

## 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 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	e155	e52	e26	e12	e12	e660	291	370	241	27	53
2	90	e155	e49	e25	e12	e12	e670	274	340	235	32	64
3	85	153	e45	e24	e12	e12	e650	259	308	223	38	62
4	86	144	e40	e24	e12	e12	e600	252	284	210	43	54
5	89	134	e35	e23	e12	e12	e540	242	261	212	44	54
6	93	122	e33	e23	e12	e12	e470	235	273	201	39	49
7	93	118	e31	e22	e12	e13	e410	231	309	181	33	46
8	99	e115	e29	e22	e12	e13	e350	231	285	166	30	41
9	93	111	e28	e21	e12	e13	e320	245	315	148	26	34
10	83	100	e27	e21	e12	e13	288	258	410	128	29	33
11	84	86	e27	e20	e11	e13	302	261	519	113	24	33
12	88	e90	e28	e20	e11	e13	292	274	608	108	40	30
13	88	e86	e30	e19	e11	e13	279	288	647	100	65	42
14	92	e80	e31	e19	e11	e13	267	300	643	98	52	52
15	90	e80	e32	e19	e11	e13	257	296	627	101	39	74
16	87	e85	e33	e18	e11	e13	241	281	629	131	31	103
17	83	e87	e34	e17	e12	e13	216	272	630	156	25	111
18	87	e88	e34	e16	e12	e13	211	288	620	140	21	119
19	89	e87	e35	e16	e12	e14	267	363	594	115	16	263
20	89	e85	e35	e15	e12	e15	308	545	532	78	14	506
21	91	e82	e35	e14	e12	e30	358	709	449	58	14	628
22	84	e75	e34	e14	e12	e100	425	763	373	56	12	653
23	79	e72	e33	e13	e12	e400	445	778	313	55	12	643
24	69	e68	e32	e13	e12	e560	441	780	278	53	14	622
25	48	e67	e31	e13	e12	e564	422	764	255	47	14	613
26	99	e66	e30	e12	e12	e555	392	735	227	41	17	593
27	144	e65	e29	e12	e12	e540	368	693	211	33	17	561
28	138	e63	e29	e12	e12	e520	354	646	218	30	22	523
29	127	e60	e28	e12	---	e510	353	585	227	28	19	479
30	137	e56	e27	e12	---	e500	321	512	237	27	19	431
31	e150	---	e26	e12	---	e560	---	418	---	26	36	---
TOTAL	2,950	2,835	1,022	549	330	5,096	11,477	13,069	11,992	3,539	864	7,569
MEAN	95.2	94.5	33.0	17.7	11.8	164	383	422	400	114	27.9	252
MAX	150	155	52	26	12	564	670	780	647	241	65	653
MIN	48	56	26	12	11	12	211	231	211	26	12	30
AC-FT	5,850	5,620	2,030	1,090	655	10,110	22,760	25,920	23,790	7,020	1,710	15,010
CFSM	0.07	0.07	0.02	0.01	0.01	0.12	0.27	0.30	0.28	0.08	0.02	0.18
IN.	0.08	0.07	0.03	0.01	0.01	0.13	0.30	0.34	0.31	0.09	0.02	0.20

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2003, BY WATER YEAR (WY)

MEAN	172	171	70.4	27.4	23.1	132	829	967	646	456	177	182
MAX	1,302	2,022	813	134	75.4	793	2,168	3,029	2,588	3,080	1,582	1,451
(WY)	(1942)	(2001)	(2001)	(1927)	(1997)	(1995)	(1966)	(1950)	(1970)	(2002)	(1993)	(1968)
MIN	0.12	0.26	0.53	0.090	0.060	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)

05112000 ROSEAU RIVER BELOW STATE DITCH 51, NEAR CARIBOU, MN—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1917 - 2003	
ANNUAL TOTAL	235,642		61,292		337	
ANNUAL MEAN	646		168		35.9	
HIGHEST ANNUAL MEAN					933	2001
LOWEST ANNUAL MEAN					35.9	1977
HIGHEST DAILY MEAN	4,320	Jun 25	780	May 24	4,320	Jun 25, 2002
LOWEST DAILY MEAN	10	Mar 12	11	Feb 11	0.00	Sep 15, 1990
ANNUAL SEVEN-DAY MINIMUM	11	Mar 7	11	Feb 10	0.04	Sep 12, 1990
MAXIMUM PEAK FLOW			a781	May 23	4,320	Jun 24, 2002
MAXIMUM PEAK STAGE			b7.33	Mar 27	11.91	Jun 24, 2002
INSTANTANEOUS LOW FLOW			10	Aug 23	c0.00	Aug 13, 1936
ANNUAL RUNOFF (AC-FT)	467,400		121,600		244,500	
ANNUAL RUNOFF (CFSM)	0.45		0.12		0.24	
ANNUAL RUNOFF (INCHES)	6.17		1.61		3.23	
10 PERCENT EXCEEDS	2,640		527		1,160	
50 PERCENT EXCEEDS	116		80		67	
90 PERCENT EXCEEDS	18		12		8.8	

- a Gage height, 5.51 ft.
- b Backwater from ice.
- c Many days, several years.
- e Estimated.

