

## 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 ground-water withdrawals.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	49	e39	e38	e38	e48	57	43	62	40	42	39
2	39	48	e39	e38	e38	e49	56	43	61	43	41	37
3	38	48	e41	e39	e38	49	56	43	58	43	41	37
4	40	49	e42	e39	e38	50	55	42	55	47	38	38
5	41	50	e42	e39	e38	49	55	42	53	48	39	56
6	41	e47	e41	e39	e38	49	55	47	51	51	40	65
7	44	e46	e41	e39	e39	49	54	49	49	55	43	69
8	44	e46	e41	e40	e39	49	52	46	48	55	43	67
9	44	e47	e40	e41	e40	48	51	46	47	51	43	63
10	43	e50	e37	e42	e40	48	50	45	46	51	44	58
11	44	e52	e37	e42	e40	e43	49	45	45	51	41	55
12	46	50	e37	e42	e40	e50	49	67	45	52	41	53
13	45	49	e38	e42	e41	e48	48	72	45	50	42	51
14	45	47	e39	e42	e41	e47	48	64	45	47	45	48
15	44	46	e40	e42	e42	e47	48	60	45	46	42	55
16	44	47	e40	e41	e42	47	47	57	45	43	42	64
17	43	48	e40	e39	e43	47	46	62	45	44	42	65
18	43	48	e41	e38	e43	48	46	60	44	43	43	61
19	44	47	e40	e38	e44	47	46	57	43	43	40	57
20	45	47	e40	e38	e44	48	46	59	43	44	38	67
21	44	46	e41	e38	e45	47	48	55	44	43	36	75
22	45	46	e41	e38	e45	48	46	53	43	43	38	80
23	44	35	e40	e38	e45	47	46	51	43	41	39	82
24	45	e40	e40	e38	e46	47	45	52	45	39	38	84
25	45	e44	e40	e38	e46	49	44	56	43	38	39	80
26	45	e45	e40	e38	e46	51	44	54	41	38	39	74
27	45	e43	e40	e38	e47	54	44	52	42	37	39	69
28	50	e43	e39	e38	e47	64	44	51	42	41	37	64
29	52	e42	e39	e38	e47	61	44	49	43	40	38	61
30	50	e41	e38	e38	---	57	44	53	42	41	39	58
31	50	---	e38	e38	---	57	---	58	---	42	41	---
TOTAL	1,370	1,386	1,231	1,216	1,220	1,542	1,463	1,633	1,403	1,390	1,253	1,832
MEAN	44.2	46.2	39.7	39.2	42.1	49.7	48.8	52.7	46.8	44.8	40.4	61.1
MAX	52	52	42	42	47	64	57	72	62	55	45	84
MIN	38	35	37	38	38	43	44	42	41	37	36	37
AC-FT	2,720	2,750	2,440	2,410	2,420	3,060	2,900	3,240	2,780	2,760	2,490	3,630
CFSM	0.83	0.87	0.75	0.74	0.79	0.93	0.92	0.99	0.88	0.84	0.76	1.15
IN.	0.96	0.97	0.86	0.85	0.85	1.08	1.02	1.14	0.98	0.97	0.88	1.28

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2004, BY WATER YEAR (WY)

MEAN	62.1	62.8	59.1	54.8	55.0	61.4	69.6	66.2	60.3	57.5	54.7	58.7
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	46.2	39.7	39.2	42.1	48.8	48.8	46.2	41.9	39.5	35.9	38.0
(WY)	(1993)	(2004)	(2004)	(2004)	(2004)	(2003)	(2004)	(1992)	(1992)	(1988)	(1990)	(2003)

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SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1987 - 2004	
ANNUAL TOTAL	17,271		16,939		61.0	
ANNUAL MEAN	47.3		46.3		78.3	
HIGHEST ANNUAL MEAN					1999	
LOWEST ANNUAL MEAN					2004	
HIGHEST DAILY MEAN	81	Jun 26	84	Sep 24	144	Apr 6, 1997
LOWEST DAILY MEAN	34	Aug 15	a35	Nov 23	b28	Jan 9, 1992
ANNUAL SEVEN-DAY MINIMUM	35	Aug 13	38	Jan 18	34	Aug 5, 1990
MAXIMUM PEAK FLOW			c87	Sep 24	149	Apr 6, 1997
MAXIMUM PEAK STAGE			d2.77	Feb 29	d3.42	Mar 15, 2003
INSTANTANEOUS LOW FLOW			a21	Nov 23	a21	Nov 23, 2003
ANNUAL RUNOFF (AC-FT)	34,260		33,600		44,170	
ANNUAL RUNOFF (CFSM)	0.889		0.870		1.15	
ANNUAL RUNOFF (INCHES)	12.08		11.84		15.57	
10 PERCENT EXCEEDS	59		57		78	
50 PERCENT EXCEEDS	45		44		60	
90 PERCENT EXCEEDS	38		38		44	

- a Result of freezeup.
- b Estimated, result of freezeup.
- c Gage height, 1.86 ft.
- d Backwater from ice.
- e Estimated.

