



Plant Community Monitoring at Tallgrass Prairie National Preserve

Importance: *Preservation of a remnant of our natural heritage*

Tallgrass prairie ecosystem once spread across nearly 150 million acres in the Midwest from Texas to Manitoba, Canada. Experts estimate that about 2% of original tallgrass prairie remains. The National Park Service established Tallgrass Prairie NPres as its first facility specifically dedicated to preservation, protection and interpretation of the tallgrass prairie ecosystem.

Between 2002 and 2006 management included cattle stocking and prescribed fire in four pastures as part of its management regime. Beginning in 2006 managers changed strategy to include “patch-burn grazing”, which rotates prescribed fire through parts of a pasture on a three year cycle.



Figure 1: Applying different management techniques to sections of prairie during a given year increases vertical structure.

Long Term Monitoring: *Changing management strategy*¹

The Heartland Network Inventory and Monitoring Program began monitoring at Tallgrass Prairie NPres in 2000 to assess baseline conditions and future changes in plant communities. By undertaking a long-term plant monitoring program, the network will establish status and track trends in the tallgrass plant community.

Status and Trends: *Spatially partitioning management actions may have favorable effect*

Monitoring found 201 unique species in the 18 sampling sites. A fairly even and uniform tallgrass prairie community with few exotic or invasive species characterizes the entire sampling area. Additionally scientists found that:

1. The remnant prairie represents a historical ecosystem and its plant community persists with good integrity.
2. Annual use of prescribed fire followed by grazing shaped this prairie community. Management strategy that treats sections of the prairie differently within a given year has retained a single functioning plant community.
3. The plant community is dominated by warm-season grasses and species diversity was similar among monitoring sites across the prairie through time.

Preserve managers have successfully balanced plant community management actions with interpretation of the native prairie at Tallgrass Prairie NPres.

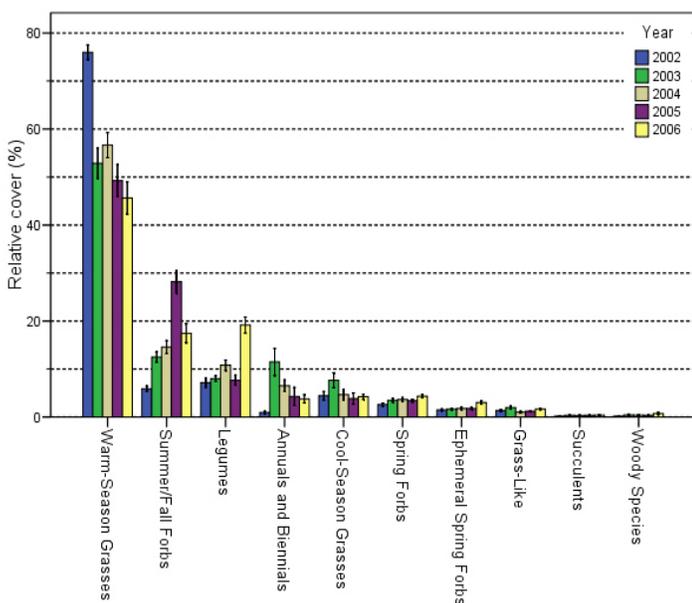


Figure 2: Relative cover of plant guilds (groups of plants with similar function in the community) among sample years.

Heartland Network Inventory and Monitoring Program of the National Park Service. Visit www.nps.gov/im/units/htln/index.htm

... protecting the habitat of our heritage

