



A proactive strategy for halting conversion of sagebrush rangelands to annual grasslands

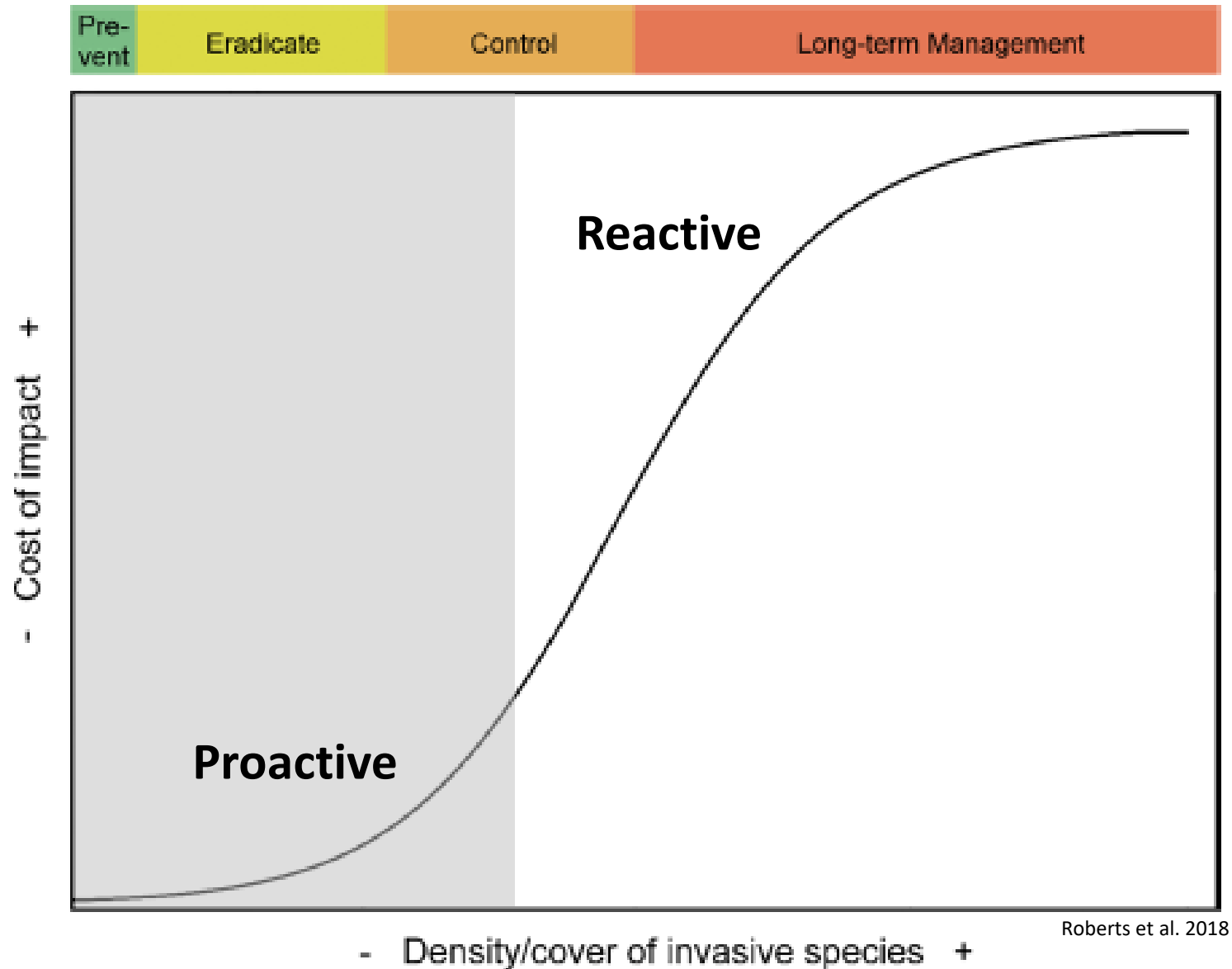


Invasive annual grasses increase wildfire size and frequency, reduce forage productivity, threaten wildlife habitat and rural economies

