

# Predicting Habitat for the Endangered Northern Spotted Owl in Oregon

Amy Truitt  
Chris Andersen  
Brielle Heflin

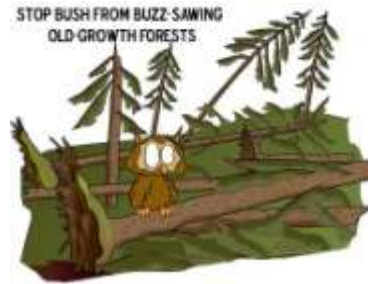


**Northern Spotted  
Owl Range**



# Problem with Owl Habitat

- Loss of habitat
- $\Delta$  Land ownership
- $\Delta$  Vegetation cover



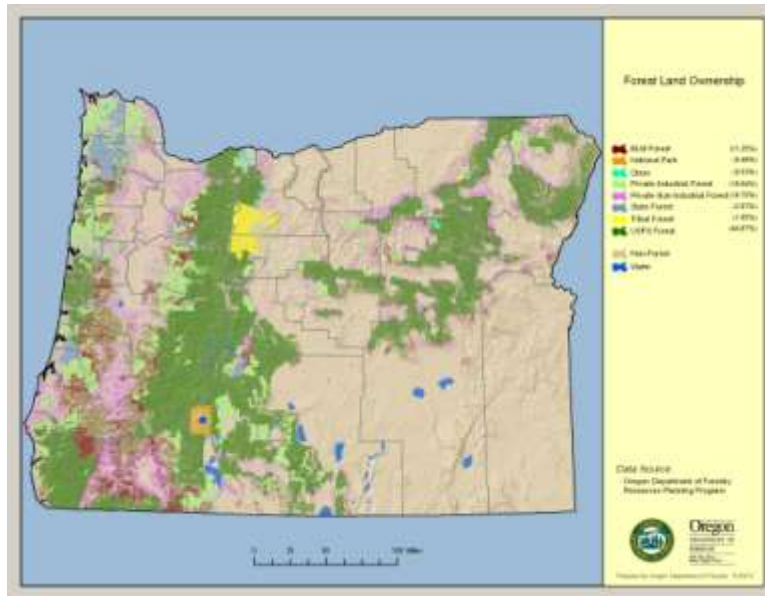
Owl Range

Land Matrix



