The third major flood to occur on the Delaware River in the past 22 months has caused approximately $2,000,000 in damage to roads and facilities in the park and to cultural, archeological, and natural resources throughout Delaware Water Gap National Recreation Area.

Slow-moving thunderstorms dropped more than eight inches of rain on the area from June 23 to 28, 2006. Rivers and streams flooded throughout the region, including the Delaware River and its tributaries. The Delaware crested at 32.16 ft. (recorded at the Montague NJ gauge early on the morning of Thursday, June 29, 2006), surpassing the April 2005 flood as the third worst on this stretch of the Delaware River. The all-time record crest at Montague is 35.50 ft. in 1903, followed by 35.15 ft. in the 1955 flood. The governors of New Jersey, New York, and Pennsylvania declared affected counties of their respective states to be disaster areas.

Flood waters damaged many facilities and resources that had been previously damaged by the remnants of Hurricane Ivan in September of 2004 and by the Spring Flood in April of 2005. The park had only recently recovered from these two floods, which inflicted a combined total of approximately $5,000,000 in damage to infrastructure. This flood of June 2006 occurred just before the July 4th holiday, normally the busiest time of the year for the park and for adjacent communities. The economic impact on local businesses that rely on summer tourism will be significant, as will the resource impact on the park.