

## 04024000 ST. LOUIS RIVER AT SCANLON, MN

LOCATION.--Lat 46°42'12", long 92°25'07", in NW<sup>1</sup>/<sub>4</sub> sec. 30, T.49 N., R.16 W., Carlton County, Hydrologic Unit 04010201, on right bank 80 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<sup>2</sup> (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 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,230	1,870	1,160	930	e790	e640	1,200	1,890	1,990	2,340	1,110	578
2	1,090	1,890	1,020	913	e790	e640	1,370	1,720	1,970	2,180	1,230	530
3	1,080	1,780	879	960	e760	e640	1,530	1,720	1,770	2,100	1,210	508
4	1,320	1,810	964	957	e730	e650	1,370	1,600	1,720	2,480	1,290	527
5	2,220	1,620	1,060	912	e710	e650	1,290	1,530	1,570	2,830	1,210	551
6	2,960	1,670	704	890	e700	e650	1,330	1,540	1,430	2,640	1,140	491
7	3,070	1,650	1,220	939	e700	e660	1,090	1,530	1,380	3,050	1,130	437
8	3,060	1,550	1,130	1,000	e700	e670	1,100	1,520	1,370	3,070	990	443
9	2,930	1,580	742	990	e700	e680	1,240	1,560	1,360	2,850	1,120	430
10	2,810	1,590	1,390	959	e700	e700	1,520	2,130	1,370	3,170	952	392
11	2,670	1,580	1,300	852	e690	e720	1,700	2,560	1,640	5,230	971	321
12	2,630	1,540	1,170	793	e680	e740	1,830	2,670	1,790	5,740	913	870
13	2,720	1,460	1,140	e820	e670	e770	1,820	2,580	1,940	5,030	805	1,170
14	2,810	1,290	1,140	e830	e660	e800	1,750	2,390	1,940	4,240	791	1,860
15	2,660	1,170	1,180	742	e640	830	1,870	2,210	1,730	3,630	740	1,810
16	2,490	1,210	1,080	e770	e650	849	1,920	2,090	1,600	3,060	658	1,710
17	2,280	1,280	1,080	e780	e650	930	1,730	2,030	1,480	2,790	645	1,430
18	2,250	1,360	1,180	e780	e660	1,050	1,600	1,850	1,390	2,390	563	1,400
19	2,200	1,430	1,150	e770	e670	993	1,710	2,130	1,380	2,160	556	1,770
20	2,460	1,420	1,180	e740	e680	1,050	2,540	2,860	1,280	2,070	556	2,280
21	2,460	1,400	1,140	e750	e680	1,460	3,330	3,100	1,210	2,420	555	2,850
22	2,390	1,270	1,120	e780	e680	1,390	3,550	2,950	1,100	2,240	518	2,920
23	2,290	1,360	1,110	e770	e680	1,450	3,260	2,850	1,290	1,980	469	2,750
24	2,160	1,220	1,070	e750	e670	1,570	2,950	3,000	1,330	1,680	510	2,810
25	2,120	1,260	1,110	e720	e660	1,590	2,600	2,880	1,710	1,470	600	2,640
26	1,950	1,140	1,120	e700	e650	1,590	2,480	2,530	2,470	1,340	486	2,480
27	1,950	928	963	e710	e640	1,550	2,350	2,310	2,840	1,170	614	2,300
28	1,930	928	1,020	e720	e640	1,380	2,120	2,240	2,930	1,040	618	2,170
29	1,910	1,400	1,050	e730	---	1,180	2,090	2,060	2,810	1,070	609	2,010
30	2,040	1,200	1,030	e750	---	1,140	2,010	2,060	2,590	962	701	1,930
31	2,040	---	983	e780	---	1,140	---	1,930	---	960	636	---
TOTAL	70,180	42,856	33,585	25,487	19,230	30,752	58,250	68,020	52,380	79,382	24,896	44,368
MEAN	2,264	1,429	1,083	822	687	992	1,942	2,194	1,746	2,561	803	1,479
MAX	3,070	1,890	1,390	1,000	790	1,590	3,550	3,100	2,930	5,740	1,290	2,920
MIN	1,080	928	704	700	640	640	1,090	1,520	1,100	960	469	321
AC-FT	139,200	85,000	66,620	50,550	38,140	61,000	115,500	134,900	103,900	157,500	49,380	88,000
CFSM	0.66	0.42	0.32	0.24	0.20	0.29	0.57	0.64	0.51	0.75	0.23	0.43
IN.	0.76	0.46	0.36	0.28	0.21	0.33	0.63	0.74	0.57	0.86	0.27	0.48
+	98.8	-347	-799	-232	-459	-238	-262	310	305	131	-126	137
MEAN ‡	2,363	1,082	284	590	228	754	2,204	2,504	2,051	2,692	677	1,616
CFSM ‡	.69	.32	.08	.17	.07	.22	.64	.73	.60	.78	.20	.47
IN ‡	.80	.36	.09	.20	.07	.25	.71	.84	.67	.90	.23	.52

CAL. YR. 02 TOTAL 856,550 MEAN 2,347 MAX 25,400 MIN 532 MEAN ‡ 2,303 CFSM ‡ 0.67 IN ‡ 9.12  
WTR. YR. 03 TOTAL 549,386 MEAN 1,505 MAX 5,740 MIN 321 MEAN ‡ 1,427 CFSM ‡ 0.42 IN ‡ 5.65

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2003, BY WATER YEAR (WY)

	2,037	1,752	1,293	1,076	1,059	1,456	5,693	5,081	3,549	2,503	1,664	1,762
MEAN	2,037	1,752	1,293	1,076	1,059	1,456	5,693	5,081	3,549	2,503	1,664	1,762
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	402
(WY)	(1935)	(1935)	(1911)	(1911)	(1924)	(1924)	(1977)	(1977)	(1988)	(1988)	(1977)	(1934)

04024000 ST. LOUIS RIVER AT SCANLON, MN—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1908 - 2003	
ANNUAL TOTAL	856,550		549,386			
ANNUAL MEAN	2,347		1,505		2,399	
HIGHEST ANNUAL MEAN					4,276 1972	
LOWEST ANNUAL MEAN					945 1924	
HIGHEST DAILY MEAN	25,400	Jun 25	5,740	Jul 12	37,900	May 9, 1950
LOWEST DAILY MEAN	532	Mar 5	321	Sep 11	88	Aug 24, 1977
ANNUAL SEVEN-DAY MINIMUM	739	Feb 27	438	Sep 5	134	Jul 26, 1988
MAXIMUM PEAK FLOW			5,970	Jul 11	37,900	May 9, 1950
MAXIMUM PEAK STAGE			6.08	Jul 11	15.80	May 9, 1950
ANNUAL RUNOFF (AC-FT)	1,699,000		1,090,000		1,738,000	
ANNUAL RUNOFF (CFSM)	0.68		0.44		0.70	
ANNUAL RUNOFF (INCHES)	9.29		5.96		9.50	
10 PERCENT EXCEEDS	4,390		2,690		5,260	
50 PERCENT EXCEEDS	1,460		1,290		1,400	
90 PERCENT EXCEEDS	982		650		656	

+ 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.

