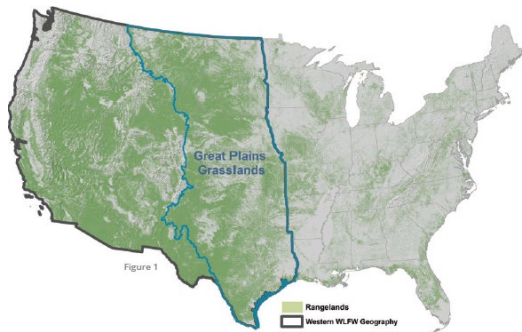


Conserving Resilient Rangelands



NATURAL RESOURCES CONSERVATION SERVICE
WORKING LANDS FOR WILDLIFE

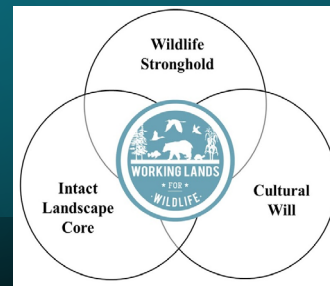
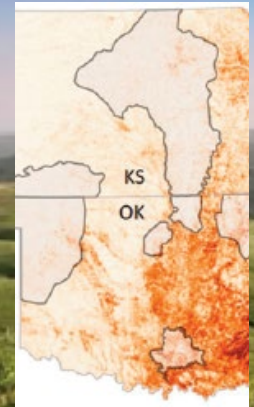
GREAT PLAINS GRASSLANDS BIOME

**A FRAMEWORK FOR
CONSERVATION ACTION**

2021-2025

A Framework for Conservation Action in the Great Plains Grasslands Biome

Threats Addressed



9.8 Million Acres

Our top priority is conserving resilient and intact working rangelands. To achieve this outcome we must halt threats before they begin, reinstate fire back into the system, and work at scales that matter.



Photo: Shutterstock/Max Voran



Woodland Expansion
(7,900,000 acres)

Photo: Dirac Twidwell



Land Use Conversion
(440,000 acres)

Photo: Jeremy Roberts/Conservation Media

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Primary drivers of grassland loss