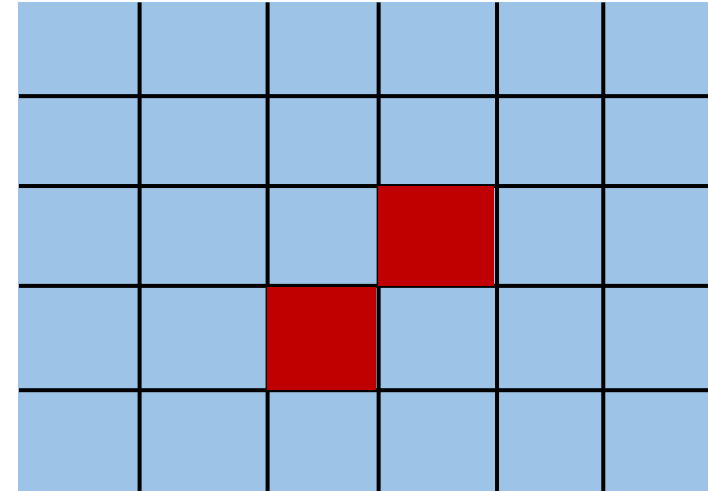
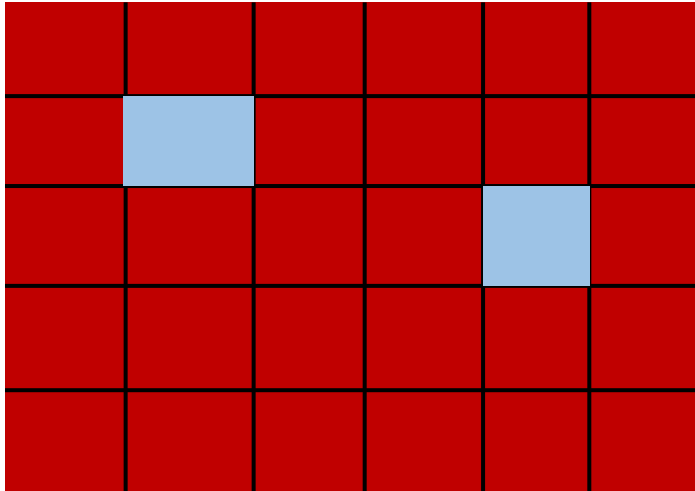
A group of five people are pushing a large white truck that is stuck in a deep, muddy rut. The truck is white with a large black grille. The people are wearing casual work clothes, including plaid shirts, jeans, and caps. They are all leaning against the side of the truck, pushing it forward. The background shows a dry, hilly landscape with sparse vegetation under a clear blue sky. The text "Why haven't past efforts been working?" is overlaid in white, bold font across the middle of the image.

Why haven't past efforts been working?

Invasive Species Management 101 teaches us we need to be proactive



Landscape Ecology teaches us that context matters



Annual grass-infested



No/low annual grasses

Which landscape is annual grass control more likely to be more effective in?

Common Sense teaches us that Teamwork Matters

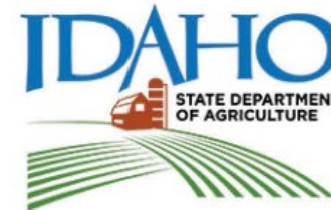


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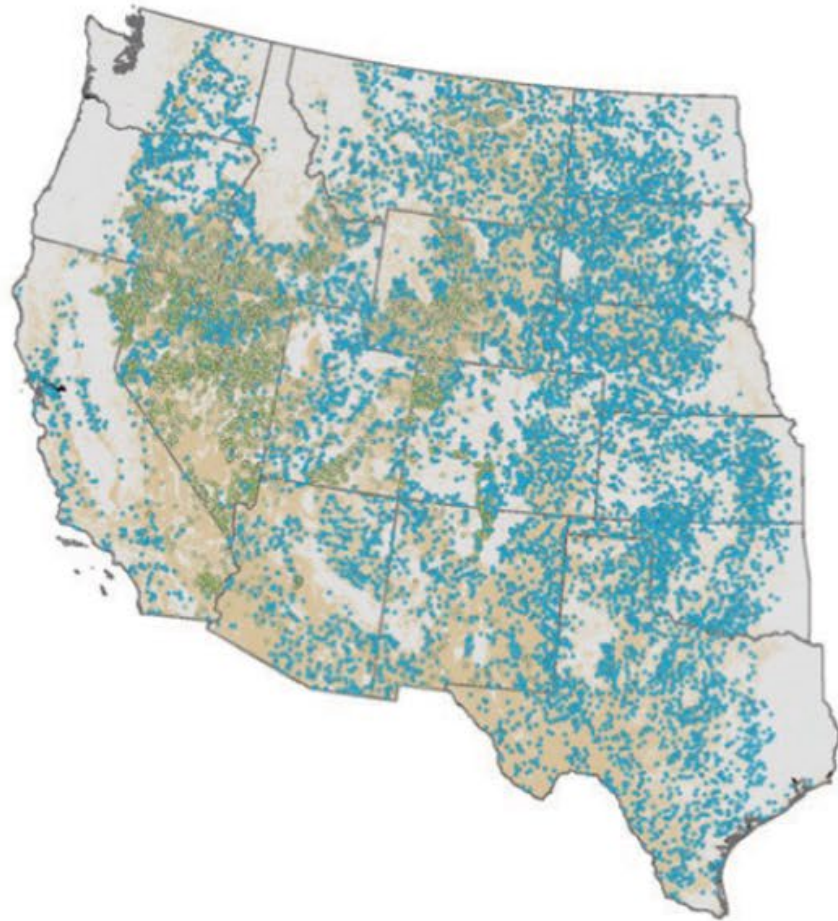




