



White-tailed Deer Monitoring at Wilson's Creek National Battlefield

Importance: *An important component of the battlefield's ecosystem*

White-tailed deer (*Odocoileus virginianus*) populations in Missouri have rebounded from their lowest level, an estimated 400 in the 1930s, to a current estimate of nearly one million deer. Visitors view deer as an important component of the battlefield's ecosystems, but large numbers of deer can impact the battlefield and visitor safety. Deer can damage resources, pose a hazard to motorists and contribute to the spread of human diseases. High densities of deer can also cause the spread of disease and starvation within localized deer populations.

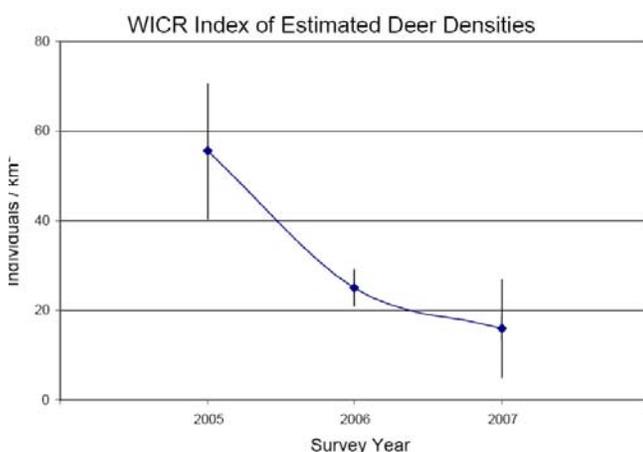


Long Term Monitoring: *Assessing trends in population size*¹

The Heartland Network, Inventory and Monitoring Program, initiated a pilot study of deer population densities in winter 2005. The primary objectives for monitoring white-tailed deer populations include (1) determining annual changes in white-tailed deer numbers and (2) determining long-term trends in white-tailed deer numbers. With this information, resource managers can more effectively identify and potentially mitigate deer damage to vegetation communities and endangered plant populations, while maintaining a healthy deer herd.

Status and Trends: *Sudden decline in population size attributable to a deer disease*

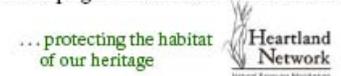
Scientists saw a 71% decline in deer population density from 2005 to 2007. The Missouri Department of Conservation suggested that hemorrhagic fever impacted the population in fall of 2005. A second year of this disease may have caused the further loss of population from 2006 to 2007. Additionally, scientists made several other observations:



Index of deer density estimates during all survey years.

1. Deer at Wilson's Creek NB may be vulnerable to over population, and subsequent disease and starvation, in the absence of predators and hunting.
2. High deer numbers may hamper efforts to restore the cultural landscape of the battlefield to an oak savanna.
3. The first three years of monitoring demonstrated the importance of annual population monitoring in identifying changes in deer population that will impact adaptive management.

Heartland Network Inventory and Monitoring Program of the National Park Service. Visit www1.nature.nps.gov/im/units/htln/index.htm.



¹ Cribbs, J.T. and D.G.Peitz. 2007. White-tailed Deer Monitoring at Wilson's Creek National Battlefield, Missouri: 2007 Status Report. Natural Resource Technical ReportNPS/HTLN/NRTR—2007/027. National Park Service, Fort Collins, Colorado.