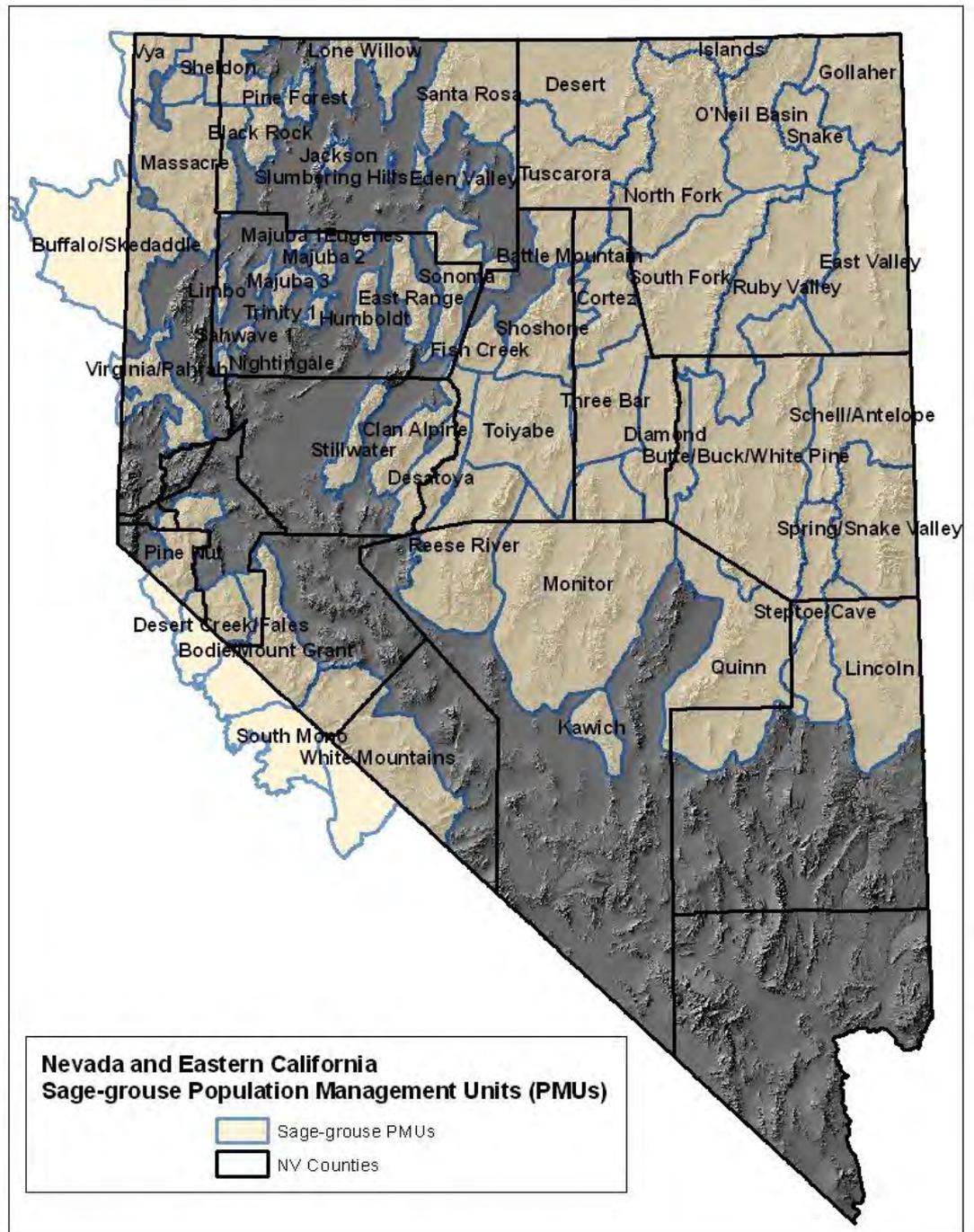


Nevada Sage-grouse Population Distribution

2013

Population Management Units



2012 Estimated Spring Breeding Population by PMU

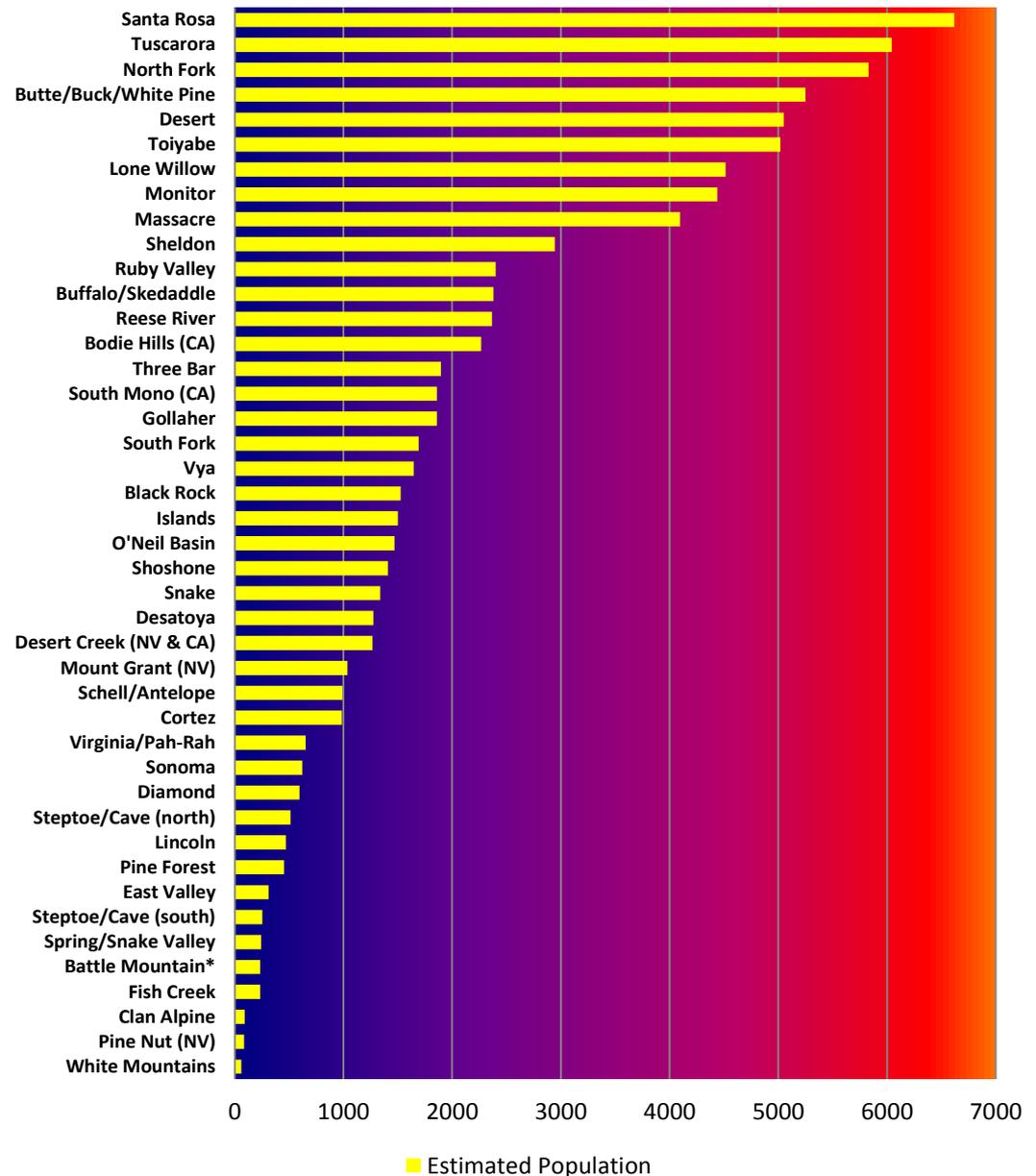
Where are the majority of Sage-grouse in Nevada?

