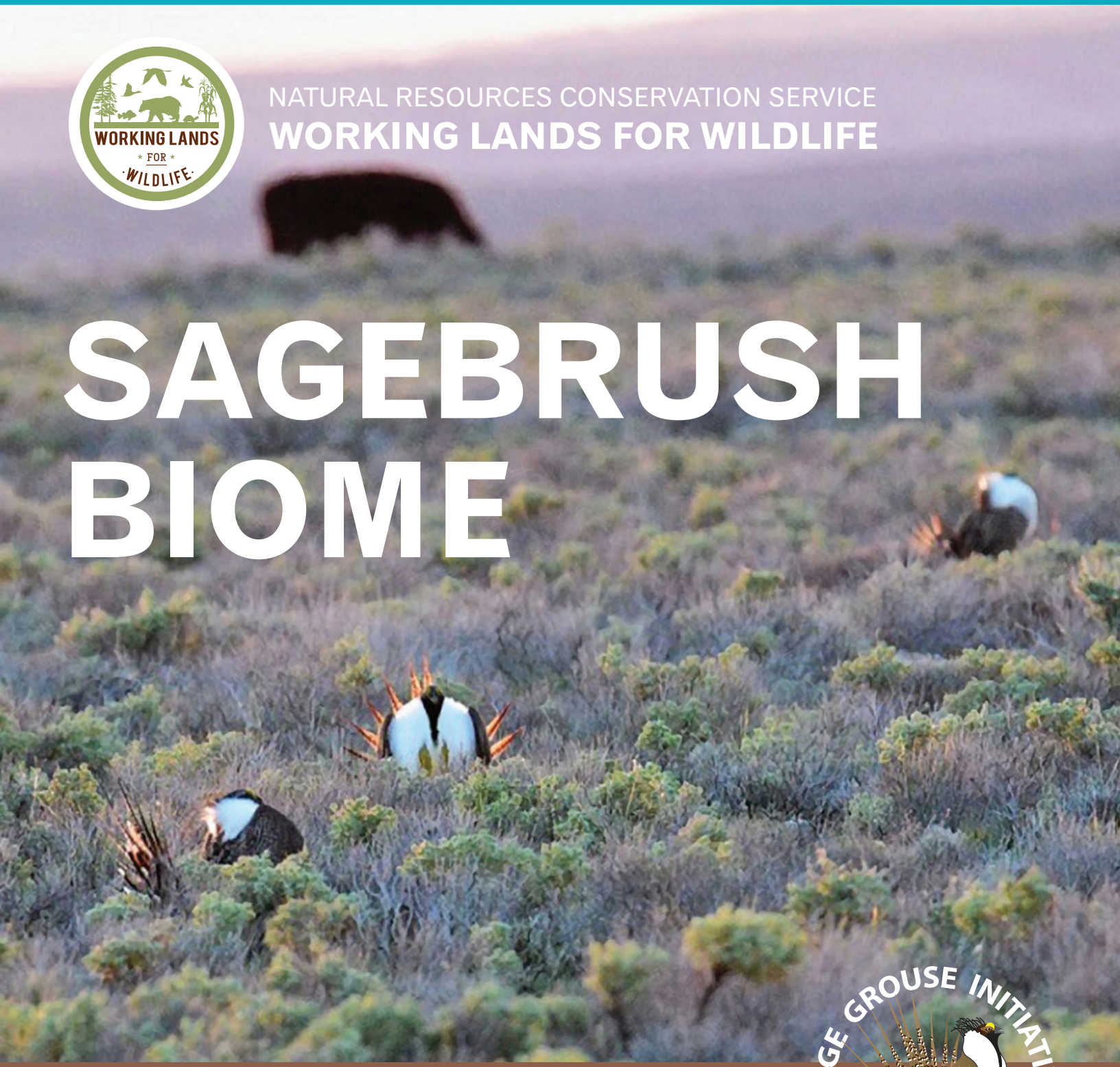
USDA United States Department of Agriculture

NATURAL RESOURCES CONSERVATION SERVICE

WORKING LANDS FOR WILDLIFE

SAGEBRUSH BIOME



A FRAMEWORK FOR CONSERVATION ACTION

SAGE GROUSE INITIATIVE

2021-2025

Threats Addressed

Exotic Annual Grass Invasion

Photo: Justin Fritscher

Invasion of cheatgrass and other exotic annual grasses, such as medusahead and ventenata, likely represents the single-largest threat to America's sagebrush rangelands, reducing forage productivity and carbon storage, and threatening wildlife habitat and rural economies. Bold and coordinated action is needed to ensure working lands remain resilient and productive for current and future generations.