RANGELAND ANALYSIS PLATFORM

REVOLUTIONIZING RANGELAND MONITORING

<https://rangelands.app/>



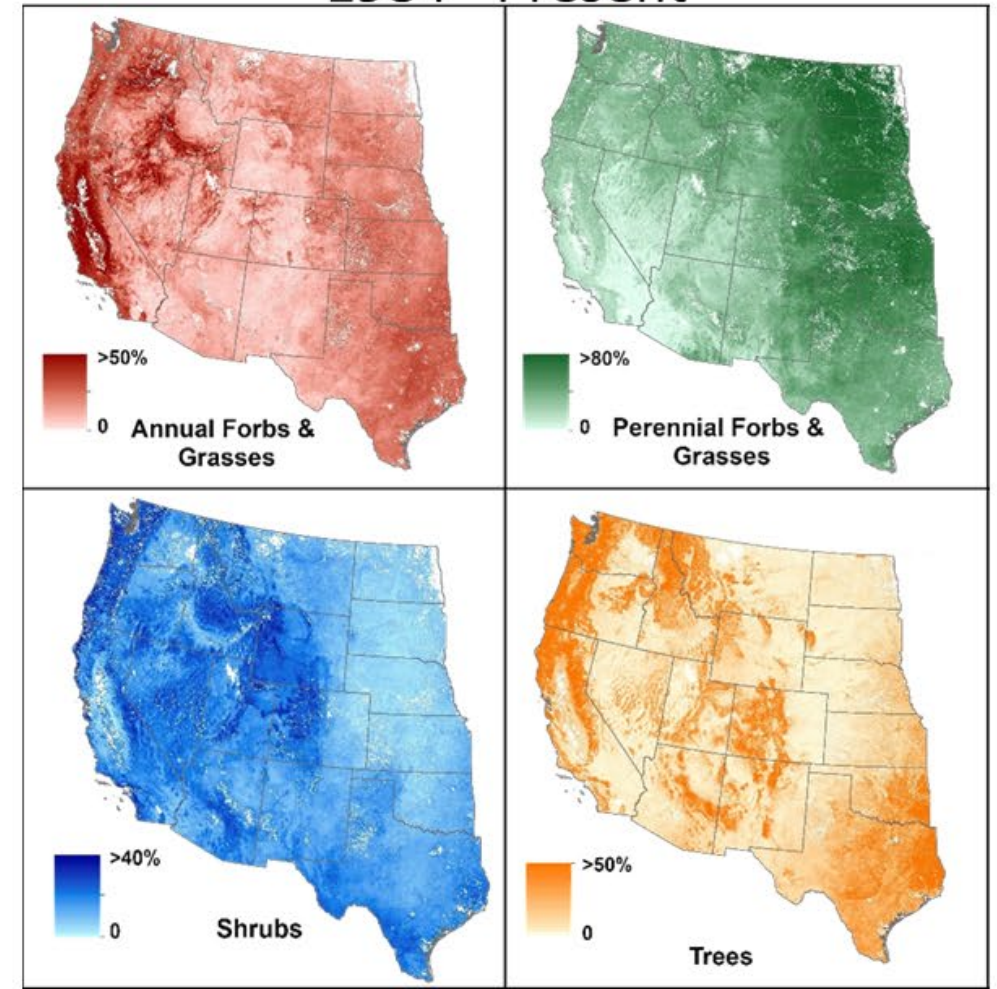
● NRCS NRI
● BLM AIM

Biotic and Abiotic
Land Surface Data

Cloud Computing
