

SAUK RIVER BASIN

05270500 SAUK RIVER NEAR ST. CLOUD, MN

LOCATION.--Lat 45° 33'35", long 94° 14'00", in SW¹/₄SW¹/₄ sec. 8, T. 124 N., R. 28 W., Stearns County, Hydrologic Unit 07010203, on right bank 0.5 mi northwest of Waite Park, 3 mi west of St. Cloud, and 5 mi upstream from mouth.

DRAINAGE AREA.--925 mi².

PERIOD OF RECORD.--July 1909 to December 1912, April to December 1913, May to November 1929, March 1930 to September 1931, April to November 1932, March to November 1933, March 1934 to September 1981, October 1990 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORD--WSP 895: Drainage area. WSP 1308: 1912(M), 1932 (M). WSP 1508: 1937(m).

GAGE.--Water-stage recorder. Datum of gage is 1,034.63 ft above mean sea level. Prior to Nov. 22, 1934, nonrecording gage on highway bridge 1 mi downstream at datum 6.77 ft lower.

REMARKS:--Records good except those for estimated daily discharge, which are fair to poor. Flow regulated by power plants and reservoirs above station.

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	153	302	e289	e222	e155	e190	1590	1350	458
280	526	381							
2	162	289	e285	e230	e159	e191	2550	1310	442
336	520	390							
3	151	277	e282	e232	e162	e192	3880	1270	424
367	537	374							
4	143	281	e280	e230	e167	e193	4570	1220	421
369	476	372							
5	147	294	e280	e228	e167	e194	4910	1170	406
398	437	362							
6	155	311	e279	e226	e167	e193	5110	1090	384
435	438	345							
7	143	327	e279	e223	e167	e192	5100	1020	371
455	399	326							
8	138	313	e278	e220	e168	e191	4770	1030	351
523	374	316							
9	139	299	e275	e218	e168	e191	4300	953	344
508	345	317							

10	135	e282	e272	e216	e168	e191	4210	886	327
508	323	308							
11	138	e262	e270	e213	e168	e191	4300	875	312
496	288	295							
12	139	e254	e269	e211	e168	e190	4150	838	301
475	273	287							
13	130	e232	e269	e210	e168	e190	3860	800	286
464	260	280							
14	119	e350	e271	e204	e168	e190	3520	790	263
484	249	274							
15	132	e500	e270	e194	e168	e190	3220	766	262
490	252	269							
16	145	e505	e268	e187	e169	e191	2950	745	248
500	252	279							
17	187	e370	e260	e182	e171	e195	2730	718	227
505	234	303							
18	257	e360	e255	e178	e174	e196	2530	726	222
484	225	287							
19	205	e360	e252	e172	e177	e196	2360	707	211
488	316	290							
20	199	e345	e248	e168	e180	e196	2200	670	212
492	384	281							
21	238	e345	e243	e163	e183	e196	2090	631	212
493	359	265							
22	266	e345	e241	e162	e186	e197	1970	598	208
492	358	263							
23	280	e340	e238	e164	e188	e199	1870	571	209
498	364	252							
24	301	e335	e227	e165	e189	e202	1790	549	254
490	370	244							
25	280	e310	e220	e162	e189	e222	1710	508	299
856	363	247							
26	278	e280	e211	e160	e189	e265	1630	483	248
787	367	226							
27	300	e265	e209	e158	e189	e310	1590	476	238
741	360	221							
28	280	e268	e210	e156	e190	e390	1540	470	231
699	345	241							
29	275	e281	e210	e154	---	528	1490	483	263
652	363	240							
30	382	e291	e210	e152	---	792	1430	473	267
604	363	212							
31	343	---	e212	e152	---	1060	---	468	---
559	360	---							
TOTAL	6340	9573	7862	5912	4862	8204	89920	24644	8901
15928	11080	8747							
MEAN	205	319	254	191	174	265	2997	795	297
514	357	292							
MAX	382	505	289	232	190	1060	5110	1350	458
856	537	390							

MIN	119	232	209	152	155	190	1430	468	208
280	225	212							
AC-FT	12580	18990	15590	11730	9640	16270	178400	48880	17660
31590	21980	17350							
CFSM	.22	.34	.27	.21	.19	.29	3.24	.86	.32
.56	.39	.32							

o e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
MEAN	171	178	135	99.6	106	313	830	506	410
318	206	182							
MAX	1154	1091	528	336	568	1380	2997	1572	1333
1262	1250	1136							
(WY)	1996	1972	1972	1980	1966	1966	1997	1975	1957
1993	1972	1957							
MIN	6.22	6.18	5.15	3.25	7.61	28.7	16.5	7.84	15.9
10.6	10.5	10.7							
(WY)	1934	1934	1935	1935	1935	1940	1934	1934	1934
1934	1933	1933							

<i>SUMMARY STATISTICS</i>	<i>FOR 1996 CALENDAR YEAR</i>	<i>FOR 1997 WATER YEAR</i>	<i>WATER YEARS 1909 - 1997</i>					
ANNUAL TOTAL		175253		201973				
ANNUAL MEAN		479		553		304a		
HIGHEST ANNUAL MEAN								
732		1972						
LOWEST ANNUAL MEAN								
51.0		1931						
HIGHEST DAILY MEAN			1690	Apr 16	5110	Apr 6	7940	Apr
14	1965							
LOWEST DAILY MEAN			77	Sep 13	119	Oct 14	1.3	
Jan 6	1935							
ANNUAL SEVEN-DAY MINIMUM			80	Sep 12	133	Oct 9	1.5	
Jan 2	1935							
INSTANTANEOUS PEAK FLOW					5150	Apr 6	9100	Apr
13	1965							
INSTANTANEOUS PEAK STAGE					8.72	Apr 6	10.68	Apr
13	1965							
INSTANTANEOUS LOW FLOW					103	Oct 15	.30	Nov
25	1936							
ANNUAL RUNOFF (AC-FT)			347600		400600		220400	
ANNUAL RUNOFF (CFSM)			.52		.60		.33	
10 PERCENT EXCEEDS			1320		1070		730	
50 PERCENT EXCEEDS			271		280		138	
90 PERCENT EXCEEDS			136		168		36	

- o a Median of annual mean discharges is 288 ft3/s.

BICAR- BONATE WATER IT FIELD DATE MG/L AS HCO3 (00453) APR 02...	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, (PER- CENT SATUR- ATION) (MG/L) (00300)	ALKA- LITY WAT DIS TOT IT DIS FIELD MG/L AS CACO3 (00301) (39086)	178
	1407	2650	362	7.5	1.0	742	10.7	77	146

PHORUS ORTHO, DIS- SUS- DATE PENDE (MG/L) (80154) APR 02... 35	CAR- SED. BONATE WATER SEDI- DIS IT MENT, FIELD % FINER MG/L AS THAN CO3 (00452) (70331)	NITRO- GEN, SUSP. AMMONIA SIEVE DIS- DIAM. SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- TOTAL (MG/L AS P) (00631) (00665)	PHOS- PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	
		0.830	0.060	1.6	2.1	1.50	0.340	0.210	0.180