Precision Science: Informing Restoration Decisions

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Precision Science

• One size does not fit all
• Understanding local/regional conditions to inform restoration decisions
  – Threats
  – Soils
  – Precipitation gradients
  – Right plant in the right place
• Clearly defined goals
• Greater sage-grouse and sagebrush
Greater Sage-Grouse
Threats to Greater Sage-Grouse Habitat

- Altered fire regimes
- Conifer Encroachment
- Energy Development
- Agricultural Conversion
Environmental Gradient Within the Sagebrush Ecosystem

- Wyoming Big Sage
- Big Sage - Pinyon/Juniper
- Mtn Big Sage
- Mtn Big Sage - Mtn Brush

Warm-Dry → Cold-Moist

Elevation/Productivity

USGS
Soil Temperature and Moisture Regimes can be used as coarse, landscape indicators of potential resistance of sagebrush to cheatgrass invasion and resilience following disturbance.
Landscape Cover of Sagebrush

(Chambers et al. 2014)

Sagebrush Landscape Cover (%)

(Modified from Knick et al. 2013)

Greater Sage-grouse

(Modified from Knick et al. 2013)
Strategic Decisions

Healthy Sagebrush  
Sagebrush–Cheatgrass Mix  
Cheatgrass Dominated
Science Informing Restoration Decisions