❖ 4 PMUs contribute to roughly 28% of the population:

- Santa Rosa;
- Tuscarora;
- North Fork; and
- Butte/Buck/White Pine PMUs;

❖ Adding these 4 PMUs accounts for about 50% of the sage-grouse population

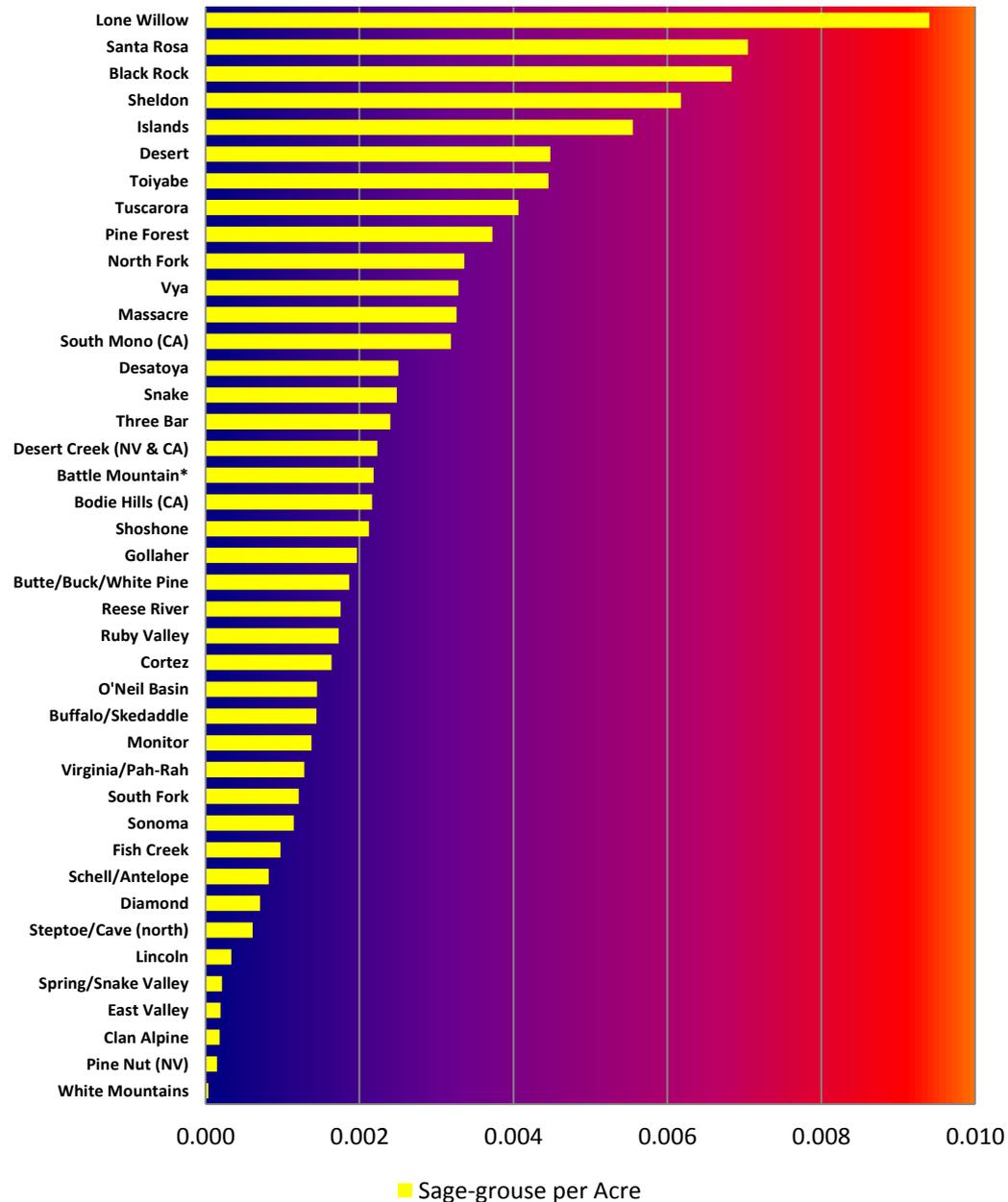
- Desert;
- Toiyabe;
- Lone Willow; and
- Monitor

