

Greater Sage-Grouse

12-month
Finding



Administrative Background

- Petitioned/Court Actions addressed in current action:
 - GSG, Bi-State (Mono Basin), Western subspecies
- 2004/5 Greater sage-grouse finding
 - 90 Day Substantial due to factor A and D concerns
 - 12 month not-warranted
- 2005 finding remanded December 2007



Biological Background

Species

- Sagebrush obligate
 - food, cover, reproduction
- Long-lived, low reproductive rates
- Can be migratory
- High fidelity to seasonal habitats

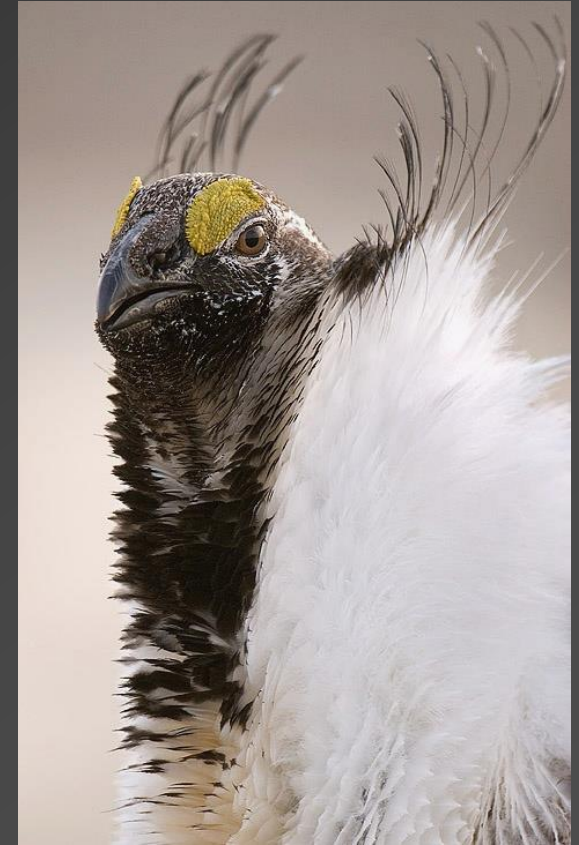
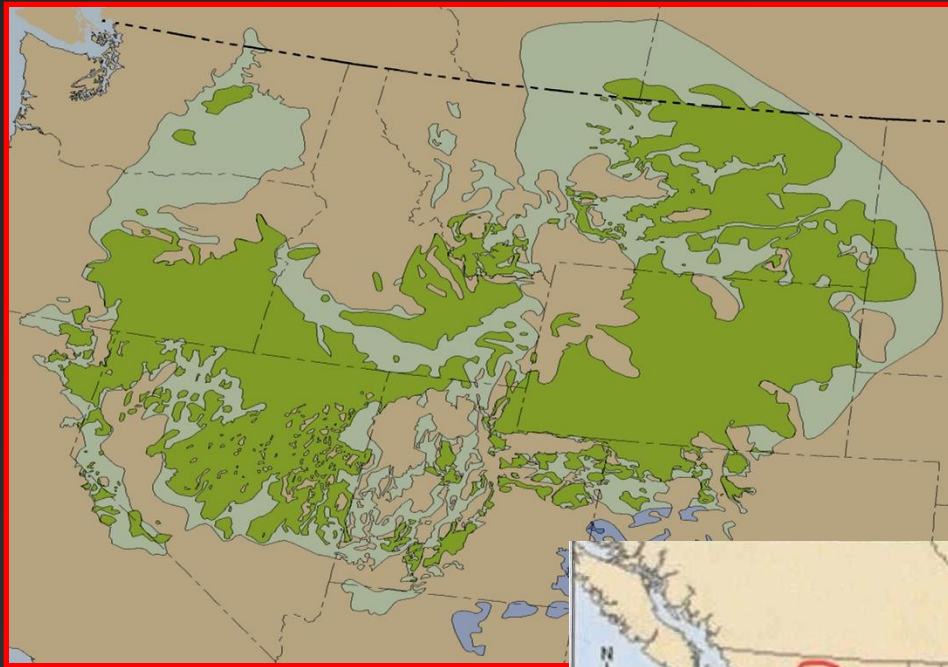