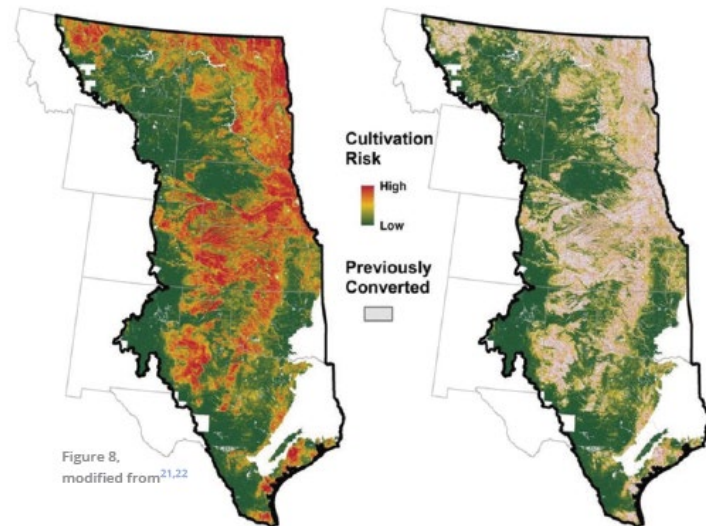
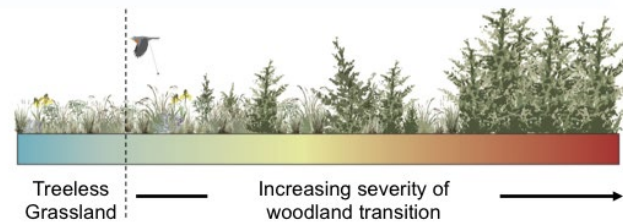
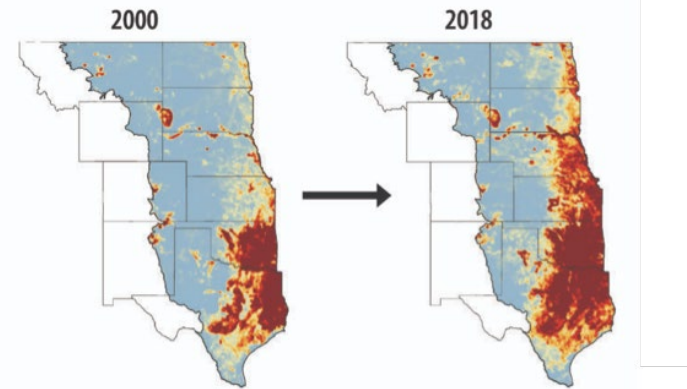
