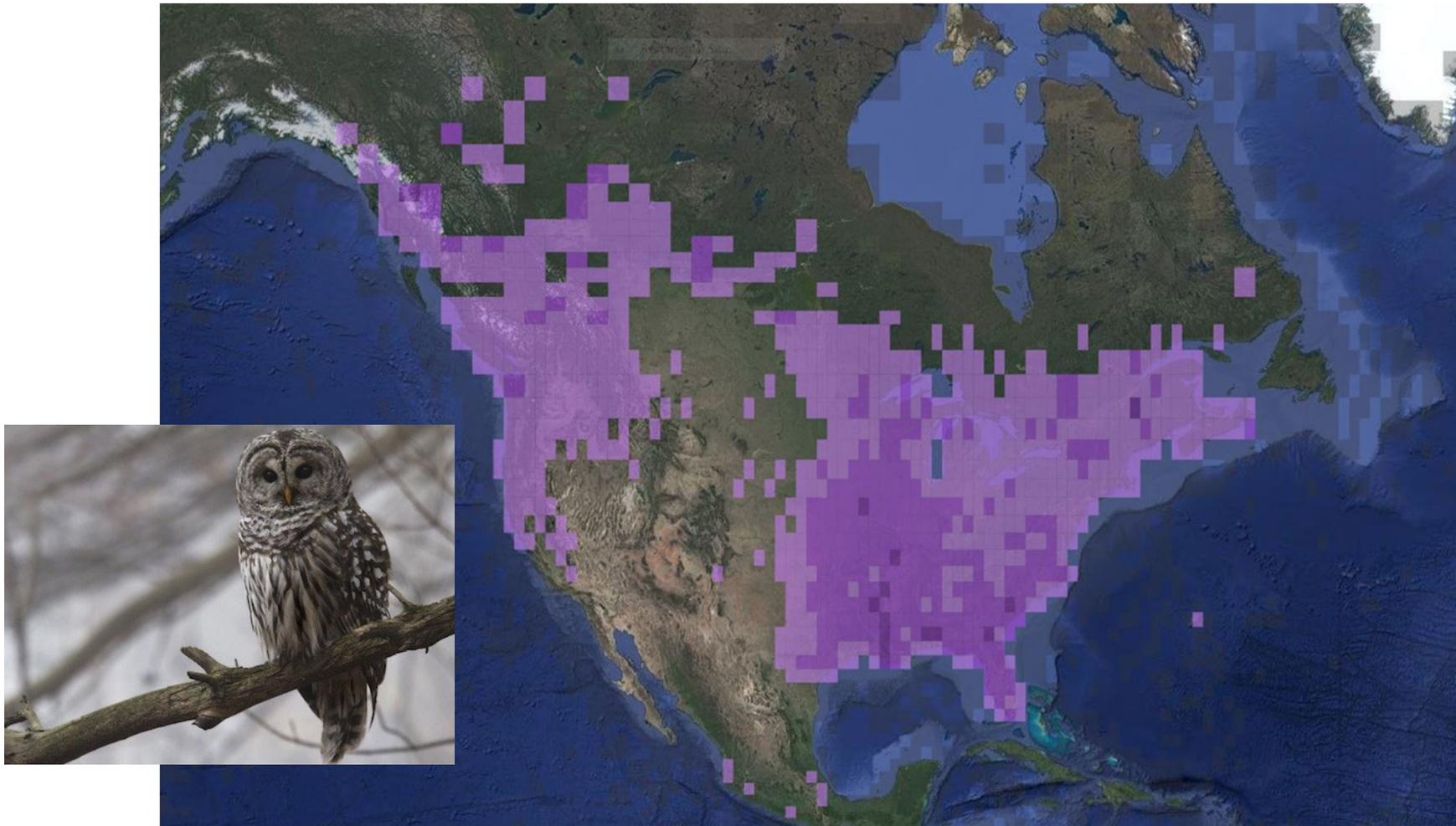


# Barred Owl Range Expansion in western North America: Ecological Impacts