

**SEARCH, SMELL, AND SPRAY: A STRATEGY FOR MONITORING AND CONTROLLING
*LESPEDeza CUNEATA***

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Abstract: Neal Smith National Wildlife Refuge is a prairie reconstruction project initiated in 1991, including 3400 acres of diverse prairie plantings. Invasive sericea lespedeza (*Lespedeza cuneata*) has been found in these plantings. This species poses a serious threat because it is adapted to fire and quickly forms a deep root system, spreading to form dense patches. In 2006 an extensive effort was begun to locate and eradicate plants on the refuge. The infestation was found to be light but widespread throughout many of the plantings, probably transferred by harvesting seed from areas containing *L. cuneata*. Monitoring has been conducted annually by walking through plantings after burning and marking *L. cuneata* plants and patches using Global Positioning System (GPS). *L. cuneata* is spot-sprayed with a 2% solution of triclopyr. Locations are re-visited to treat new seedlings and plants not killed by previous treatments. Locating small, scattered infestations is a challenge because growth of *L. cuneata* coincides with that of native prairie plants, making it difficult to see among prairie vegetation. *L. cuneata* is most visible in fall when it stays green after warm-season grasses begin to cure; however, by this time viable seed is already present. In 2010 the refuge is implementing a search method using specially trained dogs to locate *L. cuneata* by scent. Dogs may be able to detect plants that humans might not see, allowing earlier detection of young plants and new infestations. The efficacy and feasibility of this method will be evaluated.