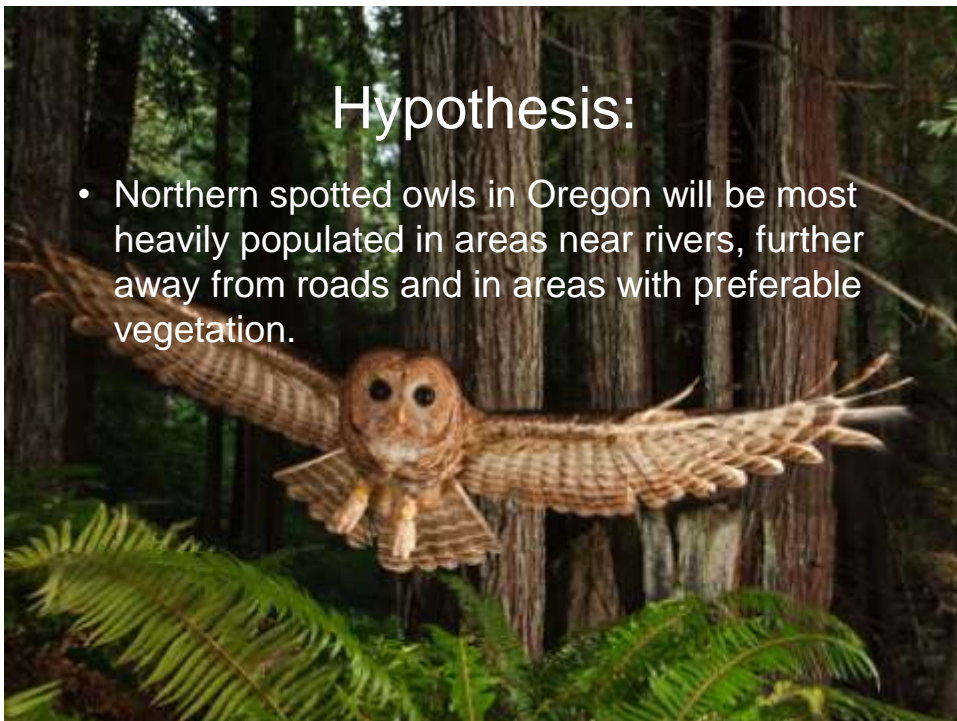
Owl Range

Land  
Matrix

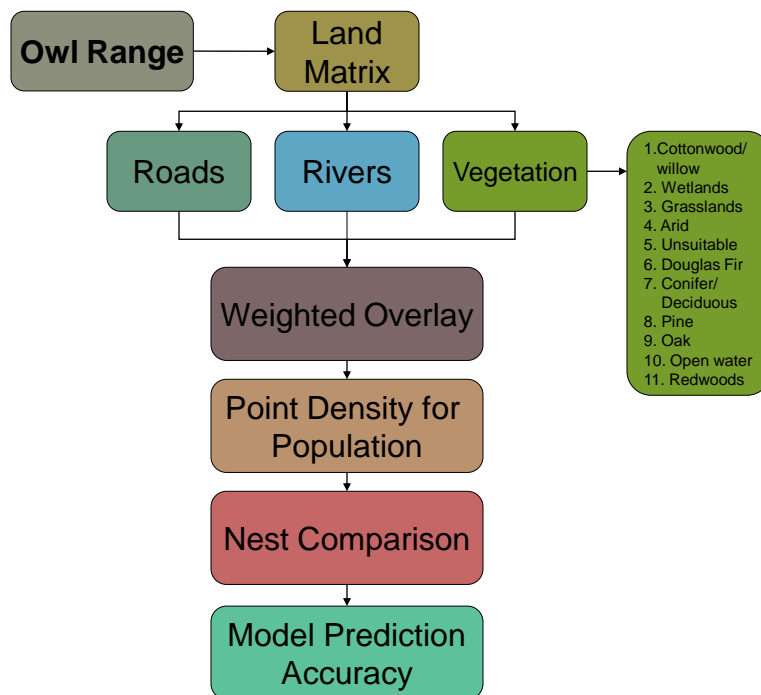


## Hypothesis:

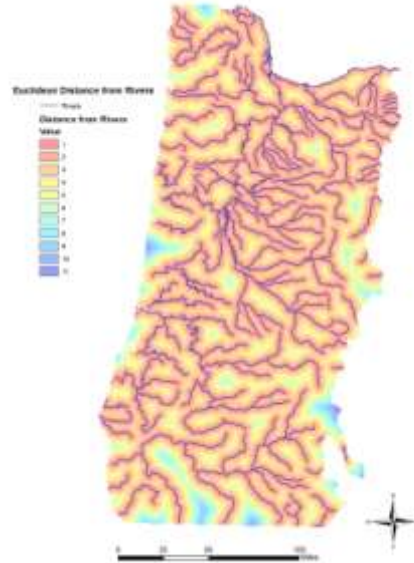
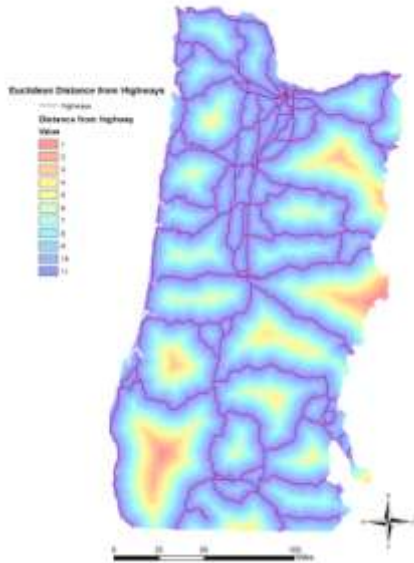
- Northern spotted owls in Oregon will be most heavily populated in areas near rivers, further away from roads and in areas with preferable vegetation.