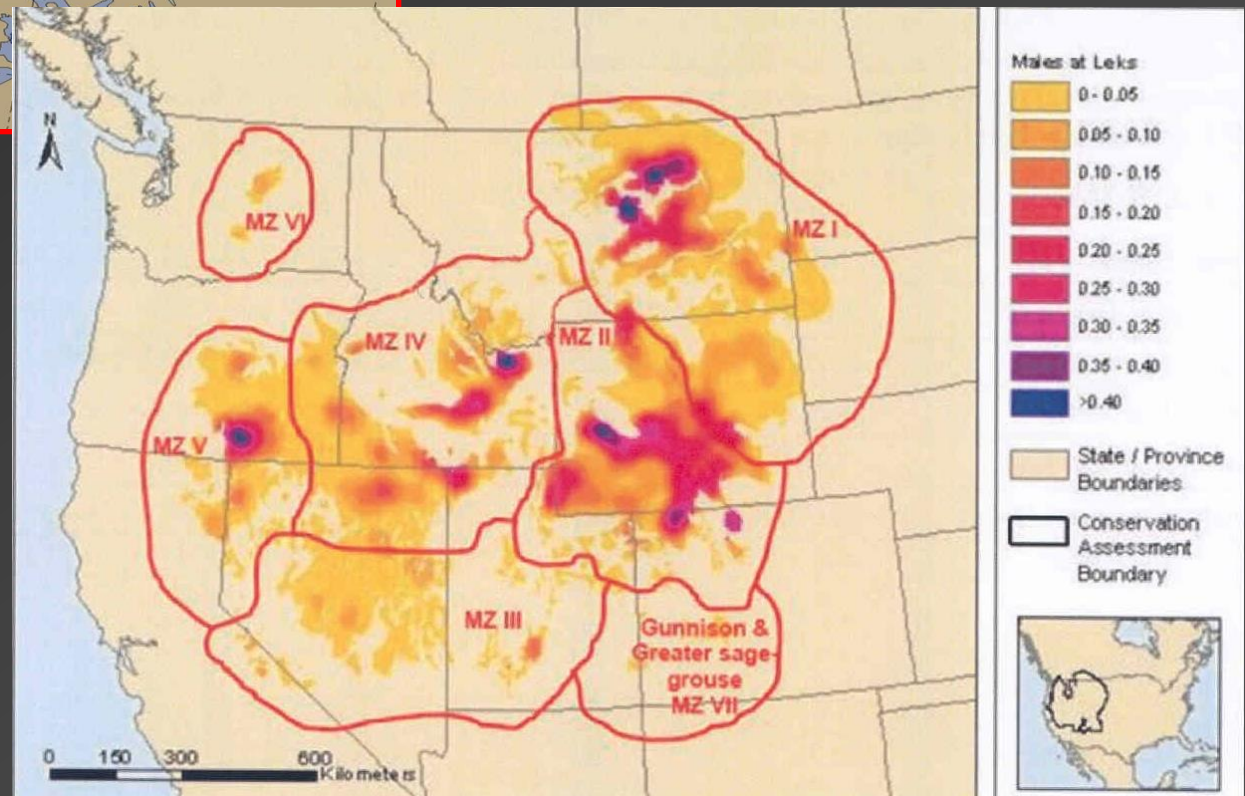
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Landscape scale species

