

Spotted Owl (*Strix occidentalis*) Distribution and Habitat in Southwestern Oregon

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Project Purpose: Create a Geodatabase:

- To identify a variety of information referring to Spotted owls and to show the viewer ways to access this information.

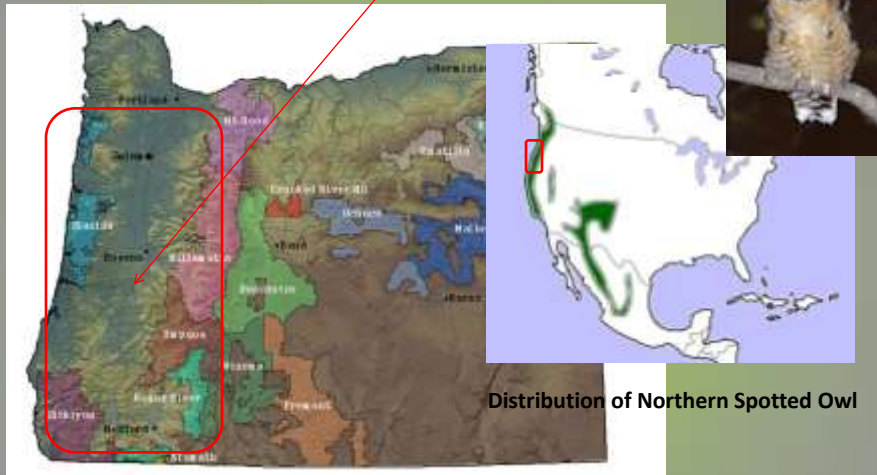
- To summarize some of the nest locations and attributes such as percentages of nests that contain:

- adult males
- adult females
- juveniles
- fledglings

- To find average distances from nest sites to features such as city limits, highways, railroads, and water bodies.



Project Area:

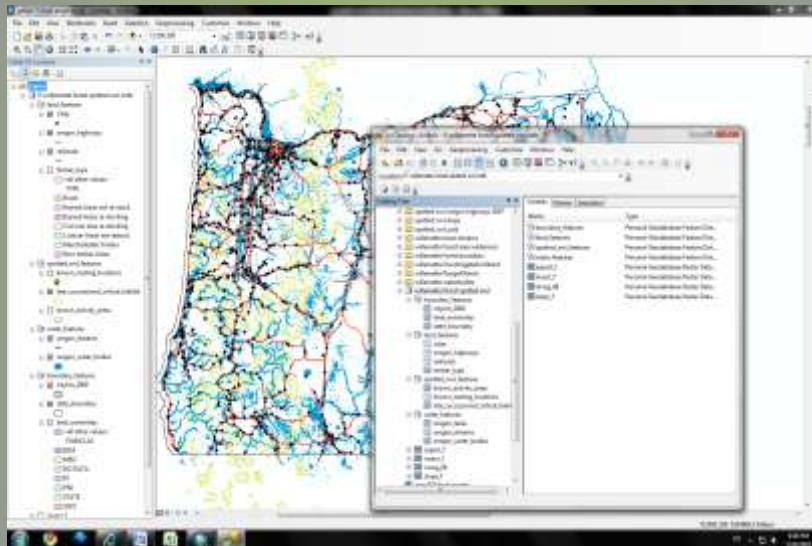


Distribution of Northern Spotted Owl

The east/west extent is Western Oregon between National Forest land

The north/south extent covers the entire state from Portland south to California

Geodatabase Design



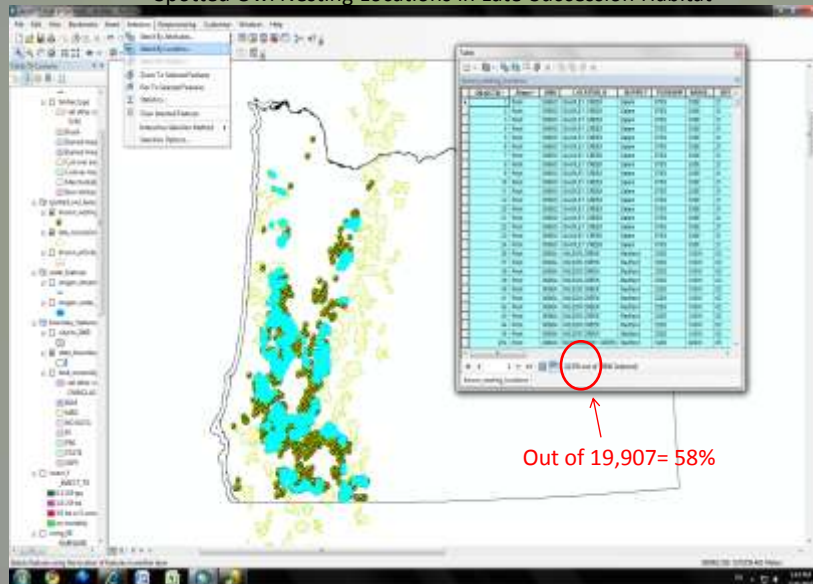
Methods and Techniques:

- Performed a number of queries to find nesting locations that fell within features such as:
 - city limits
 - late-successional habitat
 - land owner/management
- Used query to find sex/age populations and their locations
- Performed some proximity analysis by to find out the average distances from nesting sites to features such as highways, railroads, streams and water bodies, and city limits.

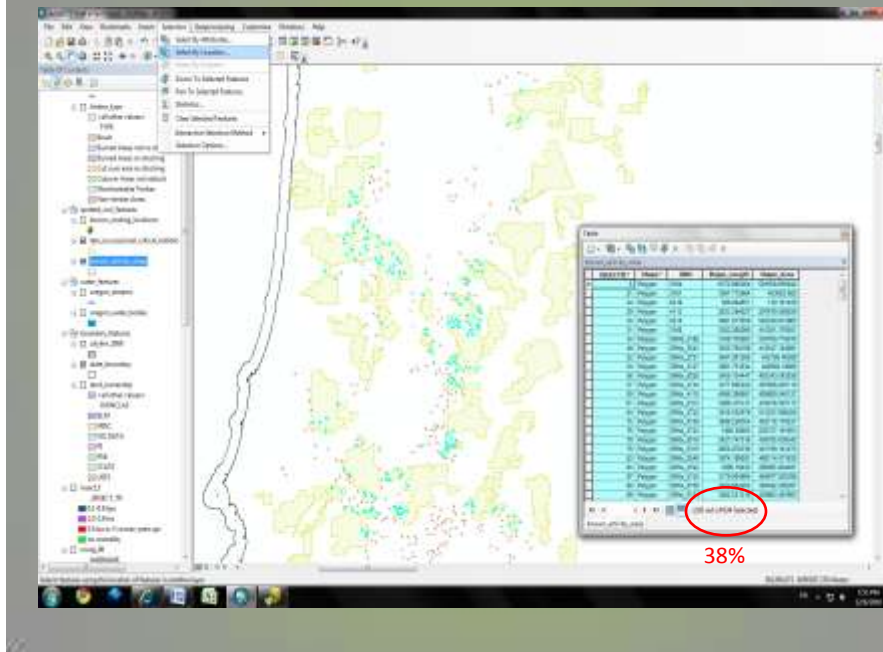


Select By Location Examples

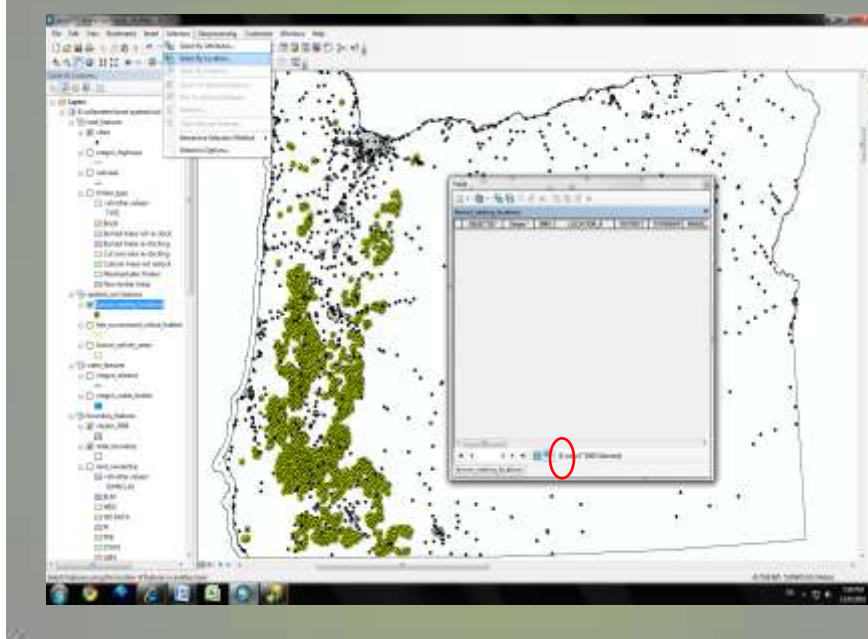
Spotted Owl Nesting Locations in Late-Successional Habitat