# Literature Review:

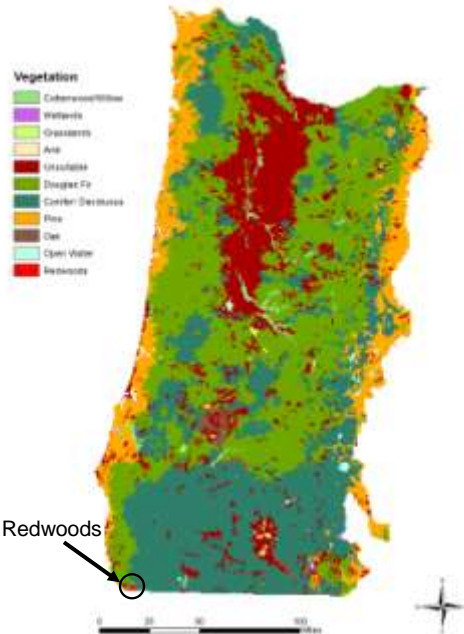


# Euclidean Distance

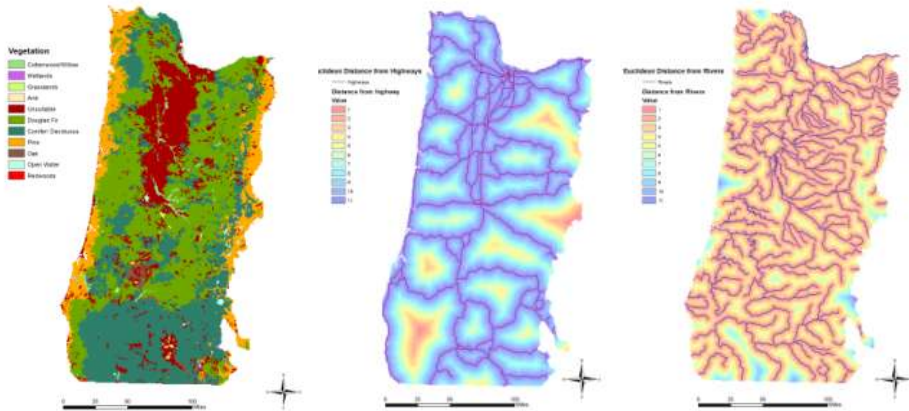
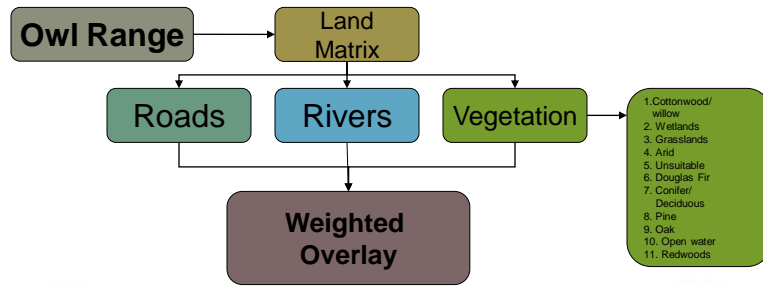


## Vegetation classes

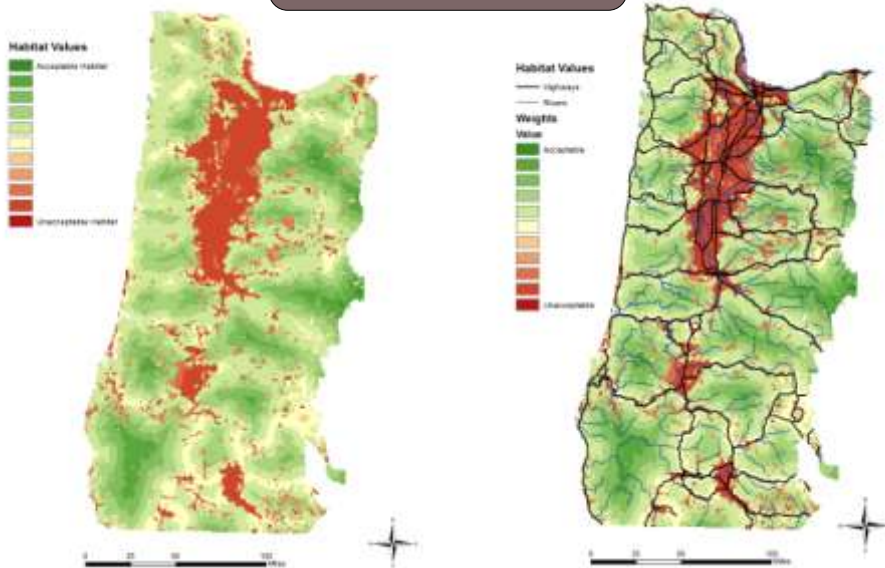
- ~40 original categories
- Manually reclassified
- Grouped common
- 11 classes