Historic and current range



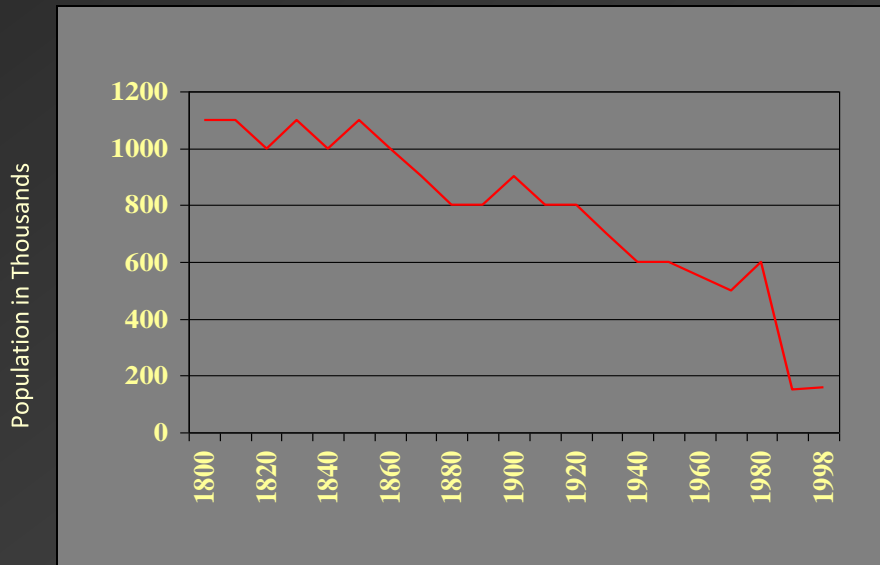
Sage-grouse distribution



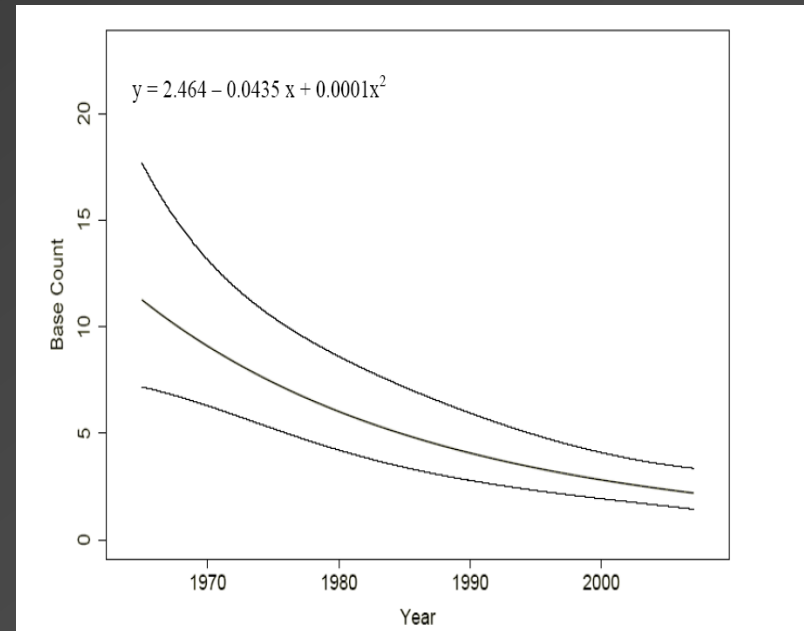
Population Trends

Estimated decline of 80 to 90 % from
pre-settlement numbers

Decline of 30% since 1985



WAFWA 1999 (1800 – 1998)



WAFWA 2008 (1965 – 2007)

