Invasive Plant Species at Hot Springs National Park

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.

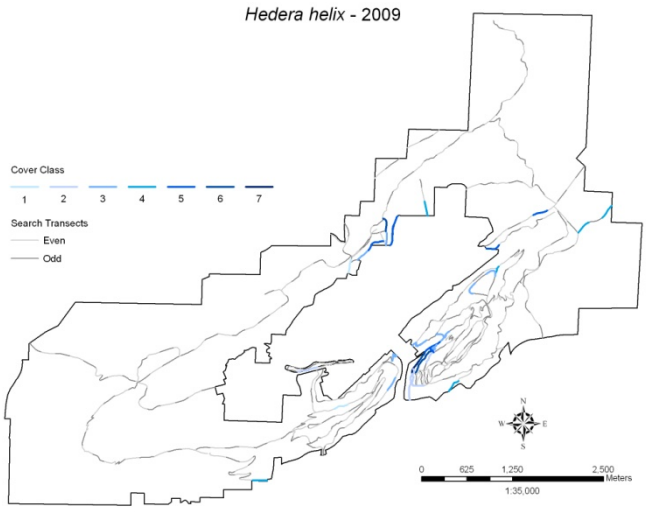

Trail in xeric oak forest

Long Term Monitoring: Early detection and prevention[1]

The Heartland Inventory and Monitoring Network monitors invasive exotic plants to assist parks in early detection and in prevention of invasive infestations in park natural areas. The network and Hot Springs National Park established watch lists for species known to exist in the park, and those that could establish in the foreseeable future. The network developed a methodology to survey invasive plants. Surveys completed in 2009 let scientists calculate invasive plant cover and frequency. Scientists also assigned invasiveness ranks that represented ecological impact and general management difficulty of each invasive species encountered. The invasiveness ranks and total estimated cover assists managers in prioritizing invasive species treatment.

Status and Trends: Management actions should be effective

Scientists documented 37 invasive exotic plant taxa in the sampling sites in 2009. They found two species distributed widely and very abundant: Chinese privet *(Ligustrum sinense)* and Japanese honeysuckle *(Lonicera japonica)*. Twenty-nine species each occurred on less than one acre. The park can expect to control most invasive exotic species in the park, particularly those of low abundance. Scientists also found that



Abundance and distribution of Hedera helix (English ivy) at Hot Springs National Park, 2009. Cover classes are as follows: 1=0.1-0.9 m^2, 2=1-9.9 m^2, 3=10-49.9 m^2, 4= 50-99.9 m^2, 5=100-499.9 m^2, 6= 499.9-999.9 m^2, and 7 " 1,000 m^2.

1. Roadways and trails within Hot Springs National Park may serve as introduction pathways for invasive exotic plant species. See map of English Ivy distribution at left.

2. The proximity of Hot Springs National Park to the city of Hot Springs likely contributes to the occurrence of invasive exotic species within the park.

3. Park use of prescribed fire may serve to control a number of invasive exotic plant species; mechanical methods may prove to be difficult for more abundant and widespread species.

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

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[1] Short, M. F., C. C. Young, C. S. Gross, and J.L. Haack. 2010. Invasive exotic plant monitoring at Hot Springs National Park: Year 1 (2010). Natural Resource Technical Report NPS/HTLN/NRTR—2010/288. National Park Service, Fort Collins, Colorado.