

UPPER MISSISSIPPI RIVER MAIN STEM--Continued

05243725 STRAIGHT RIVER NEAR PARK RAPIDS, MN

LOCATION.--Lat 46°52'30", long 95°03'56", in NW¹/₄NE¹/₄ 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 mi².

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 ground-water withdrawals.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	58	64	e64	e63	e58	56	58	53	56	60	74
2	53	57	63	e64	e63	e58	57	57	53	55	59	71
3	53	57	62	e64	e63	e59	56	56	52	54	59	67
4	52	57	62	e64	e63	e59	56	56	52	52	57	64
5	52	57	63	e64	e63	e58	56	56	52	49	55	64
6	52	57	62	e64	e63	e58	56	56	50	49	55	60
7	51	58	64	e64	e63	e58	57	55	50	53	53	60
8	51	58	61	e64	e63	e58	58	60	50	61	54	58
9	51	58	65	e63	e62	e58	57	67	50	62	56	60
10	61	57	62	e62	e61	e58	59	63	49	67	62	60
11	67	57	61	e62	e61	e58	62	62	50	65	60	59
12	64	58	61	e62	e60	e59	61	63	51	62	68	57
13	65	58	61	e62	e60	e59	62	62	50	59	68	57
14	67	58	61	e61	e59	e58	63	61	50	57	69	56
15	67	58	61	e61	57	e57	62	60	49	55	69	55
16	64	59	63	e61	57	57	62	60	48	54	69	53
17	61	59	63	e61	56	56	67	59	47	54	69	52
18	59	59	62	e61	57	56	68	58	49	54	66	55
19	58	59	58	e61	57	56	67	57	66	53	63	57
20	57	58	e56	e61	57	56	65	57	65	55	62	57
21	56	58	e57	e61	57	55	62	58	61	55	63	58
22	55	59	e59	e61	57	e56	61	60	58	54	61	58
23	55	59	e61	e61	58	e58	60	61	93	54	61	60
24	59	62	e63	e62	57	e57	60	62	103	57	60	61
25	62	65	e64	e62	57	e56	59	60	96	59	58	61
26	61	63	e64	e62	e58	55	58	58	89	60	57	59
27	59	49	e64	e62	e58	55	58	57	80	65	57	59
28	57	e60	e64	e62	e58	57	60	56	72	65	60	59
29	57	e70	e64	e62	---	58	59	55	64	61	77	59
30	57	e67	e64	e62	---	57	60	55	60	58	81	57
31	57	---	e64	e62	---	57	---	54	---	57	75	---
TOTAL	1793	1769	1923	1929	1668	1775	1804	1819	1812	1771	1943	1787
MEAN	57.8	59.0	62.0	62.2	59.6	57.3	60.1	58.7	60.4	57.1	62.7	59.6
MAX	67	70	65	64	63	59	68	67	103	67	81	74
MIN	51	49	56	61	56	55	56	54	47	49	53	52
AC-FT	3560	3510	3810	3830	3310	3520	3580	3610	3590	3510	3850	3540
CFSM	1.09	1.11	1.17	1.17	1.12	1.08	1.13	1.10	1.14	1.07	1.18	1.12
IN.	1.25	1.24	1.34	1.35	1.17	1.24	1.26	1.27	1.27	1.24	1.36	1.25

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	63.3	64.8	61.7	56.8	56.8	63.3	72.0	67.4	61.2	58.8	56.6	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 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1987 - 2002

ANNUAL TOTAL	22824	21793	
ANNUAL MEAN	62.5	59.7	63.0
HIGHEST ANNUAL MEAN			78.3
LOWEST ANNUAL MEAN			48.0
HIGHEST DAILY MEAN	103	Apr 8	144
LOWEST DAILY MEAN	47	Jan 23	28a
ANNUAL SEVEN-DAY MINIMUM	47	Jan 23	34
MAXIMUM PEAK FLOW			108b
MAXIMUM PEAK STAGE			2.53c
INSTANTANEOUS LOW FLOW			40d
ANNUAL RUNOFF (AC-FT)	45270	43230	45610
ANNUAL RUNOFF (CFSM)	1.18	1.12	1.18
ANNUAL RUNOFF (INCHES)	15.96	15.24	16.08
10 PERCENT EXCEEDS	82	65	79
50 PERCENT EXCEEDS	59	59	62
90 PERCENT EXCEEDS	50	54	46

- a Estimated, result of freezeup.
- b Gage height, 2.17 ft.
- c Backwater from ice.
- d Result of freezeup.
- e Estimated.