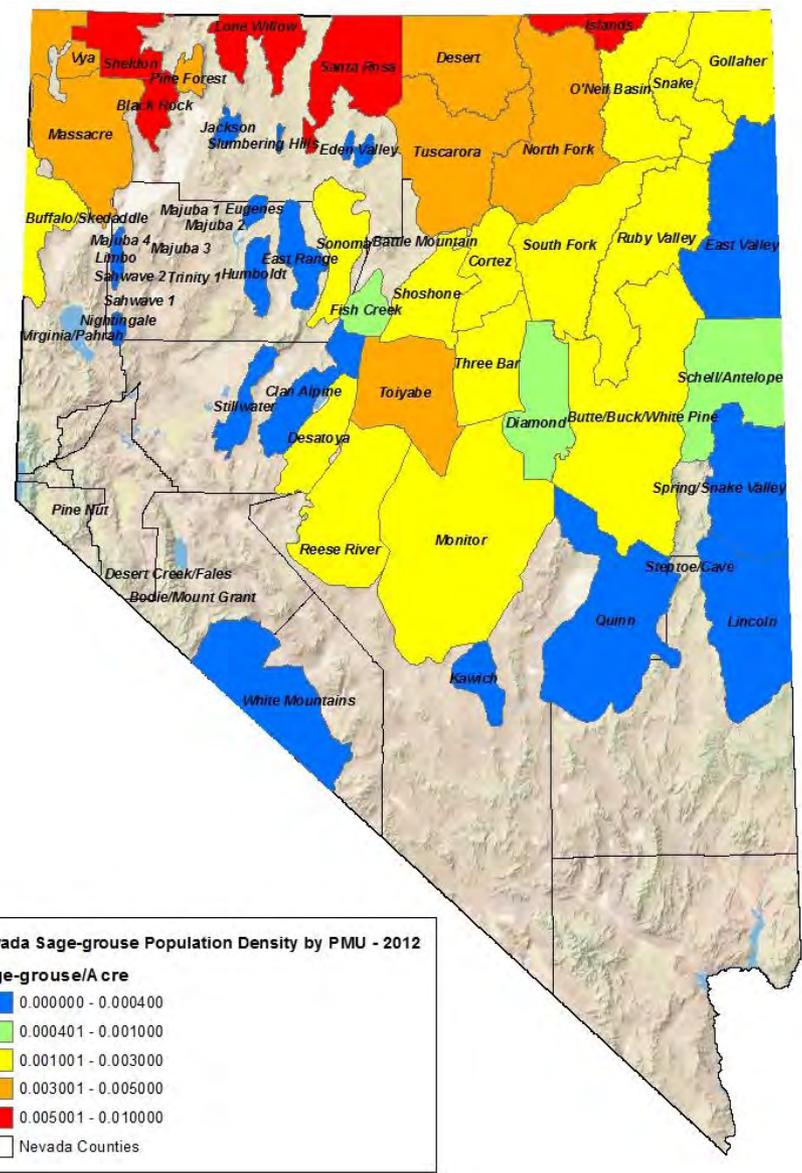
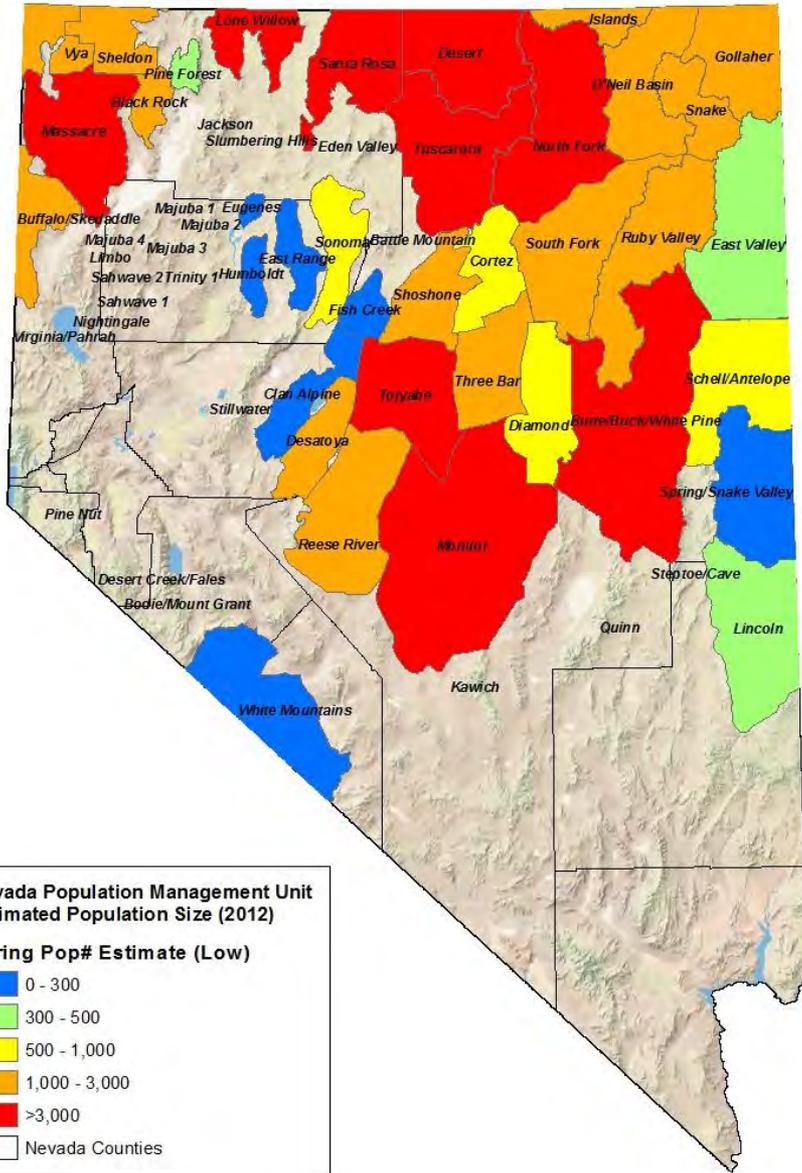


