

# Sage-Grouse Seasonal Habitat Requirements



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# Presentation Overview

- Historic brief
- Grouse 101
- Habitat Requirements
- Creating Good Habitat
- Other Resources



# Historical Events

- Wildlife and open expanses of sage
- Natural Fires on the landscape
- Settlement and livestock
- Development and Fragmentation

# Habitat Fragmentation

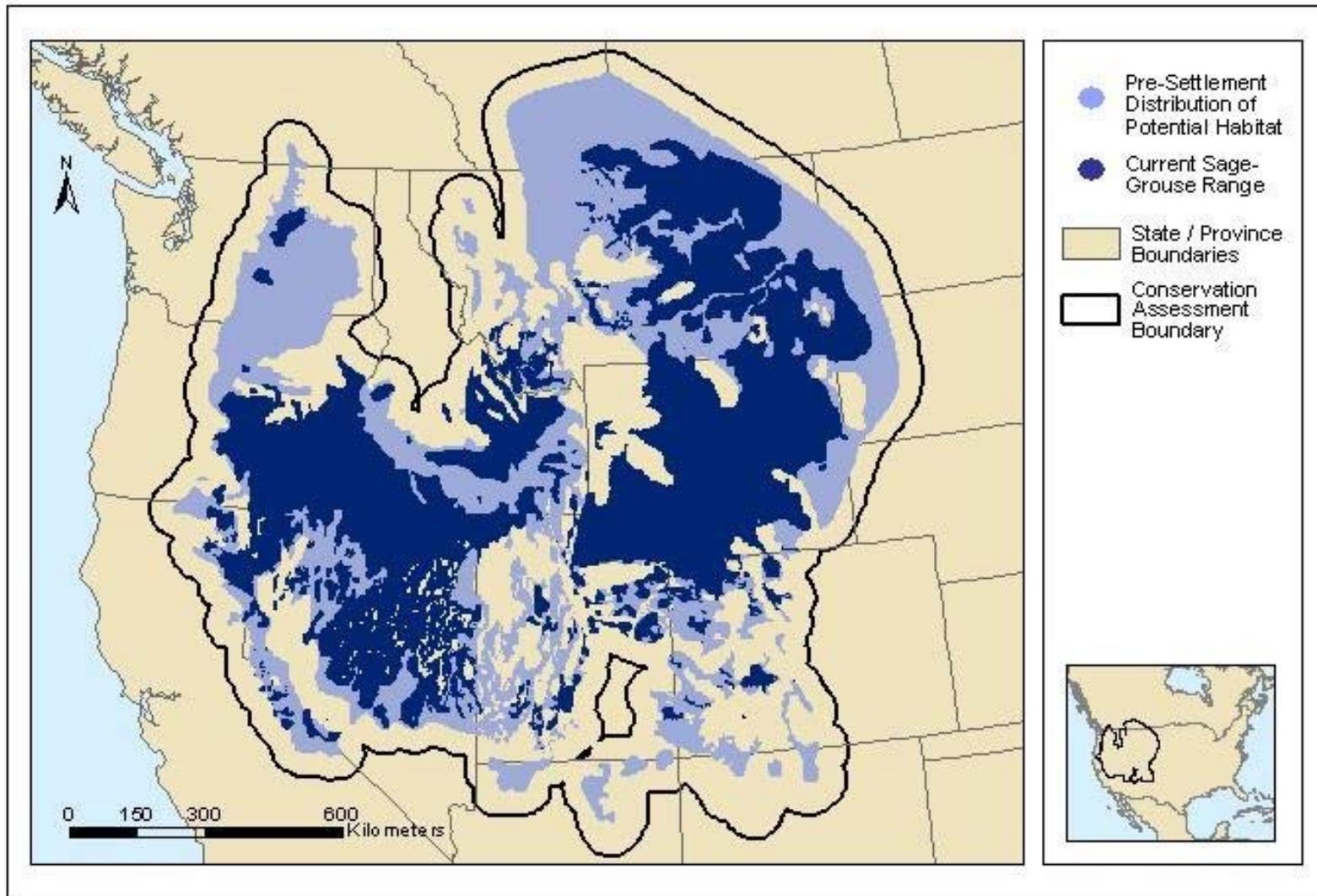
- Energy development
- Subdivisions
- Roads/recreation
- Different Land Ownership (Management Directives)
- Fire or other treatments



