

05267000 MISSISSIPPI RIVER NEAR ROYALTON, MN

LOCATION.--Lat 45°49'34", long 94°21'18", sec. 32, T. 39 N., R. 32 W., Morrison County, Hydrologic Unit 07010201, on left bank at upstream side of bridge on County Highway 26, 2.5 mi west of Royalton, and at mile 954 upstream from Ohio River.

DRAINAGE AREA.--11,600 mi² (approximately).

PERIOD OF RECORD.--March 1924 to Sept. 30, 1993, discharges obtained from Minnesota Power and adjusted to U.S. Geological Survey streamflow measurements; Oct. 1993 to Sept. 30, 2000, discharges flow-averaged between Mississippi River at Ft. Ripley (05261000) and Mississippi River at St. Cloud (05270700); Oct. 2000 to July, 2001, discharges obtained from Minnesota Power and adjusted to U.S. Geological Survey streamflow measurements; July 2001 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records good to fair except those for estimated days, which are fair to poor. Flow partly regulated by power plants and Winnibigoshish, Leech, Pokegama, Sandy, and Gull Lakes and by Pine River Reservoir.

COOPERATION.--Minnesota Power Co. in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6,780	6,990	3,990	e4,000	e3,550	e3,270	11,100	8,830	13,300	11,100	4,380	2,740
2	6,800	7,030	3,970	e3,960	e3,600	e3,270	12,900	8,480	13,000	10,600	3,840	2,440
3	6,780	7,400	3,920	e3,940	e3,640	e3,260	13,500	7,650	12,800	10,400	4,050	2,610
4	6,940	7,290	4,430	e3,910	e3,610	e3,270	13,500	7,290	12,700	9,960	3,830	2,610
5	6,700	7,350	4,070	e3,890	e3,610	e3,350	14,200	7,060	12,900	9,660	3,700	2,600
6	6,710	7,290	3,850	e3,870	e3,610	e3,360	14,100	6,610	12,600	9,310	3,540	2,830
7	6,530	7,160	4,120	e3,830	e3,610	e3,410	13,600	6,370	12,800	8,890	3,670	2,800
8	6,460	6,930	4,030	e3,790	e3,630	e3,420	13,500	5,950	13,300	8,600	3,450	2,790
9	6,200	6,940	4,710	e3,780	e3,630	e3,420	13,100	5,870	13,600	8,010	3,360	2,590
10	5,940	6,820	4,900	e3,760	e3,630	e3,560	13,200	5,700	14,000	7,630	3,790	2,780
11	5,410	6,640	4,910	e3,740	e3,670	e3,430	13,600	5,650	14,100	7,010	3,300	2,710
12	5,300	6,420	4,760	e3,710	e3,680	e3,400	14,300	5,540	14,700	6,910	3,550	2,880
13	5,610	6,260	4,360	e3,690	e3,680	e3,330	15,200	6,000	15,000	6,670	3,090	3,480
14	5,320	6,250	3,960	e3,680	e3,670	e3,320	15,400	5,830	15,300	5,940	3,250	3,300
15	5,080	6,200	3,550	e3,660	e3,620	e3,270	15,500	6,510	16,000	6,090	2,850	3,600
16	4,930	5,990	4,060	e3,670	e3,580	e3,260	15,500	5,960	16,200	5,810	2,970	3,390
17	5,030	5,940	e4,100	e3,560	e3,530	e3,260	15,200	6,220	16,000	e5,210	2,830	3,760
18	5,220	5,960	3,860	e3,550	e3,500	e3,260	15,100	6,540	15,500	e5,240	3,180	3,550
19	5,330	5,980	3,340	e3,600	e3,460	e3,280	14,700	6,690	14,700	e5,140	3,030	3,870
20	5,120	5,940	e3,500	e3,590	e3,410	e3,310	14,700	6,540	14,200	e4,900	2,790	3,770
21	5,100	5,850	e3,450	e3,530	e3,390	e3,350	14,300	6,830	14,000	4,660	2,840	3,420
22	5,040	5,800	e3,440	e3,580	e3,350	3,560	13,900	7,300	13,600	4,650	2,790	3,290
23	5,250	6,030	e3,430	e3,580	e3,330	3,560	13,500	7,050	13,800	4,420	2,500	3,090
24	5,180	6,030	e3,420	e3,580	e3,310	3,840	12,900	7,420	13,400	4,360	2,390	3,110
25	5,460	5,380	e3,500	e3,560	e3,320	3,920	12,400	7,700	12,800	4,310	2,530	3,260
26	6,200	5,100	e3,190	e3,570	e3,300	4,250	12,000	8,900	12,000	4,720	2,880	3,000
27	5,920	5,180	e3,320	e3,580	e3,280	4,940	11,000	10,300	11,200	3,870	2,910	3,070
28	5,870	5,610	e3,360	e3,560	e3,270	5,700	10,500	12,300	10,600	4,560	2,690	2,940
29	5,980	4,910	e3,390	e3,570	---	6,150	10,200	13,000	9,790	4,360	2,900	2,700
30	6,520	4,770	e3,470	e3,610	---	7,550	9,860	13,400	10,500	4,220	2,660	2,720
31	6,690	---	e3,690	e3,640	---	10,200	---	13,500	---	4,110	2,730	---
TOTAL	181,400	187,440	120,050	114,540	98,470	123,730	402,460	238,990	404,390	201,320	98,270	91,700
MEAN	5,852	6,248	3,873	3,695	3,517	3,991	13,420	7,709	13,480	6,494	3,170	3,057
MAX	6,940	7,400	4,910	4,000	3,680	10,200	15,500	13,500	16,200	11,100	4,380	3,870
MIN	4,930	4,770	3,190	3,530	3,270	3,260	9,860	5,540	9,790	3,870	2,390	2,440
AC-FT	359,800	371,800	238,100	227,200	195,300	245,400	798,300	474,000	802,100	399,300	194,900	181,900
CFSM	0.50	0.54	0.33	0.32	0.30	0.34	1.16	0.66	1.16	0.56	0.27	0.26
IN.	0.58	0.60	0.38	0.37	0.32	0.40	1.29	0.77	1.30	0.65	0.32	0.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2005, BY WATER YEAR (WY)

