

## 05112000 ROSEAU RIVER BELOW STATE DITCH 51, NEAR CARIBOU, MN

LOCATION.--Lat 48°58'54", long 96°27'46", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  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.--1,420 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 (NGVD of 1929, 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. Some regulation from wildlife management impoundments several miles upstream of gage. Occasionally, at high stages, there is some natural diversion of flow above station to headwaters of Two Rivers.

COOPERATION.--Red Lake Watershed Management Board.

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

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	385	173	e66	e36	e23	e23	e756	2,180	3,460	2,380	101	488
2	335	e178	e63	e36	e23	e23	e1,060	2,130	3,410	2,320	98	523
3	291	e175	e60	e35	e23	e23	e1,220	2,080	3,360	2,280	89	498
4	254	e168	e57	e35	e23	e23	e1,400	2,040	3,320	2,200	78	443
5	230	e158	e55	e34	e23	e23	1,550	1,980	3,290	2,120	66	400
6	211	e147	e53	e34	e23	e24	1,620	1,930	3,260	2,060	58	537
7	194	e136	e52	e33	e22	e24	1,770	1,870	3,350	2,000	108	590
8	181	e124	e50	e32	e22	e24	1,910	1,820	3,380	1,920	321	641
9	169	e115	e48	e31	e22	e24	1,980	1,760	3,330	1,870	735	691
10	156	e105	e47	e31	e22	e24	2,060	1,690	3,280	1,800	961	731
11	146	e98	e46	e30	e22	e25	2,170	1,680	3,240	1,710	1,080	738
12	138	e97	e45	e30	e22	e25	2,290	1,930	3,220	1,620	1,120	729
13	166	e98	e44	e29	e22	e26	2,380	1,940	3,190	1,510	1,150	704
14	197	e99	e43	e28	e21	e26	2,460	1,870	3,160	1,390	1,160	678
15	199	e103	e43	e28	e21	e27	2,540	1,860	3,150	1,280	1,160	691
16	196	e108	e42	e27	e21	e27	2,630	1,940	3,140	1,130	1,160	701
17	191	e117	e42	e27	e22	e27	2,660	1,980	3,120	953	1,150	675
18	181	e130	e41	e26	e22	e28	2,670	2,050	3,090	736	1,130	617
19	171	e142	e41	e26	e22	e29	2,670	2,160	3,040	544	1,090	565
20	161	e180	e40	e25	e22	e30	2,670	2,370	2,990	384	1,030	544
21	153	e191	e40	e25	e22	e31	2,650	2,500	2,950	294	928	574
22	146	e187	e40	e25	e22	e32	2,610	2,620	2,900	252	781	712
23	141	e170	e39	e25	e22	e33	2,570	2,700	2,840	227	629	862
24	136	e138	e39	e25	e22	e35	2,510	2,780	2,790	201	513	979
25	128	e117	e38	e24	e22	e37	2,460	2,880	2,760	179	429	1,050
26	123	e103	e38	e24	e22	e46	2,400	2,960	2,710	162	388	1,100
27	121	e93	e38	e24	e22	e85	2,350	3,010	2,660	142	377	1,120
28	124	e82	e38	e24	e23	e140	2,320	3,050	2,600	140	389	1,120
29	123	e74	e37	e23	e23	e190	2,270	3,070	2,530	130	383	1,120
30	140	e68	e37	e23	---	e350	2,220	3,300	2,460	117	375	1,130
31	163	---	e37	e23	---	e540	---	3,460	---	107	405	---
TOTAL	5,650	3,874	1,399	878	643	2,024	64,826	71,590	91,980	34,158	19,442	21,951
MEAN	182	129	45.1	28.3	22.2	65.3	2,161	2,309	3,066	1,102	627	732
MAX	385	191	66	36	23	540	2,670	3,460	3,460	2,380	1,160	1,130
MIN	121	68	37	23	21	23	756	1,680	2,460	107	58	400
AC-FT	11,210	7,680	2,770	1,740	1,280	4,010	128,600	142,000	182,400	67,750	38,560	43,540
CFSM	0.13	0.09	0.03	0.02	0.02	0.05	1.52	1.63	2.16	0.78	0.44	0.52
IN.	0.15	0.10	0.04	0.02	0.02	0.05	1.70	1.88	2.41	0.89	0.51	0.58

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2004, BY WATER YEAR (WY)

MEAN	172	170	69.9	27.5	23.1	130	845	983	674	463	182	188
MAX	1,302	2,022	813	134	75.4	793	2,168	3,029	3,066	3,080	1,582	1,451
(WY)	(1942)	(2001)	(2001)	(1927)	(1997)	(1995)	(1966)	(1950)	(2004)	(2002)	(1993)	(1968)
MIN	0.12	0.26	0.53	0.09	0.06	1.57	38.2	26.9	6.70	0.65	2.09	0.30
(WY)	(1991)	(1991)	(1991)	(1991)	(1991)	(1989)	(1981)	(1988)	(1980)	(1980)	(1936)	(1990)

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SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1917 - 2004	
ANNUAL TOTAL	65,408		318,415			
ANNUAL MEAN	179		870		349	
HIGHEST ANNUAL MEAN					933	2001
LOWEST ANNUAL MEAN					35.9	1977
HIGHEST DAILY MEAN	780	May 24	3,460	May 31, June 1	4,320	Jun 25, 2002
LOWEST DAILY MEAN	11	Feb 11	a21	Feb 14-16	b0.00	Sep 15, 1990
ANNUAL SEVEN-DAY MINIMUM	11	Feb 10	22	Feb 10	0.04	Sep 12, 1990
MAXIMUM PEAK FLOW			3,480	May 31	4,320	Jun 24, 2002
MAXIMUM PEAK STAGE			10.78	May 31	11.91	Jun 24, 2002
INSTANTANEOUS LOW FLOW			21	Feb 14	c0.00	Aug 13, 1936
ANNUAL RUNOFF (AC-FT)	129,700		631,600		252,700	
ANNUAL RUNOFF (CFSM)	0.126		0.613		0.246	
ANNUAL RUNOFF (INCHES)	1.71		8.34		3.34	
10 PERCENT EXCEEDS	527		2,670		1,200	
50 PERCENT EXCEEDS	103		190		68	
90 PERCENT EXCEEDS	12		23		9.0	

a Estimated, daily-mean discharge.  
 b Also occurred, Sept. 16,17, 1990.  
 c Also occurred, Sept. 15-17, 1990.  
 e Estimated.