and Conservation Lessons

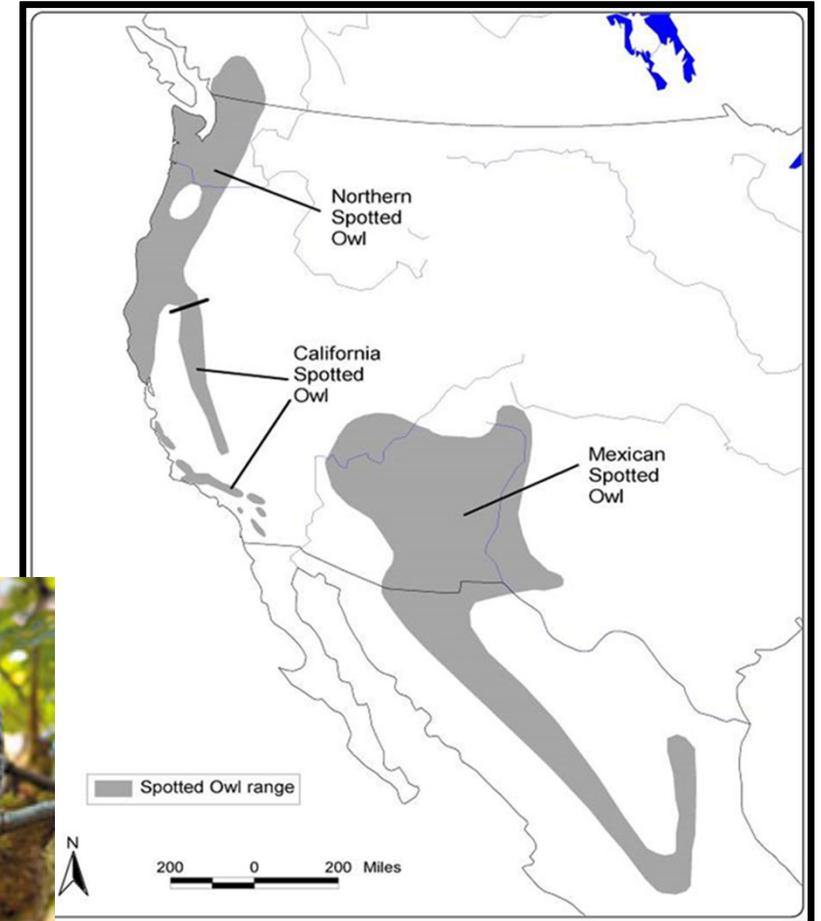
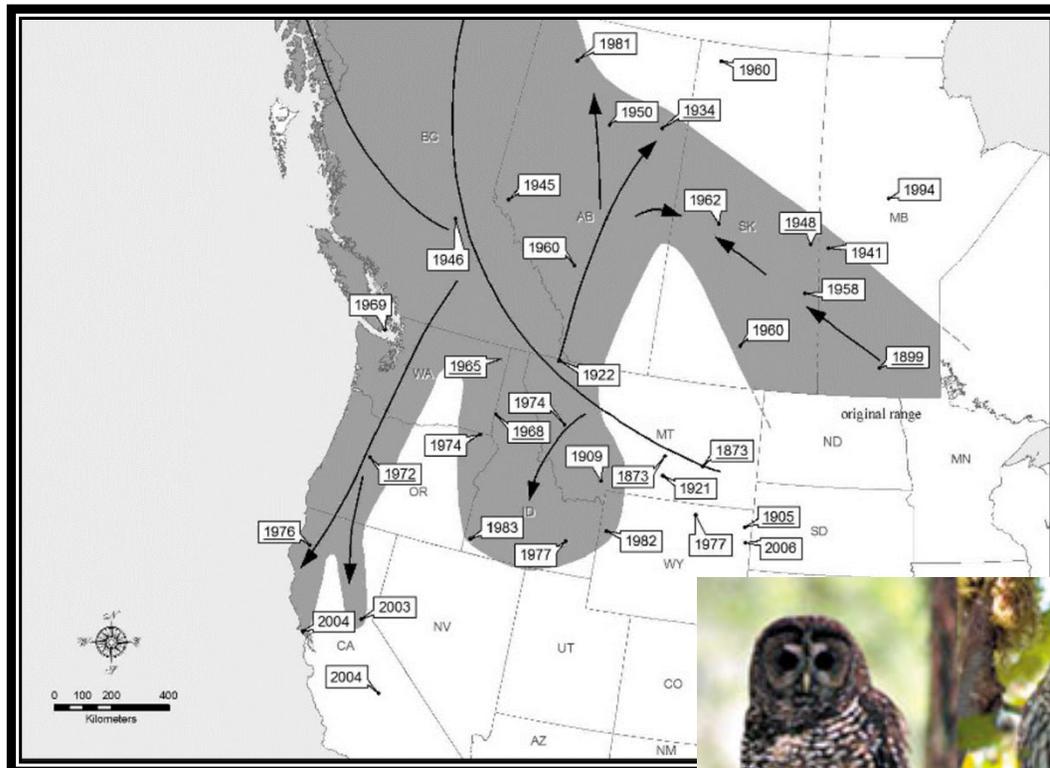


