

05094000 SOUTH BRANCH TWO RIVERS AT LAKE BRONSON, MN

LOCATION.--Lat 48°43'50", long 96°39'50", in SW¹/₄SW¹/₄ sec. 30, T.161 N., R.46 W., Kittson County, Hydrologic Unit 09020312, on left bank 70 ft upstream from culvert on U.S. Highway 59 at Lake Bronson and 3.4 mi downstream from dam at outlet of Bronson Lake.

DRAINAGE AREA.--422 mi².

PERIOD OF RECORD.--September 1928 to November 1936, April to September 1937, April 1941 to October 1943, April to December 1944, April 1945 to September 1947, October 1953 to September 1981, April 1985 to current year. Monthly discharge only for some periods, published in WSP 1308. October 1981 to March 1985, annual maximums only. Published as South Fork Two Rivers at Bronson prior to 1941.

REVISED RECORDS.--WSP 1308: 1929(M), 1931(M), 1936(M), 1944(M), 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 928.53 ft above sea level (NGVD of 1929, Minnesota Department of Transportation benchmark). Prior to Nov. 23, 1953, nonrecording gage at bridge 100 ft downstream at datum 2.00 ft higher. Nov 23, 1953 to Oct. 5, 1963, water-stage recorder at same site at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow partly regulated since 1937 at Bronson Lake; usable capacity, 3,700 acre-ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	6.3	4.9	e3.2	e3.4	e4.2	1,280	163	e2,480	238	20	30
2	9.7	6.3	4.7	e3.1	e3.5	e4.2	1,050	156	e2,060	268	21	18
3	10	6.4	4.7	e3.1	e3.8	e4.3	1,030	82	e1,640	267	21	18
4	6.0	7.2	4.5	e3.0	e4.2	e4.4	959	33	1,460	240	20	17
5	4.3	7.4	4.3	e3.0	e4.4	e4.5	870	34	1,230	203	19	19
6	4.8	6.9	4.2	e3.3	e4.5	e4.6	655	61	911	194	21	128
7	5.2	6.2	4.1	e3.6	e4.5	e4.6	625	90	888	209	29	126
8	4.5	5.9	4.0	e3.9	e4.5	e4.6	845	80	1,030	217	63	158
9	3.7	5.7	e3.8	e4.2	e4.5	e4.5	1,240	79	918	217	331	200
10	3.7	5.6	e3.7	e4.4	e4.4	e4.3	1,230	54	782	213	510	155
11	4.0	5.2	e3.6	e4.7	e4.4	e4.3	1,200	40	717	187	337	72
12	4.5	5.0	e3.7	e4.9	e4.4	e4.3	1,160	1,080	581	169	240	52
13	4.5	4.9	e3.8	e5.0	e4.2	e4.4	1,020	2,370	e525	138	224	52
14	4.1	4.7	e3.9	e5.0	e4.1	e4.5	830	2,870	e505	99	175	51
15	4.0	4.5	e4.0	e4.9	e4.1	e4.6	627	3,190	e510	109	88	51
16	4.0	4.5	e3.9	e4.8	e4.1	e4.7	640	3,510	e510	168	51	54
17	4.0	4.7	e3.8	e4.8	e4.2	e4.7	666	3,160	e515	176	35	57
18	4.0	5.0	e3.7	e4.8	e4.3	e4.8	632	2,590	e470	142	39	69
19	4.0	5.2	e3.6	e4.8	e4.4	e4.8	508	2,120	462	92	42	74
20	3.9	5.4	3.5	e4.7	e4.4	e4.9	395	1,870	369	53	41	77
21	3.9	6.4	3.4	e4.6	e4.4	e4.9	414	1,600	397	54	48	91
22	4.0	7.8	3.3	e4.4	e4.4	e5.0	435	1,380	535	50	51	109
23	4.0	8.2	3.1	e4.2	e4.4	e5.2	440	1,130	375	49	50	236
24	4.2	8.4	3.2	e4.2	e4.4	e7.2	280	846	266	51	36	68
25	4.2	8.6	3.2	e4.1	e4.4	e17	299	843	316	50	24	207
26	4.4	8.4	3.2	e4.0	e4.4	e160	316	831	358	49	21	272
27	5.6	6.7	3.3	e3.7	e4.4	e410	284	710	346	48	12	228
28	9.9	6.0	e3.3	e3.5	e4.3	e690	224	679	312	35	11	198
29	8.3	5.6	e3.3	e3.4	e4.3	e900	163	674	237	15	27	117
30	7.5	5.2	e3.2	e3.3	---	e1,060	164	1,140	212	16	80	56
31	6.7	---	e3.2	e3.3	---	1,150	---	2,520	---	18	56	---
TOTAL	175.6	184.3	116.1	125.9	123.7	4,499.5	20,481	35,985	21,917	4,034	2,743	3,060
MEAN	5.66	6.14	3.75	4.06	4.27	145	683	1,161	731	130	88.5	102
MAX	20	8.6	4.9	5.0	4.5	1,150	1,280	3,510	2,480	268	510	272
MIN	3.7	4.5	3.1	3.0	3.4	4.2	163	33	212	15	11	17
AC-FT	348	366	230	250	245	8,920	40,620	71,380	43,470	8,000	5,440	6,070
CFSM	0.01	0.01	0.01	0.01	0.01	0.34	1.62	2.75	1.73	0.31	0.21	0.24
IN.	0.02	0.02	0.01	0.01	0.01	0.40	1.81	3.17	1.93	0.36	0.24	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

MEAN	21.8	32.3	6.00	3.51	6.01	79.2	449	233	196	119	53.8	45.1
MAX	153	1,132	37.9	15.3	93.1	689	1,977	1,500	1,336	1,136	1,349	525
(WY)	(1958)	(2001)	(2001)	(2001)	(1998)	(1995)	(1966)	(1996)	(1970)	(1956)	(1993)	(1957)
MIN	0.40	0.38	0.13	0.12	0.12	0.66	0.54	0.98	1.43	0.44	0.09	0.00
(WY)	(1991)	(1990)	(1987)	(1987)	(1987)	(1934)	(1991)	(1991)	(1980)	(1988)	(1988)	(1937)

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SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004	
ANNUAL TOTAL	11,723.80		93,445.1		a105	
ANNUAL MEAN	32.1		255		314 2001	
HIGHEST ANNUAL MEAN					2.89 1934	
LOWEST ANNUAL MEAN					5,290 Apr 5, 1966	
HIGHEST DAILY MEAN	514	Jun 12	3,510	May 16	b0.00	Jul 25, 1937
LOWEST DAILY MEAN	0.95	Mar 14	3.0	Jan 4,5	0.00	Aug 2, 1937
ANNUAL SEVEN-DAY MINIMUM	0.96	Mar 11	3.1	Dec 30	5,410	Apr 5, 1966
MAXIMUM PEAK FLOW			3,610	May 16	18.23	Apr 5, 1966
MAXIMUM PEAK STAGE			12.95	May 16	75,960	
ANNUAL RUNOFF (AC-FT)	23,250		185,300		0.248	
ANNUAL RUNOFF (CFSM)	0.076		0.605		3.38	
ANNUAL RUNOFF (INCHES)	1.03		8.24		249	
10 PERCENT EXCEEDS	86		853		5.4	
50 PERCENT EXCEEDS	6.1		18		0.90	
90 PERCENT EXCEEDS	1.8		3.8			

- a Median of annual mean discharges is 67 ft³/s.
- b Many days, several years.
- c Estimated.