2012 Sage-grouse Spring Breeding Population Density Estimates by PMU

Where are the most dense populations?

Somewhat surprisingly, Humboldt County continues to maintain some of the most dense sage-grouse populations in the state in the Lone Willow (Montana Mountains), Santa Rosa, Black Rock and Sheldon PMUs relative to their overall size.





Breeding Density

- Based on lek size and juxtaposition with other leks.
- Lek Defined As: A traditional display area where two or more male sage-grouse have attended in two or more of the previous five years. Per Connelly et al. 2003.

Lek Status

- Active – follows Connelly et al. definition.
- Pending Active – 2 or more males observed only once in the last five years.
- Inactive – 0 or 1 males observed during every visit (minimum of two visits) in the last five years.
- Historic – 0 or 1 males observed during every visit (minimum of 5 visits) in the last 30 years.
- Unknown – no other conditions have been met.

2013 NV Sage-grouse Lek Database

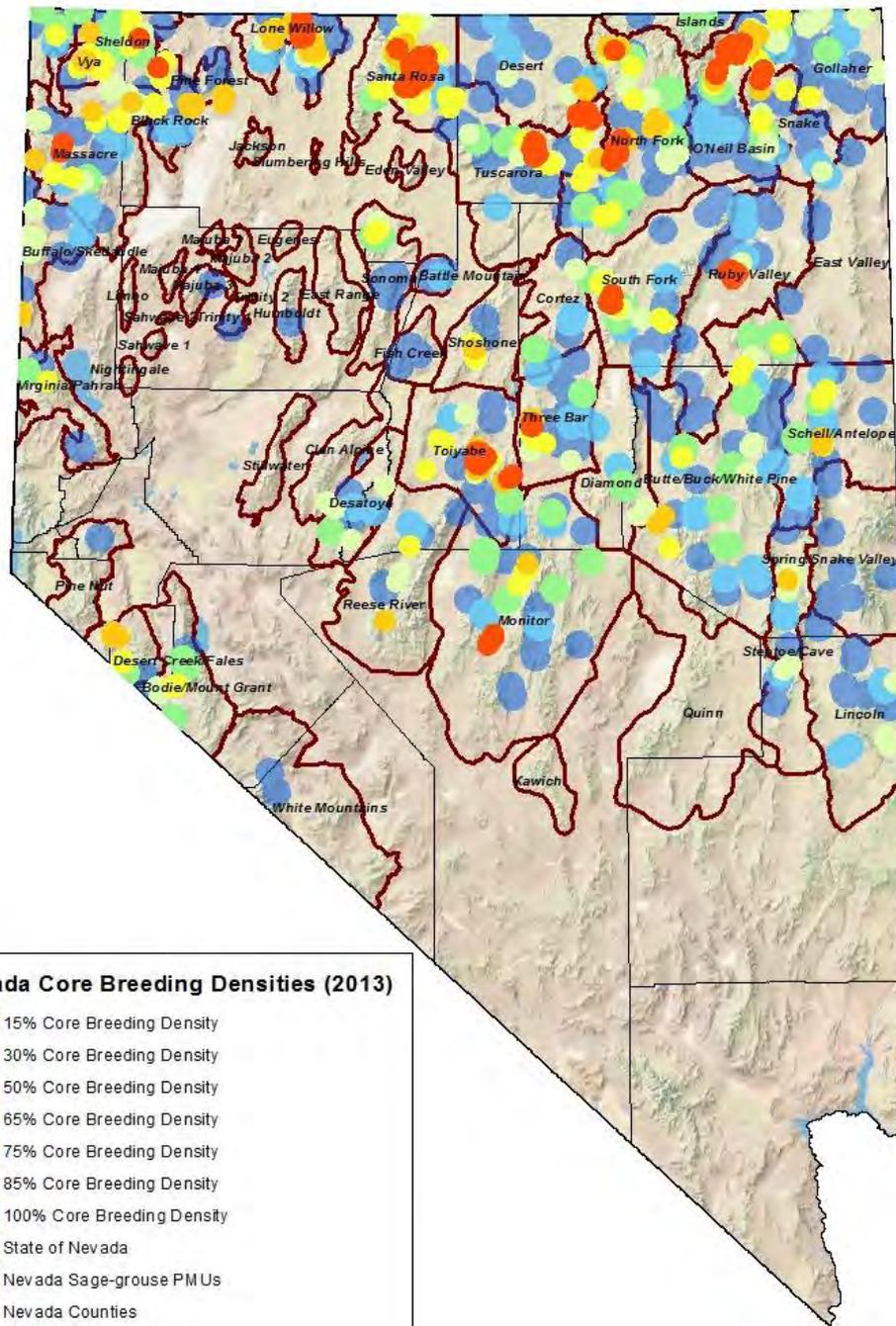
- 2,113 lek locations in database (all status) and includes some leks in adjacent states.
- 1,847 lek locations in Nevada comprised of:
 - 634 Active Leks
 - 275 Pending Active Leks
 - 522 Unknown Leks
 - 323 Inactive Leks
 - 93 Historic Leks

