

Water-Data Report 2009

05243725 STRAIGHT RIVER NEAR PARK RAPIDS, MN

Mississippi Headwaters Basin
Crow Wing Subbasin

LOCATION.--Lat 46°52'30", long 95°03'56" referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.11, T.139 N., R.35 W., Hubbard County, MN, Hydrologic Unit 07010106, upstream from culvert on U.S. Highway 71, 3.2 mi south of Park Rapids.

DRAINAGE AREA.--53.2 mi².

SURFACE-WATER RECORDS

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 to fair except those for estimated daily discharges, which are fair to poor. Diurnal fluctuations in flow due to ground-water withdrawals.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	45	63	e66	e65	e49	e34	99	86	80	55	58	54
2	44	63	e84	e63	e47	e35	96	83	78	52	58	54
3	43	63	e83	e62	e46	e38	93	84	76	50	57	55
4	42	64	e82	e61	e46	e42	91	87	76	50	53	55
5	43	67	e81	e60	e45	e55	89	86	e74	50	50	55
6	52	70	e81	e59	e49	e48	87	86	e72	48	50	57
7	67	77	e79	e59	e47	e47	87	84	e69	46	48	59
8	74	77	e79	e58	e52	e53	89	81	e65	45	54	59
9	75	74	e79	e57	e50	e51	91	78	e59	47	53	60
10	75	71	e78	e57	e54	e50	91	75	e57	50	49	60
11	79	69	e78	e56	e50	e48	93	74	e51	49	49	61
12	84	69	e78	e54	e47	e47	98	75	e49	50	50	62
13	88	70	e77	e53	e44	e45	100	84	e47	49	49	60
14	90	71	e76	e52	e42	e48	101	86	e44	51	47	60
15	90	72	e76	e51	e41	e53	102	83	e47	55	56	59
16	86	71	e75	e50	e39	e55	102	79	57	51	66	58
17	79	71	e75	e49	e38	e54	102	e78	60	51	68	57
18	71	e64	e74	e49	e37	e53	101	e79	61	48	66	56
19	66	e60	e73	e50	e37	e50	98	81	66	46	62	55
20	61	e59	e73	e50	e36	e53	97	82	67	49	63	53
21	59	e59	e72	e51	e36	e60	94	80	66	55	63	54
22	60	e62	e72	e52	e36	e75	90	79	71	54	62	56
23	61	e71	e72	e51	e35	160	88	77	68	54	60	55
24	64	e69	e71	e50	e38	180	87	76	65	61	59	53
25	66	e70	e70	e50	e36	166	85	76	62	66	58	52
26	69	e73	e70	e50	e35	143	82	75	59	66	57	52
27	68	e68	e69	e49	e34	130	83	81	64	64	57	52
28	67	e67	e69	e49	e34	120	82	85	62	62	58	52
29	64	e66	e68	e49	---	110	82	83	60	60	56	50
30	64	e66	e67	e49	---	103	87	81	58	58	55	50
31	63	---	e66	e53	---	100	---	79	---	56	54	---
Total	2,059	2,036	2,313	1,668	1,180	2,306	2,767	2,503	1,890	1,648	1,745	1,675
Mean	66.4	67.9	74.6	53.8	42.1	74.4	92.2	80.7	63.0	53.2	56.3	55.8
Max	90	77	84	65	54	180	102	87	80	66	68	62
Min	42	59	66	49	34	34	82	74	44	45	47	50
Ac-ft	4,080	4,040	4,590	3,310	2,340	4,570	5,490	4,960	3,750	3,270	3,460	3,320
Cfs/m	1.25	1.28	1.40	1.01	0.79	1.40	1.73	1.52	1.18	1.00	1.06	1.05
In.	1.44	1.42	1.62	1.17	0.83	1.61	1.93	1.75	1.32	1.15	1.22	1.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	61.7	61.9	59.0	53.8	53.3	61.3	70.0	66.3	60.4	55.6	53.3	57.1
Max	83.1	77.6	74.6	77.7	69.8	76.8	101	86.6	76.1	81.5	81.2	81.4
(WY)	(1996)	(1998)	(2009)	(1999)	(1998)	(1995)	(1997)	(1999)	(1999)	(1997)	(1999)	(1999)
Min	42.2	44.0	39.7	39.2	40.3	48.8	48.8	46.2	41.9	38.3	35.9	38.0
(WY)	(1993)	(2008)	(2004)	(2004)	(2008)	(2003)	(2004)	(1992)	(1992)	(2006)	(1990)	(2003)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1987 - 2009	
Annual total	21,969		23,790			
Annual mean	60.0		65.2		60.0	
Highest annual mean					78.3	1999
Lowest annual mean					46.3	2004
Highest daily mean	93	Jun 7	180	Mar 24	180	Mar 24, 2009
Lowest daily mean	36	Feb 6	^a 34	Feb 27	^b 28	Jan 9, 1992
Annual seven-day minimum	36	Feb 6	35	Feb 23	34	Aug 3, 2006
Maximum peak flow			^c 182	Mar 24	182	Mar 24, 2009
Maximum peak stage			^d 2.94	Feb 10	^d 3.47	Feb 2, 2007
Instantaneous low flow			^e 34	Feb 27	^f 16	Nov 27, 2007
Annual runoff (ac-ft)	43,580		47,190		43,470	
Annual runoff (cfsm)	1.13		1.23		1.13	
Annual runoff (inches)	15.36		16.64		15.32	
10 percent exceeds	78		87		78	
50 percent exceeds	60		61		58	
90 percent exceeds	43		47		44	

^a Estimated, backwater from ice. Also occurred Feb. 28 and Mar. 1.

^b Estimated, result of freezeup.

^c Gage-height, 2.59 ft.

^d Backwater from ice.

^e Estimated daily-mean, backwater from ice.

^f Result of freezeup.

