

## 05094000 SOUTH BRANCH TWO RIVERS AT LAKE BRONSON, MN

LOCATION.--Lat 48°43'50", long 96°39'50", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	407	e8.4	e2.6	e10	e5.8	950	102	286	1,750	106	40
2	30	387	e7.6	e2.6	e10	e5.7	1,990	128	235	1,720	108	34
3	29	341	e7.0	e2.5	e10	e5.7	2,810	133	220	1,790	105	13
4	27	220	e6.5	e2.5	e10	e5.7	2,900	51	259	2,040	103	13
5	27	197	e6.3	e2.4	e9.8	e5.7	2,440	45	351	1,920	79	14
6	29	214	e6.0	e2.4	e9.6	e5.7	1,940	62	1,290	1,770	67	17
7	34	182	e5.8	e2.4	e9.3	e5.7	1,770	64	1,440	1,630	71	20
8	39	156	e5.6	e2.4	e9.0	e5.7	1,550	64	1,300	1,750	68	20
9	32	134	e5.4	e2.4	e8.8	e5.7	1,370	150	1,140	2,030	64	21
10	26	108	e5.2	e2.4	e8.5	e5.7	1,210	631	978	1,780	58	21
11	35	106	e5.0	e2.4	e8.2	e5.7	914	716	798	1,390	56	21
12	17	74	e4.9	e2.5	e8.0	e5.7	890	576	677	1,240	54	21
13	19	36	e4.8	e2.5	e8.0	e5.7	1,060	352	1,160	1,090	52	20
14	24	36	e4.8	e2.6	e8.0	e5.8	1,050	306	1,250	837	52	19
15	39	40	e4.7	e2.6	e8.0	e5.8	860	364	1,460	e599	35	18
16	53	47	e4.6	e2.6	e7.9	e5.7	714	300	1,470	823	8.1	17
17	51	52	e4.5	e2.7	e7.7	e5.7	569	e221	1,370	757	13	18
18	40	54	e4.4	e3.0	e7.4	e5.6	429	183	1,240	490	38	17
19	28	53	e4.4	e3.2	e7.2	e5.6	372	122	1,120	366	62	17
20	28	53	e4.3	e4.0	e7.0	e5.5	352	90	931	430	59	16
21	28	51	e4.1	e5.6	e6.8	e5.5	289	163	877	430	76	16
22	28	48	e3.0	e6.6	e6.6	e5.5	221	197	426	493	106	16
23	31	45	e2.6	e7.2	e6.5	e5.5	215	407	436	402	103	21
24	38	42	e2.6	e8.2	e6.4	e5.7	209	511	314	277	77	18
25	72	41	e2.6	e8.8	e6.2	e6.4	199	408	221	183	56	16
26	118	38	e2.7	e9.4	e6.1	e8.4	196	369	202	164	56	16
27	141	36	e2.7	e9.6	e6.0	e15	147	421	587	190	51	16
28	170	34	e2.8	e9.8	e5.9	e34	98	421	1,370	213	39	9.2
29	212	36	e2.8	e9.9	---	e80	100	534	1,080	174	39	5.1
30	287	26	e2.7	e10	---	e200	101	642	1,340	124	39	4.4
31	420	---	e2.7	e10	---	e460	---	422	---	100	39	---
TOTAL	2,201	3,294	141.5	147.8	222.9	939.9	27,915	9,155	25,828	28,952	1,939.1	534.7
MEAN	71.0	110	4.56	4.77	7.96	30.3	930	295	861	934	62.6	17.8
MAX	420	407	8.4	10	10	460	2,900	716	1,470	2,040	108	40
MIN	17	26	2.6	2.4	5.9	5.5	98	45	202	100	8.1	4.4
AC-FT	4,370	6,530	281	293	442	1,860	55,370	18,160	51,230	57,430	3,850	1,060
CFSM	0.17	0.26	0.01	0.01	0.02	0.07	2.20	0.70	2.04	2.21	0.15	0.04
IN.	0.19	0.29	0.01	0.01	0.02	0.08	2.46	0.81	2.28	2.55	0.17	0.05

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

MEAN	22.5	33.6	5.98	3.53	6.04	78.4	456	234	206	132	54.0	44.7
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 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	98,605.6		101,270.9		a108	
ANNUAL MEAN	269		277		314	
HIGHEST ANNUAL MEAN					2001	
LOWEST ANNUAL MEAN					1934	
HIGHEST DAILY MEAN	3,510	May 16	2,900	Apr 4	5,290	Apr 5, 1966
LOWEST DAILY MEAN	2.6	Dec 23	2.4	Jan 5-11	0.00	Jul 25, 1937
ANNUAL SEVEN-DAY MINIMUM	2.7	Dec 23	2.4	Jan 5	0.00	Aug 2, 1937
MAXIMUM PEAK FLOW			3,000	Apr 3	5,410	Apr 5, 1966
MAXIMUM PEAK STAGE			11.80	Apr 3	18.23	Apr 5, 1966
ANNUAL RUNOFF (AC-FT)	195,600		200,900		78,040	
ANNUAL RUNOFF (CFSM)	0.638		0.657		0.255	
ANNUAL RUNOFF (INCHES)	8.69		8.93		3.47	
10 PERCENT EXCEEDS	853		1,070		260	
50 PERCENT EXCEEDS	49		40		5.5	
90 PERCENT EXCEEDS	4.2		4.6		0.90	

- a Median of annual mean discharges is 67 ft<sup>3</sup>/s.
- b Many days, several years.
- c Estimated.