- Cheatgrass doubles the risk of wildfire resulting in a vicious cycle over time: more cheatgrass promotes more wildfire, more wildfire promotes more cheatgrass.[6]
- Exotic annuals green up faster than native plants and dry out earlier, robbing soils of limited moisture, exacerbating drought conditions, extending fire seasons and reducing forage for livestock.
- Conversion of deep-rooted perennial systems to shallow-rooted cheatgrass has climate change implications as it results in loss of persistent below-ground carbon.[8]
- Over 30 million acres of sagebrush rangelands have reached >25% annual grass cover.[7]

GEOGRAPHIC FOCUS

Primarily in the intermountain region west of the Rocky Mountains, but also localized priority sites farther east.

Fortunately, 70% of rangelands in the sagebrush biome still have relatively low annual grass cover providing abundant opportunities for proactive conservation if action is taken today.[7]

CONSERVATION OBJECTIVE

Defend relatively uninvaded sagebrush cores from annual grass conversion and expand them through restoration to maintain productive working lands that are resilient to fire and resistant to invasive annuals.

STRATEGIC APPROACH

Efforts to control invasive annual grasses are too often done reactively where infestations are already bad, at relatively small scales, and without regional context for long-term success. Stopping the wholesale conversion of sagebrush rangelands to annual grasslands requires us to think differently about how to tackle the problem. Science shows that invasive species control is more effective and cost-efficient when done early, before infestations become widespread, and when management is informed by what's going on in the surrounding landscape.

WLFW's approach for tackling this threat relies on statewide maps identifying large, intact core areas with relatively low, or no, annual grass invasion. Core areas serve as anchor points for conservation action and inform a proactive strategy for management: *Defend the Core, Grow the Core, Mitigate Impacts* (Figure 6).[9,10]

Specific actions to reduce this threat vary with landscape context and condition but generally include some combination of herbicides, seeding, and prescribed grazing. Defending relatively