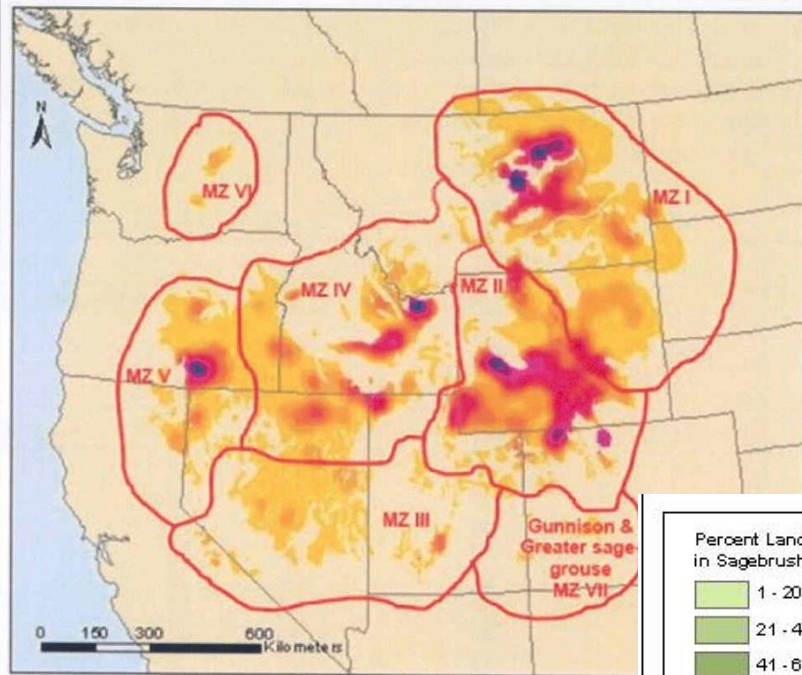
Biological Background

Habitat

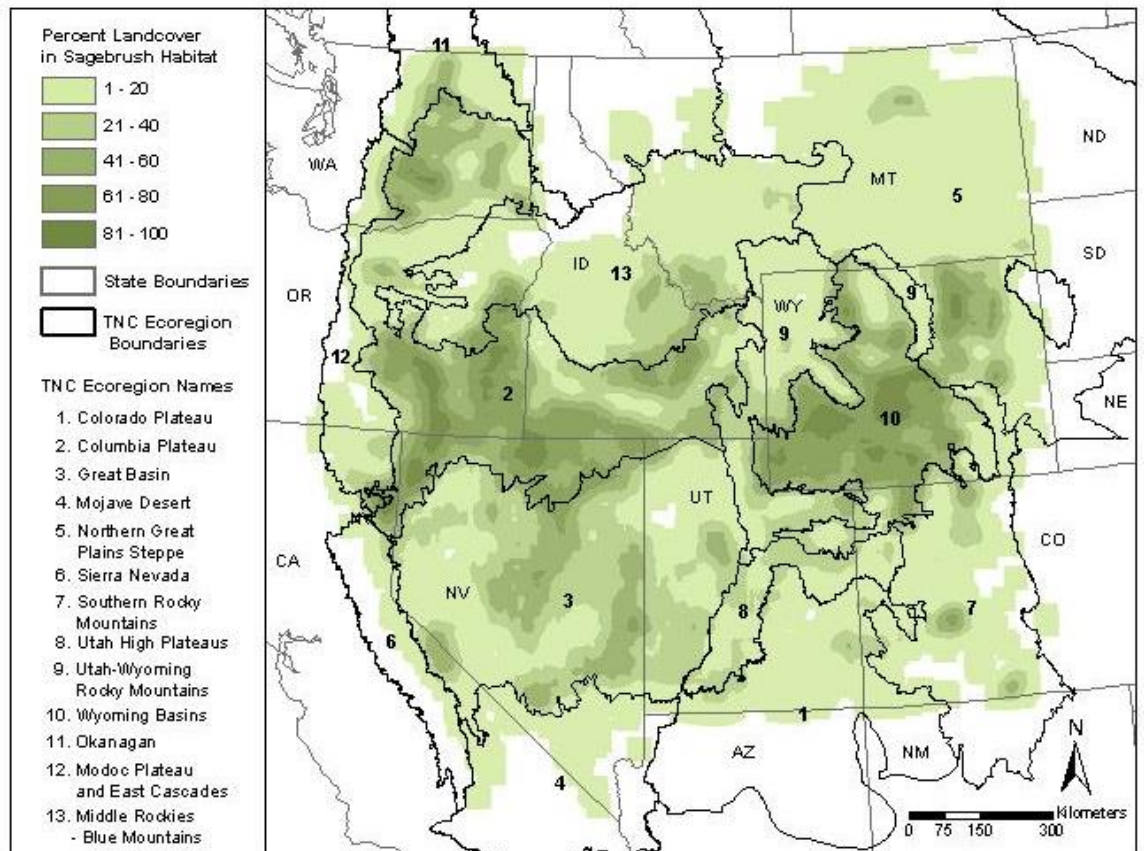


- Sagebrush is essential
 - Not all are equal habitat for grouse
 - Also need the healthy understory
- Long restoration times: 20 to > 100 years depending on species and conditions
- Fire kills sagebrush
- Seed banks do not persist
- We don't know how to restore or "fix" it

