

05132000 BIG FORK RIVER AT BIG FALLS, MN

LOCATION.--Lat 48°11'45", long 93°48'25", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.35, T.155 N., R.25 W., Koochiching County, Hydrologic Unit 09030006, on left bank at town of Big Falls, 700 ft downstream from falls, 0.3 mi downstream from bridge on U.S. Highway 71, and 4.8 mi upstream from Sturgeon River.

DRAINAGE AREA.--1,480 mi².

PERIOD OF RECORD.--August to November 1909, April to November 1910, April 1911 to September 1912 (gage heights and discharge measurements only), June 1928 to September 1979, October 1979 to September 1982 (annual maximum only), October 1982 to September 1993, October 1993 to September 1994 (annual maximum only) and October 1997 to current year.

REVISED RECORDS.--WSP 1308:1935 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,144.71 ft above sea level (NGVD of 1929). Prior to June 10, 1911, nonrecording gage at railroad bridge about 0.4 mi upstream at different datum. June 10, 1911 to Sept. 30, 1912, and June 22, 1928 to Dec. 17, 1937, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to 1971, a powerplant, located 0.3 mi upstream, caused some diurnal fluctuation at low flows.

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	1,260	5,340	e920	e390	e310	e295	e1,300	1,520	3,300	755	251	248
2	1,230	5,090	e880	e380	e310	e295	e1,850	1,480	2,770	759	241	250
3	1,200	4,240	e830	e380	e310	e290	e2,500	1,420	2,360	749	234	249
4	1,150	3,610	e800	e375	e310	e290	e3,300	1,360	2,060	729	230	251
5	1,070	3,130	e800	e370	e310	e290	e4,000	1,290	2,030	688	229	257
6	996	2,750	e810	e370	e305	e290	e6,000	1,220	2,220	646	234	261
7	934	2,460	e800	e365	e305	e290	6,260	1,180	2,460	607	222	257
8	895	2,230	e780	e365	e300	e290	5,730	1,160	2,460	557	217	256
9	881	2,030	e770	e360	e300	e285	4,770	1,160	2,400	507	214	260
10	855	1,900	e750	e355	e300	e285	4,220	1,190	2,250	467	214	279
11	833	1,790	e710	e350	e300	e285	3,850	1,290	2,060	439	214	287
12	804	1,650	e690	e350	e300	e285	3,690	1,360	1,910	419	214	308
13	769	1,540	e660	e345	e300	e285	3,540	1,370	1,750	418	216	299
14	751	1,450	e630	e345	e300	e282	3,310	1,390	1,840	457	224	299
15	738	1,390	e600	e340	e300	e280	3,090	1,540	2,380	503	223	310
16	734	1,340	e570	e340	e300	e280	2,880	1,670	2,900	504	225	311
17	726	1,320	e550	e335	e300	e280	2,650	1,630	2,790	501	242	311
18	720	1,300	e530	e335	e300	e275	2,490	1,500	2,480	486	272	311
19	716	1,270	e510	e330	e300	e275	2,400	1,400	2,060	440	264	320
20	696	1,250	e490	e330	e300	e275	2,360	1,360	1,740	413	263	326
21	682	1,230	e480	e325	e295	e270	2,250	1,340	1,790	376	258	326
22	674	1,190	e470	e325	e295	e270	2,120	1,340	1,910	349	256	326
23	721	1,190	e460	e320	e295	e270	2,000	1,400	1,800	327	257	324
24	787	938	e450	e320	e295	e270	1,870	1,550	1,530	308	255	323
25	904	e900	e440	e320	e295	e270	1,760	1,600	1,230	290	252	325
26	1,000	e890	e430	e320	e295	e270	1,710	3,470	1,000	272	248	324
27	1,030	e910	e420	e315	e295	e265	1,710	5,880	885	260	243	322
28	1,010	e920	e415	e315	e295	e265	1,690	6,790	800	255	245	324
29	1,020	e930	e410	e315	---	e265	1,650	5,900	731	256	247	329
30	2,010	e920	e400	e310	---	e295	1,570	4,830	709	256	250	330
31	4,110	---	e390	e310	---	e450	---	3,990	---	256	251	---
TOTAL	31,906	57,098	18,845	10,605	8,420	8,862	88,520	65,580	58,605	14,249	7,405	8,903
MEAN	1,029	1,903	608	342	301	286	2,951	2,115	1,954	460	239	297
MAX	4,110	5,340	920	390	310	450	6,260	6,790	3,300	759	272	330
MIN	674	890	390	310	295	265	1,300	1,160	709	255	214	248
AC-FT	63,290	113,300	37,380	21,040	16,700	17,580	175,600	130,100	116,200	28,260	14,690	17,660
CFSM	0.70	1.29	0.41	0.23	0.20	0.19	1.99	1.43	1.32	0.31	0.16	0.20
IN.	0.80	1.44	0.47	0.27	0.21	0.22	2.22	1.65	1.47	0.36	0.19	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2005, BY WATER YEAR (WY)

MEAN	664	567	298	180	143	252	1,910	1,979	1,187	646	409	566
MAX	2,247	2,034	685	399	335	1,928	5,186	7,496	2,890	2,321	1,799	2,989
(WY)	(1970)	(1972)	(1970)	(1969)	(1969)	(1945)	(1966)	(1950)	(1974)	(1944)	(1978)	(1937)
MIN	38.3	44.5	31.6	22.2	22.9	32.9	175	138	180	46.0	26.7	22.4
(WY)	(1932)	(1935)	(1935)	(1935)	(1935)	(1940)	(1931)	(1931)	(1934)	(1931)	(1934)	(1934)

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1909 - 2005	
ANNUAL TOTAL	304,837		378,998		734	
ANNUAL MEAN	833		1,038		92.0	
HIGHEST ANNUAL MEAN					1,362	1950
LOWEST ANNUAL MEAN					92.0	1931
HIGHEST DAILY MEAN	5,340	Nov 1	6,790	May 28	14,800	May 9, 1950
LOWEST DAILY MEAN	92	Sep 4	214	Aug 9-12	14	Jan 10, 1940
ANNUAL SEVEN-DAY MINIMUM	95	Aug 29	216	Aug 7	18	Jan 22, 1935
MAXIMUM PEAK FLOW			a8,740	Apr 6	14,800	May 8, 1950
MAXIMUM PEAK STAGE			11.75	Apr 6	17.08	May 8, 1950
INSTANTANEOUS LOW FLOW			210	Aug 9	7.0	Aug 7, 1939
ANNUAL RUNOFF (AC-FT)	604,600		751,700		531,600	
ANNUAL RUNOFF (CFSM)	0.563		0.702		0.496	
ANNUAL RUNOFF (INCHES)	7.66		9.53		6.74	
10 PERCENT EXCEEDS	2,010		2,460		1,800	
50 PERCENT EXCEEDS	573		501		336	
90 PERCENT EXCEEDS	134		257		83	

a Release from storage behind upstream ice jam.
 e Estimated.

