At the Confluence of Rivers, History and Nature Merge

Harpers Ferry National Historical Park protects the historic town area and surrounding natural resources lands at the confluence of the Shenandoah and Potomac rivers in West Virginia, Virginia, and Maryland. Preserved structures and landscapes in the park tell of the historic role of the town and lands in the Civil War, African American history, manufacturing, and transportation and other historic events. The natural heritage of the park is equally rich, and over 70% of the park’s 3,645 acres is covered with eastern deciduous forest. Changes in adjacent land use that may affect park resources (e.g., water quality, invasive species, deer population) are of primary concern to park management. Because of its unique location, flooding is also a major concern.

Air Quality and Climate

Air quality impacts scenic vistas

The natural landscape of Harpers Ferry National Historical Park includes major rivers, forested mountains, riparian habitats, old fields, grasslands, and agricultural lands. Panoramic views and spectacular landscape serve as context for the interpretation of historic Civil War and Civil Rights events that the park commemorates. Degraded air quality, haze from regional pollution sources, and increased ozone levels that threaten vegetation adversely affects the historic and scenic vistas in the park.

Biodiversity

Natural and anthropogenic disturbances threaten historic resources

Flooding is a natural occurrence at Harpers Ferry National Historical Park. Located at the lowest point of the confluence of the Potomac and Shenandoah rivers, flooding can have a devastating impact on historic buildings and archeological features. Gypsy moth infestations and unchecked populations of white-tailed deer have severely defoliated sections of the park’s historic Maryland Heights forest. Invasive exotic plants and acid rain threaten Civil War sites and historic geological structures such as the Stone Steps and Jefferson Rock.

Resource Values

Resource Stressors

Freshwater flow: Potomac and Shenandoah Rivers

Development: suburban

Geologic regions: limestone and shale

White-tailed deer: overpopulation

Forests: chestnut oak and red maple

Invasive/exotic plants

Historic sites: Civil War structures and battlefields

Insect pests: gypsy moths

Agriculture: crops

Flooding: seasonal

Railway corridors

Toxic runoff

At Harpers Ferry, the Shenandoah and Potomac Rivers converge. Mountain forest with stream.

Harpers Ferry National Historical Park Watershed

(Above left) Potomac River watershed and National Capital Region Network parks (red).

(Above right) Harpers Ferry National Historical Park 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 the information needed for ecologically sound management of the natural resources.

In Harpers Ferry National Historical Park, data are being collected on Air Quality and Climate and Biodiversity, with reference to park specific concerns as well as understanding regional issues.

Air quality-related values, such as visibility, are highly significant for the Park. The view of the confluence of the Shenandoah and Potomac Rivers inspired Thomas Jefferson to say it is “worth a voyage across the Atlantic and continues to inspire visitors today.

The data for this vital sign category are collected regionally rather than just in Harpers Ferry Historical Park. Based upon the data that has been analyzed to date, the area often exceeds regulatory threshold values for air quality and climate vital signs, indicating that the Washington DC region has poor air quality.

Nonattainment Areas Map - Particulate Matter (size < 2.5 micrometers)

Source: US EPA Office of Air and Radiation

Harpers Ferry, Maryland, Virginia

National Park Service

U.S. Department of the Interior

National Capital Region Network

INTEGRATION & APPLICATION NETWORK (IAN)

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At Harpers Ferry, the Shenandoah and Potomac Rivers converge. Mountain forest with stream.

Integrating & Applying Natural Science Knowledge

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