Sage-grouse distribution



Sagebrush distribution

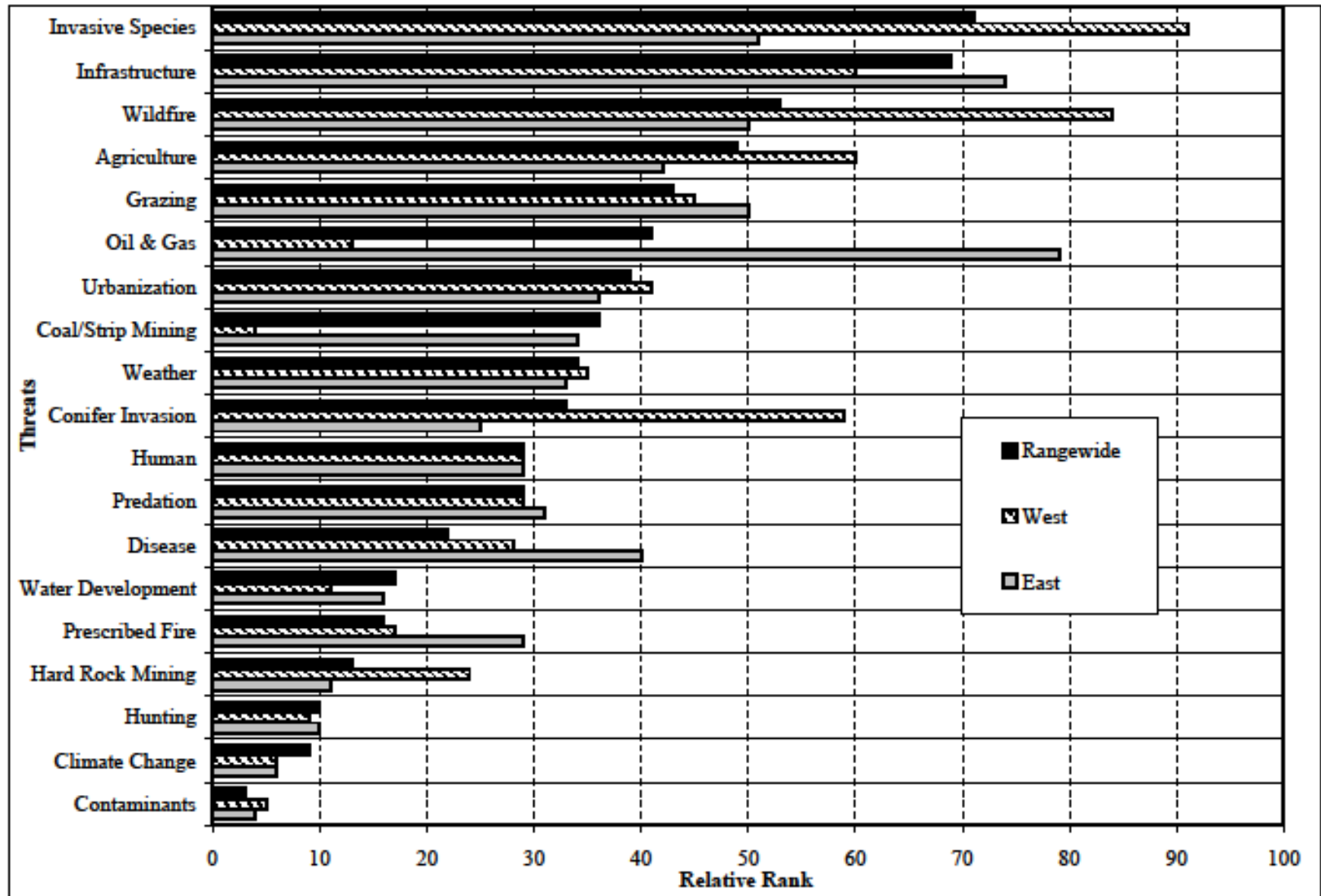


2005 Finding



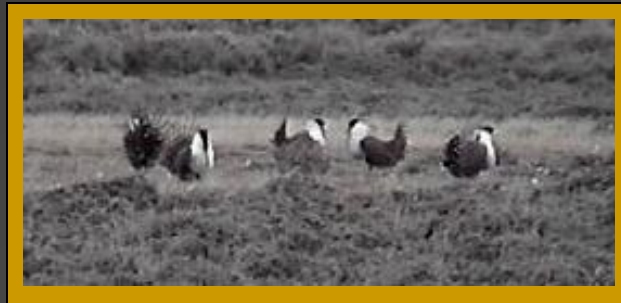
- Primary threats identified by the expert panel were related to habitat loss and degradation (Factor A)
- Threats varied by portion of the range but all degraded and/or fragmented habitat
- Primary threats in the eastern portion of the range were anthropogenic factors (e.g., energy development and associated infrastructure)
- Primary threats in the western portion of the range were invasive species (e.g. annual grasses) and fire frequency that resulted.

2005 Finding



Changes since 2005

- Threats identified in 2005 remain but with additional new threats (e.g., wind power and West Nile virus).
- Scale and intensity of 2005 threats have increased and are exacerbated by the synergistic effects: e.g. disease and climate change
- Much clearer understanding of how threats affect viability.
- Regulatory mechanisms on federal lands (60% of the extant habitat) have not been effective at addressing threats.





Primary Threat

Fragmentation

■ Energy Development

- NE WY: 79% decline in 12 years
- No affect with ≤ 1 well pad per sq mi
 - Most fields 16-128 pads per sq mi



■ Invasive Species/Fire

- Historic fire cycle 200-350 years; now 70 to 158 years
- In Great Basin: 27% of sage-grouse habitat has burned since 1980

■ Agriculture

- 19 % of SB in MT lost to AG
- 84 % of SB in MT affected



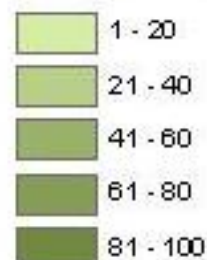
Current Status and Threats

- New literature identifies 2 large strongholds that provide the landscape scale, contiguous habitats sage-grouse need (Wisdom *et al.*, *in press*)
- Other areas are highly fragmented due to anthropogenic impacts, and low resiliency for returning to native vegetative states following disturbance



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Percent Landcover
in Sagebrush Habitat

