

05385000 ROOT RIVER NEAR HOUSTON, MN

LOCATION.--43°46'07", long 91°34'11", in SW¹/₄NW¹/₄ sec. 33, T.104 N., R.6 W., Houston County, Hydrologic Unit 07040008, on right bank 0.2 mi north of Houston and 1.6 mi upstream from South Fork and 18.2 mi upstream from mouth.

DRAINAGE AREA.--1,250 mi².

PERIOD OF RECORD.--May 1909 to September 1917, May to November 1929, March 1930 to 1983, 1991 to September 2000, January 2004 to current year. Operated as high-flow partial-record station October 1983 to September 1990 and October 2000 to December 2003. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1508: 1911-12. WSP 1628: 1948(P).

GAGE.--Water-stage recorder. Datum of gage is 667.00 ft above sea level (NGVD of 1929). May 28, 1909 to Sept. 30, 1917, nonrecording gage at site 1.3 mi downstream at different datum. May 4, 1929 to Sept. 27, 1933, nonrecording gage and Sept. 28, 1933 to June 26, 1980, recording gage at site 0.9 mi upstream at datum 671.86 ft.

REMARKS.--Records good except those for estimated daily discharges, which are fair to poor. Slight diurnal fluctuation at low flows caused by power plant upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 540 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 2	0530	8,270	12.59	Jun 17	2030	7,760	12.25
Mar 6	2230	8,870	12.98	Sep 17	1030	*23,800	*16.56
Jun 10	0100	10,400	13.72				

Minimum discharge, 285 ft³/s, Jan. 30, estimated daily-mean discharge, backwater from ice.

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	---	---	---	e400	e295	1,660	e529	444	1,470	e892	798	619
2	---	---	---	e430	e305	6,570	524	423	1,280	e961	835	609
3	---	---	---	e400	e310	3,110	491	405	1,160	e1,140	842	592
4	---	---	---	e370	e305	1,980	473	397	1,060	e1,220	1,060	567
5	---	---	---	e340	e310	3,360	e478	393	986	e1,030	955	548
6	---	---	---	e345	e330	5,920	e480	407	946	e1,480	851	607
7	---	---	---	e355	e325	3,190	e483	408	907	2,760	795	599
8	---	---	---	e365	e320	2,270	e459	456	844	2,650	745	551
9	---	---	---	e370	e325	1,540	437	459	2,610	2,080	759	510
10	---	---	---	e380	e335	1,180	e432	555	9,050	1,820	736	489
11	---	---	---	e390	e340	1,230	e430	547	5,840	1,650	692	472
12	---	---	---	e385	e350	1,070	e422	535	6,360	1,680	697	455
13	---	---	---	e380	e345	873	e428	833	7,740	2,240	680	438
14	---	---	---	e365	e340	832	e425	886	4,040	e2,040	663	444
15	---	---	---	e355	e330	e813	e427	906	2,810	e1,660	644	4,130
16	---	---	---	e360	e325	e715	e432	872	2,310	1,470	650	9,710
17	---	---	---	e385	e335	657	e420	755	5,660	1,390	685	17,800
18	---	---	---	e365	e340	e655	404	699	4,900	1,230	702	4,660
19	---	---	---	e360	e345	e686	426	648	3,060	1,130	687	2,740
20	---	---	---	e385	e355	655	437	623	2,410	1,090	685	2,160
21	---	---	---	e360	e360	e621	464	645	2,080	1,130	677	1,830
22	---	---	---	e335	e370	579	452	1,070	1,860	1,230	683	1,600
23	---	---	---	e340	e390	550	436	1,630	1,650	1,140	666	1,430
24	---	---	---	e350	e400	e528	422	2,090	1,480	1,010	676	1,310
25	---	---	---	e360	e415	518	440	2,100	1,320	955	708	1,190
26	---	---	---	e370	e425	e569	463	1,720	1,190	925	680	1,100
27	---	---	---	e345	e445	571	458	1,450	e1,130	892	673	1,020
28	---	---	---	e325	e480	586	465	1,260	e1,070	854	681	956
29	---	---	---	e305	e600	591	465	1,150	e1,000	834	660	905
30	---	---	---	e285	---	576	459	1,130	e934	832	652	873
31	---	---	---	e290	---	535	---	1,320	---	804	635	---
TOTAL	---	---	---	11,255	10,450	45,190	13,561	27,216	79,157	42,219	22,552	60,914
MEAN	---	---	---	363	360	1,458	452	878	2,639	1,362	727	2,030
MAX	---	---	---	430	600	6,570	529	2,100	9,050	2,760	1,060	17,800
MIN	---	---	---	285	295	518	404	393	844	804	635	438
AC-FT	---	---	---	22,320	20,730	89,630	26,900	53,980	157,000	83,740	44,730	120,800
CFSM	---	---	---	0.29	0.29	1.17	0.36	0.70	2.11	1.09	0.58	1.62
IN.	---	---	---	0.33	0.31	1.34	0.40	0.81	2.36	1.26	0.67	1.81

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2004, BY WATER YEAR (WY)

MEAN	521	519	435	413	499	1,396	1,191	845	971	841	668	596
MAX	1,465	1,494	1,671	1,152	1,427	3,512	4,963	2,440	4,389	3,252	2,257	2,105
(WY)	(1974)	(1983)	(1992)	(1973)	(1966)	(1961)	(1965)	(1973)	(2000)	(1978)	(1993)	(1938)
MIN	193	218	189	172	168	251	274	234	261	236	231	243
(WY)	(1934)	(1934)	(1934)	(1959)	(1959)	(1931)	(1931)	(1934)	(1934)	(1964)	(1958)	(1933)

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SUMMARY STATISTICS

FOR 2004 WATERYEAR

WATER YEARS 1910 - 2004

ANNUAL MEAN		744	
HIGHEST ANNUAL MEAN		1,590	1993
LOWEST ANNUAL MEAN		294	1931
HIGHEST DAILY MEAN	17,800 Sep 17	31,100	Apr 1, 1952
LOWEST DAILY MEAN	285 Jan 30	82	Nov 28, 1937
ANNUAL SEVEN-DAY MINIMUM	299 Jan 29	113	Dec 25, 1933
MAXIMUM PEAK FLOW	23,800 Sep 17	37,000	Apr 1, 1952
MAXIMUM PEAK STAGE	16.56 Sep 17	a18.32	Mar 2, 1965
INSTANTANEOUS LOW FLOW	b285 Jan 30	c65	Dec 26, 1933
ANNUAL RUNOFF (AC-FT)		539,200	
ANNUAL RUNOFF (CFSM)		0.595	
ANNUAL RUNOFF (INCHES)		8.09	
10 PERCENT EXCEEDS		1,340	
50 PERCENT EXCEEDS		476	
90 PERCENT EXCEEDS		262	

- a Backwater from ice.
- b Estimated daily-mean, backwater from ice.
- c Also occurred Feb. 25, 1935.
- e Estimated.

