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Water-Data Report 2009

**05287890 ELM CREEK NEAR CHAMPLIN, MN**

Upper Mississippi Basin  
Twin Cities Subbasin

LOCATION.--Lat 45°09'48", long 93°26'11" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.35, T.120 N., R.22 W., Hennepin County, MN, Hydrologic Unit 07010206, on left bank, 33 ft downstream from bridge on Elm Creek Road, 2.5 mi southwest of Champlin.

DRAINAGE AREA.--86.0 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1978 to current year.

REVISED RECORDS.--WDR-MN-02-1: Maximum discharge; 1982, 85, 86, 94, 96, 97, and 99.

GAGE.--Water-stage recorder. Datum of gage is 850.70 ft above sea level (NGVD of 1929). Prior to March 16, 1979, nonrecording gage at present site and datum.

COOPERATION.--Streamflow and water-quality data collected in cooperation with the Elm Creek Watershed Management Commission.

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

## 05287890 ELM CREEK NEAR CHAMPLIN, 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	e2.4	1.6	1.5	e1.1	e0.75	e9.3	74	15	0.67	6.9	0.81	14
2	e2.4	1.7	1.7	e1.1	e0.70	e9.4	72	14	0.65	6.4	0.73	9.9
3	e2.4	1.6	1.6	e1.1	e0.70	e10	67	13	0.63	6.5	0.73	7.1
4	e2.4	1.5	e1.5	e1.0	e0.75	e11	62	12	0.65	6.3	0.61	5.6
5	e2.4	1.6	e1.5	e1.0	e0.80	e12	58	12	0.63	6.5	0.52	4.4
6	e2.4	3.0	e1.4	e1.1	e1.0	e10	53	11	0.70	5.9	0.52	3.7
7	e2.4	3.4	e1.5	e1.1	e1.1	e9.7	48	10	0.70	4.7	0.74	3.0
8	e2.4	3.5	e1.5	e1.1	e1.0	e10	44	8.9	0.98	3.8	0.92	2.7
9	e2.4	3.3	e1.4	e1.1	e1.0	e11	40	7.0	0.78	2.7	3.9	1.9
10	e2.3	3.0	e1.4	e1.1	e9.4	e9.9	37	5.8	0.80	1.8	6.8	2.0
11	e2.3	2.8	e1.4	e1.1	e18	e9.6	34	5.1	0.68	1.5	7.2	1.7
12	e2.3	2.9	e1.5	e1.1	e17	e9.3	33	4.6	0.57	1.3	7.0	1.6
13	e2.3	3.3	e1.6	e1.0	e17	e10	31	4.5	0.53	1.2	6.1	1.5
14	e2.3	3.1	e1.4	e0.89	e16	e18	29	4.8	0.51	1.1	5.6	1.5
15	e2.3	2.9	e1.2	e0.79	e16	e36	26	4.3	0.50	1.0	4.9	1.3
16	e2.2	2.7	e1.1	e0.84	e17	48	24	4.1	0.59	0.81	6.2	1.2
17	2.1	2.7	e1.0	e0.94	e16	44	23	3.3	0.68	0.73	7.7	1.2
18	2.1	3.1	e1.0	e0.94	e15	52	21	2.8	0.99	0.80	6.9	0.87
19	2.3	2.7	e1.1	e0.84	e15	58	20	2.5	0.95	0.76	9.3	0.88
20	2.1	2.3	e1.1	e0.68	e14	70	19	2.1	0.74	0.70	18	0.73
21	2.0	2.3	e1.0	e0.73	e13	84	17	1.9	0.63	1.2	38	0.77
22	1.8	2.3	e1.0	e0.73	e13	91	16	1.5	0.60	1.3	48	0.76
23	2.3	2.2	e1.0	e0.73	e12	94	15	1.2	0.63	0.98	50	0.81
24	2.3	2.0	e1.1	e0.58	e11	96	14	0.99	0.51	0.91	48	0.64
25	2.2	2.3	e1.1	e0.53	e10	107	13	0.93	0.56	0.86	48	0.69
26	2.5	2.1	e1.2	e0.58	e9.9	111	14	0.91	0.54	0.78	47	0.82
27	2.3	2.0	e1.1	e0.60	e9.6	103	16	0.85	2.1	0.73	43	0.71
28	1.8	1.6	e1.2	e0.65	e9.4	100	14	0.79	6.4	0.71	40	0.63
29	1.7	2.1	e1.3	e0.63	---	91	14	0.76	7.7	0.69	34	0.54
30	1.7	1.4	e1.1	e0.63	---	80	16	0.74	7.2	0.71	27	0.52
31	1.7	---	e1.0	e0.80	---	73	---	0.68	---	0.75	20	---
<b>Total</b>	68.5	73.0	39.5	27.11	266.10	1,487.2	964	158.05	40.80	71.02	538.18	73.67
<b>Mean</b>	2.21	2.43	1.27	0.87	9.50	48.0	32.1	5.10	1.36	2.29	17.4	2.46
<b>Max</b>	2.5	3.5	1.7	1.1	18	111	74	15	7.7	6.9	50	14
<b>Min</b>	1.7	1.4	1.0	0.53	0.70	9.3	13	0.68	0.50	0.69	0.52	0.52
<b>Ac-ft</b>	136	145	78	54	528	2,950	1,910	313	81	141	1,070	146
<b>Cfsm</b>	0.03	0.03	0.01	0.01	0.11	0.56	0.37	0.06	0.02	0.03	0.20	0.03
<b>In.</b>	0.03	0.03	0.02	0.01	0.12	0.64	0.42	0.07	0.02	0.03	0.23	0.03

