

## Annual Peak-Flow Frequency Analysis

For more information on the contents of this documentation, see Kessler and others (2013).

### Streamgauge number and name:

05377500 Whitewater River at Beaver, Minn.

### Peak-flow information:

Number of systematic peak flows in record	17
Systematic period begins	1938
Systematic period ends	1956
Length of systematic record	19
Years without information	2
Number of historical peak flows in record	1 1938

### Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.21
Standard error of generalized skew	0.4266
Low-outlier method	Multiple Grubbs-Beck test

### EMA systematic record analysis results:

#### Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
3.6162	0.2369	-0.011

#### Low-outlier information:

Number of low outliers	0
Low-outlier threshold	Not determined

**Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
3.6163	0.2370	-0.136

**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	945	218	1,530	--	--	--
0.9900	1,100	298	1,700	--	--	--
0.9500	1,650	755	2,320	--	--	--
0.9000	2,040	1,140	2,770	--	--	--
0.8000	2,620	1,710	3,470	--	--	--
0.6667	3,300	2,350	4,300	--	--	--
0.5000	4,190	3,120	5,460	4,140	3,240	5,280
0.4292	4,610	3,480	6,060	--	--	--
0.2000	6,560	5,010	9,240	6,720	5,240	8,640
0.1000	8,250	6,230	12,900	8,820	6,740	11,500
0.0400	10,500	7,690	19,500	12,000	8,870	16,100
0.0200	12,200	8,690	26,300	14,500	10,400	20,200
0.0100	13,900	9,630	35,000	17,100	11,800	24,800
0.0050	15,700	10,500	46,100	--	--	--
0.0020	18,200	11,500	65,500	23,800	14,800	38,100

**Peak-flow data used in the analysis:**

Explanation of symbols and codes

-- none

H Historic, outside of systematic record

Water Peak Peak-flow

year flow code

1938 7,500 H

Gap in systematic record

1940 4,760 --

1941 1,690 --

1942 3,330 --

1943 2,640 --

1944 1,730 --

1945 4,140 --

1946 4,140 --

1947 5,350 --

1948 3,380 --

1949 4,330 --

1950 10,500 --

1951 10,200 --

1952 6,580 --

1953 6,680 --

1954 2,210 --

1955 2,350 --

1956 4,720 --