

Study Reveals

Military Park's Wild Side

By Bob Ratliff and Heather Denison

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Jim Lytle



Eric Dibble

Thousands of visitors come to the Vicksburg National Military Park each year to see the location of one of the Civil War's pivotal battles. Most stay within the well-manicured areas surrounding monuments and artillery emplacements that dot the 1,800-acre site.

There is, however, a wilder side to the park.

"Most of our visitors don't know that two-thirds of the park is in its natural state," said Kurt Foote, the National Park Service natural resource program manager. "In a lot of ways, it's a natural park."

The forested areas along the high bluff overlooking the Mississippi River contain limestone formations, streams and even waterfalls. For the past decade, Eric Dibble of Mississippi State's Forest and Wildlife Research Center has been collecting information about conditions within the park's streams and the natural habitats along their paths.

An ongoing study by the associate professor is providing the National Park Service with comprehensive, science-based information about existing stream conditions and the presence of bank-side flora and fauna. It is believed to be the first ecological evaluation of the streams since the park was established in 1899.

Dibble initiated this study in 1995 while working as a research biologist at the U.S. Army Corps of Engineers' Waterways Experimental Station, also in Warren County. One day while visiting the popular tourist destination, he struck up a conversation with a park ranger.

"I asked the ranger if there had been any studies on the small streams around the park," Dibble recalled. "When the reply was 'no,' I volunteered to conduct a general survey. The rest is history."

Following the second and third years of his efforts, Dibble said the park service was "finding funds to continue the project to maintain their database on fauna and water quality."

Today, through the collaborative and continuing efforts among MSU, the NPS and, most recently, the federal Gulf Coast Cooperative Ecosystem Studies Unit, Dibble's survey enables officials to anticipate future environmental changes that might affect the park's water courses.

"This has been the longest data study conducted at any national park, and it has been a good baseline to identify what normal readings are in the park," Foote said. As an example, if there are spikes in the readings caused by various pollutants, we can compare them with the baseline readings and prove if there are outside components that are a violation of regulations."

Water quality and habitat are measured from sites in three drainage systems within the park's boundary. Other field assessments include the measurement of distribution and abundance of fishes, invertebrates and aquatic vascular plants that currently inhabit the streams.

"Special attention has been paid to identify and address management concerns relative to the presence of rare, threatened and/or endangered, and exotic species," said Dibble.

The ability to measure environmental changes resulting from long-term climatic impacts has been among additional benefits of the scientific examinations.

As an example, Dibble cited data indicating significant water-temperature increases in two streams over the 10-year span. The possible cause: a combination of climatic impacts on air temperature and landscape disturbances resulting from drainage that increased sediment loads, he said.

"This investment has been good, not only because the information gathered provides immediate evaluation of the ecology and environmental condition of the streams, but because new data serves as a reference to assist in future decisions for stream management," Dibble said.



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Jennifer Linehart