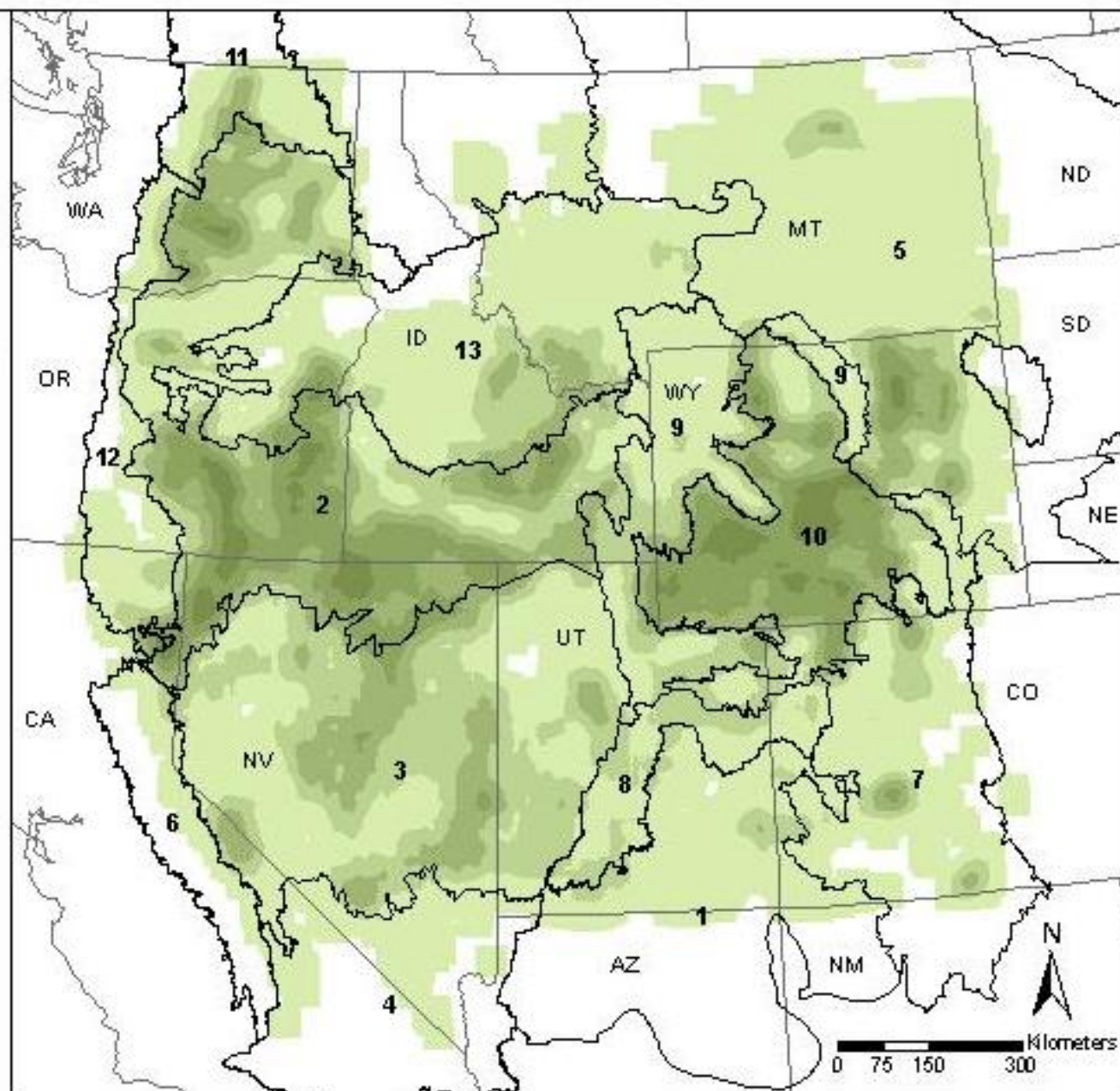


State Boundaries

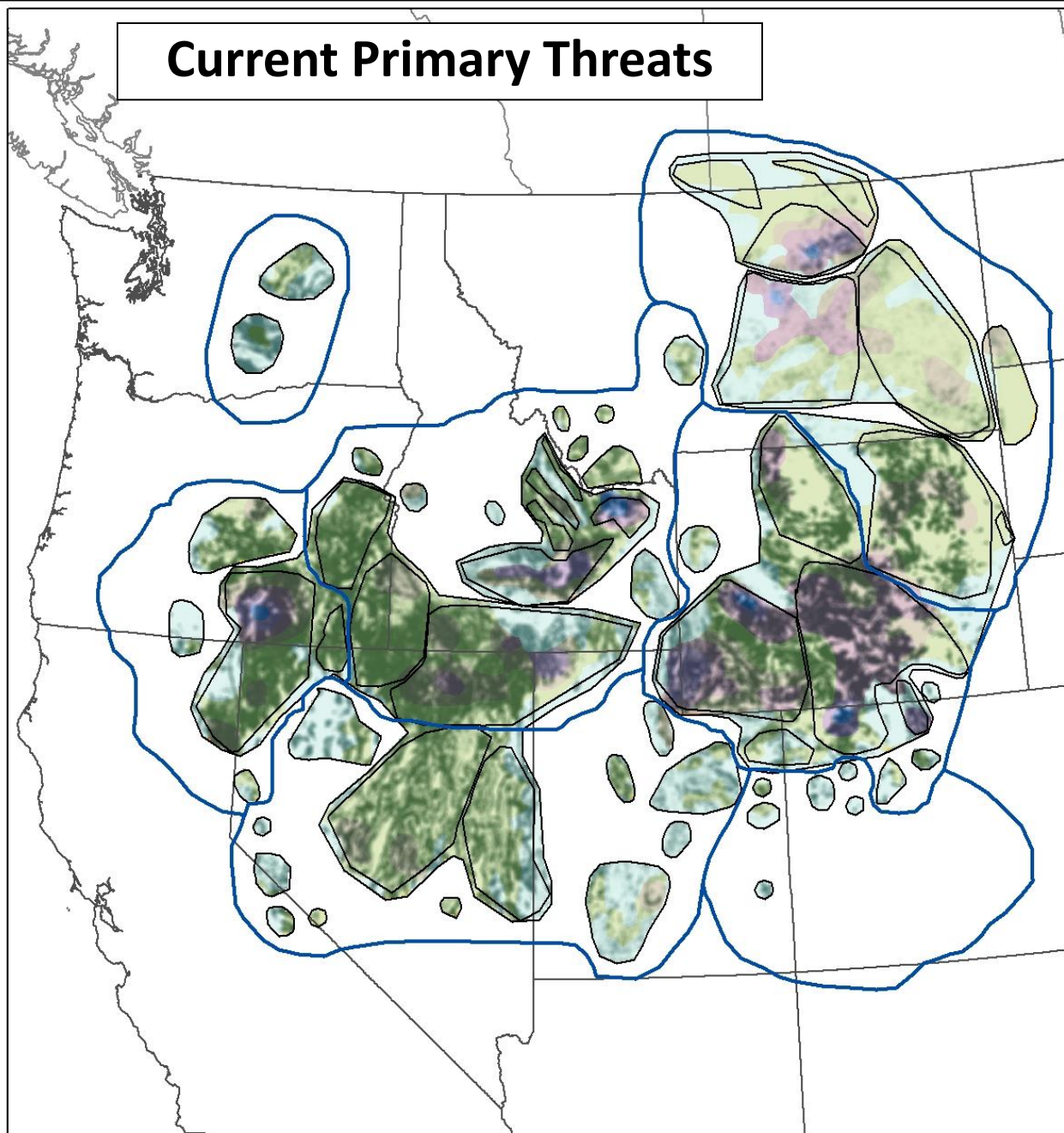
TNC Ecoregion Boundaries

TNC Ecoregion Names

1. Colorado Plateau
2. Columbia Plateau
3. Great Basin
4. Mojave Desert
5. Northern Great Plains Steppe
6. Sierra Nevada
7. Southern Rocky Mountains
8. Utah High Plateaus
9. Utah-Wyoming Rocky Mountains
10. Wyoming Basins
11. Okanagan
12. Modoc Plateau and East Cascades
13. Middle Rockies - Blue Mountains



