

Gauging Hoover's fishing hole

Floods and stream flow form the basis of a partnership between Herbert Hoover National Historic Site (Iowa) and the Iowa District of the U.S. Geological Survey (USGS). After flooding in 1993, the USGS assessed flood recurrence on a tributary of the west branch of the Wapsinonoc Creek within the park. The USGS has continued its relationship with Herbert Hoover National Historic Site since that time by installing a National Streamflow Network stage gauge in the park.

The National Streamflow Network of the USGS consists of more than 7,000 gages across the nation. These gauges contribute the data necessary to address water quality and quantity issues. Data appear on the Web at www.usgs.gov.

Herbert Hoover National Historic Site uses the gauge as part of a water monitoring program. Flooding poses a threat to historic resources in the park with a high probability that a 25-year recurrence flood would cause damage to structures. Understanding the behavior of the creek may lead to better prediction and mitigation of damaging floods.

The park also uses the gauge as a demonstration of natural resource management. Interpretive signs and a digital readout of real-time data accompany the gauge housing in a high traffic area of the park. Visitors can read measurements of water temperature, air temperature, rainfall, and stream flow.

Park staff use the stream to help visitors understand that human development has changed water resources in the last two centuries. Wapsinonoc Creek, and its tributary in the park, were very different streams when

President Hoover fished them as a boy. Riparian wetlands stabilized stream flow, but development encroached on these wetlands at the turn of the century. Field tiling and additions of impermeable surfaces within the watershed increased the rate and quantity of runoff from storm events. These changes have resulted in flash flooding and bank erosion on the creek.

The stream gauge provides an opportunity to use resource management issues in the park to deliver a broad message about watershed protection and land use. The gauge will provide data for management decisions concerning land use and cultural landscape within the park. Additionally, it will provide the National Park Service with hard science for its leadership role as a public land and watershed steward. 