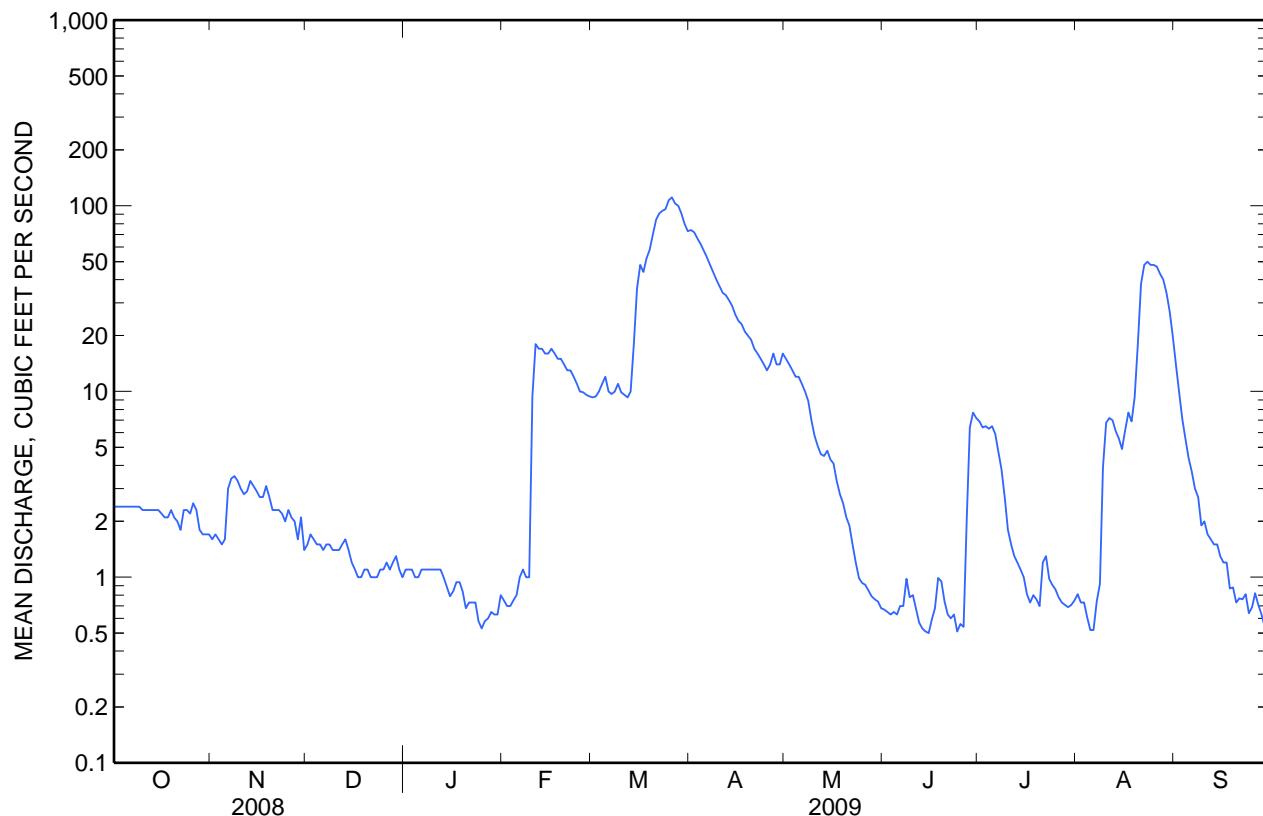
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2009, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	33.3	21.0	10.3	5.28	8.78	59.1	103	70.1	50.5	36.9	27.6	26.3
<b>Max</b>	240	67.4	41.3	22.0	99.1	183	414	203	196	157	151	170
(WY)	(1986)	(1994)	(1992)	(1992)	(1984)	(1985)	(2001)	(2002)	(2004)	(1993)	(2002)	(1991)
<b>Min</b>	1.13	1.03	0.92	0.74	0.91	3.86	5.31	3.54	1.34	0.76	1.37	1.08
(WY)	(1990)	(1990)	(1990)	(1991)	(1990)	(2001)	(1987)	(2000)	(1988)	(1988)	(2008)	(1988)

