

Water-Data Report 2009

04024000 ST. LOUIS RIVER AT SCANLON, MN

St. Louis Basin
St. Louis Subbasin

LOCATION.--Lat 46°42'12", long 92°25'07" referenced to North American Datum of 1927, in SE ¼ NW ¼ sec.30, T.49 N., R.16 W., Carlton County, MN, 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.

SURFACE-WATER RECORDS

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, non-recording 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 (+).

04024000 ST. LOUIS RIVER AT SCANLON, MN—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,090	1,900	1,150	e1,220	e968	e934	4,500	8,250	1,810	1,000	790	1,280
2	1,150	1,760	1,210	e1,320	e940	e997	3,890	8,150	1,700	1,020	668	1,180
3	1,030	1,620	1,110	e1,340	e952	e1,060	3,600	7,710	1,700	921	670	1,070
4	1,050	1,620	1,220	e1,210	e966	e1,050	3,510	7,100	1,630	788	746	1,000
5	958	1,620	1,160	e1,130	e966	e1,100	3,530	6,560	1,480	780	736	910
6	985	2,240	1,090	e1,230	e1,020	e1,130	3,750	6,430	1,450	774	614	868
7	1,150	2,980	1,000	e1,180	e1,090	e1,110	3,920	6,610	1,350	659	671	804
8	1,370	3,320	964	e1,320	e1,030	e1,080	4,210	6,370	1,350	601	740	751
9	1,540	3,570	1,330	e1,010	e1,030	e1,050	4,480	5,970	1,490	566	781	753
10	1,520	3,590	1,240	e1,110	e1,140	e1,100	5,070	5,600	1,520	542	727	742
11	1,700	3,550	1,220	e1,220	e1,110	e1,000	5,420	5,450	1,580	516	684	713
12	1,800	3,540	1,330	e1,260	e1,090	e1,020	5,950	5,070	1,520	491	611	708
13	2,220	3,590	1,150	e1,180	e1,150	e1,050	6,260	4,890	1,380	395	615	676
14	2,440	3,510	1,370	e1,010	e1,200	e1,070	6,100	4,820	1,330	511	618	681
15	2,500	3,300	e1,280	e968	e1,120	1,120	6,250	4,690	1,190	531	571	667
16	2,350	2,910	e1,190	e944	e1,120	1,290	6,440	4,890	1,210	527	701	592
17	2,250	2,720	e1,220	e944	e1,220	2,200	6,600	5,250	1,130	545	663	604
18	2,150	2,650	e1,280	e988	e1,140	3,190	6,810	5,140	1,070	541	568	524
19	2,100	2,330	e1,300	e1,020	e1,040	3,000	6,940	4,570	1,130	543	916	477
20	1,920	1,850	e1,290	e986	e1,110	2,500	6,750	4,320	1,110	566	2,500	467
21	1,810	1,860	e1,360	e995	e1,210	2,110	6,390	3,890	1,070	636	2,890	417
22	1,730	1,390	e1,290	e984	e1,170	2,010	6,200	3,700	1,160	713	3,110	395
23	1,590	1,620	e1,250	e964	e1,140	2,860	5,970	3,530	1,190	782	2,770	399
24	1,570	1,490	e1,370	e1,050	e1,110	7,130	5,820	3,110	1,320	816	2,420	375
25	1,680	1,440	e1,350	e940	e1,170	10,200	5,530	2,770	1,350	970	2,000	350
26	1,860	1,530	e1,340	e952	e1,120	10,300	5,340	2,530	1,350	819	1,670	396
27	2,100	1,480	e1,360	e920	e1,060	9,130	5,820	2,340	1,180	866	1,450	401
28	2,270	1,430	e1,460	e952	e1,040	8,030	7,210	2,370	1,190	787	1,330	369
29	2,200	1,280	e1,350	e968	---	6,860	7,300	2,260	1,050	742	1,260	327
30	2,240	1,410	e1,300	e972	---	5,900	7,530	2,090	990	803	1,250	323
31	2,110	---	e1,220	e980	---	5,160	---	1,800	---	774	1,360	---
Total	54,433	69,100	38,754	33,267	30,422	97,741	167,090	148,230	39,980	21,525	37,100	19,219
Mean	1,756	2,303	1,250	1,073	1,086	3,153	5,570	4,782	1,333	694	1,197	641
Max	2,500	3,590	1,460	1,340	1,220	10,300	7,530	8,250	1,810	1,020	3,110	1,280
Min	958	1,280	964	920	940	934	3,510	1,800	990	395	568	323
Ac-ft	108,000	137,100	76,870	65,990	60,340	193,900	331,400	294,000	79,300	42,690	73,590	38,120
Cfsm	0.51	0.67	0.36	0.31	0.32	0.92	1.62	1.39	0.39	0.20	0.35	0.19
In.	0.59	0.75	0.42	0.36	0.33	1.06	1.81	1.61	0.43	0.23	0.40	0.21
+	242	15.2	-564	-546	-492	-57.8	1306	315	-255	-119	115	-168
Mean ‡	1998	2318	686	527	594	3095	6876	5097	1078	575	1312	473
Cfsm ‡	0.58	0.68	0.20	0.15	0.17	0.90	2.00	1.49	0.31	0.17	0.38	0.14
In. ‡	0.67	0.75	0.23	0.18	0.18	1.04	2.24	1.71	0.35	0.19	0.44	0.15
Cal.Yr. ‡	Total	878,460	Mean	2,400	Cfsm.	0.70	In.	9.50				
Wtr.Yr. ‡	Total	750,972	Mean	2,057	Cfsm.	0.60	In.	8.15				

04024000 ST. LOUIS RIVER AT SCANLON, MN—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,040	1,740	1,284	1,070	1,050	1,469	5,698	5,044	3,530	2,407	1,601	1,704
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	472	282	265	249	301	667	593	458	199	364	323
(WY)	(1935)	(2007)	(1911)	(1911)	(1924)	(1924)	(1977)	(1977)	(1988)	(1988)	(2007)	(2006)

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1908 - 2009	
Annual total	889,919		756,861			
Annual mean	2,431		2,074		2,375	
Highest annual mean					4,276	
Lowest annual mean					945	
Highest daily mean	18,200	Apr 27	10,300	Mar 26	37,900	May 9, 1950
Lowest daily mean	363	Aug 26	323	Sep 30	88	Aug 24, 1977
Annual seven-day minimum	406	Aug 20	363	Sep 24	134	Jul 26, 1988
Maximum peak flow			11,000	Mar 25	37,900	May 9, 1950
Maximum peak stage			7.94	Mar 25	15.80	May 9, 1950
Annual runoff (ac-ft)	1,765,000		1,501,000		1,721,000	
Annual runoff (cfsm)	0.709		0.605		0.692	
Annual runoff (inches)	9.65		8.21		9.41	
10 percent exceeds	6,380		5,430		5,250	
50 percent exceeds	1,290		1,240		1,380	
90 percent exceeds	527		661		638	

+ 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.

