

U. S. GEOLOGICAL SURVEY  
 ANNUAL PEAK FLOW FREQUENCY ANALYSIS  
 Following Bulletin 17-B Guidelines  
 Program peakfq  
 (Version 4.0, December, 2000)

Station - 05370500 EAU GALLE RIVER AT ELMWOOD, WI  
 2002 MAR 13 09:02:55

I N P U T   D A T A   S U M M A R Y

|                                      |   |          |
|--------------------------------------|---|----------|
| Number of peaks in record            | = | 12       |
| Peaks not used in analysis           | = | 0        |
| Systematic peaks in analysis         | = | 12       |
| Historic peaks in analysis           | = | 0        |
| Years of historic record             | = | 0        |
| Generalized skew                     | = | -0.374   |
| Standard error of generalized skew   | = | 0.550    |
| Skew option                          | = | WEIGHTED |
| Gage base discharge                  | = | 0.0      |
| User supplied high outlier threshold | = | --       |
| User supplied low outlier criterion  | = | --       |
| Plotting position parameter          | = | 0.00     |

\*\*\*\*\* NOTICE -- Preliminary machine computations. \*\*\*\*\*  
 \*\*\*\*\* User responsible for assessment and interpretation. \*\*\*\*\*

|   |         |         |
|---|---------|---------|
| WCF134I-NO SYSTEMATIC PEAKS WERE BELOW GAGE BASE.         |         | 0.0     |
| WCF162I-SYSTEMATIC PEAKS EXCEEDED HIGH-OUTLIER CRITERION. | 1       | 22613.3 |
| WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.    |         | 649.4   |
| **WCF233W-EXPECTED PROB OUT OF RANGE AT TAB PROB.         | 0.00008 | 0.00200 |
| WCF002J-CALCS COMPLETED. RETURN CODE = 2                  |         |         |

Station - 05370500 EAU GALLE RIVER AT ELMWOOD, WI  
 2002 MAR 13 09:02:55

ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

|                   | FLOOD BASE |                        | LOGARITHMIC |                    |       |
|-------------------|------------|------------------------|-------------|--------------------|-------|
|                   | DISCHARGE  | EXCEEDANCE PROBABILITY | MEAN        | STANDARD DEVIATION | SKEW  |
| SYSTEMATIC RECORD | 0.0        | 1.0000                 | 3.5835      | 0.3613             | 2.040 |
| BULL.17B ESTIMATE | 0.0        | 1.0000                 | 3.5835      | 0.3613             | 0.140 |

ANNUAL FREQUENCY CURVE -- DISCHARGES AT SELECTED EXCEEDANCE PROBABILITIES

| ANNUAL EXCEEDANCE PROBABILITY | BULL.17B ESTIMATE | SYSTEMATIC RECORD   | 'EXPECTED PROBABILITY' ESTIMATE | 95-PCT CONFIDENCE LIMITS FOR BULL. 17B ESTIMATES |          |
|-------------------------------|-------------------|---------------------|---------------------------------|--|----------|
|                               |                   |                     |                                 | LOWER  | UPPER    |
| 0.9950                        | 501.7             | 1701.0              | 312.2                           | 150.9  | 942.8    |
| 0.9900                        | 603.1             | 1708.0              | 416.9                           | 198.6  | 1090.0   |
| 0.9500                        | 1009.0            | 1761.0              | 849.8                           | 423.9  | 1652.0   |
| 0.9000                        | 1337.0            | 1836.0              | 1202.0                          | 635.7  | 2094.0   |
| 0.8000                        | 1893.0            | 2016.0              | 1792.0                          | 1033.0   | 2849.0   |
| 0.5000                        | 3759.0            | 2957.0              | 3759.0                          | 2458.0   | 5716.0   |
| 0.2000                        | 7670.0            | 6325.0              | 8148.0                          | 5102.0   | 14010.0  |
| 0.1000                        | 11260.0           | 11290.0             | 12730.0                         | 7165.0   | 23940.0  |
| 0.0400                        | 17100.0           | 24360.0             | 21590.0                         | 10140.0  | 43850.0  |
| 0.0200                        | 22500.0           | 43630.0             | 31650.0                         | 12650.0  | 65760.0  |
| 0.0100                        | 28900.0           | 78220.0             | 46250.0                         | 15420.0  | 95460.0  |
| 0.0050                        | 36430.0           | 140300.0            | 67900.0                         | 18480.0  | 135100.0 |
| 0.0020                        | 48390.0           | 303900.0            | --                              | 23020.0  | 207200.0 |
| 0.6667                        | 2638.9            | ( 1.50-year flood ) |                                 |  |          |
| 0.4292                        | 4355.9            | ( 2.33-year flood ) |                                 |  |          |

Station - 05370500 EAU GALLE RIVER AT ELMWOOD, WI  
2002 MAR 13 09:02:55

I N P U T   D A T A   L I S T I N G

| WATER YEAR | DISCHARGE | CODES | WATER YEAR | DISCHARGE | CODES |
|------------|-----------|-------|------------|-----------|-------|
| 1942       | 39000.0   |       | 1948       | 1300.0    |       |
| 1943       | 4220.0    |       | 1949       | 2780.0    |       |
| 1944       | 3320.0    |       | 1950       | 4220.0    |       |
| 1945       | 4900.0    |       | 1951       | 2360.0    |       |
| 1946       | 4110.0    |       | 1952       | 2690.0    |       |
| 1947       | 1970.0    |       | 1953       | 4780.0    |       |

