

## STREAMS TRIBUTARY TO LAKE SUPERIOR--Continued

04024098 DEER CREEK NEAR HOLYOKE, MN

LOCATION.--Lat 46°31'30", long 92°23'20", in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 29, T.47 N., R.16 W., Carlton County, Hydrologic Unit 04010301, on left bank 179 ft west of State Highway No. 23, 0.9 mi upstream from mouth and 4.0 mi north of Holyoke.

DRAINAGE AREA.--7.70 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 786.14 ft above sea level (NGVD of 1929).

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	14	2.8	e2.4	e2.1	e10	4.6	4.6	2.3	2.2	2.2	1.9
2	2.3	8.4	2.9	e2.3	e2.1	e5.5	4.7	4.1	2.5	2.0	2.1	1.8
3	2.2	6.5	e3.1	e2.3	e2.1	e4.7	13	3.6	2.1	1.9	1.5	2.0
4	2.2	5.1	e3.3	e2.3	e2.1	e5.1	7.4	3.4	2.3	1.8	1.4	1.8
5	2.2	4.7	e3.1	e2.2	e2.2	e4.5	6.1	3.3	2.3	1.8	1.6	1.7
6	3.2	3.9	e2.8	e2.2	e2.2	e4.0	11	2.9	2.3	1.9	1.4	1.7
7	3.5	3.6	e2.7	e2.2	e2.2	6.4	7.2	2.9	2.4	2.2	1.5	1.6
8	7.0	3.5	e2.7	e2.1	e2.2	68	4.8	18	2.3	3.2	1.8	1.5
9	4.0	3.4	e2.7	e2.1	e2.1	42	4.5	20	1.9	23	2.7	1.9
10	2.8	3.0	e2.6	e2.1	e2.1	14	4.0	11	1.9	6.8	1.7	1.9
11	2.7	2.9	e2.6	e2.1	e2.0	6.8	4.1	10	1.9	3.6	1.3	1.5
12	2.4	2.9	e2.6	e2.1	e2.0	4.8	4.6	8.0	1.9	16	1.4	1.3
13	2.4	2.8	e2.6	e2.1	e2.0	3.1	4.3	5.7	2.2	11	1.5	1.2
14	2.3	2.7	e2.6	e2.1	e1.9	2.7	4.6	4.4	2.5	4.8	6.3	1.3
15	2.7	2.5	e2.5	e2.0	e1.9	3.0	4.2	3.4	3.1	3.1	15	1.3
16	2.6	2.5	e2.5	e2.0	e1.9	e2.7	3.7	3.4	17	2.3	3.6	1.3
17	2.5	2.5	e2.5	e2.0	e1.9	e2.9	3.9	2.8	7.5	2.0	2.7	1.4
18	2.4	2.5	e2.4	e2.0	e1.9	3.0	4.5	2.5	6.9	2.0	2.3	1.3
19	2.5	2.8	e2.4	e2.0	e1.9	14	5.4	2.1	5.1	1.8	2.0	1.5
20	2.6	3.2	e2.4	e2.0	e1.9	18	7.5	1.9	20	2.0	1.7	1.3
21	2.2	2.9	e2.4	e2.0	e1.9	18	8.1	2.0	16	2.1	1.7	1.3
22	2.3	3.0	e2.4	e2.0	e1.9	23	7.0	3.6	14	1.9	1.9	1.4
23	2.2	3.7	e2.4	e2.0	e2.0	17	6.5	3.2	7.2	1.9	1.5	1.5
24	2.2	5.0	e2.4	e2.0	e2.5	27	5.8	2.3	4.7	1.7	1.4	1.5
25	2.2	4.9	e3.5	e2.0	e1.5	26	5.3	1.8	3.5	1.8	1.3	1.4
26	4.8	5.7	e3.3	e2.0	e6.5	13	4.8	1.7	6.4	2.3	1.4	1.4
27	2.2	5.5	e2.6	e2.0	e4.0	9.4	4.7	1.9	4.3	2.1	1.5	1.4
28	2.2	4.1	e4.0	e2.0	e1.3	6.4	4.5	2.6	3.0	1.8	1.4	1.3
29	7.0	3.4	e3.3	e2.0	e1.2	4.8	4.3	2.1	2.5	1.8	1.5	1.2
30	63	2.8	e2.7	e2.1	---	4.3	3.8	2.1	2.1	1.7	1.5	1.2
31	22	---	e2.4	e2.1	---	4.6	---	2.4	---	1.6	2.0	---
TOTAL	169.4	124.4	85.2	64.8	194.0	378.7	168.9	143.7	154.1	116.1	72.8	44.8
MEAN	5.46	4.15	2.75	2.09	6.69	12.2	5.63	4.64	5.14	3.75	2.35	1.49
MAX	63	14	4.0	2.4	65	68	13	20	20	23	15	2.0
MIN	2.2	2.5	2.4	2.0	1.9	2.7	3.7	1.7	1.9	1.6	1.3	1.2
AC-FT	336	247	169	129	385	751	335	285	306	230	144	89
CFSM	.71	.54	.36	.27	.87	1.59	.73	.60	.67	.49	.30	.19
IN.	.82	.60	.41	.31	.94	1.83	.82	.69	.74	.56	.35	.22

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.32	4.56	2.48	1.90	2.74	8.56	22.6	9.82	7.62	7.20	5.11	6.97
MAX	21.8	12.2	4.35	2.92	9.29	21.5	90.8	24.3	31.4	26.7	36.9	30.4
(WY)	1983	1983	1999	1992	1998	1995	1986	1991	1993	1999	1986	1986
MIN	1.69	1.59	1.31	.97	1.06	2.34	4.11	2.15	1.39	1.50	.89	1.24
(WY)	1988	1977	1977	1979	1979	1986	1977	1980	1995	1988	1982	1993

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1976 - 2000
ANNUAL TOTAL	3126.14	1716.9	
ANNUAL MEAN	8.56	4.69	7.17
HIGHEST ANNUAL MEAN			19.3
LOWEST ANNUAL MEAN			3.65
HIGHEST DAILY MEAN	238	Aug 23	553
LOWEST DAILY MEAN	.89	Mar 8	.21
ANNUAL SEVEN-DAY MINIMUM	.99	Feb 19	.47
INSTANTANEOUS PEAK FLOW			2000 <sup>a</sup>
INSTANTANEOUS PEAK STAGE			32.76 <sup>b</sup>
INSTANTANEOUS LOW FLOW			.10
ANNUAL RUNOFF (AC-FT)	6200	3410	5200
ANNUAL RUNOFF (CFSM)	1.11	.61	.93
ANNUAL RUNOFF (INCHES)	15.10	8.29	12.66
10 PERCENT EXCEEDS	14	8.2	14
50 PERCENT EXCEEDS	2.7	2.5	2.5
90 PERCENT EXCEEDS	1.5	1.6	1.5

a From rating curve extended above 1000 ft<sup>3</sup>/s on basis of flow-thru-culvert computations.  
 b From floodmark.  
 e Estimated.

