



# Greater Sage-grouse Status Review

Infrastructure

# The Impact

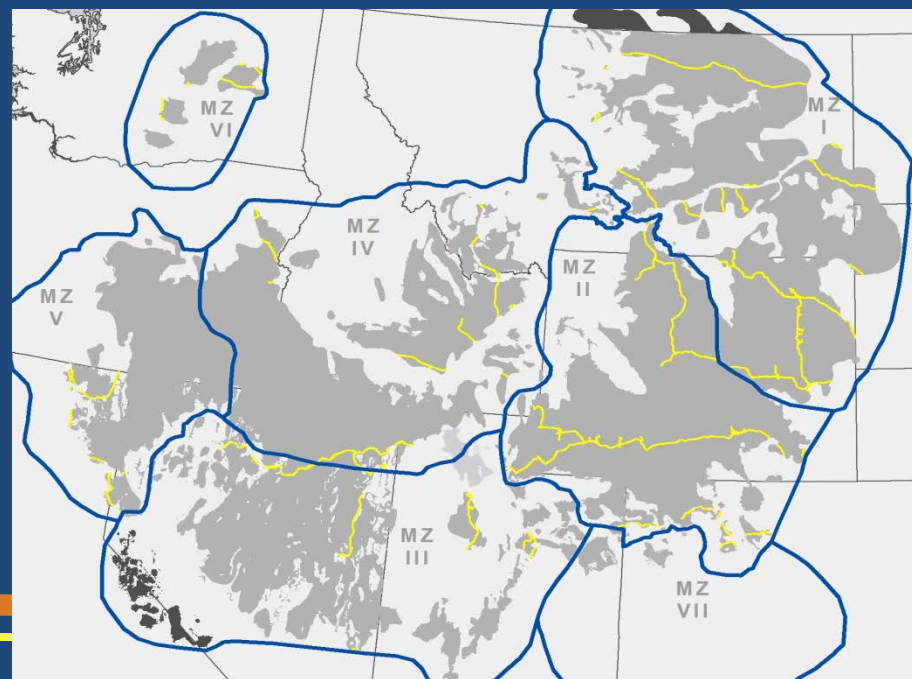
