



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.



Figure 1: Applying different management techniques to sections of prairie during a given year creates variety in the height of the vegetation.

Long Term Monitoring: *Changing management strategy*¹

The Heartland Inventory and Monitoring Network began assessing baseline conditions at Tallgrass Prairie NPres in 2000. Beginning in 2006 managers changed their management strategy to include “patch-burn grazing”, which rotates prescribed fire through parts of a pasture on a three year cycle. Monitoring can assist managers in determining if this change benefits the plant community conditions. By undertaking a long-term plant monitoring program, the network will establish status and track trends in the tallgrass plant community. The network implemented monitoring of 18 core sites in 2002, but increased the number of core sites to 30 in 2010. Monitoring occurred annually from 2002 through 2008, and also occurred in 2010.

Status and Trends: *A functioning prairie*

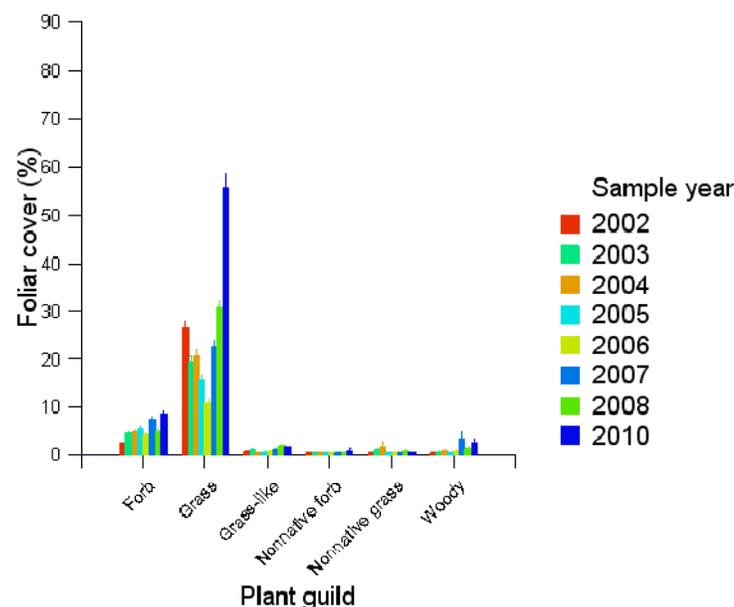


Figure 2: Mean foliar cover for groups of plants with similar function in the community over the sample years.

A fairly even and uniform tallgrass prairie community with few invasive species characterizes the entire sampling area. Values for richness and diversity suggest that distribution patterns are typical for a functioning tallgrass prairie.

Additionally scientists found that:

1. Native grasses showed a significant increase in mean foliar cover in 2010 (Fig. 2).
2. Native forbs (wildflowers) and grasses dominated during all eight sampling years.
3. All sites that were sampled in the prairie belong to the same type of upland tallgrass community.

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

... protecting the habitat
of our heritage



¹ James, K. M. 2011. Vegetation community monitoring at Tallgrass Prairie National Preserve: 2002-2010. Natural Resource Data Series NPS/HTLN/NRDS—2011/146. National Park Service, Fort Collins, Colorado.