John Keane – Pacific Southwest Research Station, USDA Forest Service, Davis, CA

# Current North American Distribution of Barred Owls.



# Chronology and Extent of Barred Owl Range Expansion



# Barred Owl Impact on Spotted Owl

## *Low/Moderate Barred Owl Density:*

- Early Uncertainty
- Transitory Niche Partitioning



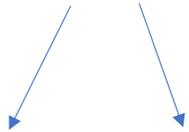
## *High Barred Owl Density:*

- Barred Owl Competitively Dominant
- Broader Diet: Diurnal & Nocturnal
- Higher Population Density
- Greater Annual Reproduction

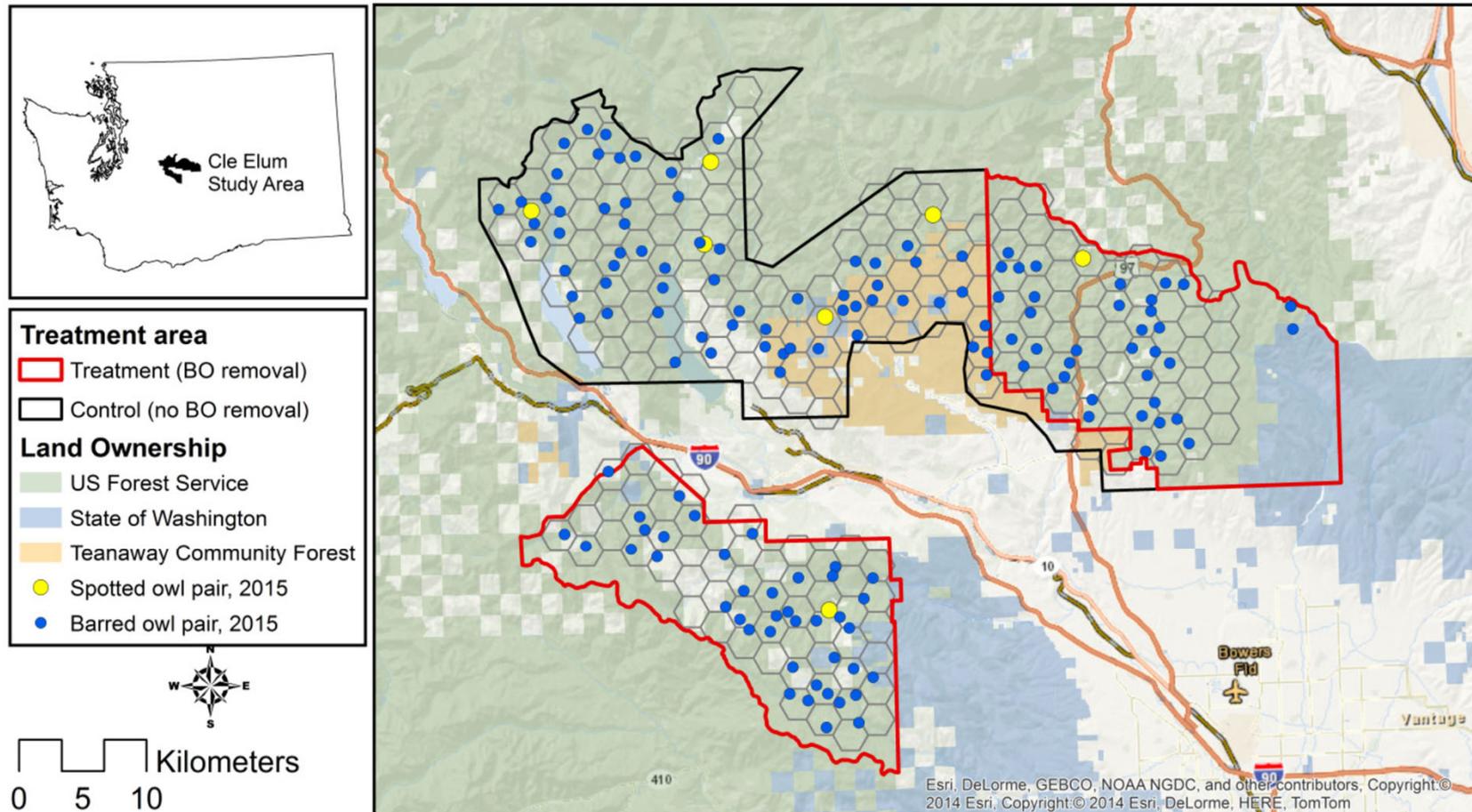


