

## 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 mi<sup>2</sup>.

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 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325	443	e305	e215	e73	e62	e380	397	493	1,510	814	425
2	318	461	e290	e210	e71	e62	e360	381	542	1,290	766	383
3	317	e400	e280	e210	e70	e62	e345	378	501	1,180	773	331
4	346	e370	e265	e205	e68	e62	e325	366	445	1,030	702	287
5	378	e370	e255	e205	e66	e62	e315	354	403	876	616	259
6	392	e410	e250	e205	e64	e62	e300	350	388	754	561	230
7	406	e405	e245	e205	e63	e62	e295	349	380	665	490	207
8	416	e440	e240	e200	e62	e63	e290	348	364	627	419	188
9	411	e420	e240	e197	e62	e63	e285	360	374	613	374	179
10	399	e400	e240	e195	e61	e63	e360	399	378	581	339	164
11	394	e400	e245	e190	e61	e63	e430	428	401	631	316	155
12	394	e395	e245	e185	e61	e63	e540	489	432	692	293	152
13	400	e370	e250	e180	e61	e64	e640	508	570	633	270	154
14	418	e350	e255	e175	e62	e66	709	477	580	582	249	166
15	423	e320	e260	e165	e62	e68	425	436	538	545	223	182
16	414	e340	e260	e160	e62	e75	391	405	478	479	199	184
17	401	e490	e265	e155	e63	e82	390	381	432	433	180	173
18	399	e555	e270	e145	e63	e94	372	364	520	394	164	172
19	399	e540	e270	e140	e63	e115	380	359	804	353	154	177
20	403	e483	e275	e135	e63	e190	446	388	596	317	152	182
21	404	e450	e275	e125	e63	e360	590	487	466	292	164	194
22	409	e430	e275	e120	e63	e550	708	570	395	277	188	210
23	409	e420	e270	e115	e63	e560	706	565	341	254	204	210
24	407	e420	e265	e105	e63	e560	642	523	307	230	198	207
25	400	e400	e265	e98	e63	e560	579	493	586	210	210	201
26	399	e375	e255	e93	e63	e550	526	460	1,050	196	233	192
27	399	e365	e245	e88	e63	e520	482	419	1,310	188	291	188
28	406	e345	e240	e83	e63	e490	455	389	1,450	184	338	184
29	424	e330	e230	e80	---	e460	440	371	1,780	181	318	180
30	446	e320	e230	e78	---	e430	427	387	1,690	268	452	178
31	443	---	e220	e76	---	e410	---	431	---	621	449	---
TOTAL	12,299	12,217	7,975	4,738	1,785	6,953	13,533	13,012	18,994	17,086	11,099	6,294
MEAN	397	407	257	153	63.8	224	451	420	633	551	358	210
MAX	446	555	305	215	73	560	709	570	1,780	1,510	814	425
MIN	317	320	220	76	61	62	285	348	307	181	152	152
AC-FT	24,400	24,230	15,820	9,400	3,540	13,790	26,840	25,810	37,670	33,890	22,010	12,480
CFSM	0.27	0.28	0.17	0.10	0.04	0.15	0.30	0.28	0.43	0.37	0.24	0.14
IN.	0.31	0.31	0.20	0.12	0.04	0.17	0.34	0.33	0.48	0.43	0.28	0.16

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2003, BY WATER YEAR (WY)

MEAN	665	551	294	178	141	252	1,894	1,987	1,177	653	416	560
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1909 - 2003	
ANNUAL TOTAL	248,287		125,985		731	
ANNUAL MEAN	680		345		92.0	
HIGHEST ANNUAL MEAN					1,362	1950
LOWEST ANNUAL MEAN					92.0	1931
HIGHEST DAILY MEAN	9,420	Jun 25	1,780	Jun 29	14,800	May 9, 1950
LOWEST DAILY MEAN	185	Mar 3	61	Feb 10-13	14	Jan 10, 1940
ANNUAL SEVEN-DAY MINIMUM	194	Mar 1	61	Feb 8	18	Jan 22, 1935
MAXIMUM PEAK FLOW			a1,810	Jun 29	14,800	May 8, 1950
MAXIMUM PEAK STAGE			b5.54	Mar 20	17.08	May 8, 1950
INSTANTANEOUS LOW FLOW			c61	Feb 10	7.0	Aug 7, 1939
ANNUAL RUNOFF (AC-FT)	492,500		249,900		529,700	
ANNUAL RUNOFF (CFSM)	0.46		0.23		0.49	
ANNUAL RUNOFF (INCHES)	6.24		3.17		6.71	
10 PERCENT EXCEEDS	1,310		574		1,790	
50 PERCENT EXCEEDS	403		340		338	
90 PERCENT EXCEEDS	215		65		81	

- a Gage-height, 5.44 ft.
- b Backwater from ice.
- c Estimated, minimum daily.
- e Estimated.