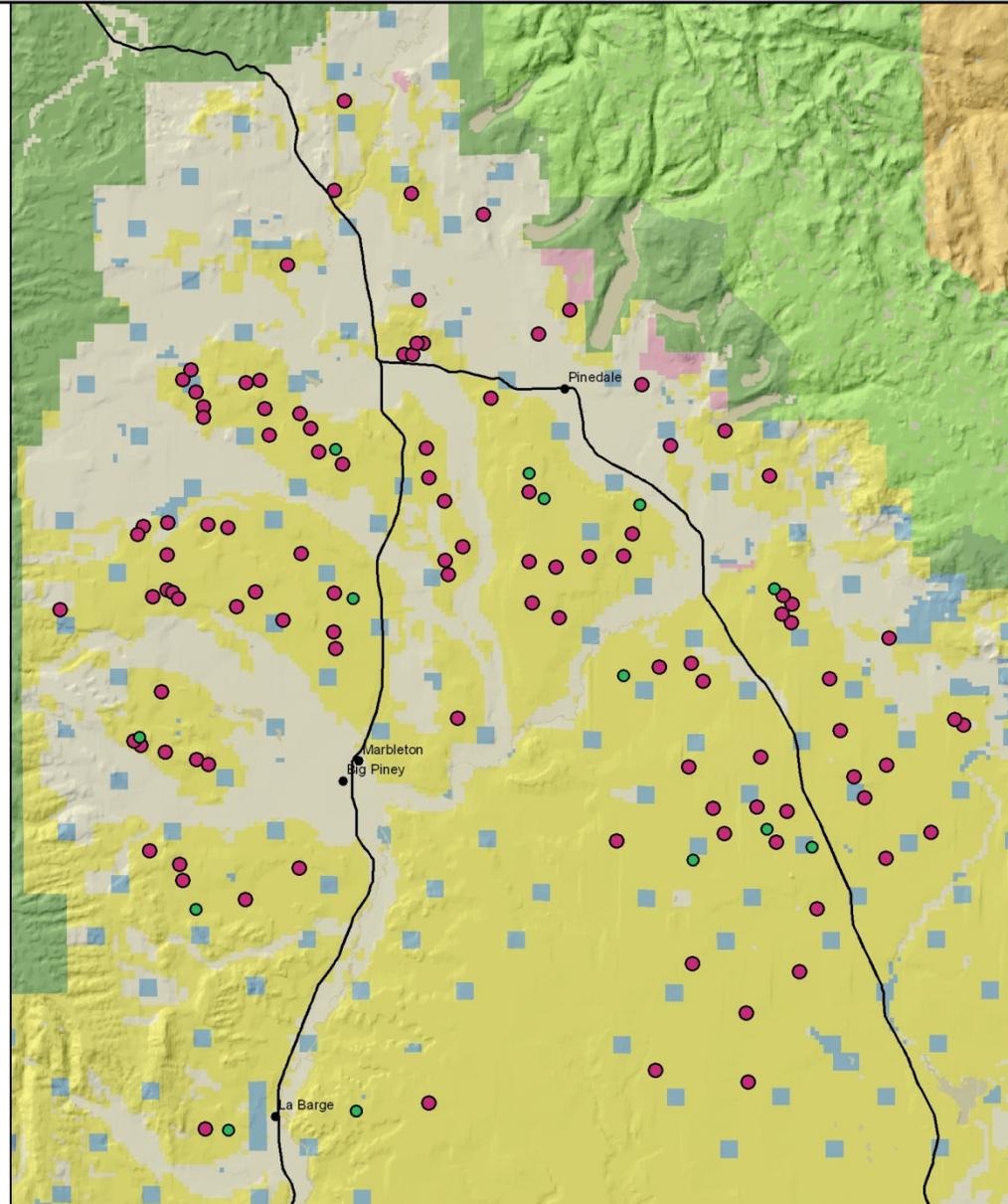
# Sagebrush Ecology

- Dozen or more species
- Elevation, Precipitation, Soils determine site potential
- Wyoming Big Sage
- Mountain Big Sage
- Fire interval
- Seed dispersal vs re-sprouting