Machine Learning

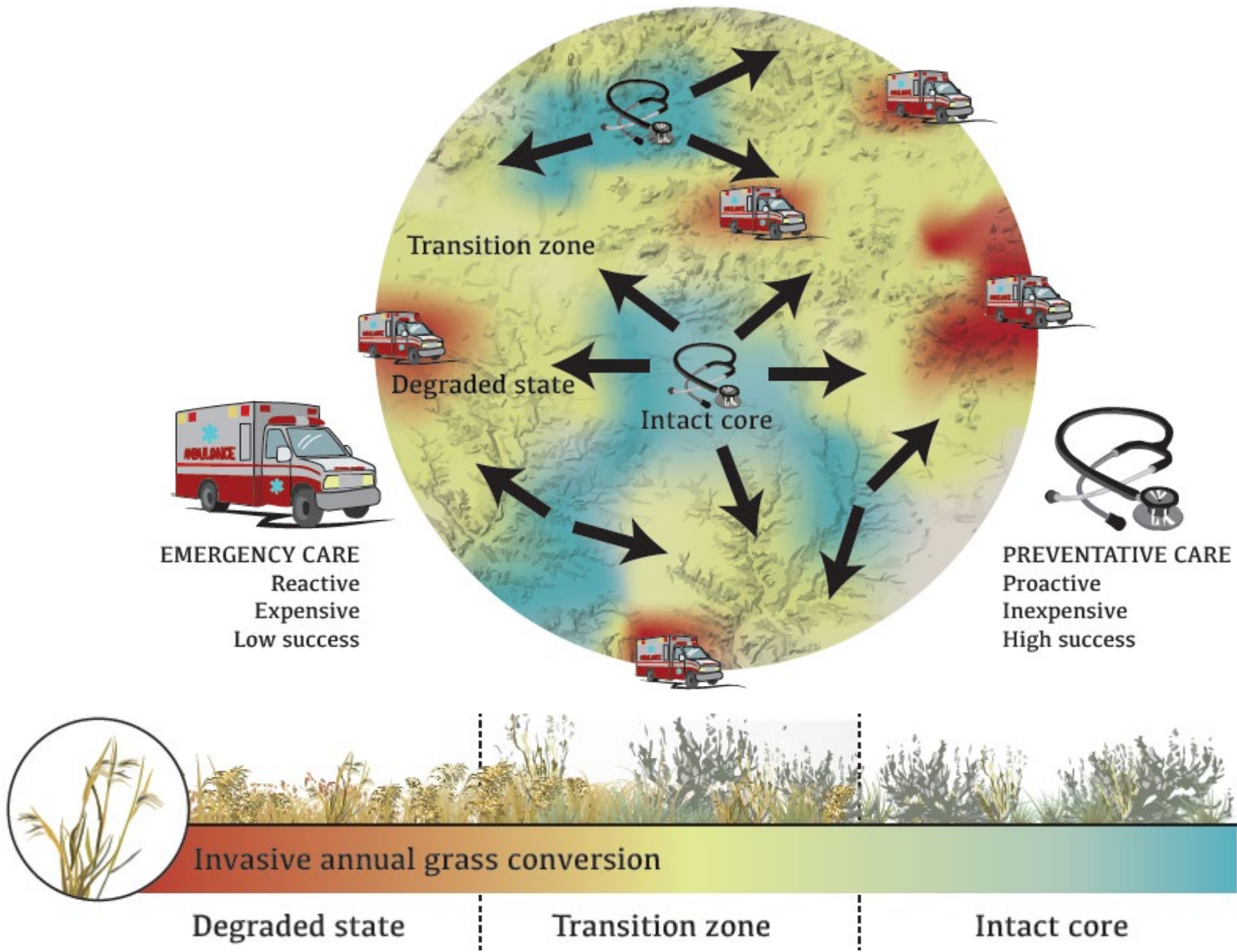
Google

1984 - Present



Proactive strategies

in the right places



Developing a Spatial Strategy

Identified 3 Broad Region Types

1) Core