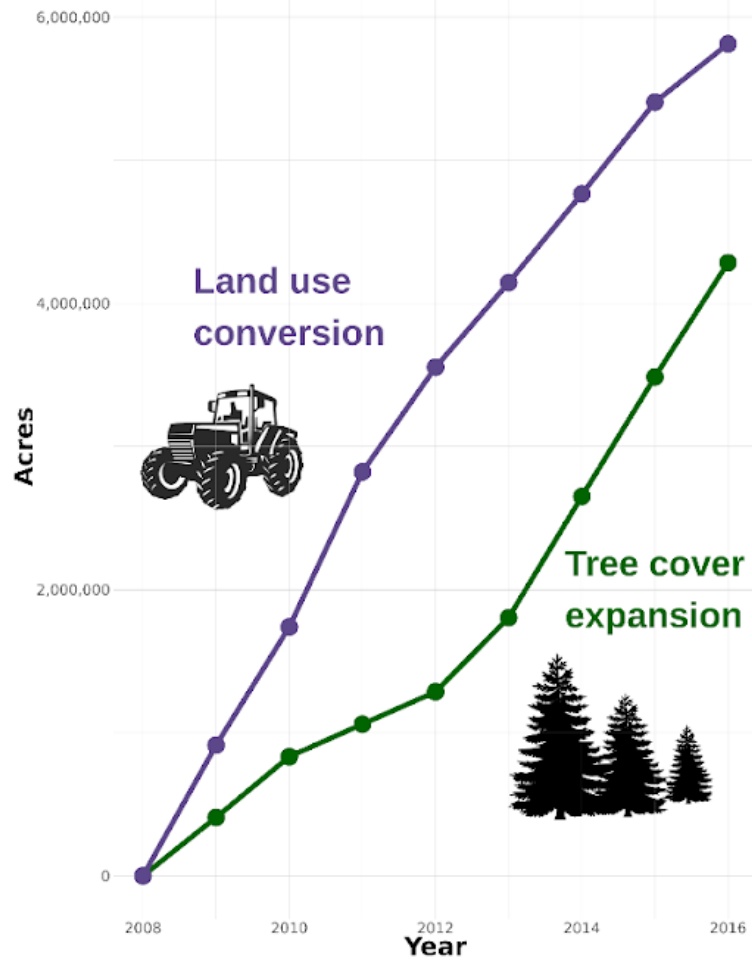
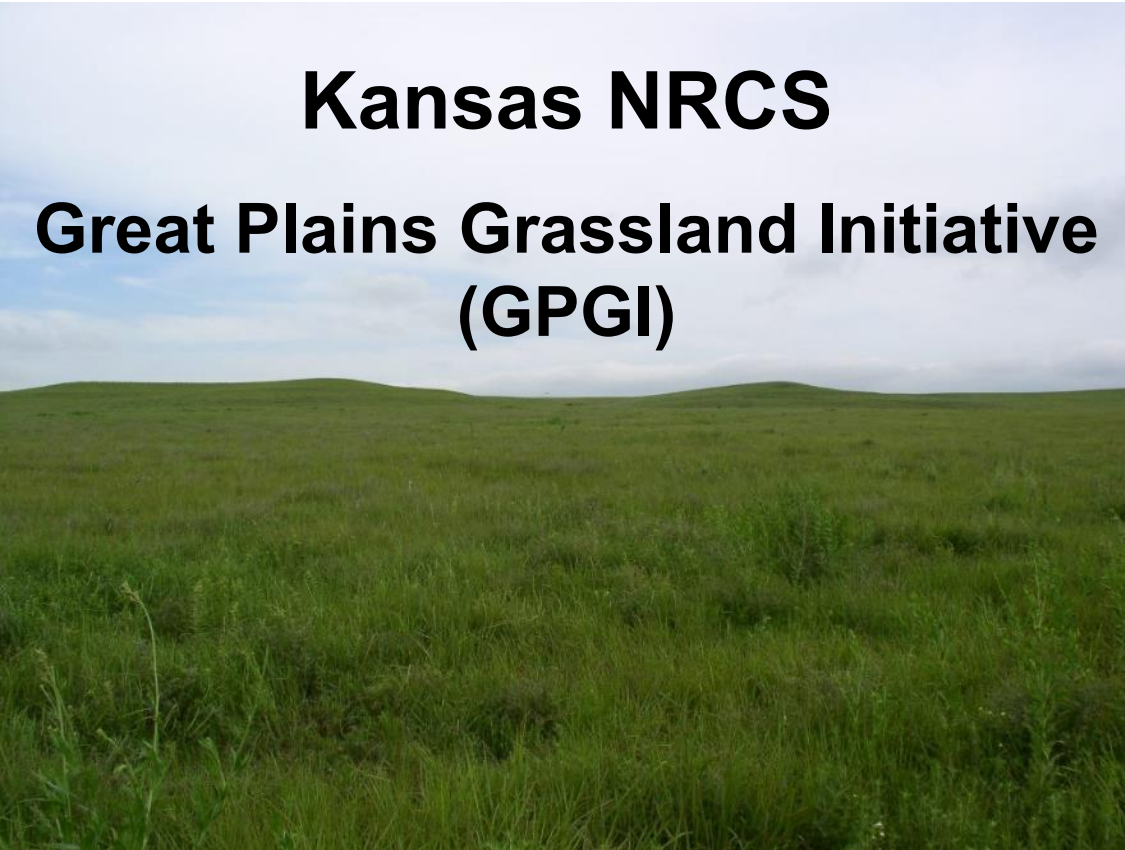