# Sage-Grouse Distribution



# Local Sage-Grouse Distribution



# Population Characteristics

- Low Reproductive Rate
- High Survival Rate
- Some Migratory—up to 47 miles in Upper Green River Basin
- Long Lived

Reference: 2007 Sage-Grouse Habitat Management Guidelines for Wyoming



# Reproduction

- ~70% of females will initiate a nest
- ~50% nest success
- 6-10 Eggs
- Renesting not common



# Lek/Breeding Habitats

- Mid March-early May
- Open areas surrounded by sagebrush
- Examples: low sage flats, ridge openings, roads, crop lands, burned areas

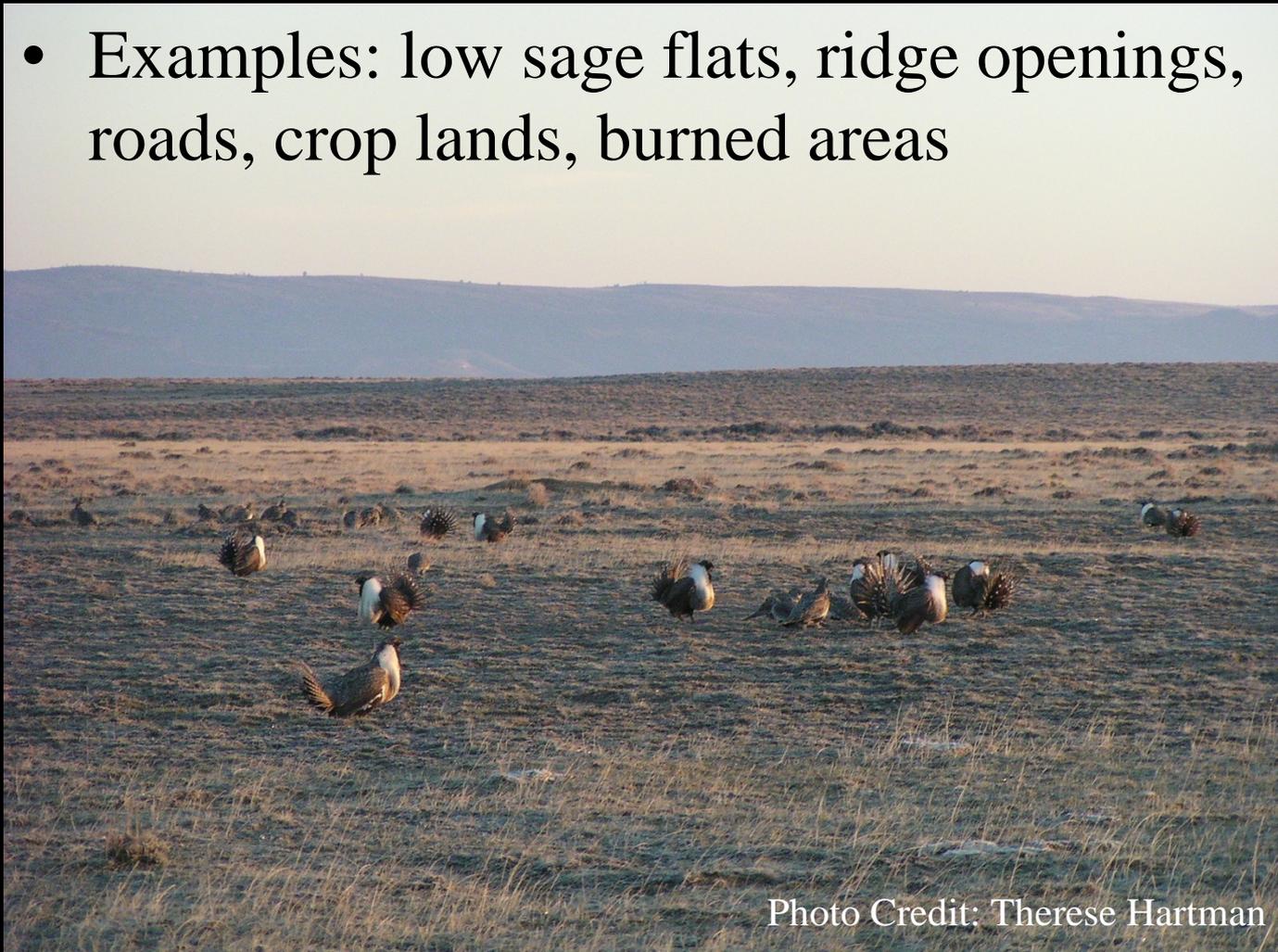


Photo Credit: Therese Hartman

# Pre-Laying Hens

- Habitat with forbs: High in calcium, phosphorus and protein for egg production
- Shown to have significant effect on reproductive success

# Nesting Habitat

- Denser and taller sage stands: 11-32” tall and canopy cover of 15-25%



- High Fidelity

# Nesting cont.

- Taller residual grass height, more herbaceous (forb) cover and less bare ground
- Grass height min 4” on Wyoming Big sage sites
- Provides lateral cover and hiding from predators

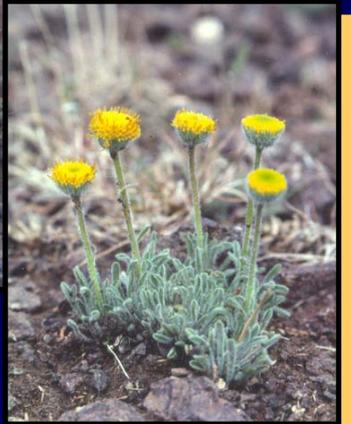
# Early Brood Rearing Habitat

- Smaller openings and patches with sparse canopy (10-15% canopy cover)
- Good herbaceous understory (15% grass canopy and 10% forb canopy)



# Early Brood Rearing cont.

- Chicks eat insects first week (ants, beetles)
- Switch to mix of forbs and insects



