Water-Data Report 2013

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^2.

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.--Discharges good to fair except those for estimated daily-mean discharges, which are poor.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e0.80	e2.5	1.7	e1.2	e1.1	1.3	e121	134	132	219	16	1.6
2	e0.70	e2.3	1.6	e1.3	e1.1	e1.3	e161	120	119	182	13	1.3
3	e0.60	e2.2	1.6	e1.2	e1.1	1.3	e199	106	105	156	10	1.3
4	e0.60	e2.1	1.6	e1.2	e1.1	1.3	210	97	91	133	8.7	1.3
5	e0.60	e2.1	1.5	e1.2	e1.1	1.3	186	86	80	114	10	1.2
6	e0.60	e2.3	e1.5	e1.1	e1.0	1.3	166	77	71	99	12	1.1
7	e0.60	e2.3	e1.5	e1.0	e1.0	1.3	153	69	63	88	10	1.0
8	e0.60	e2.1	e1.5	e1.0	e1.1	1.3	155	62	56	78	8.9	1.0
9	e0.60	e2.2	e1.6	e1.0	1.1	1.5	156	57	55	73	7.9	0.95
10	e0.60	e3.5	e1.6	e1.1	1.2	1.4	150	52	57	69	6.6	0.89
11	e0.60	e2.8	e1.8	e1.1	1.2	1.3	146	47	54	61	5.8	0.84
12	e0.60	e2.7	e1.8	e1.1	1.2	1.3	139	41	57	53	5.0	0.83
13	e0.60	e2.4	e1.8	e0.99	1.2	1.4	127	37	75	73	4.1	0.85
14	e0.60	e2.3	e1.8	e0.93	1.2	1.4	116	31	92	105	3.6	0.89
15	e0.60	e2.2	e1.8	e0.96	1.2	1.3	115	26	110	108	3.2	0.97
16	e0.50	e2.2	e1.7	e1.0	1.3	1.3	114	24	120	110	2.8	0.87
17	e0.50	e2.1	e1.8	e1.0	1.3	1.3	118	22	116	111	2.5	0.83
18	e0.50	e3.2	e1.8	e1.1	e1.2	1.3	124	25	102	105	2.2	0.88
19	e0.50	e2.7	e1.8	e1.1	e1.2	1.2	134	41	87	95	1.9	0.97
20	e0.50	e2.4	e1.8	e1.1	e1.1	1.1	136	109	73	84	1.9	0.93
21	e0.50	e2.2	e1.8	e1.0	e1.0	1.2	140	213	77	75	1.8	0.94
22	e0.80	e2.0	e1.9	e1.1	e1.0	1.3	163	328	132	67	1.7	0.93
23	e2.1	e1.9	e1.8	e1.0	e1.1	1.4	187	358	206	59	1.6	0.96
24	e5.2	e1.9	e1.7	e0.94	e1.2	1.6	207	344	308	51	1.4	0.97
25	e6.2	e1.9	e1.7	e1.0	1.3	1.7	215	312	370	44	1.4	0.97
26	e4.5	e1.8	e1.8	e1.1	1.3	1.8	211	270	385	38	1.3	1.0
27	e3.8	e1.8	e1.8	e1.1	1.3	1.8	200	225	374	32	1.3	1.1
28	e3.5	1.6	e1.8	e1.3	1.3	2.0	183	186	339	28	1.3	1.2
29	e3.2	1.6	e1.8	e1.3	---	3.0	168	160	305	22	1.3	1.2
30	e2.8	1.6	e1.6	e1.3	---	e22	150	144	263	20	1.3	1.1
31	e2.6	---	e1.4	e1.2	---	e77	---	141	---	19	1.6	---
Total	47.00	66.9	52.7	34.02	32.5	141.0	4,750	3,944	4,474	2,571	152.1	30.87
Mean	1.52	2.23	1.70	1.10	1.16	4.55	158	127	149	82.9	4.91	1.03
Max	6.2	3.5	1.9	1.3	1.3	77	215	358	385	219	16	1.6
Min	0.50	1.6	1.4	0.93	1.0	1.1	114	22	54	19	1.3	0.83
Ac-ft	93	133	105	67	64	280	9,420	7,820	8,870	5,100	302	61
Cfsm	0.02	0.03	0.02	0.01	0.01	0.05	1.84	1.48	1.73	0.96	0.06	0.01
In.	0.02	0.03	0.02	0.01	0.01	0.06	2.05	1.71	1.94	1.11	0.07	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	31.8	20.2	9.93	5.45	9.02	62.4	102	79.4	57.5	40.5	26.9	25.2
Max	240	67.4	41.3	22.0	99.1	189	414	255	196	157	151	170
(WY)	(1986)	(1994)	(1992)	(1992)	(1984)	(2011)	(2001)	(2011)	(2004)	(1993)	(2002)	(1991)
Min	1.13	1.03	0.92	0.74	0.91	3.86	5.31	3.54	1.34	0.76	1.37	1.03
(WY)	(1990)	(1990)	(1990)	(1991)	(1990)	(2001)	(1987)	(2000)	(1988)	(1988)	(2008)	(2013)