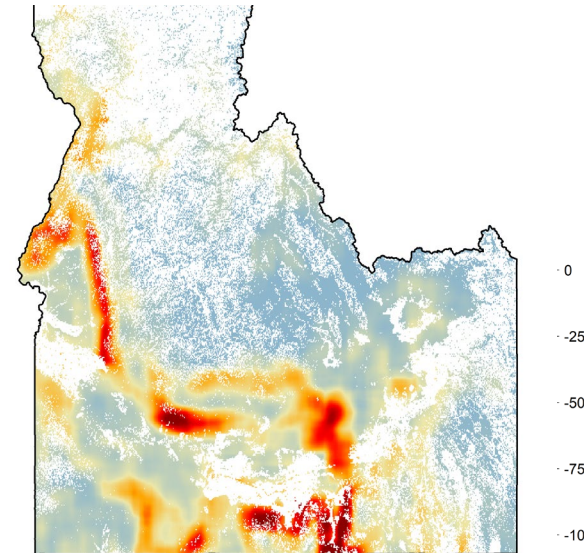
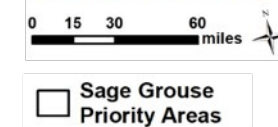
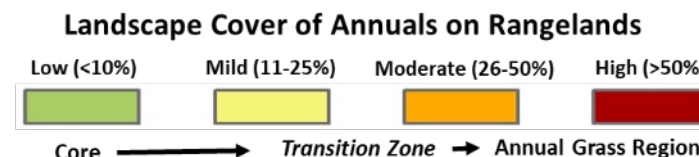
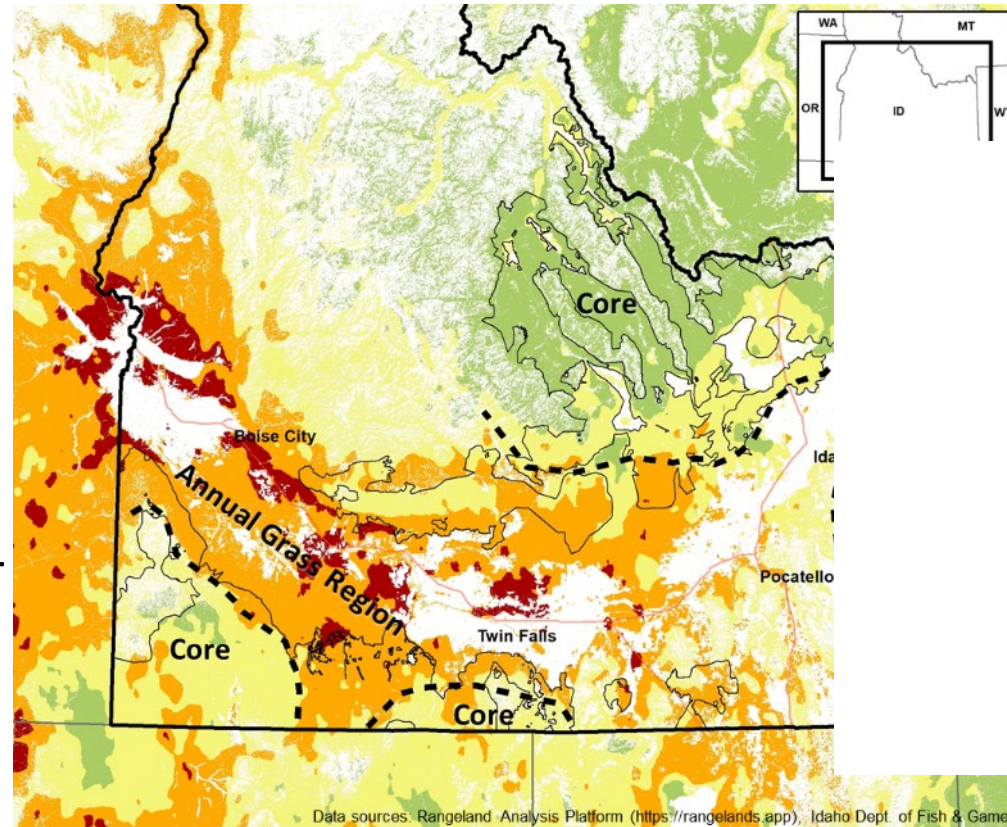
- Regionally intact; relatively low cover of annuals