**05287890 ELM CREEK NEAR CHAMPLIN, MN—Continued****SUMMARY STATISTICS**

	<b>Calendar Year 2008</b>	<b>Water Year 2009</b>	<b>Water Years 1979 - 2009</b>
<b>Annual total</b>	10,005.04	3,807.13	
<b>Annual mean</b>	27.3	10.4	37.8
<b>Highest annual mean</b>			82.2
<b>Lowest annual mean</b>			4.54
<b>Highest daily mean</b>	195 May 4	111 Mar 26	815 Apr 25, 2001
<b>Lowest daily mean</b>	0.71 Aug 26	0.50 Jun 15	0.31 Jun 30, 1988
<b>Annual seven-day minimum</b>	0.82 Aug 21	0.58 Jun 11	0.35 Jun 26, 1988
<b>Maximum peak flow</b>		119 Mar 27	875 Apr 25, 2001
<b>Maximum peak stage</b>		6.24 Mar 27	10.02 Apr 25, 2001
<b>Instantaneous low flow</b>		<sup>a</sup> 0.45 Jun 15	0.29 Jul 9, 1989
<b>Annual runoff (ac-ft)</b>	19,840	7,550	27,350
<b>Annual runoff (cfs-m)</b>	0.318	0.121	0.439
<b>Annual runoff (inches)</b>	4.33	1.65	5.96
<b>10 percent exceeds</b>	119	34	106
<b>50 percent exceeds</b>	2.4	2.2	11
<b>90 percent exceeds</b>	1.0	0.70	1.6

<sup>a</sup> Also occurred June 24th.



**05287890 ELM CREEK NEAR CHAMPLIN, MN—Continued****WATER-QUALITY RECORDS**

PERIOD OF RECORD.--February 1988 to current year.

REMARKS.--Water-quality and streamflow data are collected in cooperation with the Elm Creek Watershed Management Commission. Data are used by the commission to assess water-quality compliance and trends in Elm Creek.

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 1 of 3

[Remark codes: &lt;, less than; E, estimated.]

Date	Time	Medium name	Baro-metric pressure, mm Hg (00025)	Temper-ature, air, deg C (00020)	Instan-taneous dis-charge, ft³/s (00061)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif-ic conduc-tance, wat unf µS/cm @ 25 degC (00095)	Stream velocity, ft/s (00055)
Oct 16...	0855	Surface water	750	--	2.3	6.1	50	7.2	644	.20
Nov 03...	0830	Surface water	741	--	2.6	7.7	65	7.6	695	.40
Dec 11...	1300	Surface water	741	-7.7	1.4	10.4	71	7.2	740	.50
Jan 12...	1225	Surface water	739	-9.0	1.2	10.3	70	7.8	750	.40
Feb 24...	1250	Surface water	739	6.0	11	12.7	86	8.0	802	.80
Mar 09...	1130	Surface water	742	1.0	10	12.2	83	7.8	746	.50
Apr 29...	1230	Surface water	746	10.0	14	10.8	99	8.0	635	.94
May 26...	0835	Surface water	739	15.0	1.5	6.8	67	7.7	706	.30
Jun 23...	0855	Surface water	741	24.0	.57	4.2	46	7.7	722	E1.00
Jul 14...	1130	Surface water	740	19.0	.99	6.1	65	7.8	710	1.00
Aug 07-10	1112	Surface water	--	--	--	--	--	7.7	641	--
Aug 13...	1025	Surface water	743	27.5	7.5	5.1	59	7.4	652	E.60
Aug 19-21	1607	Surface water	--	--	--	--	--	7.8	471	--
Aug 21-23	1307	Surface water	--	--	--	--	--	7.9	636	--
Sep 30...	1055	Surface water	744	12.5	.54	8.4	72	7.9	684	.80

## 05287890 ELM CREEK NEAR CHAMPLIN, MN—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 2 of 3

[Remark codes: &lt;, less than; E, estimated.]

