Annual Peak-Flow Frequency Analysis
For more information on the contents of this documentation, see Kessler and others (2013).

Streamgage number and name:

05474900 Elk Creek on County State Aid Highway 1, near Brewster, Minn.

Peak-flow information:

Number of systematic peak flows in record	11
Systematic period begins	1996
Systematic period ends	2011
Length of systematic record	16
Years without information	5
Peak flows not used in analysis	4
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.183
Standard error of generalized skew	0.426
Low-outlier method	Bulletin 17B Grubbs-Beck test

Bulletin 17B systematic record analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.9533	0.4006	0.717

Outlier criteria and number of peak flows exceeding:

Low	130.9	0
High	6162.8	4

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
2.9533	0.4006	0.058

Annual frequency curve at selected exceedance probabilities:

[WIE, Weighted independent estimate; ––, not computed]

Exceedance probability	Peak estimate	Lower-95 level	Upper 95 level	WIE estimate	Lower-95 WIE level	Upper 95 WIE level
0.9950	87.8	20.2	184	––	––	––
0.9900	109.0	28.3	218	––	––	––
0.9500	200.0	70.6	354	––	––	––
0.9000	277.0	114.0	465	––	––	––
0.8000	412.0	202.0	660	––	––	––
0.6667	599.0	334.0	947	––	––	––
0.5000	890.0	543.0	1,450	737	458	1,190
0.4292	1,050.0	655.0	1,770	––	––	––
0.2000	1,950.0	1,220.0	3,970	1,490	897	2,460
0.1000	2,940.0	1,750.0	7,180	2,100	1,220	3,640
0.0400	4,600.0	2,530.0	13,900	3,040	1,660	5,590
0.0200	6,140.0	3,200.0	21,600	3,890	2,000	7,590
0.0100	7,990.0	3,930.0	32,200	4,840	2,360	9,900
0.0050	10,200.0	4,740.0	46,600	––	––	––
0.0020	13,600.0	5,940.0	73,400	7,500	3,200	17,600

Peak-flow data used in the analysis:

Explanation of symbols and codes

−−	none
NA	Missing peak value

Water year	Peak flow	Peak-flow code
1996	NA	−−
1997	NA	−−
1998	514	−−
1999	554	−−
2000	376	−−
2001	4,360	−−
2002	611	−−
2003	335	−−
Gap in systematic record		
2005	924	−−
2006	2,000	−−
2007	1,300	−−
2008	NA	−−
2009	363	−−
2010	NA	−−
2011	3,680	−−