# Barred Owl: Potential Community Impacts

*Are barred owls simply replacing spotted owls in western forest systems?*

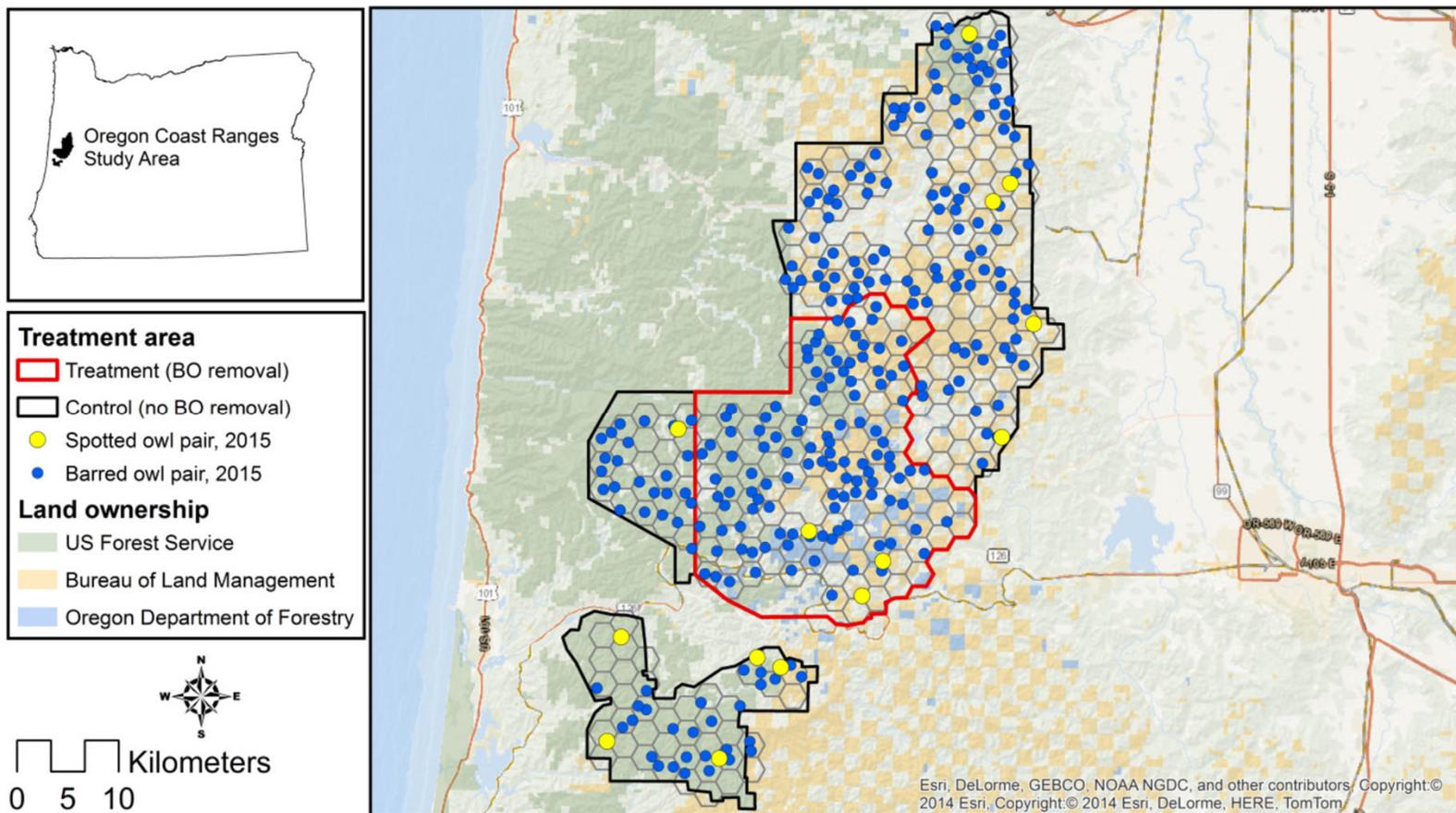


# Barred Owl/NSO Density in Washington: 2015.



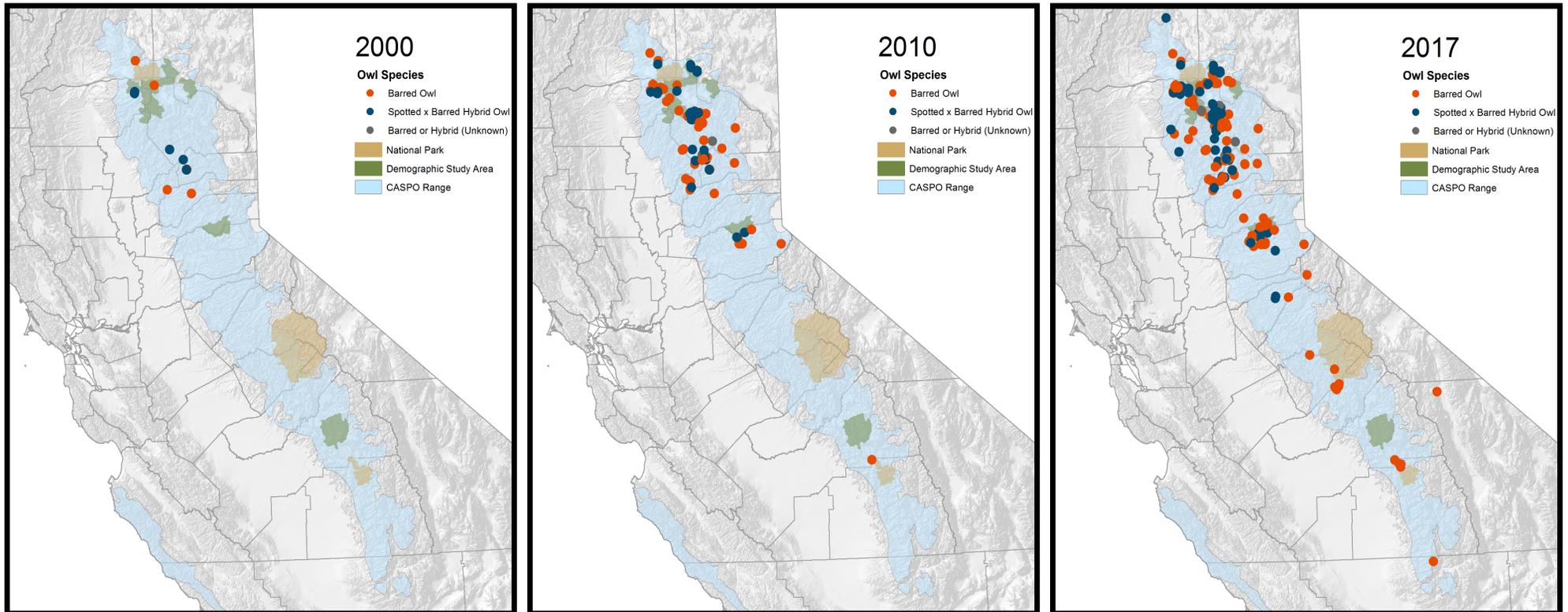
(Wiens et al. 2016)

