Monocacy National Battlefield

Maryland



A Sanctuary for History and Nature

Monocacy National Battlefield is managed as a cultural resource commemorating the Civil War

battle that took place along the Monocacy River south of Frederick, MD. The 1,647 acre park is dominated by active farms with some mixed hardwood forests and field/edge habitat. Like other battlefield parks, it has the challenge of combining the preservation of a historic landscape with natural resource management. Potential threats to the park's natural resources include the release of pollutants from agriculture, industrial plants located southwest of the park, and heavy traffic on Interstate 270, which bisects the park. Suburban sprawl makes the park an important preserve for wildlife, and the spread of exotic plants and an increase in deer population have already been documented.







Civil War battlefields of Monocacy.



North



Resource Values

Freshwater flow: Monocacy River



Agriculture: dairy farms and crops

Native wildlife: wild turkeys



Development: suburban and industrial plants



Major highways and roads



White-tailed deer: overpopulation

Invasive/exotic plants



Water Quality and Hydrology Water quality is impacted by agriculture adjacent and within park



Much of the land in Monocacy National Battlefield is managed as a pasture 🕅 . Farm activities inside and outside the park threaten the health of the Monocacy River through high inputs of nutrients \searrow , sediments \searrow , and pesticides \searrow . To combat these threats, the park encourages best management practices within its boundaries including the preservation of large forested buffers 4 between agricultural fields and waterways, reducing erosion \nearrow along river banks and absorbing runoff from neighboring fields.



Monocacy National Battlefield has seen considerable change along its borders since land acquisition began in the 1980s. The city of Frederick k has spread to the park's northern boundary and housing developments *is* are rapidly approaching the southern boundary. The battlefield represents a sanctuary for many plant and animal species \mathscr{M} within this rapidly urbanizing environment and significant habitat fragmentation 🌋 has occurred because of this development and proliferation of utility corridors 🐔 and roads 📼 . Demographic changes in the area also bring increased visitation 🛣 and greater opportunities for the establishment of invasive species 🐋 .





Roadways cross the park and crops are farmed within the park.





In Monocacy National Battlefield, data are being collected on **Water** Quality and Hydrology and Ecosystem Pattern and Processes with reference to park specific concerns as well as understanding regional issues.





National Capital Region Network



Monocacy National Battlefield Watershed



Park map showing major roads and waterways.

(Above left) Potomac River watershed and National Capital Region Network parks (red). (Above right) Monocacy National Battlefield watershed and boundary.

Vital Signs Monitoring Assembling the puzzle

Park vital signs monitoring is designed to inform managers of the condition of water, air, plants and

animals, and the various ecological, biological, and physical processes that act on those resources. This site-specific data will provide parks the information needed for ecologically sound management of the natural resources.

Data collected at Monocacy National Battlefield from July 2005 through July 2006 show that stream water does not meet water quality standards. The graphs below show the nitrate and phosphorus concentrations in the three streams running through the park. In both graphs, the concentration of these nutrients is well above the ecological threshold, shown as a line near the bottom (>1.2 mg/L for nitrate and >0.03 mg/L for phosphorus). In the nitrate graph, the

concentration is sometimes greater than the human health water quality standard (>10 mg/L). These elevated concentrations may be due to a number of factors, including urban development and agricultural use within the stream watersheds.