

**RED RIVER OF THE NORTH BASIN**

**05112000 ROSEAU RIVER BELOW STATE DITCH 51, NEAR CARIBOU, MN  
(International Gaging Station)**

LOCATION.--Lat 48° 58'54", long 96°27'46", in SE1/4SW1/4 sec. 34, T.164 N., R.45 W., Kittson County, Hydrologic Unit 09020314, on left bank 400 ft downstream from State ditch 51 (known locally as Caribou cutoff ditch) and 0.6 mi west of Caribou.

DRAINAGE AREA.--1,560 mi<sup>2</sup>.

PERIOD OF RECORD.--April to October 1917, April 1920 to current year (no winter records in water years 1931, 1932, 1934-36, 1938-40, 1944-72). Published as "at Caribou," prior to April 1929; as "below Cutoff ditch, near Caribou" April 1929 to September 1936. Records published for both sites April 1929 to September 1930. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1938(M). WSP 1508: 1917(M), 1920, 1932(M), 1934-35(M). WSP 1913: 1954(M).

GAGE.--Water-stage recorder. Datum of gage is 1,002.31 ft above sea level (levels by Geodetic Survey of Canada). Prior to Apr. 1, 1929, nonrecording gage at site at Caribou 0.6 mi upstream at datum 0.95 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite telemeter at station. Occasionally, at high stages, there is some natural diversion of flow above station to headwaters of Two Rivers.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1916 is reported to have reached a stage of about 15.5 ft at former site.

**DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997**

**DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
1	92	e600	e108	e88	e83	e67	e90	3200	2260
271	348	23							
2	95	e780	e106	e88	e83	e66	e130	3240	2210
702	231	21							
3	92	726	e104	e87	e82	e66	e230	3260	2180
1070	160	19							
4	80	357	e104	e87	e82	e66	e325	3260	2120

1150	118	18								
5	73	265	e102	e87	e81	e65	e450	3260	2050	
1140	91	18								
6	59	275	e100	e88	e80	e65	e600	3240	1980	
1130	76	17								
7	55	307	e100	e90	e80	e64	e800	3250	1910	
1120	67	19								
8	49	395	e100	e94	e80	e64	e900	3310	1840	
1130	60	32								
9	44	497	e99	e98	e79	e64	e950	3290	1760	
1120	54	29								
10	42	591	e99	e100	e79	e64	e980	3250	1680	
1100	48	40								
11	45	533	e99	e100	e78	e63	e1000	3190	1610	
1060	43	56								
12	52	e500	e98	e99	e78	e63	e1050	3100	1520	
1010	39	40								
13	49	e600	e98	e95	e77	e63	e1100	3050	1430	
973	35	32								
14	44	e620	e98	e91	e76	e63	e1200	3030	1340	
927	32	29								
15	42	e600	e97	e88	e75	e64	e1300	3000	1230	
865	30	33								
16	35	e580	e97	e86	e74	e64	e1500	2980	1110	
798	38	44								
17	37	e400	e96	e84	e74	e66	e1700	2950	990	
732	37	46								
18	35	e350	e95	e84	e73	e68	e2000	2920	840	
628	39	55								
19	45	e380	e95	e84	e73	e70	e2200	2880	651	
528	49	73								
20	61	e400	e94	e84	e72	e69	e2300	2820	597	
448	52	72								
21	82	e410	e93	e84	e71	e62	2430	2780	493	
388	46	63								
22	90	e390	e93	e84	e70	e70	2510	2750	403	
318	40	57								
23	94	e360	e92	e84	e70	e80	2620	2730	349	
274	36	54								
24	105	e300	e92	e84	e69	e100	2710	2690	340	
247	32	50								
25	179	e230	e91	e84	e69	e115	2790	2640	355	
225	31	50								
26	199	e165	e91	e83	e68	e120	2870	2590	361	
203	30	50								
27	216	e140	e90	e83	e68	e115	2940	2530	332	
388	30	52								
28	254	e130	e90	e83	e67	e110	3010	2480	262	
600	31	52								
29	307	e120	e90	e83	---	e105	3090	2420	225	

644	28	59							
30	328	e110	e89	e83	---	e100	3140	2370	219
597	25	63							
31	e400	---	e89	e83	---	e95	---	2310	---
505	22	---							
TOTAL	3380	12111	2989	2720	2111	2376	48915	90770	34647
22291	1998	1266							
MEAN	109	404	96.4	87.7	75.4	76.6	1631	2928	1155
719	64.5	42.2							
MAX	400	780	108	100	83	120	3140	3310	2260
1150	348	73							
MIN	35	110	89	83	67	62	90	2310	219
203	22	17							
AC-FT	6700	24020	5930	5400	4190	4710	97020	180000	68720
44210	3960	2510							
CFSM	.07	.26	.06	.06	.05	.05	1.05	1.88	.74
.46	.04	.03							
IN.	.08	.29	.07	.06	.05	.06	1.17	2.16	.83
.53	.05	.03							

o e Estimated

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
MEAN	168	132	52.7	26.6	21.0	116	813	956	591
401	160	178							
MAX	1302	712	303	134	75.4	793	2168	3029	2588
1653	1582	1451							
(WY)	1942	1995	1995	1927	1997	1995	1966	1950	1970
1968	1993	1968							
MIN	.12	.26	.53	.090	.060	1.57	38.2	26.9	6.70
.65	2.09	.30							
(WY)	1991	1991	1991	1991	1991	1989	1981	1988	1980
1980	1936	1990							
<i>SUMMARY STATISTICS FOR 1996 CALENDAR YEAR</i>			<i>FOR 1997 WATER YEAR</i>			<i>WATER YEARS 1917 - 1997</i>			
	ANNUAL TOTAL			240129			225574		
	ANNUAL MEAN			656			618		
306	HIGHEST ANNUAL MEAN								
683	1927								
	LOWEST ANNUAL MEAN								
35.9	1977								
	HIGHEST DAILY MEAN			3320	May 18		3310	May 8	
4020	May 19 1950								
	LOWEST DAILY MEAN			22	Sep 13		17	Sep 6	
.00	Sep 15 1990								
	ANNUAL SEVEN-DAY MIN			23	Sep 11		19	Sep 1	
.04	Sep 12 1990								
	INSTANTANEOUS PEAK FLOW						3320	May 8	
4080	May 19 1950								

11.81	INSTANTANEOUS PEAK STAGE		11.13a	Apr 19
	May 19 1950			
.00b	INSTANTANEOUS LOW FLOW		17	Sep 4
	Aug 13 1936			
222000	ANNUAL RUNOFF (AC-FT)	476300	447400	
.20	ANNUAL RUNOFF (CFSM)	.42	.40	
2.67	ANNUAL RUNOFF (INCHES)	5.73	5.38	
1210	10 PERCENT EXCEEDS	2760	2490	
78	50 PERCENT EXCEEDS	95	99	
9.0	90 PERCENT EXCEEDS	27	43	

o a Backwater from ice.

b Many days, several years.