

Water-Data Report 2009

05076000 THIEF RIVER NEAR THIEF RIVER FALLS, MN

Lower Red Basin
Thief Subbasin

LOCATION.--Lat 48°11'08", long 96°10'11" referenced to North American Datum of 1927, in NW ¼ SW ¼ sec.3, T.154 N., R.43 W., Marshall County, MN, Hydrologic Unit 09020304, on right bank, 0.2 mi upstream from highway bridge, 5 mi north of Thief River Falls, 7 mi upstream from mouth, and 9 mi downstream from Mud Lake National Wildlife Refuge.

DRAINAGE AREA.--985 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1909 to September 1917, April 1920 to September 1921, October 1922 to September 1924, October 1928 to September 1981, March 1982 to current year. Monthly discharge only for some periods, annual maximums for water years 1919, 1922, 1925, 1926, published in WSP 1308. October 1981 to February 1982, operated as a high-flow partial-record station.

REVISED RECORDS.--WSP 925: Drainage area. WSP 1308: 1917(M), 1924(M), 1929(M), 1931-33(M), 1935(M), 1937(M). 1913(M).

GAGE.--Water-stage recorder and control of grouted boulders. Datum of gage is 1,112.33 ft above sea level (NGVD of 1929, levels by Minnesota Department of Transportation). Prior to May 4, 1939, non-recording gages at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Thief and Mud Lakes.

05076000 THIEF RIVER NEAR THIEF RIVER FALLS, MN—Continued

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	38	257	e108	e22	e8.7	e3.9	e2,760	1,670	1,220	1,360	66	75
2	43	259	e102	e21	e8.2	e3.8	e2,880	1,630	1,100	816	55	71
3	37	264	e99	e20	e7.5	e3.8	e2,930	1,540	1,040	517	46	67
4	36	272	e94	e19	e7.5	e3.7	e2,940	1,450	972	431	37	58
5	35	256	e82	e17	e8.0	e3.9	e2,920	1,300	787	305	32	53
6	48	317	e68	e19	e8.0	e3.7	2,870	1,140	639	244	29	49
7	69	453	e56	e18	e7.4	e3.6	2,780	998	478	194	27	43
8	64	467	e48	e18	e7.6	e3.6	2,740	864	357	157	28	42
9	58	416	e41	e18	e8.0	e3.6	2,830	954	351	144	26	50
10	51	e377	e41	e18	e9.1	e3.5	2,780	953	379	126	24	51
11	57	e352	e40	e17	e9.8	e3.6	2,680	944	377	110	21	54
12	287	e331	e38	e17	e9.2	e3.3	2,620	934	497	106	18	52
13	547	320	e36	e15	e8.4	e3.4	2,570	1,010	420	101	15	46
14	541	328	e34	e14	e8.0	e3.6	2,560	1,030	419	90	13	43
15	482	325	e32	e13	e7.3	e3.8	2,470	1,080	411	117	24	41
16	436	323	e30	e12	e6.9	e9.0	2,370	1,080	398	201	72	39
17	374	e310	e30	e13	e6.3	e26	2,260	1,050	373	115	166	39
18	327	e277	e29	e12	e5.8	e64	2,140	1,020	328	154	199	34
19	296	e255	e28	e12	e5.6	e96	2,010	986	314	141	177	33
20	269	e215	e27	e12	e5.4	e136	1,890	919	316	123	176	31
21	248	e179	e26	e11	e5.1	e466	1,750	848	294	36	146	32
22	247	e157	e24	e10	e4.9	e833	1,630	691	269	19	131	29
23	239	e154	e25	e9.9	e4.9	e1,650	1,570	602	249	16	109	22
24	236	e140	e25	e9.9	e4.8	e2,080	1,530	590	173	15	89	26
25	236	e138	e25	e9.9	e4.4	e2,110	1,530	599	142	13	76	26
26	234	e141	e25	e9.7	e4.3	e1,950	1,520	736	135	10	128	28
27	212	e138	e24	e9.5	e4.0	e1,770	1,520	1,120	1,620	9.4	111	24
28	216	e135	e24	e9.3	e3.9	e1,790	1,530	1,200	2,580	16	102	22
29	239	e114	e24	e9.0	---	e2,010	1,480	1,170	2,310	94	101	15
30	250	e111	e23	e8.7	---	e2,300	1,580	1,240	1,940	93	88	17
31	255	---	e21	e9.5	---	e2,610	---	1,280	---	82	81	---
Total	6,707	7,781	1,329	433.4	189.0	19,954.8	67,640	32,628	20,888	5,955.4	2,413	1,212
Mean	216	259	42.9	14.0	6.75	644	2,255	1,053	696	192	77.8	40.4
Max	547	467	108	22	9.8	2,610	2,940	1,670	2,580	1,360	199	75
Min	35	111	21	8.7	3.9	3.3	1,480	590	135	9.4	13	15
Ac-ft	13,300	15,430	2,640	860	375	39,580	134,200	64,720	41,430	11,810	4,790	2,400
Cfsm	0.22	0.26	0.04	0.01	0.01	0.65	2.29	1.07	0.71	0.20	0.08	0.04
In.	0.25	0.29	0.05	0.02	0.01	0.75	2.55	1.23	0.79	0.22	0.09	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	100	95.1	25.5	6.77	5.82	85.3	648	516	369	261	114	115
Max	688	1,019	215	100	101	773	2,827	4,274	2,238	2,103	1,130	1,619
(WY)	(2005)	(2001)	(1999)	(1910)	(1998)	(1995)	(1966)	(1950)	(2002)	(1975)	(2001)	(1999)
Min	0.00	0.00	0.00	0.00	0.00	0.00	7.75	1.83	0.03	0.00	0.00	0.00
(WY)	(1911)	(1911)	(1911)	(1911)	(1911)	(1930)	(1981)	(1990)	(1980)	(1932)	(1932)	(1929)

05076000 THIEF RIVER NEAR THIEF RIVER FALLS, MN—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1909 - 2009	
Annual total	41,965.60		167,130.6			
Annual mean	115		458		^a 195	
Highest annual mean					791	1999
Lowest annual mean					1.28	1939
Highest daily mean	1,130	Jun 16	^b 2,940	Apr 4	5,580	May 13, 1950
Lowest daily mean	0.15	Feb 8	^b 3.3	Mar 12	^c 0.00	Oct 1, 1910
Annual seven-day minimum	0.15	Feb 8	3.5	Mar 7	0.00	Oct 1, 1910
Maximum peak flow			^d 3,000	Apr 6	5,610	May 13, 1950
Maximum peak stage			^e 16.03	Apr 4	17.38	May 13, 1950
Instantaneous low flow			^c 3.3	Mar 12	^b 0.00	Oct 1, 1910
Annual runoff (ac-ft)	83,240		331,500		141,300	
Annual runoff (cfsm)	0.116		0.465		0.198	
Annual runoff (inches)	1.58		6.31		2.69	
10 percent exceeds	326		1,620		608	
50 percent exceeds	25		102		11	
90 percent exceeds	0.17		8.0		0.00	

^a Median of annual-mean discharges is 150 ft³/s.

^b Estimated daily mean.

^c Many days, several years.

^d Gage-height, 13.15 ft

^e Backwater from ice.

