



Water-Data Report 2009

05134200 RAPID RIVER NEAR BAUDETTE, MN

Rainy Basin
Rapid Subbasin

LOCATION.--Lat 48°32'10", long 94°33'45" referenced to North American Datum of 1927, Lake of the Woods County, MN, Hydrologic Unit 09030007, on left bank 20 ft upstream from bridge on State Highway 72, 1.2 mi downstream from North Branch Rapid River, and 12 mi south of Baudette.

DRAINAGE AREA.--543.00 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1956 to September 1985, September 2007 to current year.

REVISED RECORDS.--Unpublished, 2009: 1968(M).

GAGE.--Water-stage recorder. Datum of gage is 1,093.92 ft above National Geodetic Vertical Datum of 1929 (Minnesota Department of Transportation benchmark).

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 11, 2002, reached a stage of 24.34 ft, from highwater mark; discharge approximately 8,700 ft³/s, from rating extended beyond 18.0 ft.

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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	20	502	e127	e35	e23	e15	e1,300	1,990	1,060	157	67	37
2	17	472	e116	e35	e23	e15	e1,240	1,950	1,020	137	81	31
3	15	447	e105	e35	e22	e15	e1,220	1,830	938	118	75	26
4	16	430	e96	e35	e21	e14	e1,200	1,700	840	103	68	22
5	12	487	e86	e35	e19	e14	e1,190	1,580	749	89	68	19
6	9.7	914	e75	e35	e19	e14	e1,220	1,490	675	70	48	15
7	11	1,300	e68	e35	e18	e15	e1,260	1,430	602	60	42	13
8	13	1,340	e67	e35	e17	e15	e1,330	1,360	548	54	36	10
9	25	1,260	e64	e35	e17	e15	e1,490	1,280	538	48	34	15
10	37	1,170	e62	e35	e16	e16	e1,750	1,200	541	45	31	14
11	50	1,050	e60	e35	e16	e16	e2,160	1,130	517	36	29	19
12	194	982	e59	e35	e16	e17	e2,580	1,060	484	31	25	15
13	529	924	e58	e34	e16	e17	e2,860	1,070	460	25	22	17
14	697	931	e57	e34	e17	e18	3,010	1,150	435	28	18	19
15	722	e870	e52	e34	e18	e25	3,230	1,160	390	34	29	18
16	737	e750	e52	e33	e19	e36	3,420	1,150	340	35	101	17
17	732	e630	e50	e32	e19	e50	3,570	1,120	307	46	246	13
18	690	e525	e49	e32	e19	e65	3,680	1,050	297	57	309	13
19	648	e560	e48	e31	e19	e85	3,570	957	283	52	284	14
20	594	e510	e46	e31	e19	e100	3,290	880	283	47	244	19
21	530	e460	e45	e29	e18	e130	3,000	818	275	50	215	22
22	511	e420	e43	e28	e18	e175	2,750	762	258	57	190	24
23	545	e370	e42	e28	e17	e250	2,540	715	241	55	159	29
24	582	e330	e41	e27	e17	e470	2,370	669	230	57	134	32
25	611	e260	e40	e26	e16	e650	2,230	624	200	77	115	39
26	633	e250	e38	e26	e16	e750	2,090	931	166	81	101	38
27	650	e215	e37	e25	e16	e900	1,980	1,390	153	73	85	32
28	628	e185	e36	e24	e15	e1,400	1,940	1,410	167	57	74	28
29	588	e165	e36	e24	---	e1,560	1,880	1,340	182	47	63	45
30	556	e143	e36	e24	---	e1,440	1,910	1,220	173	46	51	48
31	527	---	e36	e24	---	e1,330	---	1,090	---	58	43	---
Total	12,129.7	18,852	1,827	966	506	9,632	67,260	37,506	13,352	1,930	3,087	703
Mean	391	628	58.9	31.2	18.1	311	2,242	1,210	445	62.3	99.6	23.4
Max	737	1,340	127	35	23	1,560	3,680	1,990	1,060	157	309	48
Min	9.7	143	36	24	15	14	1,190	624	153	25	18	10
Ac-ft	24,060	37,390	3,620	1,920	1,000	19,110	133,400	74,390	26,480	3,830	6,120	1,390
Cfs/m	0.72	1.16	0.11	0.06	0.03	0.57	4.13	2.23	0.82	0.11	0.18	0.04
In.	0.83	1.29	0.13	0.07	0.03	0.66	4.61	2.57	0.91	0.13	0.21	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	378	226	59.2	20.9	12.7	58.4	1,000	820	582	346	173	233
Max	1,725	851	275	124	46.1	311	3,291	2,022	1,646	1,468	1,335	950
(WY)	(1983)	(1972)	(1978)	(1966)	(1966)	(2009)	(1966)	(1962)	(1985)	(1968)	(1962)	(1973)
Min	1.40	1.00	0.09	0.00	0.00	1.64	82.4	56.3	14.8	3.12	1.18	1.31
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1958)	(1958)	(1980)	(1961)	(1961)	(1976)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1957 - 2009	
Annual total	83,509.0		167,750.7			
Annual mean	228		460		326	
Highest annual mean					632	1966
Lowest annual mean					80.8	1977
Highest daily mean	1,340	Nov 8	3,680	Apr 18	7,460	Jun 26, 1985
Lowest daily mean	4.0	Feb 16	9.7	Oct 6	^a 0.00	Dec 20, 1976
Annual seven-day minimum	4.2	Feb 14	13	Oct 2	0.00	Dec 20, 1976
Maximum peak flow			3,690	Apr 18	7,580	Jun 26, 1985
Maximum peak stage			12.74	Apr 18	22.78	Jun 26, 1985
Instantaneous low flow			8.5	Oct 6	0.00	Dec 20, 1976
Annual runoff (ac-ft)	165,600		332,700		236,300	
Annual runoff (cfsm)	0.420		0.846		0.601	
Annual runoff (inches)	5.72		11.49		8.16	
10 percent exceeds	723		1,340		958	
50 percent exceeds	50		73		72	
90 percent exceeds	5.7		17		6.0	

^a Dec. 20, 1976 to Mar. 9, 1977.

