



## Plant Community Trends at Homestead National Monument of America

### Importance: *Prairie and forest, the focus of natural resource management*

Boundless prairie and majestic oaks characterized the landscape that early settlers found in the Heartland. Homestead NMA restored native prairie on 100 acres of agricultural fields to represent this historic scene. Efforts began in 1939, making the Homestead prairie the second oldest prairie restoration in the United States. Additionally, a natural remnant of critically imperiled bur oak (*Quercus macrocarpa*) forest makes Homestead NMA a repository of Midwestern historical landscape.

### Long Term Monitoring: *Detect and describe changes in communities*<sup>1</sup>

Plant community monitoring quantifies species composition, structure, and diversity within prairie and forest communities. The Heartland Network Inventory and Monitoring Program collects frequency and foliar cover (area within the shadow of a plant) data for prairie and forest understory vegetation. Additionally, scientists collect overstory stand (trees that form the tall canopy) data at forest sample sites.

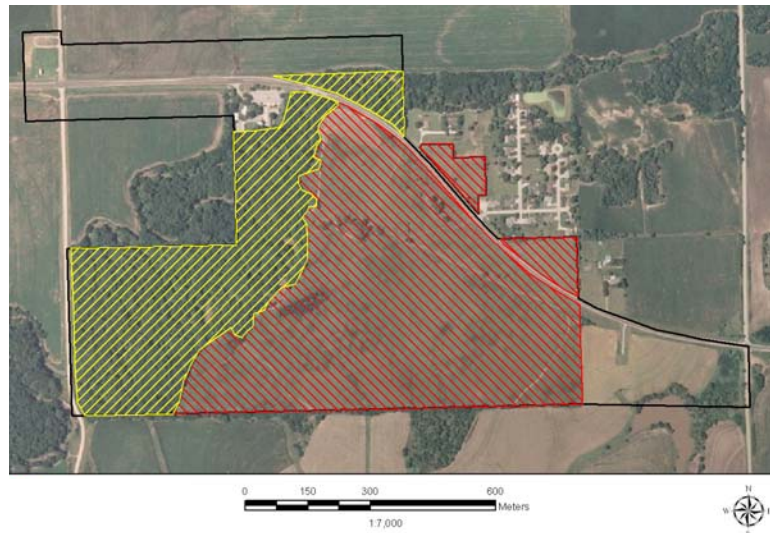


Figure 1: Prairie delineated by red hatching and bur oak forest by yellow.

### Status and Trends: *A functioning native prairie and a call for restoration*

Although scientists cannot completely describe a mid-1860's prairie, the distribution of species in the Homestead restored prairie reflects a functioning native prairie. The northern portion of the forest along Cub Creek contains a large number of bur oak, while the southern portion of the forest shows the effects of human disturbance. Additionally, scientists found that:

1. Plant diversity in the prairie remained stable over the last decade, suggesting that management actions maintained diversity and community composition.
2. Exotic and invasive species compete with native species in both prairie and forest.
3. Bur oak restoration will require developing a restoration plan that promotes growth and regeneration of bur oak, while controlling hackberry.

The two plant communities at Homestead NMA provide an accurate representation and historical backdrop to the story and legacy of homesteading in America during the 19<sup>th</sup> century.

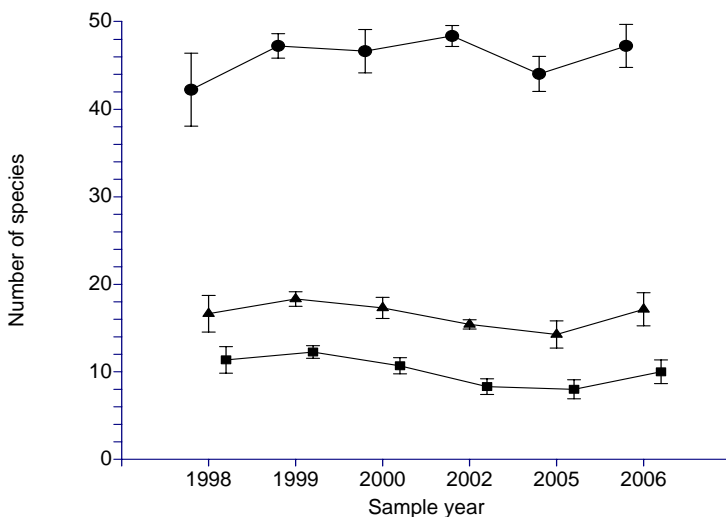


Figure 2: Nine years of prairie community species richness (circle) and two measures of species diversity (square and triangle).

Heartland Network Inventory and Monitoring Program  
of the National Park Service. Visit  
[www.nps.gov/im/units/htln/index.htm](http://www.nps.gov/im/units/htln/index.htm)

... protecting the habitat  
of our heritage



<sup>1</sup> James, K., and DeBacker, M. 2007. Plant Community Monitoring Trend Report, Homestead National Monument of America. Natural Resource Technical Report NPS/MWR/HTLN/NRTR—2007/028. National Park Service, Fort Collins, Colorado.