

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, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	1630	1190	e1390	e830	e690	e1300	2010	2130	4560	2640	10600
2	1240	1740	1190	e1380	e840	e720	e1350	1970	2040	4290	2530	9060
3	1140	1780	1250	e1350	e840	e750	e1380	1930	1920	4140	2530	5250
4	1140	1760	1250	e1330	e840	e790	e1410	e1850	1810	4080	2510	3350
5	1060	1710	1320	e1300	e840	e820	e1420	e1800	1720	4070	2450	2580
6	1150	1670	1530	e1260	e840	e850	e1460	e1800	1620	3990	2370	2180
7	1070	1650	1550	e1240	e840	e870	e1500	e1810	1630	3890	2210	2000
8	1050	1580	1710	e1220	e840	e890	e1520	1980	1630	4870	2150	1900
9	1030	1540	1560	e1200	e840	e900	e1550	2280	4520	4790	2140	1870
10	1070	1610	1610	e1170	e840	e920	e1560	2910	13200	7390	2090	1900
11	1040	1780	1660	e1150	e840	e930	e1600	3180	15400	10700	2040	1800
12	1020	1950	1300	e1130	e840	e940	e1620	2850	11600	9870	2000	1730
13	1110	1970	1480	e1100	e830	e940	e1650	2520	8440	7930	1940	1690
14	1170	2080	1560	e1080	e830	e940	e1750	2310	6480	5920	1830	1610
15	1150	1940	1600	e1050	e830	e930	1810	2190	5890	4710	1830	1510
16	1270	2100	1590	e1020	e830	e930	1810	2090	5580	4110	1740	1450
17	1270	2340	1560	e1000	e830	e910	1710	2000	5170	3790	1750	1420
18	1310	2600	1680	e960	e820	e900	1790	1920	4760	3590	1730	1430
19	1290	2630	2110	e940	e820	e880	1920	1860	4540	3400	1740	1400
20	1270	2590	e2100	e900	e820	e870	2090	e1780	5260	3280	1780	1360
21	1250	2380	e1900	e890	e830	e870	2120	e1710	6460	3180	1830	1330
22	1240	2320	e1600	e870	e840	e870	2070	1660	6410	3120	1800	1290
23	1200	2120	e1600	e860	e850	e880	2050	1610	8040	3070	1810	1280
24	1320	2000	e1580	e850	e850	e890	2020	1570	8950	3010	1790	1260
25	1390	2040	e1550	e840	e840	e910	1990	1550	9150	2970	1790	1230
26	1360	2030	e1500	e840	e810	e950	2090	1550	8290	2900	1780	1240
27	1420	1860	e1480	e830	e730	e980	2050	1540	7070	2870	1910	1240
28	1530	1370	e1450	e820	e660	e1020	2020	1520	6230	2780	4310	1230
29	1570	1320	e1450	e820	---	e1090	2010	1490	5610	2750	9250	1220
30	1600	1260	e1420	e820	---	e1170	2020	1580	5030	2700	6020	1230
31	1620	---	e1400	e820	---	e1220	---	2030	---	2660	7350	---
TOTAL	38540	57350	47730	32430	23090	28220	52640	60850	176580	135380	81640	68640
MEAN	1243	1912	1540	1046	824.6	910.3	1755	1963	5886	4367	2634	2288
MAX	1620	2630	2110	1390	850	1220	2120	3180	15400	10700	9250	10600
MIN	1020	1260	1190	820	660	690	1300	1490	1620	2660	1730	1220
AC-FT	76440	113800	94670	64320	45800	55970	104400	120700	350200	268500	161900	136100
CFSM	0.24	0.36	0.29	0.20	0.16	0.17	0.33	0.37	1.12	0.83	0.50	0.43
IN.	0.27	0.40	0.34	0.23	0.16	0.20	0.37	0.43	1.25	0.96	0.58	0.48

05079000 RED LAKE RIVER AT CROOKSTON, MN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	861.7	753.2	605.1	533.1	515.0	1020	3128	2157	1757	1407	893.4	887.0
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 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1901 - 2002
ANNUAL TOTAL	849070	803090	
ANNUAL MEAN	2326	2200	1206
HIGHEST ANNUAL MEAN			3129
LOWEST ANNUAL MEAN			83.6
HIGHEST DAILY MEAN	20000	15400	27500
LOWEST DAILY MEAN	920	660	2.5
ANNUAL SEVEN-DAY MINIMUM	926	736	3.9
MAXIMUM PEAK FLOW		16100	28400
MAXIMUM PEAK STAGE		20.85	28.40a
INSTANTANEOUS LOW FLOW			0.00b
ANNUAL RUNOFF (AC-FT)	1684000	1593000	874000
ANNUAL RUNOFF (CFSM)	0.44	0.42	0.23
ANNUAL RUNOFF (INCHES)	5.99	5.67	3.11
10 PERCENT EXCEEDS	4550	4530	2640
50 PERCENT EXCEEDS	1600	1600	750
90 PERCENT EXCEEDS	950	840	120

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

