

Restoring the Historic Landscape At Wilson's Creek

By Lisa Thomas

"The hills bore some scattering oaks and an occasional bush, but we could see clearly, because fires had kept the undergrowth eaten out and the soil was flinty and poor."

Thus was the scene described by private Eugene Ware on Aug. 10, 1881, when over 15,000 Confederate and Union soldiers met along the slopes above Wilson's Creek in southwestern Missouri.

Since that time, intense agricultural use and the exclusion of natural forces such as fire have changed the savanna landscape dramatically. Fescue and successional fields have replaced prairie meadows. Steep slopes that never were plowed have succeeded to forest in the absence of fire. And exotic species dominate, even in areas such as the limestone glades, where agricultural disruptions were less severe.

Since the establishment of Wilson's Creek National Battlefield (WICR) in 1960, the 1750 acres of rolling

terrain has been recognized as the park's principal resource. Efforts to restore a savanna landscape began in the late 1960s with the planting of 220 acres of prairie grass. Studies completed in the 1970s and 1980s have formed a clearer picture of the historic landscape and of WICR's restoration needs. Over the last decade an additional hundred acres have been planted with native warm season grasses.

In the spring of 1991, the park completed an action plan to provide long-term guidance and priorities to landscape restoration. The plan outlines specific management objectives and prescriptions for WICR's various community types and provides a multi-year restoration timetable. The plan also identifies certain areas where more research is needed to develop restoration methods. Monitoring to assess treatment success is emphasized as a key component of the restoration process.

Restoration goals at WICR include reconstructing savanna communities in current fescue and succes-

sional fields, increasing species diversity in old prairie plantings, and reducing woody and exotic dominance on limestone glades. Over the next 3 years, restoration efforts will focus on a 330-acre area known as Bloody Hill, which contains the park's most significant historic and natural features. Eventually, 1000 acres, comprising the historic core of the park, will be restored.

The current restoration phase began in late summer, 1990, with a prescribed fire in a 35-acre fescue field. The fire promoted vigorous fescue regrowth, insuring a more complete kill when the field was sprayed with Roundup in November. In April 1991, the field was planted with prairie grasses and wildflowers that are native to southwestern Missouri.

Last summer (1991) the park's restoration crew brushhogged overgrown successional fields, sprayed exotic weeds, and cut down exotic Osage orange trees in preparation for planting. Prescribed fires were carried out in the fall.

While the restoration crew already is applying well-





established restoration treatments, new methods are being developed to meet unique restoration problems. One of the goals is to increase species diversity in both old and new prairie grass plantings. Research to compare establishment success of 20 prairie wildflowers was begun in the spring of 1991. Another research project is exploring methods to reduce woody and exotic cover on the park's limestone glades. These areas require careful handling because they are home to several rare species, including the federally endangered Missouri Bladderpod (*Lesquerella filiformis* Rollins).

Park biologists currently are collecting vegetative baseline data that will be used to measure restoration success. Monitoring protocols have been developed for each restoration objective. We anticipate that such specific monitoring data are needed to judge the success of particular treatments and to identify new problems while they still are manageable.

WICR's historic restoration plan integrates research, monitoring, and management into the restoration process. Including research and monitoring components requires a greater initial commitment of resources. We expect this investment to pay off with management that is more responsive to changing restoration demands.

Our long-term goal is to restore communities that are sustainable with little management beyond periodic prescribed fire. Early management aimed at increasing native diversity and reducing exotic dominance is the key to restoring a landscape that will stand the test of time.

Thomas is a Biological Technician at WICR and is heading up the restoration project.