187	1,330	474	397
MAX	2,560	2,650	1,410	1,110	1,150	5,020	14,300	8,560	8,010	2,990	699	566
MIN	1,150	1,200	800	1,000	1,050	1,070	2,710	1,960	1,970	595	293	231
AC-FT	98,680	106,200	69,180	64,660	60,930	81,030	430,600	235,200	308,700	81,760	29,130	23,620
CFSM	0.47	0.52	0.33	0.31	0.32	0.38	2.11	1.12	1.51	0.39	0.14	0.12
IN.	0.54	0.58	0.38	0.35	0.33	0.44	2.35	1.29	1.69	0.45	0.16	0.13
+	189	-117	-449	-435	-484	-438	1,240	855	55.1	-220	-296	-77.9
MEAN ‡	1,794	1,668	676	617	613	880	8,477	4,680	5,242	1,110	178	319
CFSM ‡	.52	.49	.20	.18	.18	.26	2.47	1.36	1.53	.32	.05	.09
IN ‡	.60	.55	.23	.21	.19	.30	2.76	1.57	1.71	.37	.06	.10

CAL. YR. 2004 TOTAL ‡ 759,063 MEAN ‡ 2,074 CFSM ‡ 0.60 IN ‡ 8.21
WTR. YR. 2005 TOTAL ‡ 796,294 MEAN ‡ 2,182 CFSM ‡ 0.64 IN ‡ 8.64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2005, BY WATER YEAR (WY)

	2,023	1,747	1,290	1,072	1,057	1,456	5,717	5,051	3,571	2,474	1,640	1,745
MEAN	2,023	1,747	1,290	1,072	1,057	1,456	5,717	5,051	3,571	2,474	1,640	1,745
MAX	7,508	8,518	2,993	2,272	2,200	6,026	15,860	22,210	16,480	12,630	9,197	7,594
(WY)	(1974)	(1972)	(1972)	(1966)	(1966)	(1945)	(2001)	(1950)	(1908)	(1999)	(1953)	(1928)
MIN	407	473	282	265	249	301	667	593	458	199	377	397
(WY)	(1935)	(1935)	(1911)	(1911)	(1924)	(1924)	(1977)	(1977)	(1988)	(1988)	(1977)	(2005)

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1908 - 2005	
ANNUAL TOTAL	740,633		801,454			
ANNUAL MEAN	2,024		2,196		2,392	
HIGHEST ANNUAL MEAN					4,276	1972
LOWEST ANNUAL MEAN					945	1924
HIGHEST DAILY MEAN	11,900	Jun 1	14,300	Apr 6	37,900	May 9, 1950
LOWEST DAILY MEAN	409	Aug 4	231	Sep 10	88	Aug 24, 1977
ANNUAL SEVEN-DAY MINIMUM	468	Aug 3	273	Sep 4	134	Jul 26, 1988
MAXIMUM PEAK FLOW			17,200	Apr 5	37,900	May 9, 1950
MAXIMUM PEAK STAGE			9.76	Apr 5	15.80	May 9, 1950
ANNUAL RUNOFF (AC-FT)	1,469,000		1,590,000		1,733,000	
ANNUAL RUNOFF (CFSM)	0.590		0.640		0.697	
ANNUAL RUNOFF (INCHES)	8.03		8.69		9.48	
10 PERCENT EXCEEDS	4,980		5,820		5,260	
50 PERCENT EXCEEDS	1,180		1,160		1,390	
90 PERCENT EXCEEDS	586		470		653	

+ 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.

