

# RAINY RIVER BASIN

## 05127000 KAWISHIWI RIVER NEAR WINTON, MN

LOCATION.--Lat 4756'05", long 9145'50", in NE 1 / 4 NW 1 / 4 sec. 20, T.63 N., R.11 W., Lake County, Hydrologic Unit 09030001, Superior National Forest, at power plant of Minnesota Power Co., just upstream from Fall Lake, and 1.8 mi east of Winton.

DRAINAGE AREA.--1,229 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1905 to June 1907, October 1912 to September 1919 (fragmentary), September 1923 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WDR MN-77-1: Drainage area.

REMARKS.--No estimated daily discharges. Records good. Daily discharge computed from power plant records. Flow regulated by power plant and by Camp Six, Bald Eagle, Gabbro, Little Gabbro, Birch, White Iron, South Farm, and Garden Lakes.

COOPERATION.--Records collected by Minnesota Power Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission project.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

### DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	30	430	254	142	467	633	2390	784	484	293	30
2	135	30	401	237	142	466	608	2390	742	484	171	30
3	145	273	401	290	142	466	652	2390	720	484	170	31
4	145	406	401	308	142	290	652	2400	747	484	98	31
5	234	405	400	322	318	327	657	2400	739	484	284	31
6	244	425	400	421	275	336	697	2400	652	484	458	31
7	147	452	400	160	290	379	722	2400	627	484	459	31
8	29	452	400	144	264	422	837	2330	571	483	460	31
9	30	452	401	144	317	421	900	2280	570	447	461	31
10	30	452	340	288	298	420	901	2280	624	179	233	31
11	30	452	305	309	142	419	1290	2280	716	174	198	31



		854 MAX 3680 MIN 27 MEAN 840 CFSM .68 IN 9.28										
		TOTAL 212989 MEAN 584 MAX 3040 MIN 27 MEAN 584 CFSM .48 IN 6.45										

+ Change in contents, equivalent in cubic feet per second, in Camp Six, Bald Eagle, Gabbro, Little Gabbro, Birch, White Iron, Farm, South Farm, and

Garden Lakes.

Adjusted for change in reservoir contents.

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	887	758	590	453	350	378	1206	3123	1928	1152	683	734
MAX	4277	3572	1422	862	770	844	5020	9278	5661	2748	3775	3149
(WY)	1947	1971	1983	1978	1927	1945	1945	1950	1968	1944	1988	1928
MIN	66.5	8.97	76.1	80.3	74.5	103	19.3	111	519	217	51.7	38.1
(WY)	1924	1924	1977	1977	1977	1924	1924	1924	1980	1961	1919	1919
<b>SUMMARY STATISTICS</b>			<b>FOR 1997 CALENDAR</b>			<b>FOR 1998 WATER YEAR</b>			<b>WATER YEARS 1905 - 1998</b>			

	YEAR						
ANNUAL TOTAL	311716		212989				
ANNUAL MEAN	854		584		1031		
HIGHEST ANNUAL MEAN					1967		1950
LOWEST ANNUAL MEAN					240		1924
HIGHEST DAILY MEAN	3680	May 22	3040	Apr 28	16000	May 18	1950
LOWEST DAILY MEAN	27	Oct 21	27	Oct 21	.00a	Aug 24	1905
ANNUAL SEVEN-DAY MINIMUM	27	Oct 21	27	Oct 21	.00	Oct 13	1923
ANNUAL RUNOFF (AC-FT)	618300		422500		746600		
ANNUAL RUNOFF (CFSM)	.69		.47		.84		
ANNUAL RUNOFF (INCHES)	9.44		6.45		11.39		
10 PERCENT EXCEEDS	2570		1680		2430		
50 PERCENT EXCEEDS	494		336		592		
90 PERCENT EXCEEDS	140		59		192		

a Many days, several years.