Methodology (based on Doherty et al. 2010)

- Utilized all known active and pending active leks within Nevada (n=909)
- Calculated the 10-year average peak male attendance for these leks.
- Obtained total average male breeding population of 12,339.
- Calculated percent contribution of each lek to total breeding population.
- Used a Point Density cluster analysis (based on 6.4 km buffer) to determine density of males per km² at each lek.
- Ranked each lek from highest to lowest male density.

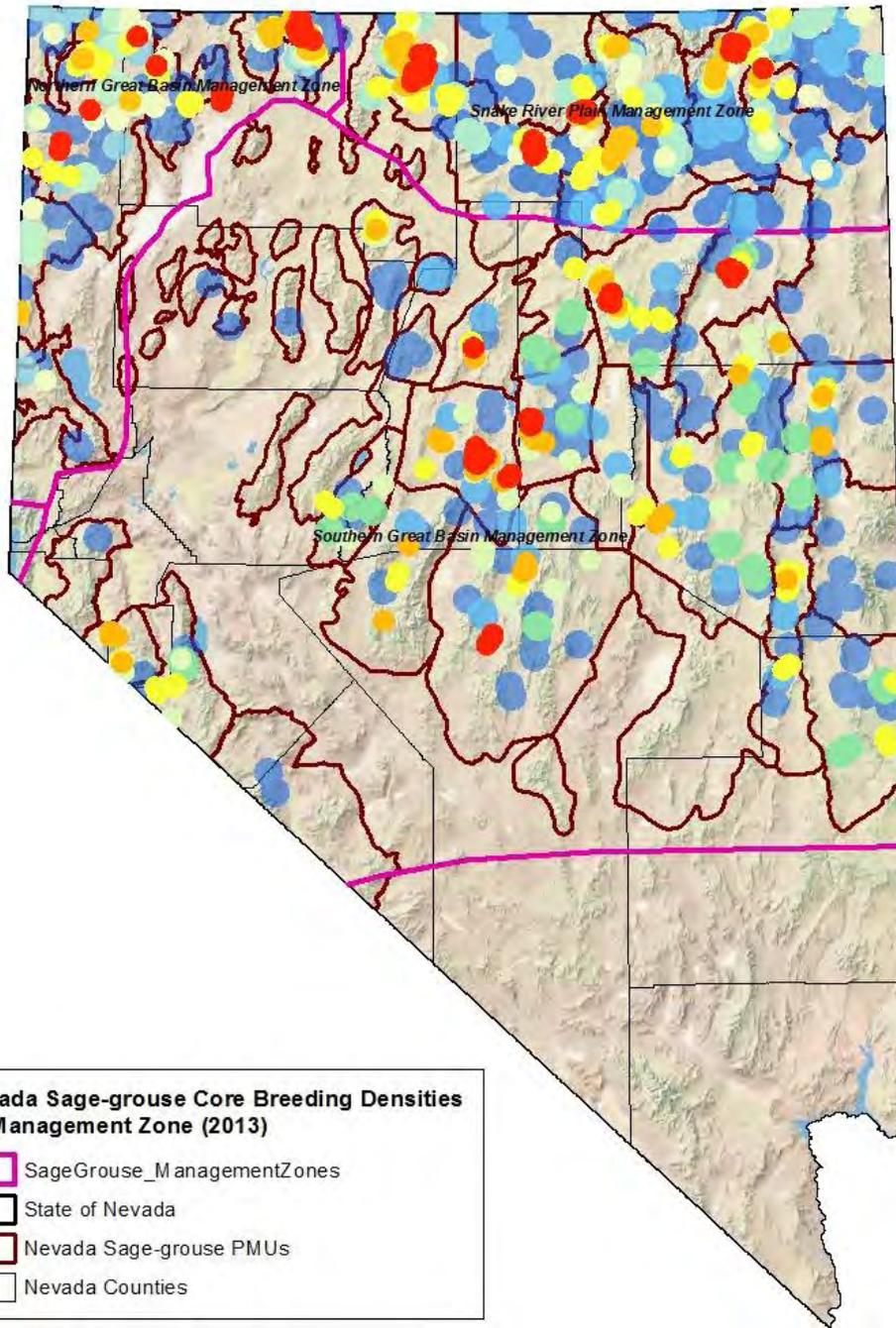
Methodology (cont.)

- Summed the cumulative percent contribution of each lek to the total breeding population.
- Applied 6.4 km buffers to leks that contributed up to 75% of the breeding population and 8.5 km buffers to all other leks (Doherty et al. 2010).
- Developed layers representing 15%, 30%, 50%, 65%, 75%, 85% and 100% contribution to total breeding population.
- Methodology was repeated for each Management Zone in Nevada (III, IV, V) and compared to statewide population.



