

RED RIVER OF THE NORTH BASIN--Continued

05079000 RED LAKE RIVER AT CROOKSTON, MN

LOCATION.--Lat 47°46'32", long 96°36'33", in SW¹/₄SW¹/₄ sec. 30, T.150 N., R.46 W., Polk County, Hydrologic Unit 09020303, on right bank 100 ft upstream from Sargent Street bridge in Crookston, 0.3 mi downstream from Interstate Power Co.'s dam, 0.6 mi downstream from bridge on U.S. Highway 75, and 53 mi upstream from mouth.

DRAINAGE AREA.--5,270 mi².

PERIOD OF RECORD.--May 1901 to current year. Monthly discharge only for some periods, published in WSP 1308. Figures of daily discharge for Apr. 3-30, 1904, published in WSP 130, have been found unreliable and should not be used.

REVISED RECORDS.--WSP 1115: 1906, 1915-16, 1919-20, 1922, 1925, 1927, 1929. WSP 1308: 1916(M), 1919(M), 1928(M), 1930(M). (See also PERIOD OF RECORD).

GAGE.--Water-stage recorder. Datum of gage is 832.72 ft above sea level (NGVD of 1929). May 18, 1901 to June 30, 1909, nonrecording gage at bridge 300 ft upstream at same datum. July 1, 1909 to Sept. 25, 1911, nonrecording gage, Sept. 26, 1911 to Sept. 30, 1919, water-stage recorder, Oct. 1, 1919 to Sept. 30, 1930, nonrecording gage, at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation prior to 1975 caused by power plant 1,000 ft upstream. Runoff from 1,950 mi² in the headwaters of Red Lake River is completely controlled by dam at outlet of Lower Red Lake. Flow partially affected by occasional regulation at Thief and Mud Lakes in Thief River basin (see station 05076000).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	961	1700	e1500	e1050	e960	e930	e1300	4530	4290	1980	4250	1610
2	935	2450	e1480	e1050	e960	e930	e1500	4340	4300	1960	6830	1590
3	945	3400	e1400	e1050	e960	e930	e1700	4040	4600	1930	6440	1580
4	933	3570	e1200	e1050	e960	e930	e2100	3510	4570	1650	5530	1560
5	915	3570	e1300	e1050	e960	e930	e3000	3790	4080	1570	4600	1540
6	846	3450	e1400	e1050	e950	e930	e4800	3590	3440	1580	3850	1470
7	873	4190	e1370	e1050	e950	e930	e8000	3480	3200	1630	3370	1830
8	862	6950	e1350	e1030	e950	e930	e14000	3460	3110	1610	3160	1840
9	829	8640	e1350	e1030	e950	e930	e20000	3290	3020	1620	3640	1860
10	858	8090	e1300	e1030	e950	e930	15000	3410	2590	1620	3810	1930
11	800	7020	e1300	e1030	e950	e930	12300	3350	2510	1620	3960	1870
12	795	6000	e1280	e1000	e950	e930	10800	3210	2450	1640	3750	1710
13	775	5480	e1250	e1000	e950	e920	11500	3170	2510	1650	3480	1570
14	860	5350	e1230	e1000	e950	e920	10900	3080	2540	1590	3350	1510
15	843	4950	e1220	e1000	e950	e920	10100	2820	2570	1580	e3320	1480
16	980	e4500	e1200	e1000	e940	e950	9140	2750	2880	1590	3310	1360
17	1400	e3800	e1200	e1000	e940	e970	8340	2750	2830	1650	3190	1300
18	1470	e3200	e1180	e1000	e940	e1000	7170	2860	2660	1610	3210	1230
19	1480	e2650	e1180	e1000	e940	e1050	6570	2780	2470	2090	2940	1170
20	1420	e2200	e1150	e1000	e940	e1100	6290	2670	2300	2120	2690	1150
21	1210	e2000	e1130	e1000	e940	e1200	6480	2580	2280	2210	2570	1220
22	1190	e1950	e1130	e980	e940	e1320	6410	2530	2360	2210	2370	1240
23	1120	e1850	e1100	e980	e940	e1390	6020	2770	2390	2120	2290	1280
24	1100	e1800	e1100	e980	e940	e1300	5610	3260	2400	1820	2140	1260
25	1130	e1750	e1100	e980	e940	e1220	5500	4440	2350	1590	2030	1290
26	1140	e1700	e1100	e980	e940	e1180	5520	4780	2290	1470	1890	1320
27	1160	e1650	e1100	e980	e940	e1180	5420	4820	2210	1390	1770	1320
28	1220	e1600	e1100	e980	e940	e1170	5250	4700	2140	1500	1700	1290
29	1450	e1580	e1080	e980	---	e1170	5030	5050	2090	1670	1700	1260
30	1500	e1550	e1080	e960	---	e1170	4820	4680	2040	1770	1690	1220
31	1500	---	e1070	e960	---	e1230	---	4360	---	1920	1640	---
TOTAL	33500	108590	37930	31230	26520	32520	220570	110850	85470	53960	100470	43860
MEAN	1081	3620	1224	1007	947	1049	7352	3576	2849	1741	3241	1462
MAX	1500	8640	1500	1050	960	1390	20000	5050	4600	2210	6830	1930
MIN	775	1550	1070	960	940	920	1300	2530	2040	1390	1640	1150
AC-FT	66450	215400	75230	61940	52600	64500	437500	219900	169500	107000	199300	87000
CFSM	.21	.69	.23	.19	.18	.20	1.40	.68	.54	.33	.61	.28
IN.	.24	.77	.27	.22	.19	.23	1.56	.78	.60	.38	.71	.31

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	858	742	596	528	512	1021	3141	2159	1716	1378	876	873
MAX	2836	3620	1900	1663	1778	4257	11870	15290	7205	6851	3868	5408
(WY)	1972	2001	1904	1951	1998	1995	1997	1950	1962	1975	1985	1999
MIN	8.02	10.1	5.34	15.6	17.8	24.9	232	154	80.4	26.2	12.3	8.87
(WY)	1937	1937	1937	1934	1937	1936	1981	1934	1934	1936	1934	1934

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1901 - 2001
ANNUAL TOTAL	613205	885470	
ANNUAL MEAN	1675	2426	1196
HIGHEST ANNUAL MEAN			3129
LOWEST ANNUAL MEAN			83.6
HIGHEST DAILY MEAN	8640	20000	27500
LOWEST DAILY MEAN	600	775	2.5
ANNUAL SEVEN-DAY MINIMUM	622	823	3.9
MAXIMUM PEAK FLOW		20000	28400
MAXIMUM PEAK STAGE		26.51a	28.40b
INSTANTANEOUS LOW FLOW			.00c
ANNUAL RUNOFF (AC-FT)	1216000	1756000	866800
ANNUAL RUNOFF (CFSM)	.32	.46	.23
ANNUAL RUNOFF (INCHES)	4.33	6.25	3.08
10 PERCENT EXCEEDS	2450	4820	2640
50 PERCENT EXCEEDS	1220	1580	738
90 PERCENT EXCEEDS	874	940	120

- a Backwater from ice.
- b From highwater mark, backwater from ice.
- c From regulation by power plant upstream.
- e Estimated.

