

## 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 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179	302	e340	e203	e148	e135	e2,000	1,140	3,440	207	132	98
2	180	312	e335	e200	e146	e135	e2,200	1,070	3,120	189	125	98
3	171	318	e330	e198	e144	e137	e2,400	1,010	2,700	177	118	94
4	170	e200	e325	e196	e144	e137	e2,300	958	2,280	195	113	92
5	166	e170	e320	e193	e142	e138	e2,250	921	1,910	216	108	114
6	166	e160	e315	e190	e142	e138	e2,700	891	1,780	205	106	187
7	164	e150	e315	e188	e140	e139	e2,800	853	1,900	207	101	539
8	164	e150	e310	e186	e138	e139	e2,750	805	1,780	209	99	971
9	165	e185	e305	e184	e136	e140	2,690	782	1,560	196	99	826
10	167	e260	e300	e182	e135	e140	2,510	745	1,350	186	103	796
11	169	e295	e295	e180	e135	e142	2,300	731	1,160	316	111	734
12	186	e285	e290	e178	e135	e144	2,070	971	1,010	990	119	659
13	192	e270	e280	e176	e135	e146	1,850	1,460	900	1,050	121	576
14	211	e260	e275	e174	e135	e148	1,660	1,580	815	1,010	121	498
15	232	e260	e270	e172	e135	e148	1,520	1,620	733	972	119	461
16	239	e270	e265	e170	e135	e150	1,440	1,540	685	806	116	866
17	237	e290	e260	e170	e135	e150	1,430	1,490	650	605	112	2,430
18	229	e325	e255	e168	e135	e152	1,420	1,620	611	493	111	2,380
19	228	e385	e253	e168	e135	e154	1,510	1,660	556	421	109	2,210
20	226	e450	e250	e166	e135	e156	1,860	1,670	497	367	105	2,020
21	219	e465	e245	e166	e135	e158	1,980	1,630	449	321	102	2,000
22	213	e455	e240	e164	e135	e158	1,990	1,550	415	289	98	2,060
23	211	e430	e235	e162	e135	e160	1,950	1,410	371	260	97	2,130
24	213	e405	e230	e160	e135	e165	1,810	1,270	348	232	99	2,130
25	215	e385	e228	e160	e135	e175	1,660	1,280	328	208	107	2,280
26	222	e380	e223	e158	e135	e190	1,520	1,430	306	185	98	2,270
27	235	e370	e220	e156	e135	e220	1,420	1,580	285	167	94	2,060
28	257	e360	e218	e154	e135	e260	1,340	1,520	266	156	93	1,810
29	269	e355	e213	e152	e135	e350	1,260	1,370	246	150	93	1,570
30	278	e345	e210	e150	---	e480	1,180	1,310	224	141	93	1,370
31	289	---	e208	e150	---	e1,000	---	2,230	---	136	95	---
TOTAL	6,462	9,247	8,358	5,374	3,980	6,184	57,770	40,097	32,675	11,262	3,317	36,329
MEAN	208	308	270	173	137	199	1,926	1,293	1,089	363	107	1,211
MAX	289	465	340	203	148	1,000	2,800	2,230	3,440	1,050	132	2,430
MIN	164	150	208	150	135	135	1,180	731	224	136	93	92
AC-FT	12,820	18,340	16,580	10,660	7,890	12,270	114,600	79,530	64,810	22,340	6,580	72,060
CFSM	0.14	0.21	0.18	0.12	0.09	0.13	1.30	0.87	0.74	0.25	0.07	0.82
IN.	0.16	0.23	0.21	0.14	0.10	0.16	1.45	1.01	0.82	0.28	0.08	0.91

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2004, BY WATER YEAR (WY)

MEAN	659	548	293	178	141	252	1,895	1,977	1,176	649	411	570
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 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1909 - 2004	
ANNUAL TOTAL	117,561		221,055			
ANNUAL MEAN	322		604		729	
HIGHEST ANNUAL MEAN					1,362	1950
LOWEST ANNUAL MEAN					92.0	1931
HIGHEST DAILY MEAN	1,780	Jun 29	3,440	Jun 1	14,800	May 9, 1950
LOWEST DAILY MEAN	61	Feb 10	92	Sep 4	14	Jan 10, 1940
ANNUAL SEVEN-DAY MINIMUM	61	Feb 8	95	Aug 29	18	Jan 22, 1935
MAXIMUM PEAK FLOW			a3,550	Jun 1	14,800	May 8, 1950
MAXIMUM PEAK STAGE			b7.89	Apr 7	17.08	May 8, 1950
INSTANTANEOUS LOW FLOW			91	Aug 28	7.0	Aug 7, 1939
ANNUAL RUNOFF (AC-FT)	233,200		438,500		528,400	
ANNUAL RUNOFF (CFSM)	0.218		0.408		0.493	
ANNUAL RUNOFF (INCHES)	2.95		5.56		6.70	
10 PERCENT EXCEEDS	574		1,810		1,790	
50 PERCENT EXCEEDS	270		236		335	
90 PERCENT EXCEEDS	65		134		82	

a Gage-height, 7.25 ft.  
 b Backwater from ice.  
 e Estimated.