MEAN	4,190	4,072	3,197	2,809	2,690	3,877	9,328	8,667	6,611	5,073	3,714	3,572
MAX	12,930	14,640	7,297	5,713	5,480	12,290	25,430	24,600	18,160	15,250	15,230	12,940
(WY)	(1966)	(1972)	(1997)	(1966)	(1997)	(1966)	(1997)	(1950)	(1965)	(1993)	(1953)	(1986)
MIN	632	618	627	534	758	968	1,924	1,663	1,071	648	449	535
(WY)	(1937)	(1937)	(1935)	(1935)	(1937)	(1940)	(1931)	(1977)	(1988)	(1988)	(1934)	(1934)

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1924 - 2005	
ANNUAL TOTAL	1,465,840		2,262,760			
ANNUAL MEAN	4,005		6,199		4,842	
HIGHEST ANNUAL MEAN					9,555	1966
LOWEST ANNUAL MEAN					1,213	1934
HIGHEST DAILY MEAN	7,900	Apr 5	16,200	Jun 16	38,200	Apr 8, 1997
LOWEST DAILY MEAN	1,340	Aug 21	2,390	Aug 24	254	Nov 25, 1936
ANNUAL SEVEN-DAY MINIMUM	1,460	Aug 21	2,630	Aug 30	358	Sep 3, 1936
MAXIMUM PEAK FLOW			a16,500	Jun 15		
MAXIMUM PEAK STAGE			a13.42	Jun 15		
INSTANTANEOUS LOW FLOW			a1,910	Sep 2		
ANNUAL RUNOFF (AC-FT)	2,907,000		4,488,000		3,508,000	
ANNUAL RUNOFF (CFSM)	0.345		0.534		0.417	
ANNUAL RUNOFF (INCHES)	4.70		7.26		5.67	
10 PERCENT EXCEEDS	6,810		13,400		9,850	
50 PERCENT EXCEEDS	3,710		4,660		3,560	
90 PERCENT EXCEEDS	1,780		3,150		1,360	

a Due in part to regulation.
 e Estimated.