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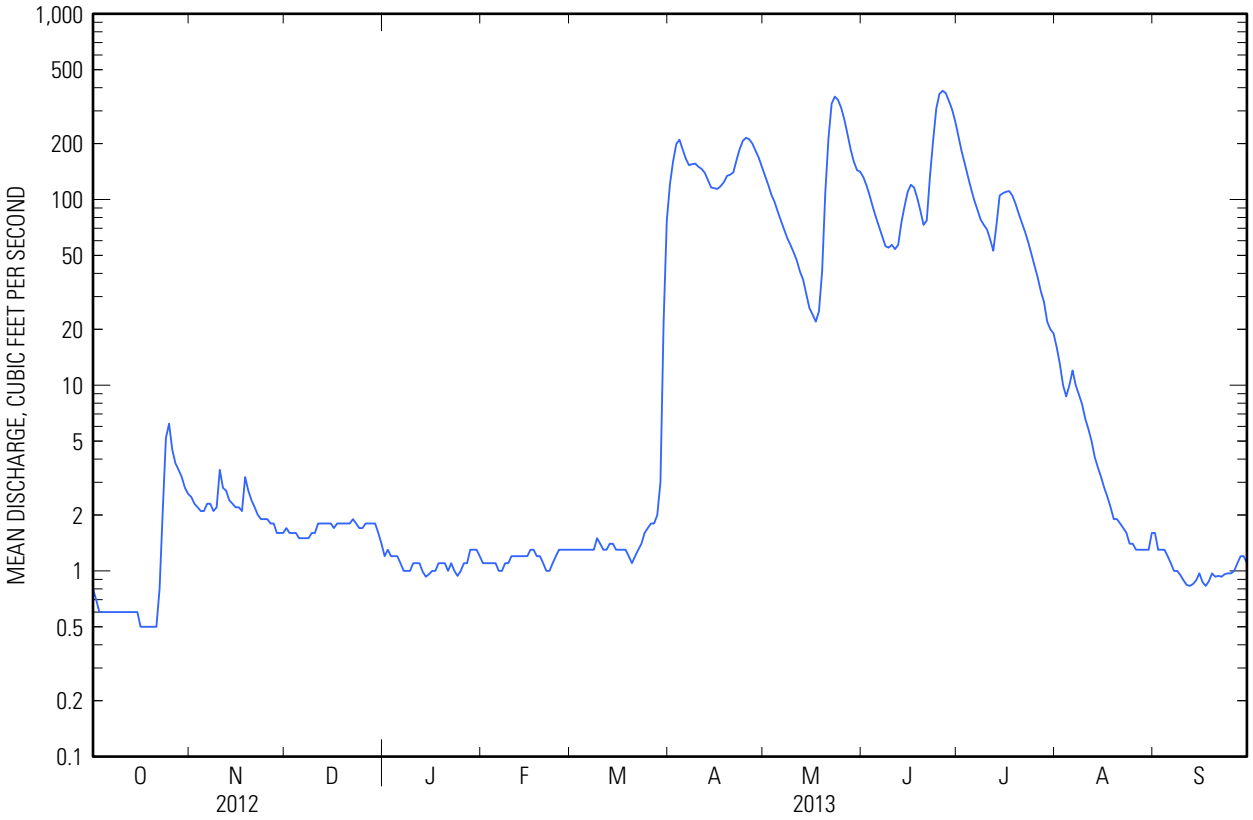
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1979 - 2013	
Annual total	13,624.80		16,296.09			
Annual mean	37.2		44.6		39.3	
Highest annual mean					86.4	2011
Lowest annual mean					4.54	1988
Highest daily mean	534	May 29	385	Jun 26	815	Apr 25, 2001
Lowest daily mean	0.50	Oct 16	[a]0.50	Oct 16	0.31	Jun 30, 1988
Annual seven-day minimum	0.51	Oct 15	0.51	Oct 15	0.35	Jun 26, 1988
Maximum peak flow			389	Jun 26	875	Apr 25, 2001
Maximum peak stage			8.72	Jun 26	10.02	Apr 25, 2001
Instantaneous low flow			[b]0.50	Oct 16	0.29	Jul 9, 1989
Annual runoff (ac-ft)	27,020		32,320		28,470	
Annual runoff (cfsm)	0.433		0.519		0.457	
Annual runoff (inches)	5.89		7.05		6.21	
10 percent exceeds	111		151		111	
50 percent exceeds	2.7		1.8		11	
90 percent exceeds	1.5		0.96		1.5	