Nevada Core Breeding Densities (2013)

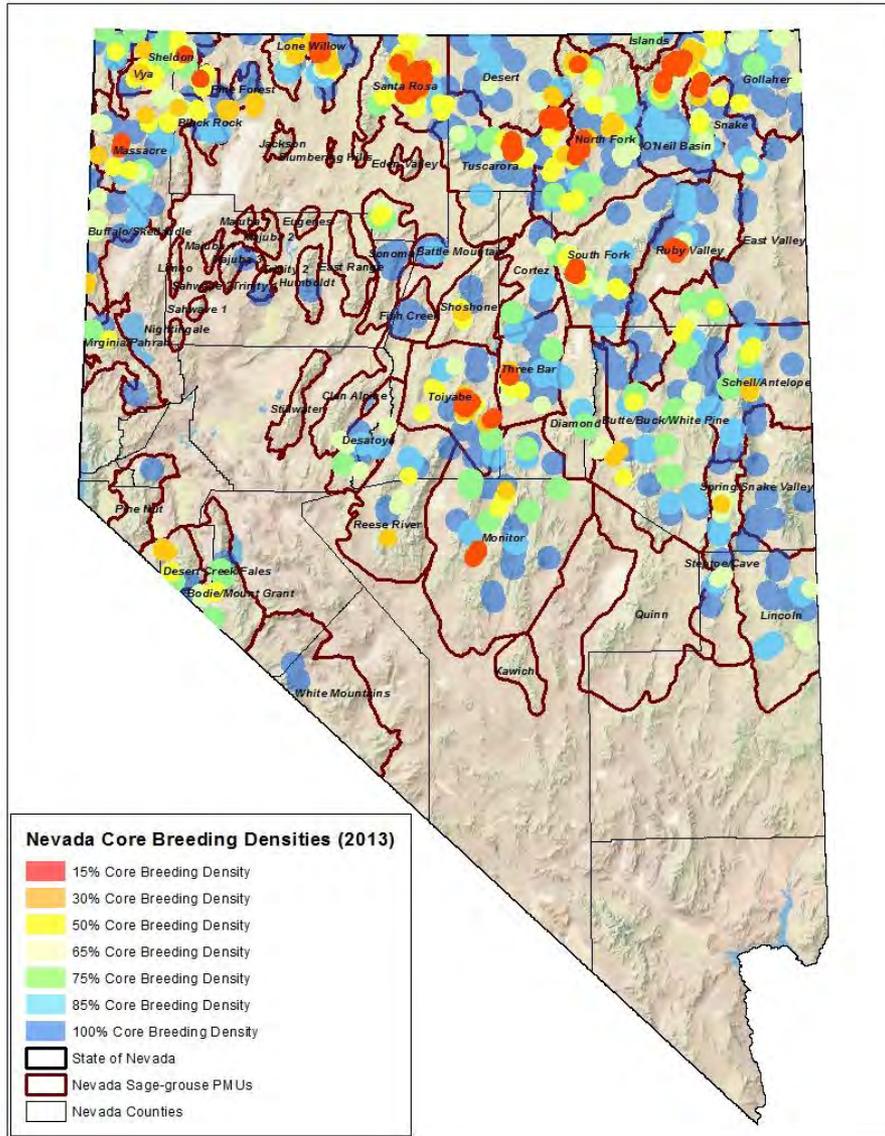
- 15% Core Breeding Density
- 30% Core Breeding Density
- 50% Core Breeding Density
- 65% Core Breeding Density
- 75% Core Breeding Density
- 85% Core Breeding Density
- 100% Core Breeding Density
- State of Nevada
- Nevada Sage-grouse PMUs
- Nevada Counties



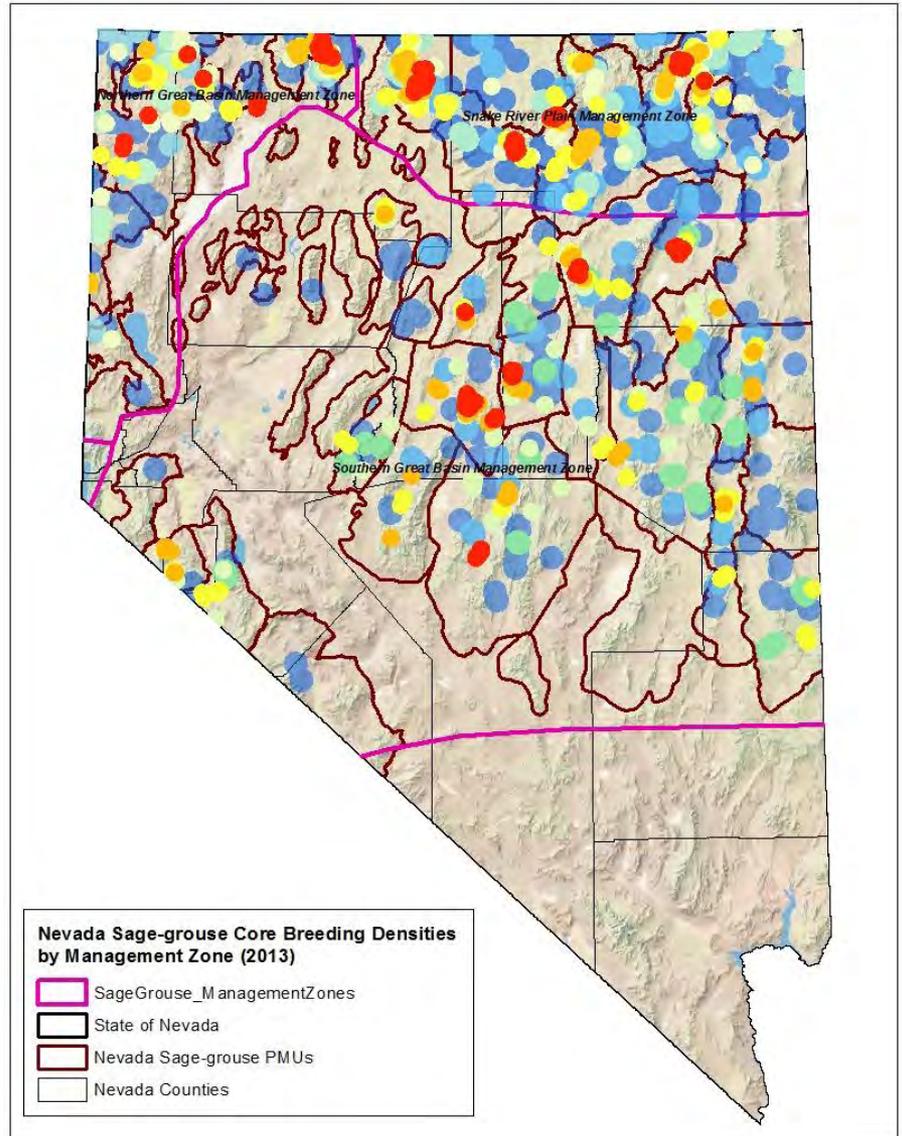
**Nevada Sage-grouse Core Breeding Densities
by Management Zone (2013)**