Figure 8,
modified from^{21,22}



United States Department of Agriculture

Kansas NRCS Great Plains Grassland Initiative (GPGI)



RANCHER DRIVEN

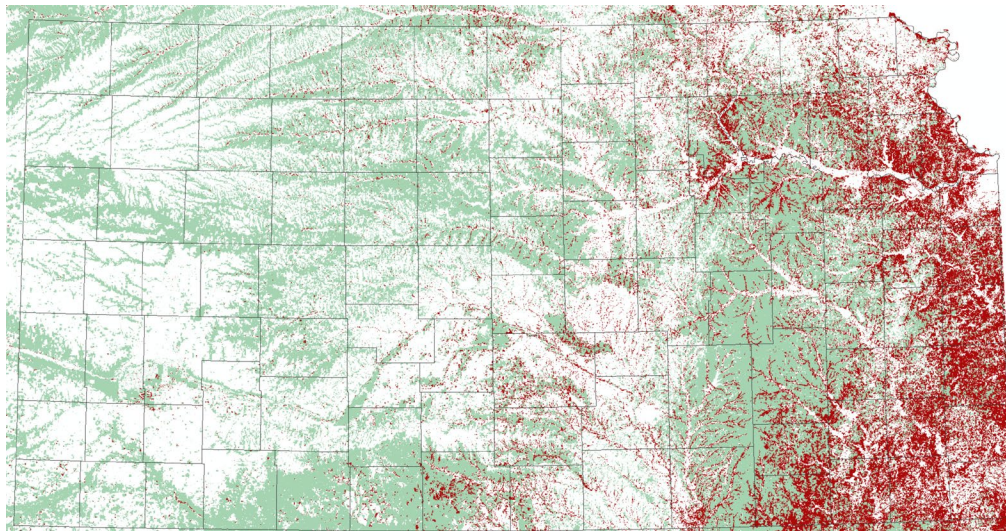
SCIENCE INFORMED

AGENCY SUPPORTED


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Kansas Woodland Expansion

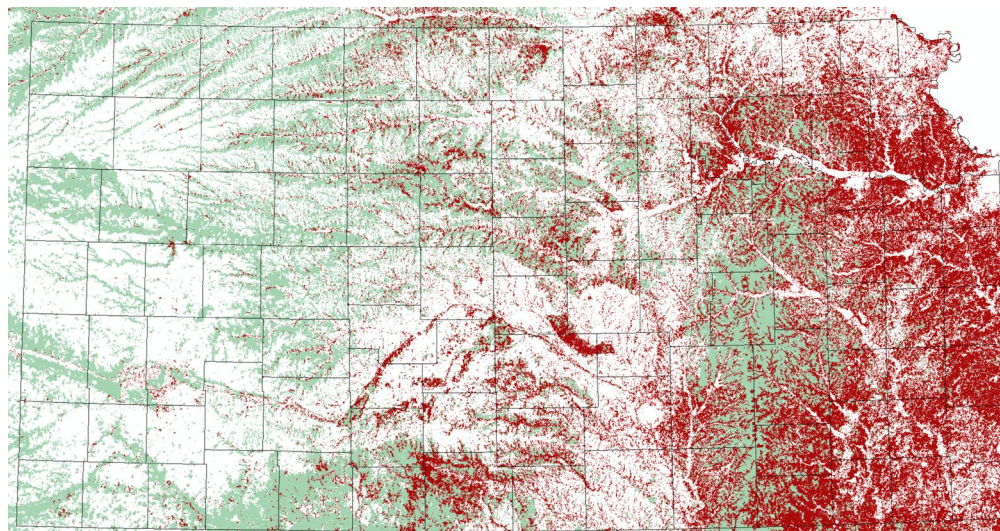


1990

 Categorical tree cover



“Tree Free”



2019

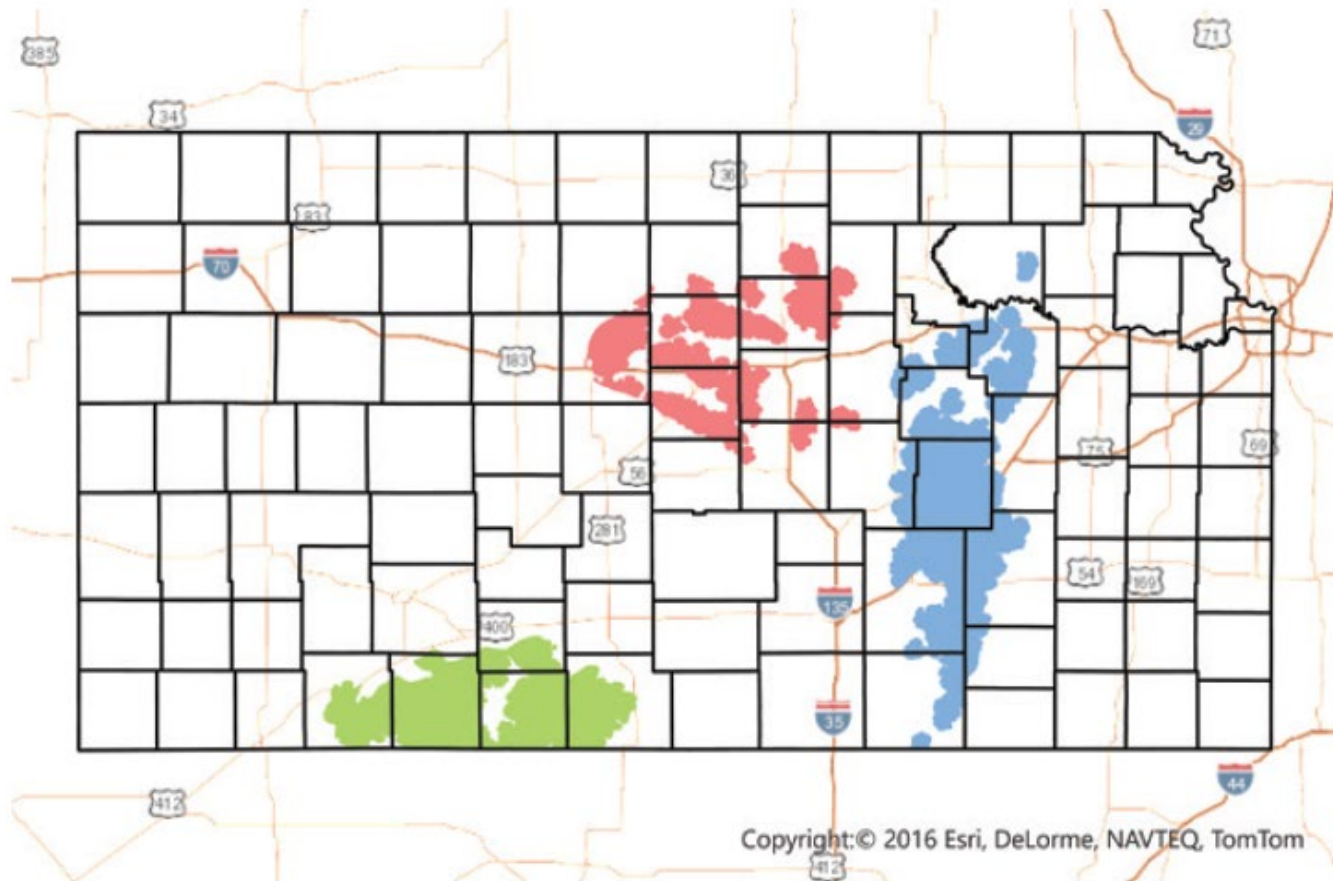
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Data from Rangeland Analysis Platform (RAP)