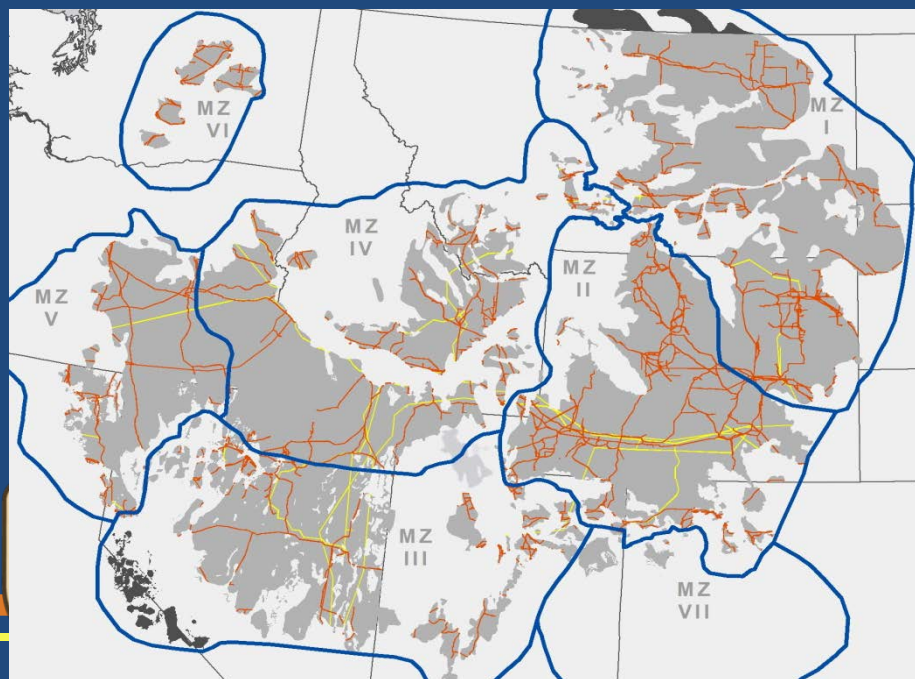
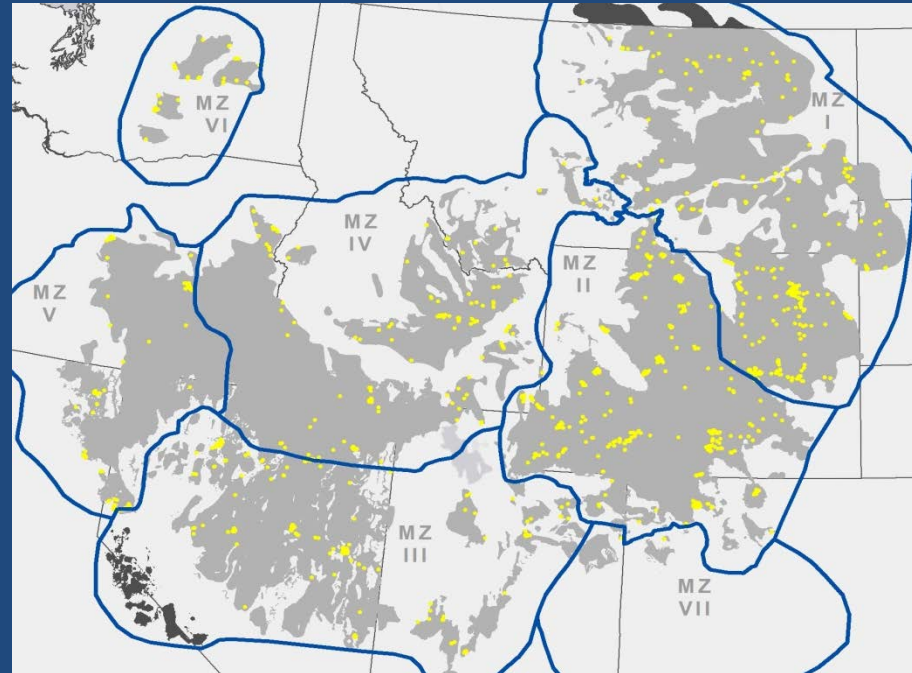
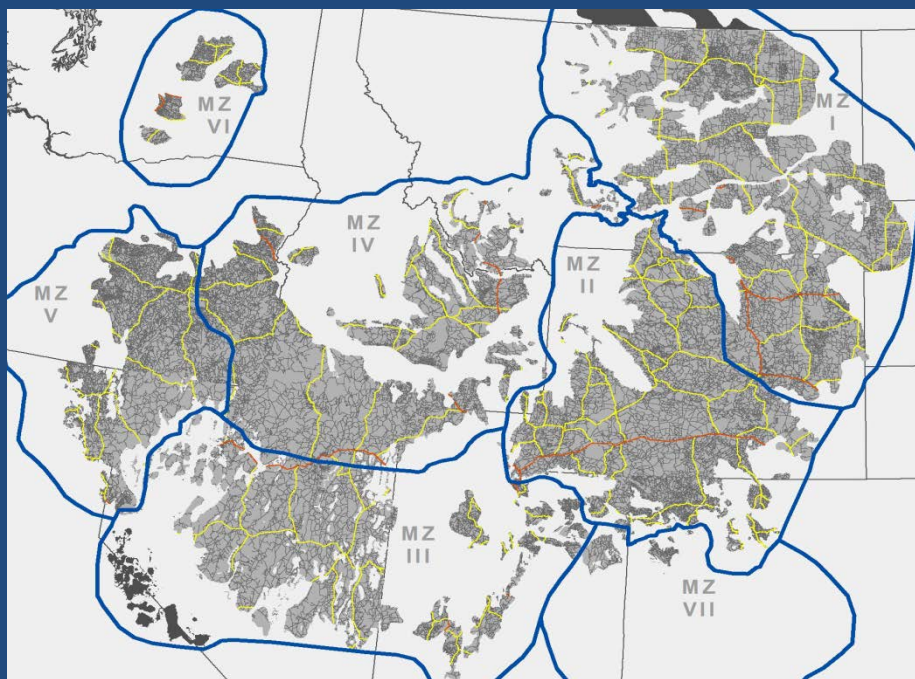
## Direct Disturbance