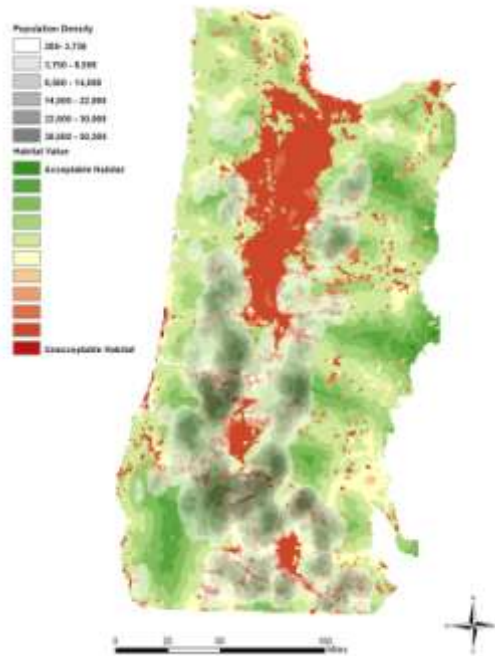


## Weighted Overlay

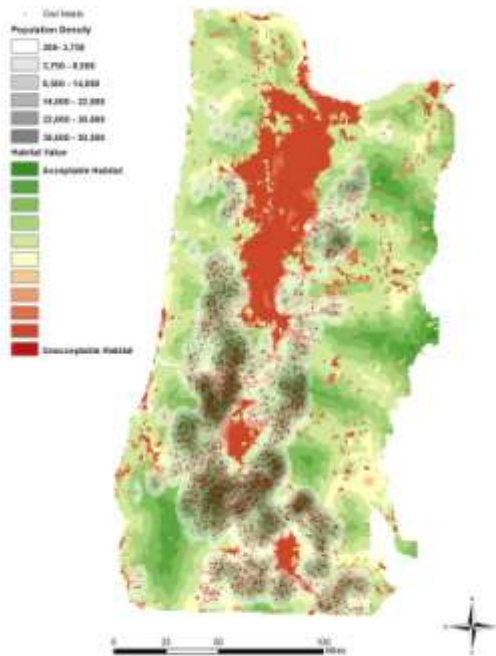


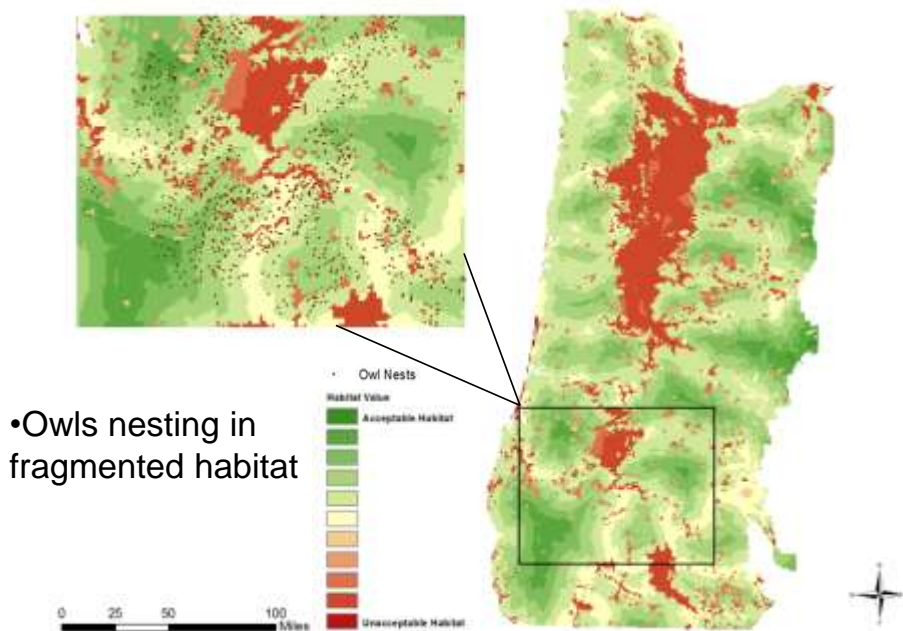
## Point Density for Population

- Created new data set by adding all counted categories
- Raster Calculator
  - Male
  - Female
  - Juvenile =Total Owls
  - Fledgling
  - Unknown



## Nest Comparison





## Model Prediction Accuracy

- Converted weighted overlay from raster to vector making it a polygon
- Selected by location
- Determined the # of owls in each habitat class

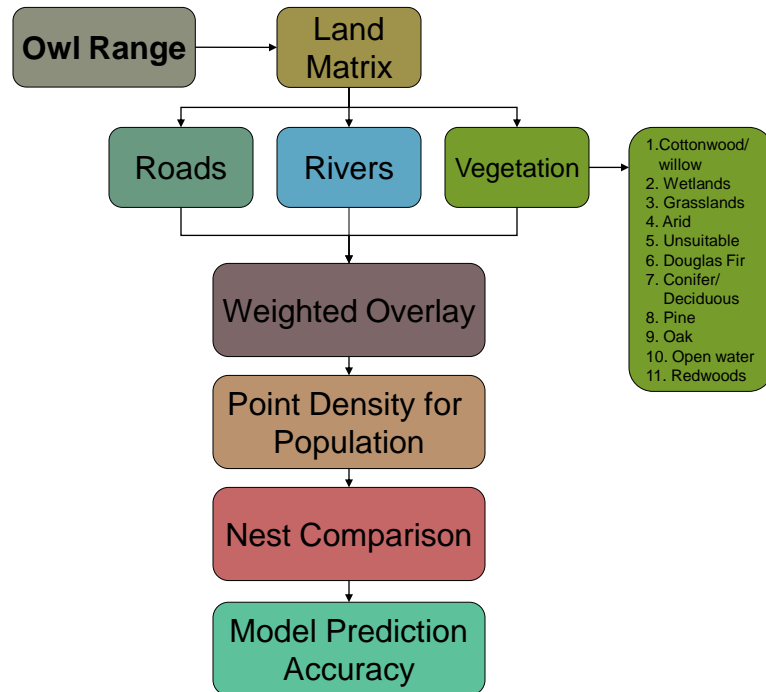


Habitat Classes:

Desirable	8,605
Tolerable	10,583
Poor	719
Total	19,907







- Is the species being marginalized and their habitat being fragmented forcing it to use tolerable habitat?
- More efforts to protect critical habitat for the northern spotted owl.

# References

- Bureau of Land Management  
<http://www.blm.gov/or/index.php>
- [www.reo.gov/gis/data/gisdata/nsohab.html](http://www.reo.gov/gis/data/gisdata/nsohab.html)
- <http://www.oregon.gov/DAS/EISPD/GEO/alphalist.shtml>
- Stralberg, Diana, Katherine E. Fehring, Lars Y. Pomara, Nadav Nur, Dawn B. Adams, Daphne Hatch, Geoffrey R. Geupel, and Sarah Allen. "Modeling Nest-site Occurrence for the Northern Spotted Owl at Its Southern Range Limit in Central California." *Landscape and Urban Planning* 90.1-2 (2009): 76-85. Print.
- <http://www.nationalgeographic.com/>

## Any Question?