Kansas GPGI Core Grassland Areas



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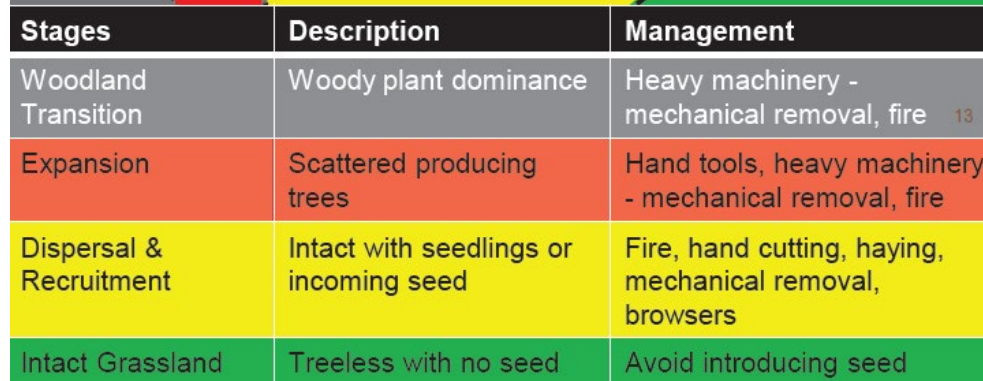


Prevention / Avoidance / Monitoring

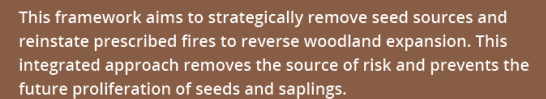
➤ Pest Management Conservation System

- Identify and Implement Prevention, Avoidance, and Monitoring (PAM)





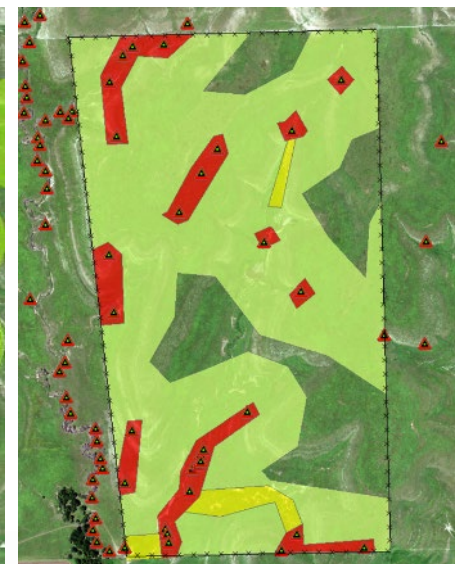
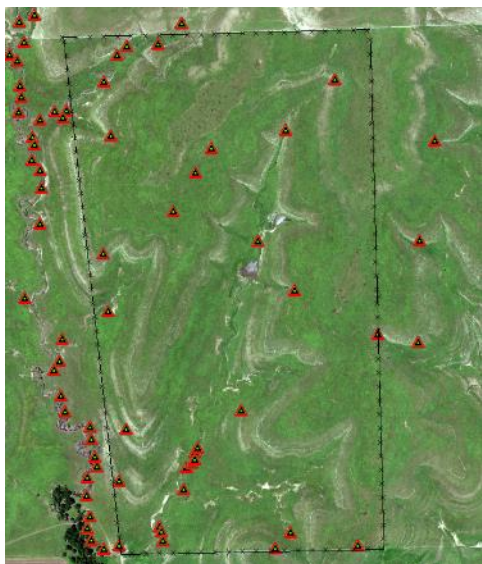
Conifer Encroachment Process (Non-Resprouters)