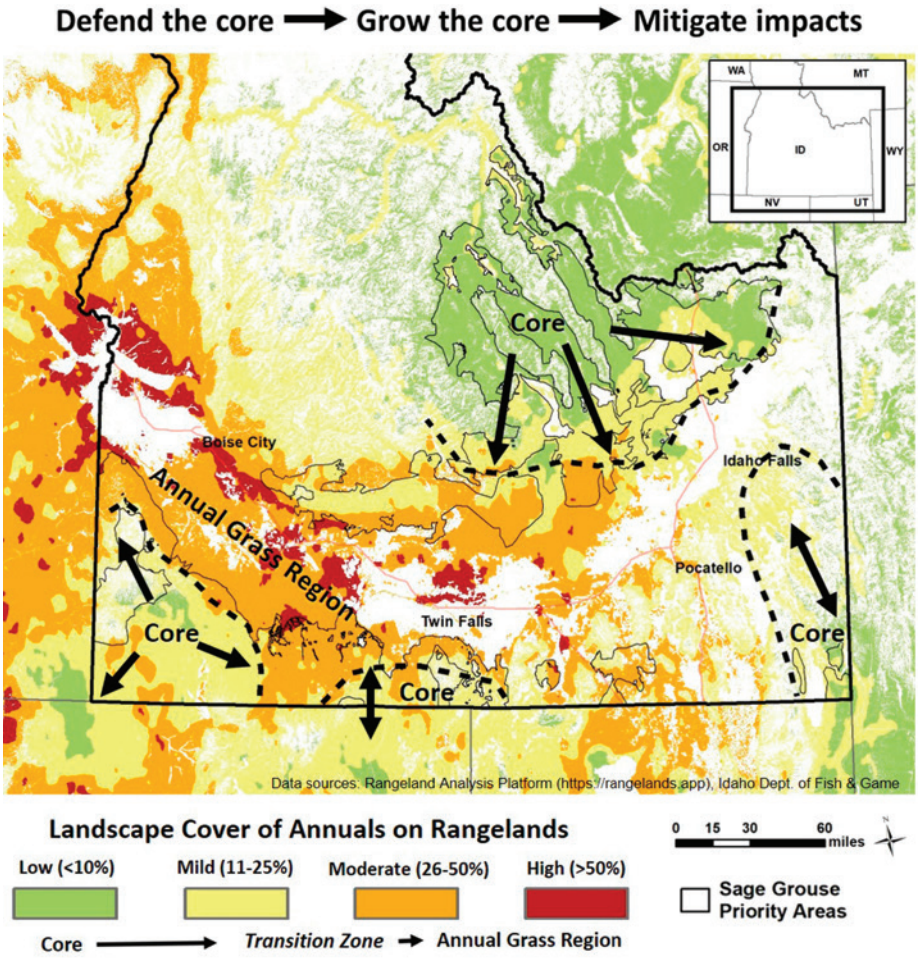


Figure 6

Photo: Kari Greer/USFWS

uninvaded cores from annual grass conversion is a top priority and key strategies include: detection and prevention of early invasions, targeted herbicide use to eliminate or reduce invasive annual grass seed sources, and grazing management to maintain and promote perennial grass health.

A secondary priority is to grow the core, primarily through restoration of perennial vegetation in the transitioning zone, which often requires weed control and seeding. Finally, some perpetual management will be required in annual grass dominated regions to mitigate the most severe impacts of the cheatgrass-fire cycle on life and property. Primary actions there shift to reducing fine fuels through herbicides, targeted or dormant season grazing, and seeding of perennial grasses.

ANTICIPATED OUTCOMES

Setting realistic expectations and timeframes for recovery of desired conditions are essential since tackling invasive annuals is a long-term commitment, not a "one-and-done" land treatment. However, some anticipated outcomes in the near-term include:

- ***Implement large-scale demonstration projects.*** Few examples of successfully addressing this threat exist today, so it's important to establish large demonstration projects across the biome to show we can move the needle on annual grass invasion.

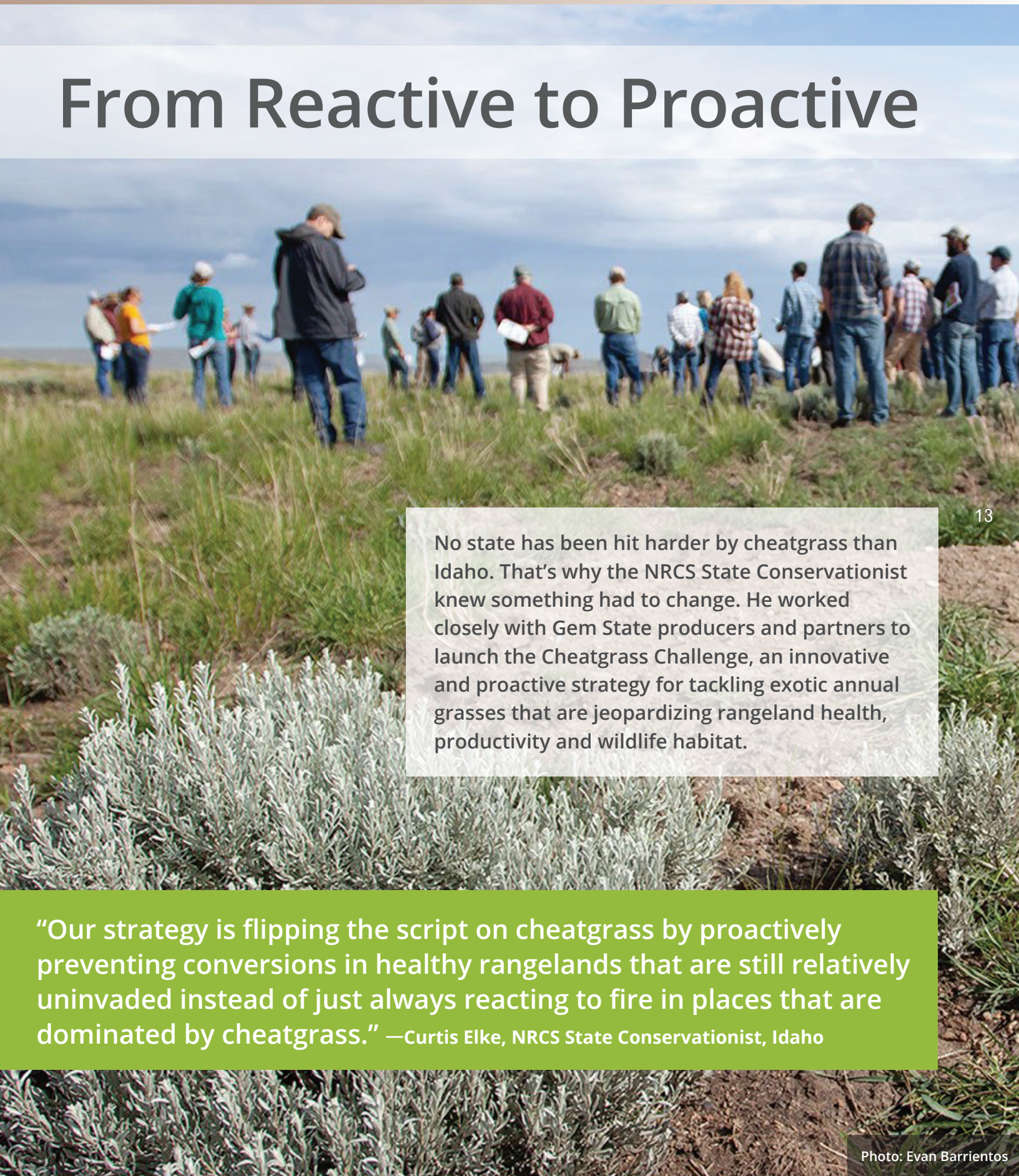
- ***Increase resilience to fire and resistance to invasion.*** Perennial grasses are key to maintaining resilience to fire and resistance to cheatgrass.[11] Project area results indicate sites are trending towards stable or increasing perennials and fewer invasive annuals.

