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Process for developing a leafy spurge strategic management plan within Theodore Roosevelt National Park

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Theodore Roosevelt National Park is managed to represent a primitive vignette of the area as it appeared before extensive settlement of the region. This includes representation of native flora and fauna, as well as other natural and cultural resources values. Leafy spurge is one of 59 species of exotic plants that are known to occur in the park. National Park Service (NPS) policy requires the containment, control and management of exotic species to the greatest degree possible, particularly those with serious ecological effects. Intensive management is required to reduce and contain these infestations while comprehensive and integrated approaches are needed to restore this habitat.

Current research shows that leafy spurge is a serious invader into the park's native vegetation communities, resulting in significant ecological disruption of these communities, and in some instances replacement of all native species in a given locality. Habitat loss also has the potential to adversely affect native ungulate species.

Theodore Roosevelt National Park and Forest Service convened a workshop and special advisory panel of interdisciplinary experts to develop a strategy for control of leafy spurge within the park and adjacent lands. Previous research in the park and management actions were evaluated.

Interagency coordination with USDA-Agricultural Research Service (ARS)-Remote Sensing Research Unit (RSRU) led to the use of an integration of high resolution aerial color photography and airborne video with Global Positioning System (GPS) technologies for detecting and mapping leafy spurge. Preliminary analysis of the data indicated that 1,358 acres were infected in the park's 46,000 acre South Unit. The ARS base map serves as a reference point from which to develop specific recommendations geared to future management implementation and control actions. Advisory panel members used the data in recommending a strategy to implement a variety of integrated pest management (IPM) techniques.

The mapping project helped foster interagency/private cooperation in the management of leafy spurge locally. The NPS, Forest Service, ARS, two county weed boards, a grazing association and twenty-eight private individuals are partners in a North Dakota

Department of Agriculture Weed Innovation Network (WIN) grant. This noxious weed knows no jurisdictional boundaries. Through joint cooperative efforts a strategy will be developed for managing different levels of infestations within identified watershed basins.