Woody Plant Encroachment Phases



Baseline Inventory and Continued Monitoring - Mapping



Intact Dispersal Recruitment Encroachment State transition

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Science Suggested Practices

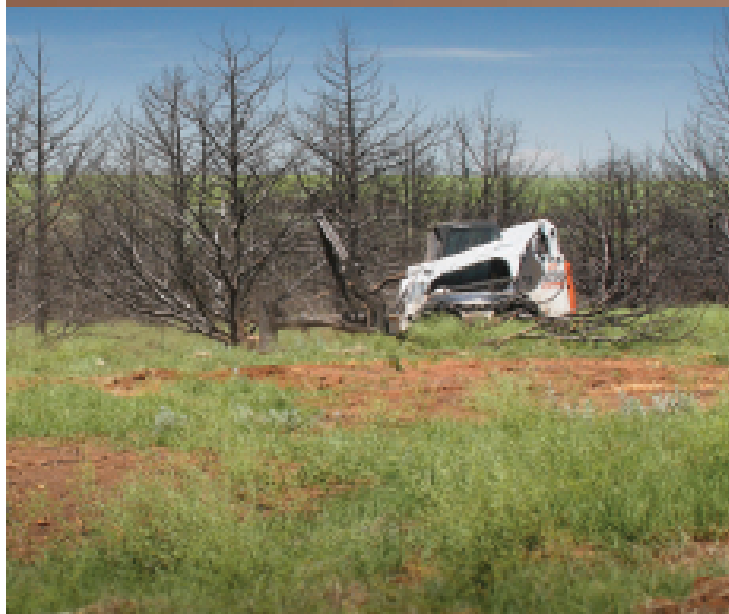
Practice	Woody encroachment stages				Components of risk		
	Intact	Dispersal	Recruitment	Encroachment	State transition	Sensitivity	Exposure
Prescribed fire		X	X	X	X	↓	↓
Hand tool removal			X	X			↓
Haying			X				↓
Goats			X			↓	
Mechanical				X	X		↓
Grazing management						↑↓	

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Graphic from: "A GUIDE TO REDUCING RISK AND VULNERABILITY TO WOODY ENCROACHMENT IN RANGELANDS", Twidwell & Fogarty, Preprint Version



40c: Jeremy Roberts/Conservation Media

ANTICIPATED OUTCOMES

- **Create a network of large-scale demonstration sites.** Few proven examples exist to demonstrate how to conserve large-scale rangelands threatened by woody expansion. A series of demonstration sites are needed across the biome to show how to sustainably manage the remaining grassland regions experiencing woody expansion.¹⁵
- **Prevent loss of rancher income.** Grassland biomass declines 75% once redcedar dominates a site,¹⁰ which reduces forage available for livestock and rancher profitability. Management that prevents woodland expansion sustains ranch income and livestock carrying capacity.
- **Maintain populations of grassland wildlife.** Populations of game and nongame species are negatively impacted by transitions to Eastern redcedar woodlands.¹⁶⁻¹⁸ Restored grasslands provide the diverse and intact habitat needed for wildlife to flourish.
- **Reduce wildfire danger.** Wildfire suppression tactics become ineffective when grasslands transition to redcedar woodlands.¹⁹ Preventing volatile fuels from redcedar expansion reduces wildfire intensity to aid firefighter suppression capabilities.
- **Prevent core area transitions.** Large-scale monitoring indicates that management can maintain and even expand the size of grasslands in priority landscapes.²⁰



United States
Department of
Agriculture

CONSERVING RESILIENT RANGELANDS FOR PEOPLE AND WILDLIFE

NATURAL RESOURCES CONSERVATION SERVICE
KANSAS GREAT PLAINS GRASSLAND INITIATIVE



Discussion



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