# Late Brood Rearing Habitat

- Late June/early July move from early brood rearing to areas with moisture
- Examples: Riparian areas, mountain big sage and foothills, hay and alfalfa fields



# Winter Habitat

- Grouse eat sage leaves and buds from high protein species until forbs appear in spring
- Sage height 10-12” above the snow with variable canopy cover (10-30%)
- Large expanses of sage away from development



The basis for sage-grouse persistence over time appears to be maintaining a mosaic of quality habitat over the landscape



Photo Credit: Mark Gocke

# Creating Good Habitat

- Should protect nesting and brood rearing habitat within 2-3 miles of leks
- If treated, only up to 20% within 2 miles of leks and 40-60% later brood rearing
- Should not treat unless canopy cover is greater than 20%
- If possible, maintain some sage cover while increasing forb cover and diversity
- Smaller treatment mosaics may be the key

# Examples: Creating Good Habitat

- Protection/Conservation
- Fire
- Chemical
- Mechanical
- Water Development (esp. Late Brood Rearing)
- Seeding
- Conservation Plan or Resource Inventory w/ NRCS
- Good grazing management



# Future Work

- Committee put together by the Governor for Best Management Practices for Sage-Grouse
- Ongoing Research

# Questions? Thank You!

[http://gf.state.wy.us/wildlife/wildlife\\_management/sagegrouse/index.asp](http://gf.state.wy.us/wildlife/wildlife_management/sagegrouse/index.asp)



Photo Credit: Mark Gocke