- Habitat loss and fragmentation
- Potential to create movement barriers and or functional habitat loss
- Direct mortality related to collision

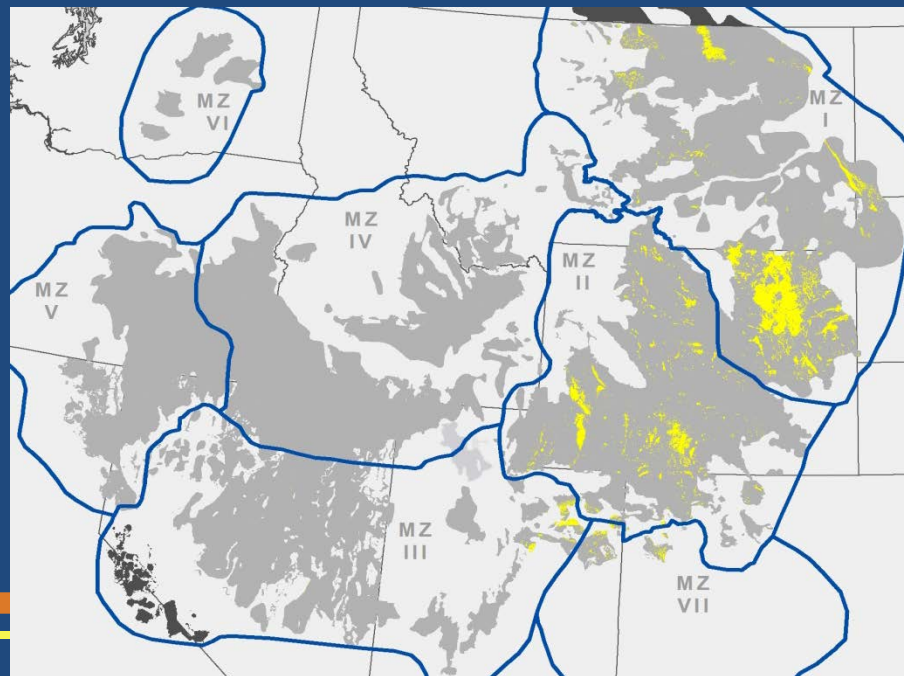
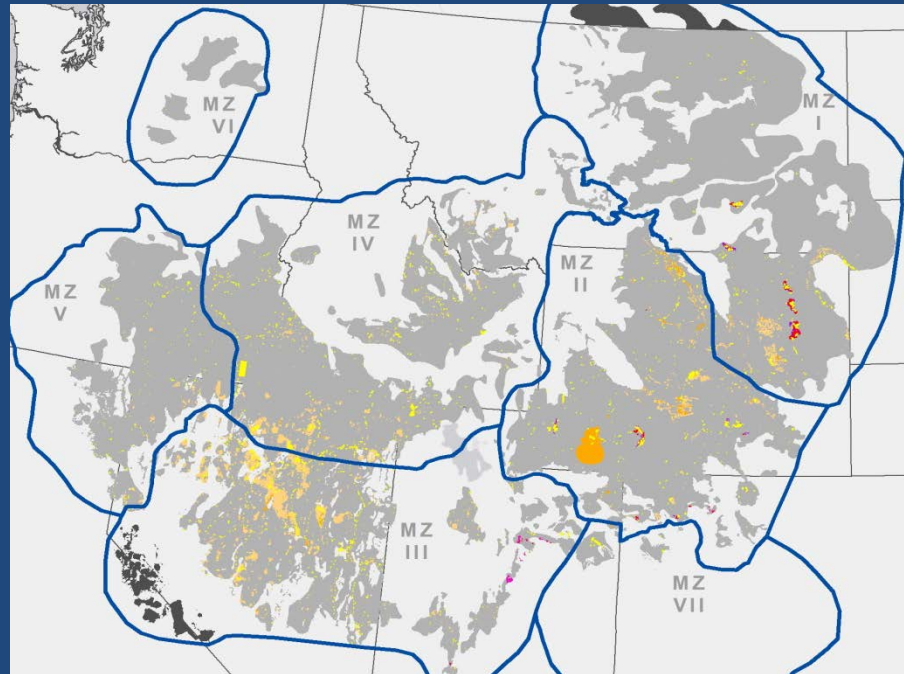
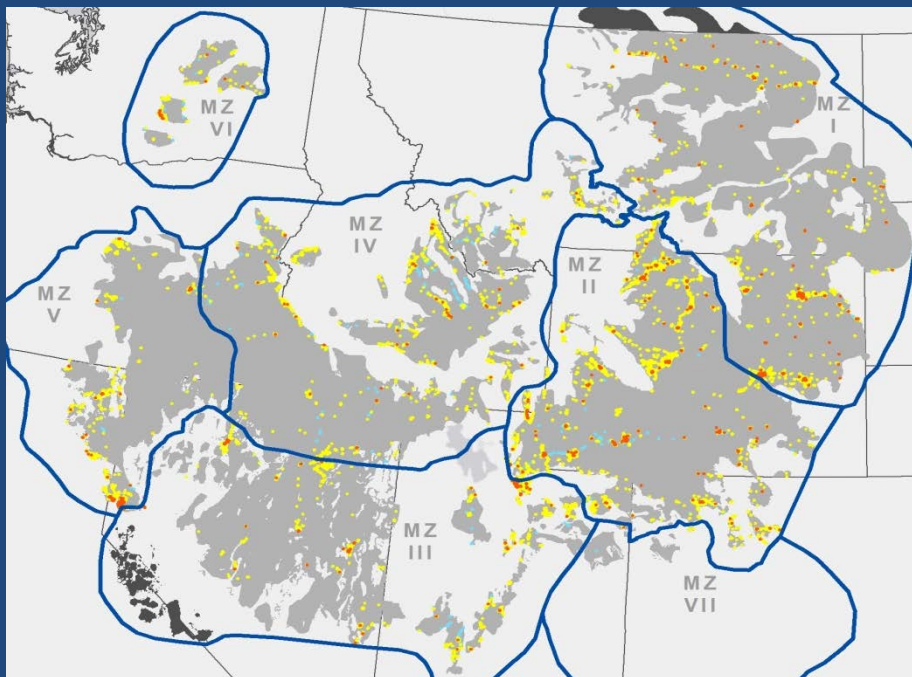
## Indirect Area of Influence