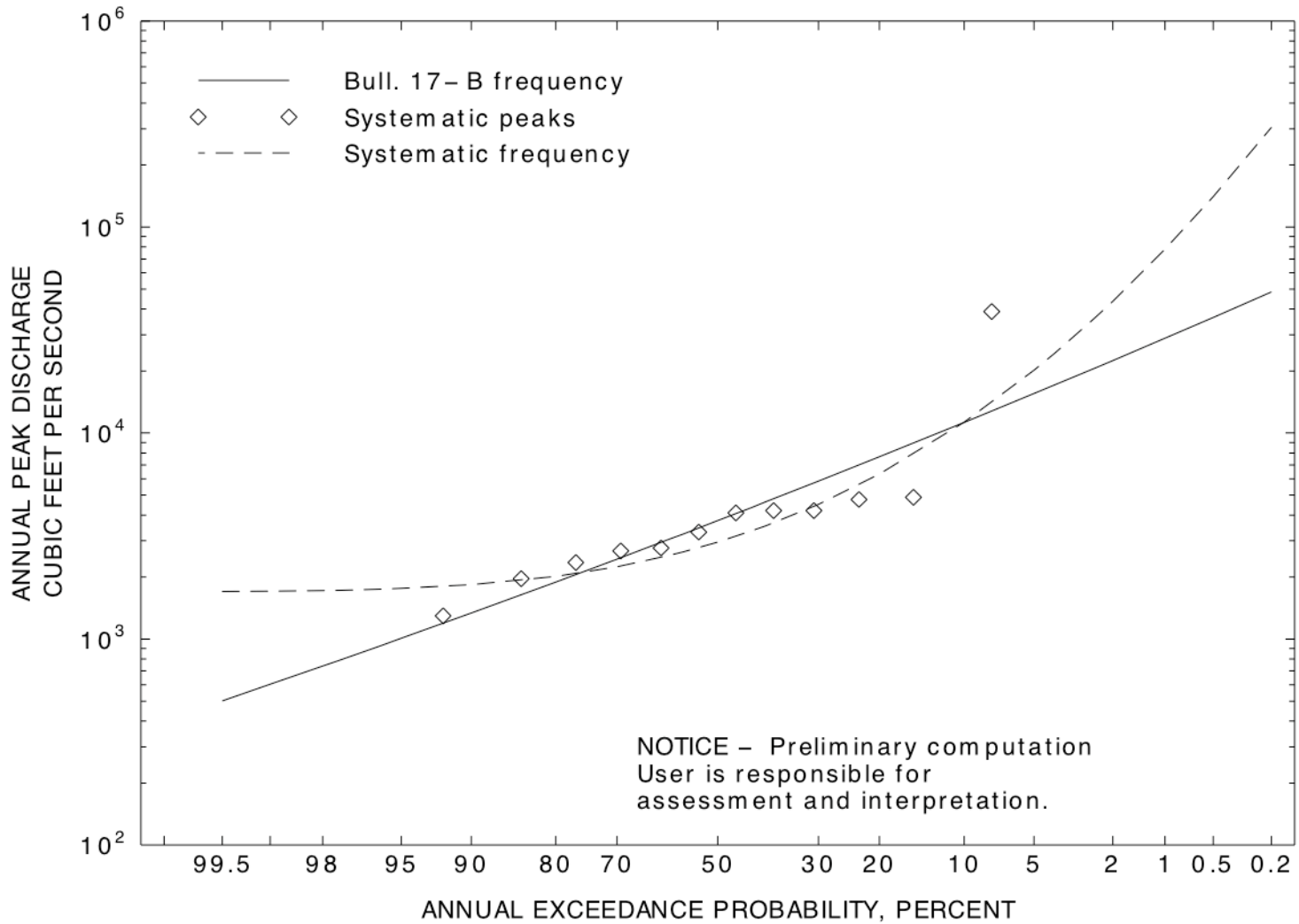
Explanation of peak discharge qualification codes

| PEAKFQ | WATSTORE |  |
|--------|----------|--|
| CODE   | CODE     | DEFINITION                                 |
| D      | 3        | Dam failure, non-recurrent flow anomaly    |
| G      | 8        | Discharge greater than stated value        |
| X      | 3+8      | Both of the above                          |
| L      | 4        | Discharge less than stated value           |
| K      | 6 OR C   | Known effect of regulation or urbanization |
| H      | 7        | Historic peak                              |

Station - 05370500 EAU GALLE RIVER AT ELMWOOD, WI  
2002 MAR 13 09:02:55

EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

| WATER<br>YEAR | RANKED<br>DISCHARGE | SYSTEMATIC<br>RECORD | BULL.17B<br>ESTIMATE |
|---------------|---------------------|----------------------|----------------------|
| 1942          | 39000.0             | 0.0769               | 0.0769               |
| 1945          | 4900.0              | 0.1538               | 0.1538               |
| 1953          | 4780.0              | 0.2308               | 0.2308               |
| 1943          | 4220.0              | 0.3077               | 0.3077               |
| 1950          | 4220.0              | 0.3846               | 0.3846               |
| 1946          | 4110.0              | 0.4615               | 0.4615               |
| 1944          | 3320.0              | 0.5385               | 0.5385               |
| 1949          | 2780.0              | 0.6154               | 0.6154               |
| 1952          | 2690.0              | 0.6923               | 0.6923               |
| 1951          | 2360.0              | 0.7692               | 0.7692               |
| 1947          | 1970.0              | 0.8462               | 0.8462               |
| 1948          | 1300.0              | 0.9231               | 0.9231               |



NOTICE - Preliminary computation  
 User is responsible for  
 assessment and interpretation.

Station - 05370500 EAU GALLE RIVER AT ELMWOOD, WI  
 2002 MAR 13 09:02:55