2) Annual Grass Region

- Dominated by moderate-to-high cover of annuals

3) Transition Zone

- Areas actively undergoing regional state transitions to annual grasses

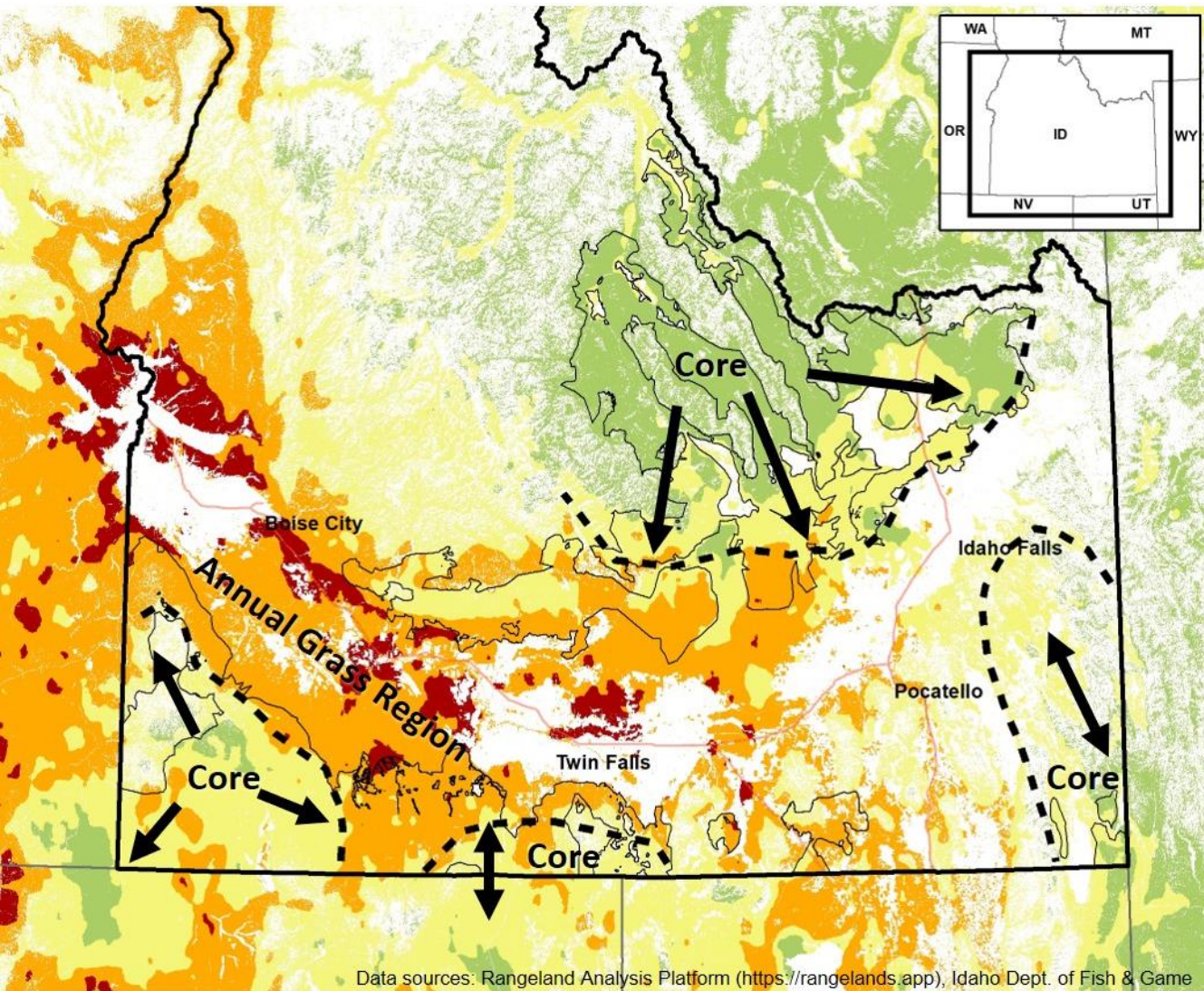


Data sources:
Transition data: (Uden et al., 2019)
Landscape cover: Rangeland Analysis Platform
(<https://rangelands.app>; Jones et al., 2018)

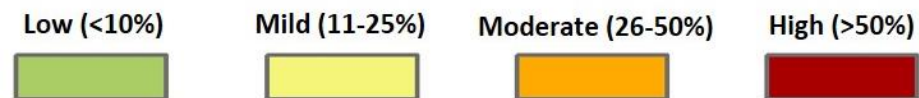
Idaho's Cheatgrass Challenge Strategy

Defend the core → Grow the core → Mitigate impacts

1. Defend relatively intact core from annual grass conversion
2. Grow the core over time
3. Mitigate severe impacts of the cheatgrass-fire cycle on life and property



