

## UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05243725 STRAIGHT RIVER NEAR PARK RAPIDS, MN

LOCATION.--Lat 46°52'30", long 95°03'56", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 11, T. 139 N., R. 35 W., Hubbard County, Hydrologic Unit 07010106, upstream from culvert on U.S. Highway 71, 3.2 mi south of Park Rapids.

DRAINAGE AREA.--53.2 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1970-71, 1973, 1975-76. October 1986 to current year (no winter records in 1987, 1990-91). May 1988 through August 1989, records of hourly water temperature (available in files of the Geological Survey).

GAGE.--Water-stage recorder. Datum of gage is 1,399.55 ft above sea level (NGVD of 1929, levels by Minnesota Department of Natural Resources).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuations in flow due to groundwater withdrawals.

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	57	67	e77	e52	e47	e57	63	82	81	60	54	55
2	57	77	e80	e53	e47	e58	64	81	87	61	54	52
3	56	79	e78	e54	e47	e59	64	80	82	59	54	53
4	55	78	e66	e54	e47	e60	66	79	78	58	53	52
5	55	74	e70	e55	e47	e62	69	77	79	56	53	51
6	55	71	e71	e55	e47	e62	72	79	80	58	52	51
7	54	73	e72	e55	e47	e62	101	85	79	56	52	60
8	54	72	e69	e54	e47	e61	103	83	81	55	53	62
9	53	67	e64	e54	e47	e61	93	81	82	54	59	63
10	53	63	e58	e53	e47	e61	91	81	84	54	58	62
11	53	60	e53	e52	e47	e60	91	80	83	56	56	59
12	54	58	e52	e52	e47	e60	100	78	82	53	56	58
13	54	58	e52	e51	e48	61	96	77	77	53	54	56
14	59	57	e52	e51	e48	60	94	75	78	53	52	56
15	62	56	e52	e51	e48	e61	93	76	80	55	57	56
16	63	54	e51	e50	e48	e61	89	77	79	54	59	56
17	61	53	e51	e50	e48	60	86	76	77	52	58	55
18	61	e51	e51	e50	e49	61	84	82	75	54	60	55
19	59	e45	e51	e49	e50	63	81	93	74	56	58	55
20	58	e48	e51	e49	e50	64	80	92	71	57	58	55
21	57	e56	e51	e48	e51	64	79	95	69	56	56	55
22	56	e62	e50	e48	e51	65	79	95	67	57	56	56
23	55	e68	e50	e47	e52	64	86	100	66	57	56	56
24	55	e70	e49	e47	e52	e63	91	98	65	56	55	60
25	55	e70	e49	e47	e53	e64	91	95	64	54	54	57
26	57	e70	e49	e47	e54	e64	89	96	63	55	57	54
27	60	e69	e49	e47	e54	e64	86	93	62	54	54	53
28	60	e69	e49	e47	e56	63	84	90	61	54	54	54
29	57	e70	e49	e47	---	62	81	87	60	55	55	53
30	56	e73	e49	e47	---	63	82	80	61	56	55	52
31	56	---	e50	e47	---	64	---	79	---	53	54	---
TOTAL	1757	1938	1765	1563	1376	1914	2528	2622	2227	1721	1716	1672
MEAN	56.7	64.6	56.9	50.4	49.1	61.7	84.3	84.6	74.2	55.5	55.4	55.7
MAX	63	79	80	55	56	65	103	100	87	61	60	63
MIN	53	45	49	47	47	57	63	75	60	52	52	51
AC-FT	3490	3840	3500	3100	2730	3800	5010	5200	4420	3410	3400	3320
CFSM	1.07	1.21	1.07	.95	.92	1.16	1.58	1.59	1.40	1.04	1.04	1.05
IN.	1.23	1.36	1.23	1.09	.96	1.34	1.77	1.83	1.56	1.20	1.20	1.17

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	63.7	65.3	61.6	56.3	56.6	63.8	72.9	68.0	61.2	58.9	56.2	59.8
MAX	83.1	77.6	74.5	77.7	69.8	76.8	101	86.6	76.1	81.5	81.2	81.4
(WY)	1996	1998	1995	1999	1998	1995	1997	1999	1999	1997	1999	1999
MIN	42.2	47.4	46.0	41.9	44.8	50.9	56.1	46.2	41.9	39.5	35.9	38.7
(WY)	1993	1989	1989	1992	1992	1989	1991	1992	1992	1988	1990	1990

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1987 - 2001

ANNUAL TOTAL	23043	22799	
ANNUAL MEAN	63.0	62.5	63.2
HIGHEST ANNUAL MEAN			78.3
LOWEST ANNUAL MEAN			48.0
HIGHEST DAILY MEAN	82	Mar 9	144
LOWEST DAILY MEAN	45	Nov 19	28q
ANNUAL SEVEN-DAY MINIMUM	49	Dec 24	34
MAXIMUM PEAK FLOW			149
MAXIMUM PEAK STAGE			2.53c
INSTANTANEOUS LOW FLOW			41
ANNUAL RUNOFF (AC-FT)	45710	45220	45810
ANNUAL RUNOFF (CFSM)	1.18	1.17	1.19
ANNUAL RUNOFF (INCHES)	16.11	15.94	16.15
10 PERCENT EXCEEDS	72	82	79
50 PERCENT EXCEEDS	64	57	61
90 PERCENT EXCEEDS	54	49	45

- a Estimated, result of freezeup.
- b Gage-height, 2.16 ft.
- c Backwater from ice.
- e Estimated.

