

Kansas City District - Water Management Section Missouri River Flow Frequency Analysis

The following discharges for selected recurrence intervals are taken from the Kansas City District report entitled “Missouri River Hydrology and Hydraulic Analysis”, dated November 2003. The report is an appendix to the comprehensive Rock Island District report entitled “Upper Mississippi River System Flow Frequency Study”, dated February 2004. The study encompasses the upper Mississippi River, the lower Illinois River, and the lower Missouri River. The study and its appendices are available on the Rock Island District website at:

<http://www.mvr.usace.army.mil/pdw/pdf/FlowFrequency/flowfreq.htm>

The following table does not provide river stages equivalent to the given discharges, since the stage-discharge relationship changes over time. But individuals can go to a fill-in form included as part of the above website to determine flow frequencies at specific river mile locations, at

http://155.76.213.118/FLOW_FREQ/flow_freq.cfm?rvr=3&dist=2&p=6&dtm=2&se=&rm=366.1&q=401000&rloi=3

The 2004 Flow Frequency Study includes flood profiles for the selected recurrence intervals in addition to flow frequencies. The study was initiated by the Corps in 1997. To complete the study, the Corps teamed with other agencies with river responsibilities including the Geological Survey, the National Weather Service, the Natural Resources Conservation Service, the Bureau of Reclamation, the Tennessee Valley Authority, and all the States in the study reaches.

Interested private individuals were included in a public involvement group. Technical advisory groups with world-renowned experts provided guidance and independent reviews for the report.

The 2004 Flow Frequency Study is a revision of the Missouri River flow frequencies developed as part of the March 1962 Corps report entitled “Missouri River Agricultural Levee Restudy Program, Hydrology Report.”

Discharges in Cubic Feet Per Second (cfs)

River Gauge	River Mile	Zero Stage Datum Elev	10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood	1993 Flood
Rulo NE	498.0	837.23	158,000	220,000	250,000	320,000	307,000
St. Joseph MO	448.2	788.19	175,000	234,000	260,000	324,000	335,000
Kansas City MO	366.1	706.40	245,000	351,000	401,000	530,000	541,000
Waverly MO	293.5	646.00	258,000	371,000	424,000	561,000	633,000
Boonville MO	196.6	565.42	352,000	503,000	573,000	753,000	755,000
Hermann MO	97.9	481.56	439,000	604,000	673,000	833,000	750,000