[a] Estimated, backwater from beaver dam, also occurred Oct. 17 through 21.
[b] Estimated daily-mean discharge.



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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 in Elm Creek.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 1 of 3

[%, percent; N, nitrogen; P, phosphorus; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Medium name	Barometric pressure, mm Hg (00025)	Discharge, instanta-neous, ft^3/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conduc-tance, water, unfiltered, µS/cm at 25°C (00095)
10-15-2012	**1330**	Surface water	737	0.48	6.4	56	7.4	707
12-06-2012	**1330**	Surface water	734	1.5	10.6	83	7.7	717
01-29-2013	**1100**	Surface water	727	--	8.3	60	7.3	697
02-14-2013	**1130**	Surface water	734	--	9.5	68	7.3	712
03-28-2013	**1030**	Surface water	747	2.4	10.6	76	7.5	846
04-24-2013	**1200**	Surface water	737	200	11.1	88	7.0	577
05-18-2013	**1118**	Surface water	--	--	--	--	8.0	624
05-21-2013	**1312**	Surface water	--	--	--	--	7.7	553
05-23-2013	**1030**	Surface water	748	336	7.0	68	7.5	555
06-12-2013	**1215**	Surface water	--	--	--	--	8.1	582
06-17-2013	**1200**	Surface water	742	113	6.2	70	7.5	573
06-21-2013	**0443**	Surface water	--	--	--	--	7.9	501
06-24-2013	**0742**	Surface water	--	--	--	--	7.8	479
07-10-2013	**1100**	Surface water	746	71	4.7	55	7.5	484
07-13-2013	**0630**	Surface water	--	--	--	--	7.7	426
08-07-2013	**1130**	Surface water	741	12	6.5	71	7.7	511
09-06-2013	**1100**	Surface water	--	1.0	8.5	--	7.9	694
09-06-2013	***1103***	*QC sample - Surface water*	--	--	--	--	--	--