Current Primary Threats



 Sage Grouse Mgt. Zones

**Percent Sage Brush
By Sage Grouse Population**

 % High

 % Low

Males at Leks

 High







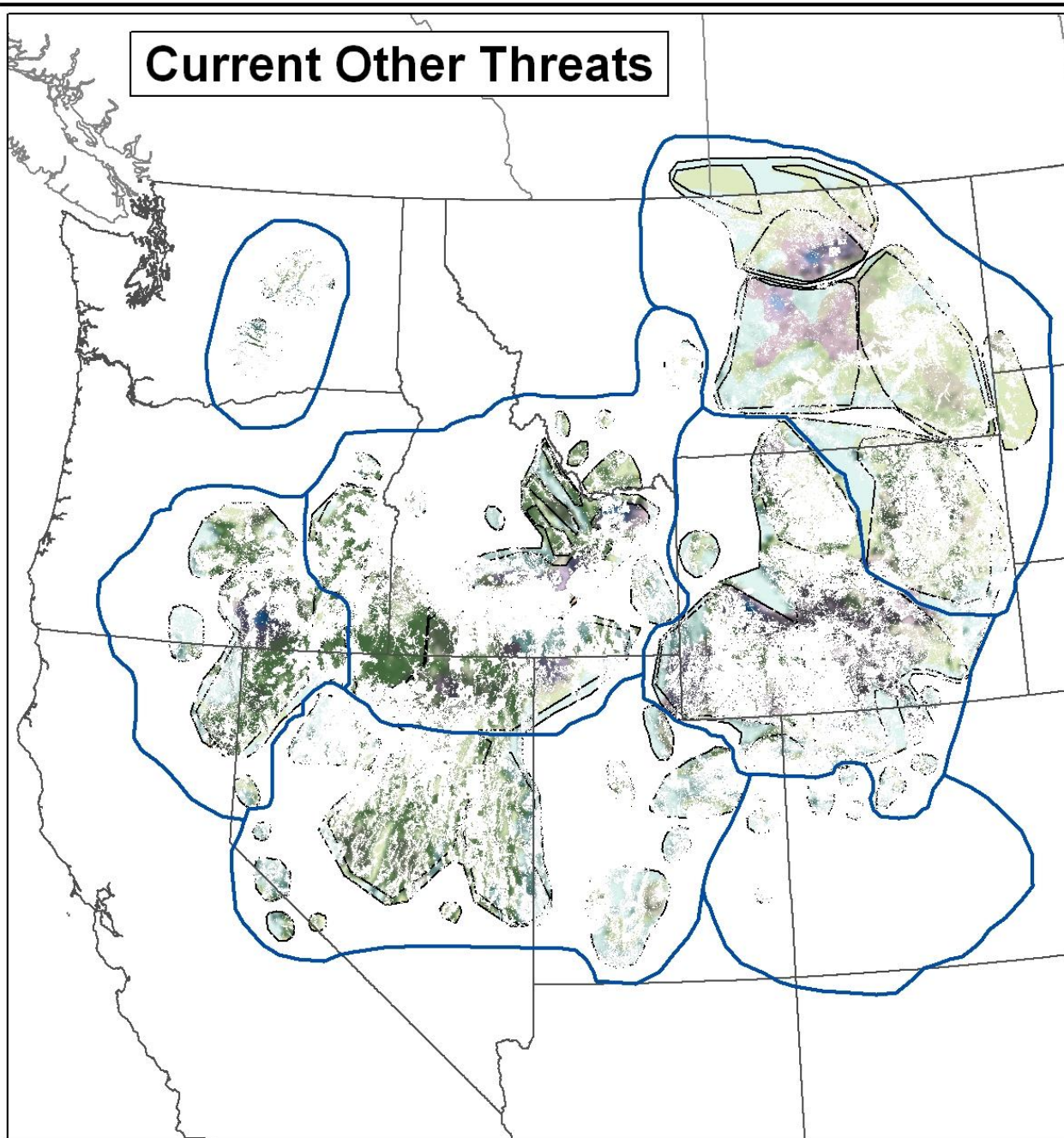
 Low

N 0 75 150 225 300 Miles

Map Date: 10/14/2009

Created by: U.S. Fish and Wildlife Service, WY ES Field Office
Date: 10/14/2009
Source: U.S. Fish and Wildlife Service | Western Association of Fish and Wildlife Agencies' Sage Grouse Conservation Planning Framework Team | U.S. Forest Service | Geospatial Multi-Agency Cooperation | Sam Limerick (Energy Information Administration) | Steve Hanser (USGS-FRESC, Snake River Field Station) | WA Dept. of Fish and Wildlife, ID Dept. of Fish and Game, National Sage Grouse Conservation Framework Planning Team, USGS Forest and Rangeland Ecosystem Science Center | Bureau of Land Management | U.S. Bureau of the Census | Government of Canada Map
Projection: North American Datum 1927 Albers

Current Other Threats



Sage Grouse Threats

Sage Grouse Mgt. Zones

Percent Sage Brush

By Sage Grouse Population

% High

% Low

Males at Leks

High

Low

- Pinyon-Juniper
- Other Exotic
- Introduced Annual Grass
- Oil and Gas Non-Producing Leases
- Fires 1980 to 2008
- Oil and Gas Fields
- Oil and Gas Producing Leases
- Agricultural Land

N 0 75 150 225 300 Miles

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Summary

- In the foreseeable future habitat fragmentation results in remnant, highly dysfunctional isolated populations.
- Finding is warranted range-wide but is precluded by higher priority actions

“The rapidity with which humans can transform an entire landscape through land use is significantly greater than the natural disturbances that previously influenced dynamics in sagebrush ecosystems”.

Knick et al., in press

Conservation Opportunity

- Strategic Conservation can address primary threat(s)
 - Need to conserve large intact expanses of habitat (Wisdom *et al.*) with adequate connectivity (Knick and Hanser)
 - Examples:
 - Wyoming Core Area Strategy
 - ◉ Protect areas important for long-term conservation and connectivity
 - ◉ Up to 82% of sage-grouse conserved on 23% of land surface
 - ◉ Montana, Nevada, Oregon pursuing similar approaches
 - Fire Response in Great Basin States by BLM
 - ◉ Protect important sage-grouse habitats when fighting wildfires



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Collaborative Process

- Western Association of Fish and Wildlife Agencies (WAFWA):
 - Candidate species remain state managed
 - Memorandum of Agreement (MOA) to conserve sage-grouse and sagebrush between states and Federal agencies
 - WAFWA States and Western Governors Association are developing a legislative approach to promote long-term conservation of sagebrush habitats



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