# Barred Owl/NSO Density in coastal Oregon: 2015.



(Wiens et al. 2016)

# Barred owl range expansion in the Sierra Nevada: 1989-2017.



# Removal Experiments: Overview of Results & Implications

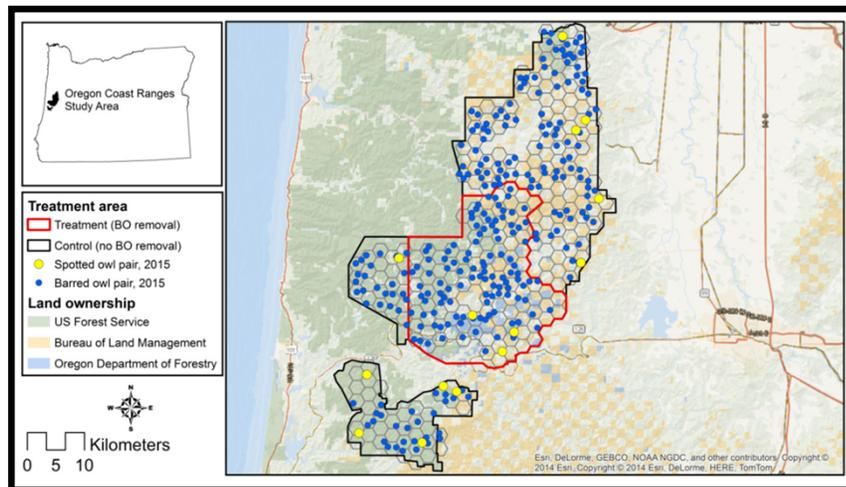
*Key Factors: Barred Owl Density – Time – Spotted Owl Density and Life History Strategy*

Pacific Northwest: 2015-2020

Washington – Limited spotted owl response to removals  
– NSO population augmentation?

Oregon/NW Cal – Slow spotted owl response to removals

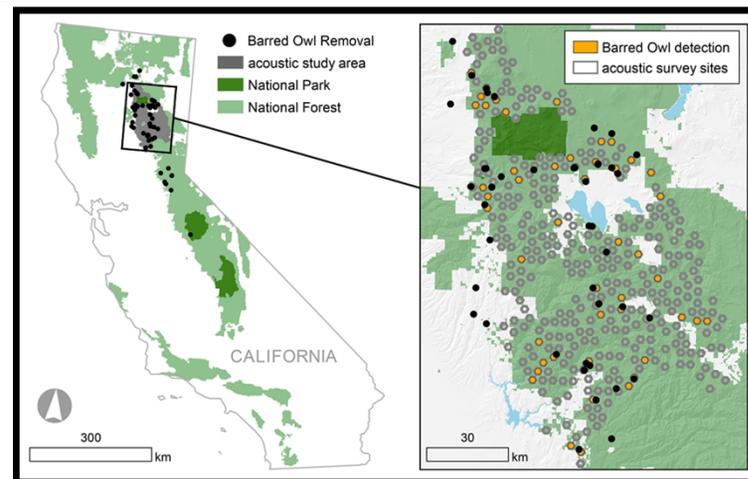
(Wiens et al. 2016)



Sierra Nevada – California Spotted Owl: 2018-2020.

Northern Sierra Nevada – Rapid spotted owl response to removals  
- Periodic future removals

(Hofstadter et al. In review)



# Conservation Lessons

- *Early Detection - Monitoring*
- *Rapid, Decisive Action - Precautionary Principle*
- *Unforeseen Consequences - TES & Community Effects*
- *Life History Strategies*
- *Biogeography*
- *Collaboration: Agencies/Landowners*