-  SageGrouse_ManagementZones
-  State of Nevada
-  Nevada Sage-grouse PMUs
-  Nevada Counties

Statewide Breeding Density



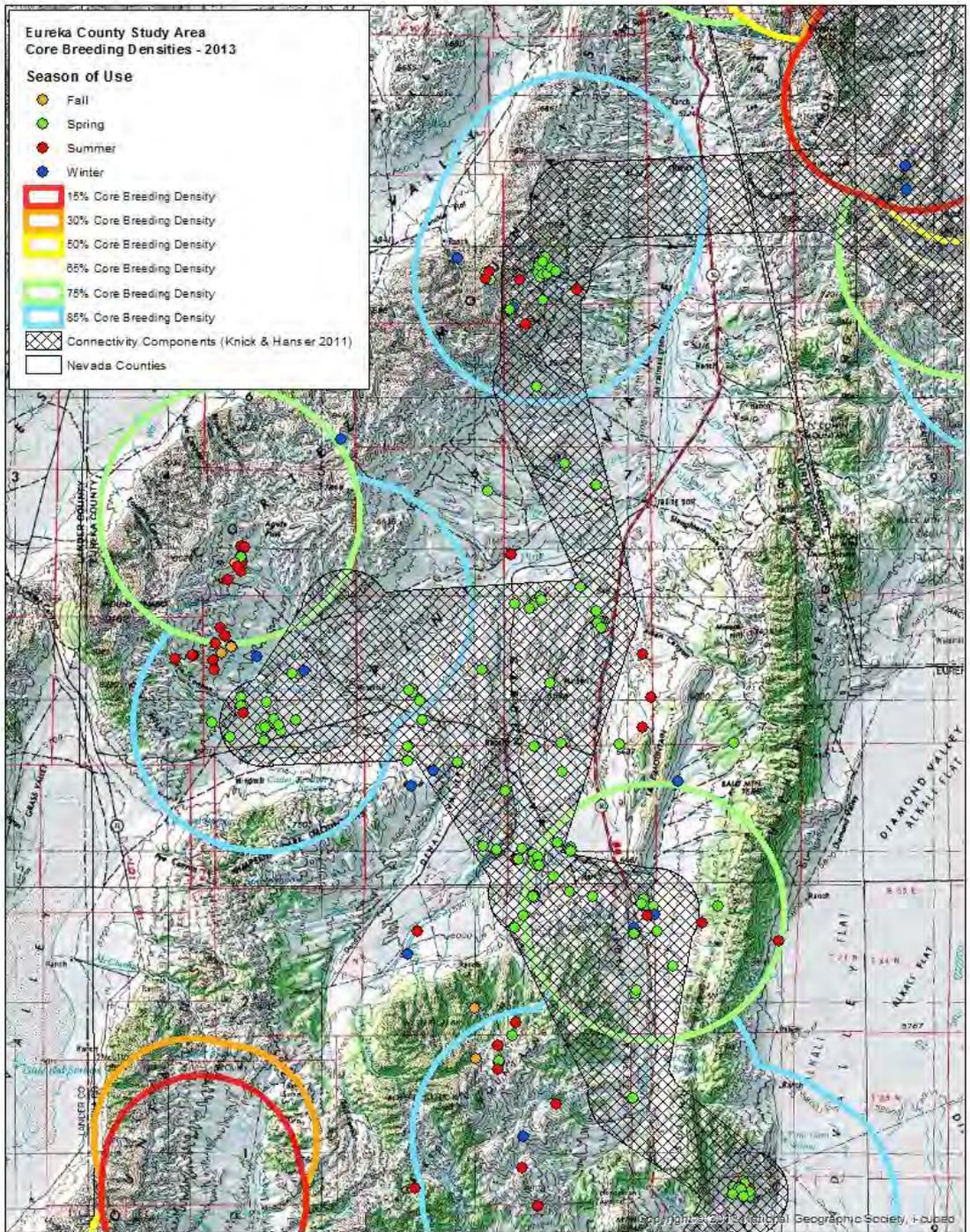
Breeding Density by MZ



Eureka County Study Area
Core Breeding Densities - 2013

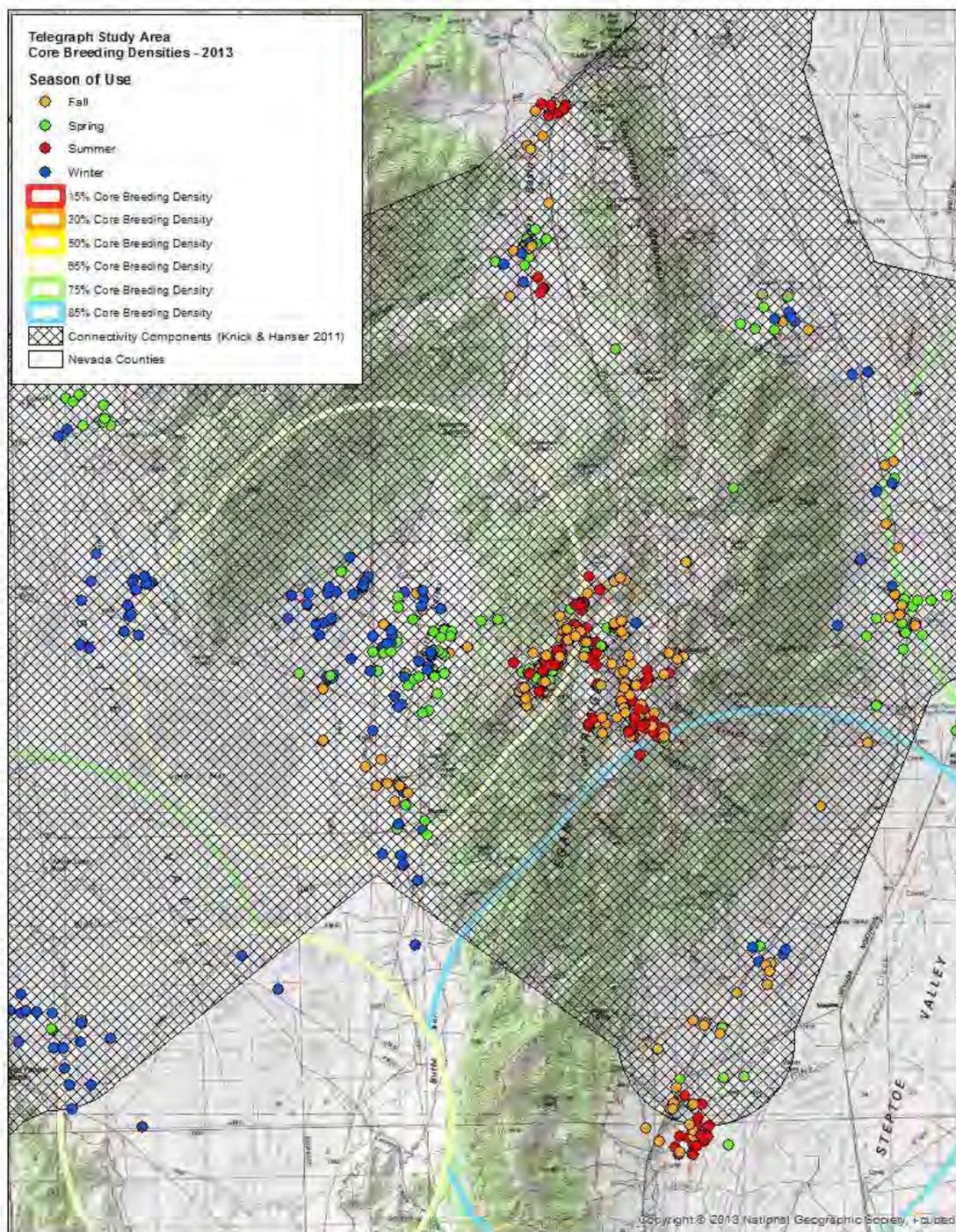
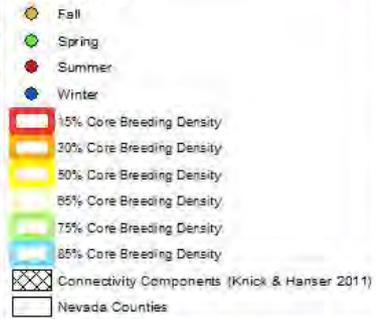
Season of Use

- Fall
- Spring
- Summer
- Winter
- 15% Core Breeding Density
- 30% Core Breeding Density
- 50% Core Breeding Density
- 65% Core Breeding Density
- 75% Core Breeding Density
- 85% Core Breeding Density
- ▨ Connectivity Components (Knick & Hanser 2011)
- ▭ Nevada Counties



Telegraph Study Area
Core Breeding Densities - 2013

Season of Use



Nevada Core Breeding Density - 2013

Season of Use

- Fall
- Spring
- Summer
- Winter

- 15% Core Breeding Density
- 30% Core Breeding Density
- 50% Core Breeding Density
- 65% Core Breeding Density
- 75% Core Breeding Density
- 85% Core Breeding Density

Habitat Categories

Value

- 1 - Essential/Irreplaceable Habitat
- 2 - Important Habitat
- 3 - Habitat of Moderate Importance
- 4 - Low Value Habitat/Transitional Range
- 5 - Unsuitable Habitat
- Pending Completion
- N/A - Non-Habitat
- Nevada Counties