05287890 ELM CREEK NEAR CHAMPLIN, MN—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 2 of 3

[%, percent; N, nitrogen; P, phosphorus; ft, feet; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Temperature, water, °C (00010)	Gage height, ft (00065)	Sampler type (84164)	Chemical oxygen demand, high level, water, unfiltered, milligrams per liter (00340)	Loss on ignition of suspended solids, water, unfiltered, mg/L (00535)	Suspended solids, water, unfiltered, mg/L (00530)	Chloride, water, filtered, mg/L (00940)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)
10-15-2012	**1330**	8.0	3.54	Grab sample	10	< 10	< 15	13.2	0.22
12-06-2012	**1330**	3.5	3.13	Grab sample	< 10	< 10	< 15	27.7	.35
01-29-2013	**1100**	.1	3.62	Grab sample	< 10	< 10	< 15	19.4	.40
02-14-2013	**1130**	1.4	3.03	Grab sample	< 10	< 10	< 15	22.6	.58
03-28-2013	**1030**	1.8	3.18	Weighted-bottle	10	10	< 15	106	1.2
04-24-2013	**1200**	4.0	7.40	Weighted-bottle	30	< 10	< 15	95.2	1.1
05-18-2013	**1118**	--	--	Sampler point auto	50	--	64	93.9	1.6
05-21-2013	**1312**	--	--	Sampler point auto	20	--	23	84.7	1.2
05-23-2013	**1030**	13.1	8.53	US D-95 plastic	40	< 10	< 15	81.6	1.0
06-12-2013	**1215**	--	--	Sampler point auto	50	--	< 15	81.8	1.2
06-17-2013	**1200**	20.7	6.18	Grab sample	40	< 10	< 15	77.3	1.1
06-21-2013	**0443**	--	--	Sampler point auto	50	--	32	64.9	1.3
06-24-2013	**0742**	--	--	Sampler point auto	50	--	22	59.0	1.2
07-10-2013	**1100**	22.6	5.30	Grab sample	40	< 10	29	44.9	1.8
07-13-2013	**0630**	--	--	Sampler point auto	< 10	--	43	45.1	1.7
08-07-2013	**1130**	18.9	3.70	Weighted-bottle	< 10	< 10	< 15	45.4	1.3
09-06-2013	**1100**	17.3	3.16	Open-Mouth Bottle	< 10	< 10	< 15	13.8	.29
09-06-2013	***1103***	--	--	*Sampler point auto*	*< 10*	--	*< 15*	*13.8*	*.27*

05287890 ELM CREEK NEAR CHAMPLIN, MN—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 3 of 3

[%, percent; N, nitrogen; P, phosphorus; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Ammonia, water, filtered, mg/L as N (00608)	Ammonia, water, unfiltered, mg/L as N (00610)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	Phos-phorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)
10-15-2012	**1330**	< .010	< .02	< .040	< .001	0.09	0.10
12-06-2012	**1330**	.096	.11	.053	.006	.02	.07
01-29-2013	**1100**	.220	.24	.066	.004	.02	.06
02-14-2013	**1130**	.277	.29	.097	.004	< .02	.07
03-28-2013	**1030**	.375	.41	.377	.013	.04	.14
04-24-2013	**1200**	.021	.04	1.16	.015	.09	.14
05-18-2013	**1118**	.070	.12	.348	.030	.16	.31
05-21-2013	**1312**	.045	.08	.271	.021	.16	.22
05-23-2013	**1030**	.025	.05	.219	.015	.16	.19
06-12-2013	**1215**	.034	.08	.148	.012	.14	.20
06-17-2013	**1200**	.029	.07	.054	.005	.16	.21
06-21-2013	**0443**	.034	.06	.222	.012	.20	.27
06-24-2013	**0742**	.025	.04	.083	.006	.23	.29
07-10-2013	**1100**	.360	.44	.095	.033	.39	.69
07-13-2013	**0630**	.171	.25	.190	.034	.27	.47
08-07-2013	**1130**	.160	.24	.261	.072	.19	.24
09-06-2013	**1100**	.025	.03	< .040	.003	.05	.07
09-06-2013	***1103***	*.023*	*.04*	*.042*	*.003*	*.05*	*.07*