- ***Reduce annual grass fuels.*** Where invasive annuals already exist, biomass data indicate annual grass productivity has been reduced in project areas, limiting invasive fine fuels available for wildfire.

- ***Prevent core area transitions.*** Remotely sensed monitoring data show the size of intact cores in priority landscapes are being maintained or expanded and large-scale state transitions to annuals halted.[12]

Success Spotlight

From Reactive to Proactive



No state has been hit harder by cheatgrass than Idaho. That's why the NRCS State Conservationist knew something had to change. He worked closely with Gem State producers and partners to launch the Cheatgrass Challenge, an innovative and proactive strategy for tackling exotic annual grasses that are jeopardizing rangeland health, productivity and wildlife habitat.

"Our strategy is flipping the script on cheatgrass by proactively preventing conversions in healthy rangelands that are still relatively uninvaded instead of just always reacting to fire in places that are dominated by cheatgrass." —**Curtis Elke, NRCS State Conservationist, Idaho**

Photo: Evan Barrientos

Photo: Jeremy Roberts/Conservation Media

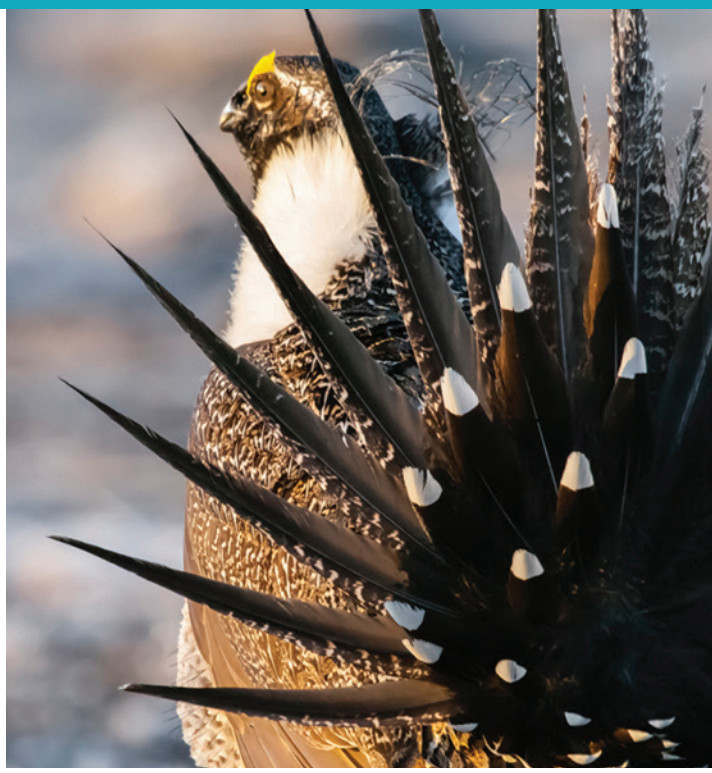


Photo: Rick McEwan

Photo: Jeremy Roberts/Conservation Media

Photo: Rocky Mountain Elk Foundation

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