



Invasive Plant Species at Pipestone National Monument

Importance: Invasive plants alter native ecosystems

Native plant species live in a specific place and evolve with other plants in the same ecosystem. In contrast, exotic species did not evolve with native species in the same ecosystem. The invasive designation suggests that a species poses environmental harm to native populations or communities. Human disturbance has introduced many invasive species into our natural landscapes. These species fragment native ecosystems, displace native plants and animals, and alter ecosystem function. Invasive species are second only to habitat loss as threats to biodiversity.



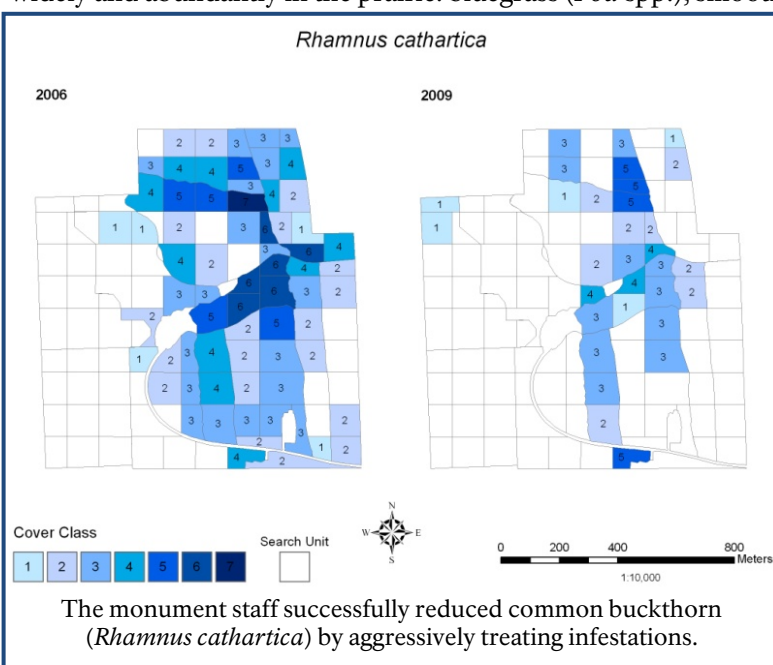
Prairie with Sioux quartzite outcrop

Long Term Monitoring: Early detection and prevention ¹

The Heartland Inventory and Monitoring Network monitors invasive exotic plants to assist parks with early detection and prevention of invasive infestations in park natural areas. The network and Pipestone National Monument established watch lists for species known to exist in the monument's restored prairie, and those that could establish in the foreseeable future. The network created transects to survey invasive plants in the prairie. Surveys completed in 2006 and 2009 permitted scientists to compare invasive plant cover and frequency from data collected in transects. Scientists also assigned invasiveness ranks that represent ecological impact and general management difficulty for each invasive species encountered. The invasiveness ranks and total estimated cover assists managers in prioritizing invasive species treatment.

Status and Trends: Management actions seem to be effective

Scientists documented 20 invasive exotic plant taxa in the prairie in 2006 and 2009. They found three grass species spread widely and abundantly in the prairie: bluegrass (*Poa* spp.), smooth brome (*Bromus inermis*), and reed canarygrass (*Phalaris arundinacea*). The park's control efforts have reduced distribution and abundance of several invasive exotic plant species. Ongoing control efforts by staff will most likely continue to be very effective. Scientists also found that



1. Abundance decreased in six species of exotic invasive plants.
2. Bluegrass decreased in central areas of the monument between 2006 and 2009, but increased on the edges, where infestation may come from surrounding land outside the monument.

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

¹ Young, C. C., M. F. Short, L. W. Morrison, C. S. Gross, and J. L. Haack. 2010. Invasive exotic plant monitoring at Pipestone National Monument: Year 2 (2010). Natural Resource Technical Report NPS/HTLN/NRTR—2010/294. National Park Service, Fort Collins, Colorado.