- Increase in predator densities, supplemented by increased human activity
- Increased risk of incursion of invasives species due to unsuccessful reclamation, or increased introduction from impacted areas – potential to increase fire risk.









# Impacts to Sage-Grouse

- Direct habitat loss and fragmentation
- Increased human activity and additional anthropogenic structures may attract additional predators to the area which may forage into sage-grouse habitats (Bui *et al.* 2010)
- The aforementioned structures and activities may impact use patterns and demographics while not directly eliminating seasonal habitats
- Sage-grouse avoid anthropogenic development and increased density could result in loss of leks and/or seasonal use (Aldridge and Boyce 2007, Wisdom *et al.* 2011, Knick *et al.* 2013)



# Since 2010...

- Development and construction has increased with additional energy development

## Conservation

- Additionally, local plans encourage utilities to bury power lines with the caveat of “when technically and economically feasible”
- Regulatory mechanisms have encouraged construction outside of PAC/IPA, although there are currently X,XXX miles of high-voltage transmission lines planned to go through PAC in....



# Summary

- 2010: Primary threat...
- We conclude that infrastructure continues to be a primary impact to the species by directly contributing to the destruction, modification, & curtailment of habitat & range, and additional impacts are anticipated.
- Infrastructure is present rangewide and exacerbates several other stressors including: predation & invasive species.



# Questions