Date	Temper- ature, water, deg C (00010)	Alti- tude of land surface feet (72000)	Drain- age area, mi <sup>2</sup> (81024)	Gage height, feet (00065)	Weather WMO code (00041)	COD, high level, water, unfiltrd mg/L (00340)	Loss on igni- tion of sus- pended solids, unfiltrd mg/L (00535)	Sus- pended solids, water, unfiltrd mg/L (00530)	Chlor- ide, water, filtrd, mg/L (00940)	Ammonia + org-N, water, unfiltrd mg/L as N (00625)	Ammonia water, filtrd, mg/L as N (00608)
Oct 16...	7.0	851	86.0	3.48	Cloudless	20	<10	<15	55.2	.73	E.012
Nov 03...	7.2	851	86.0	3.17	Partly cloudy	10	<10	<15	45.7	.54	E.019
Dec 11...	.0	851	86.0	3.30	Cloudy	20	<10	<15	39.4	.73	.297
Jan 12...	.0	851	86.0	3.27	Cloudy	20	<10	<15	42.9	.72	.299
Feb 24...	.0	851	86.0	4.33	Cloudless	40	<20	<30	119	1.7	.256
Mar 09...	.0	851	86.0	4.10	Cloudy	50	<20	<30	108	2.0	.441
Apr 29...	11.1	851	86.0	3.79	Cloudy	40	<10	<15	83.2	.99	E.013
May 26...	15.0	851	86.0	3.08	Cloudy	20	22	<30	25.9	.51	.058
Jun 23...	20.6	851	86.0	2.97	Cloudless	10	<10	<15	33.8	.69	.181
Jul 14...	18.7	851	86.0	2.99	Cloudy	20	<10	<15	59.4	.92	.159
Aug 07-10	--	851	86.0	--	--	30	--	<15	67.4	.82	.062
13...	22.3	851	86.0	3.51	Partly cloudy	40	<10	<15	106	1.3	.105
Aug 19-21	--	851	86.0	--	--	40	--	<15	92.8	1.6	.241
Aug 21-23	--	851	86.0	--	--	50	--	<15	103	2.0	.493
Sep 30...	8.5	851	86.0	2.97	Cloudless	20	<10	<15	37.8	.62	.051

**05287890 ELM CREEK NEAR CHAMPLIN, MN—Continued**

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
 Part 3 of 3  
 [Remark codes: <, less than; E, estimated.]

Date	Nitrate		Nitrite water, filtrd, mg/L as N (00613)	Phos- phorus, water, filtrd, mg/L as P (00666)	Phos- phorus, water, unfiltrd mg/L as P (00665)
	Ammonia water, unfiltrd mg/L as N (00610)	nitrite water, filtrd, mg/L as N (00631)			
<b>Oct</b>					
16...	E.03	.10	.006	.11	.15
<b>Nov</b>					
03...	E.03	.07	.004	E.04	.07
<b>Dec</b>					
11...	.32	.17	.009	E.03	.06
<b>Jan</b>					
12...	.32	.20	.004	E.03	.07
<b>Feb</b>					
24...	.29	.21	.017	.15	.28
<b>Mar</b>					
09...	.46	.30	.011	.25	.41
<b>Apr</b>					
29...	.04	.08	.007	.13	.16
<b>May</b>					
26...	.08	.04	.007	.09	.13
<b>Jun</b>					
23...	.22	.11	.026	.20	.23
<b>Jul</b>					
14...	.19	.16	.030	.17	.22
<b>Aug</b>					
07-10	.09	.07	.012	.11	.20
13...	.13	.07	.015	.20	.27
<b>Aug</b>					
19-21	.28	.20	.079	.24	.34
<b>Aug</b>					
21-23	.54	.17	.083	.29	.40
<b>Sep</b>					
30...	.07	.22	.015	.13	.16