Landscape Cover of Annuals on Rangelands



Core → Transition Zone → Annual Grass Region



Sage Grouse Priority Areas

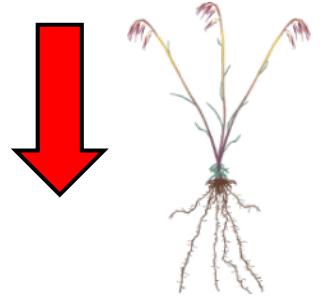
Prioritizing where to work within regions

- **Local knowledge**
- **Vegetation data**
- **Resource values**
 - Sage grouse priority areas, big game habitat, etc.
- **Risk maps**
 - Invasive annual grass suitability models, Resistance/Resilience maps
- **Soils data**
- **Topographic maps**
 - Elevation, aspect, roads
- **Readiness/leveraging**
 - Existing agency authority, capacity, other projects, etc.



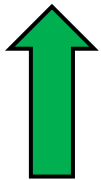
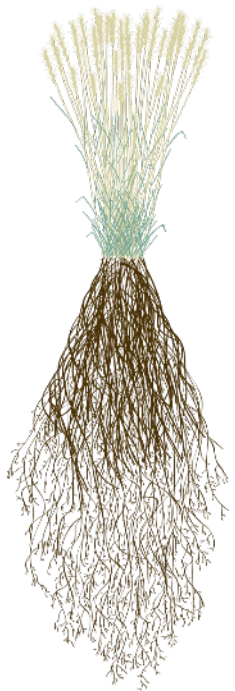
Shared Vision: *Productive, working rangelands that are resilient to fire and resistant to invasive annual grass conversion*

Manage against invasive annuals



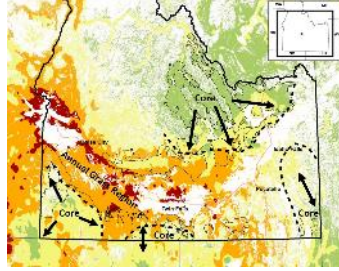
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Manage for perennials





What actions can land managers take?



Prevention/EDRR

- Early Detection Rapid Response (EDRR)

Restoration/Management

- Roadside management
- Post-fire rehabilitation
- Restoration

Containment/Mitigation

- Fine fuels reduction (strategic grazing and/or fuel breaks)



What does success look like?

Metrics of success in the near term might include:

- Increased stakeholder awareness
- **Improved stakeholder coordination and prioritization**
- Changed behavior
- **Large-scale demonstration projects**
- Local vegetation data trending in the right direction
- Monitoring data showing intact cores are being maintained, improved, and/or are expanding

Stakeholders Matter



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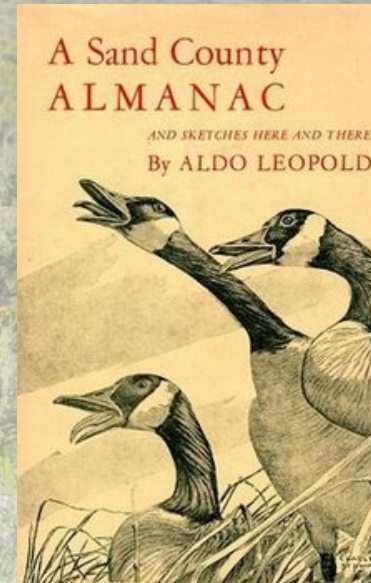
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A Call-to-Action

“I listened carefully for clues whether the West has accepted cheat as a necessary evil, to be lived with until kingdom come, or whether it regards cheat as a challenge to rectify its past errors in land-use. I found the hopeless attitude almost universal. There is, as yet, no sense of shame in the proprietorship of a sick landscape.”

~ Aldo Leopold, “Cheat Takes Over”
A Sand County Almanac (1949)



Resources

- Idaho Cheatgrass Challenge landing page:
<https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/id/newsroom/?cid=nrcseprd1534028>
- Rangeland Analysis Platform (RAP)
<https://rangelands.app/>
- Idaho-specific Landscape Cover of Annuals
<http://rangeland.ntsg.umt.edu/data/rap/rap-derivatives/cheatgrass-challenge/>