Known Activity Areas Within Late-Successional Habitat

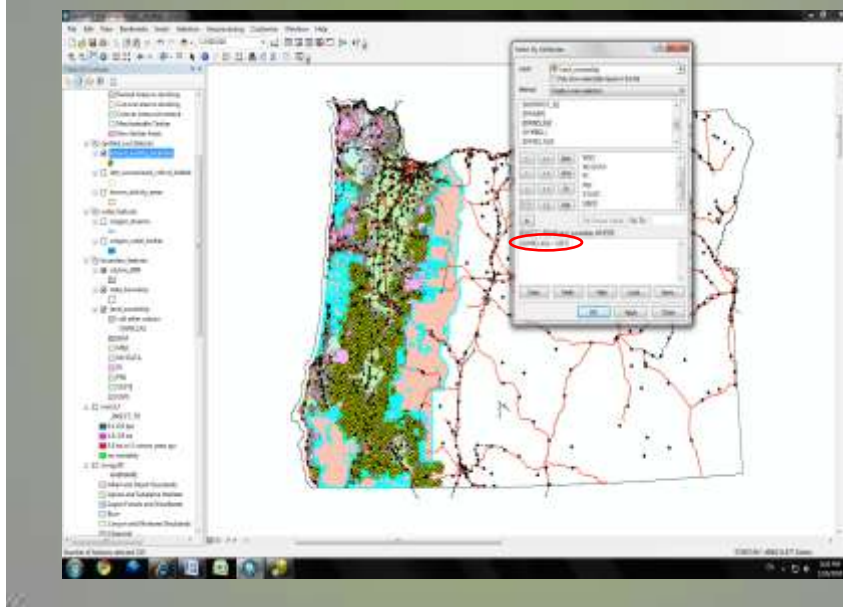


Known Nesting Locations Within City Limits

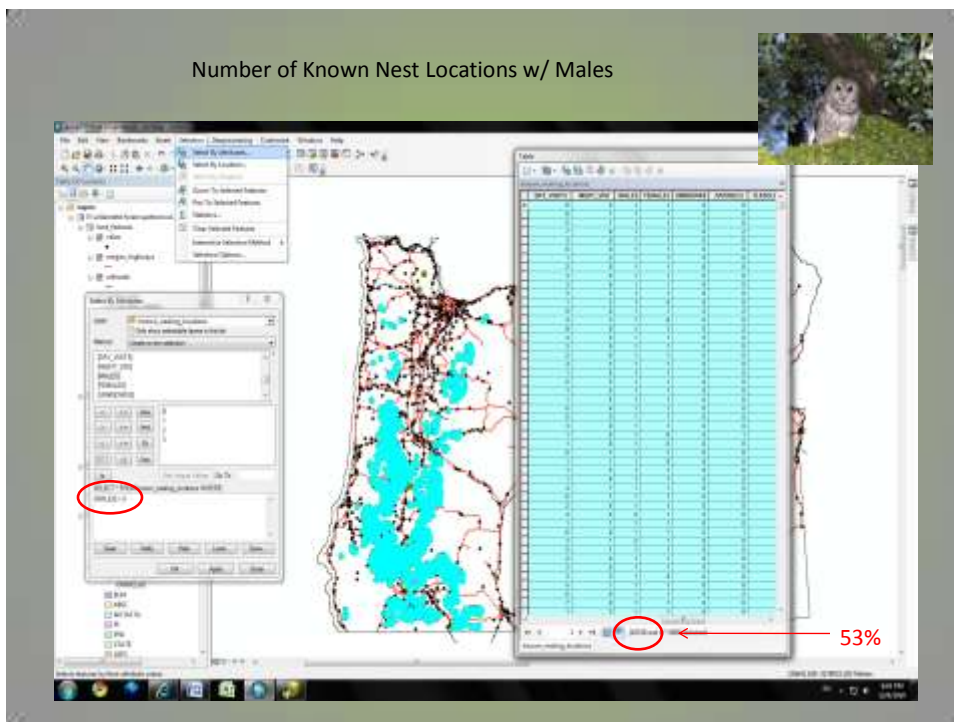


Select By Attributes Examples:

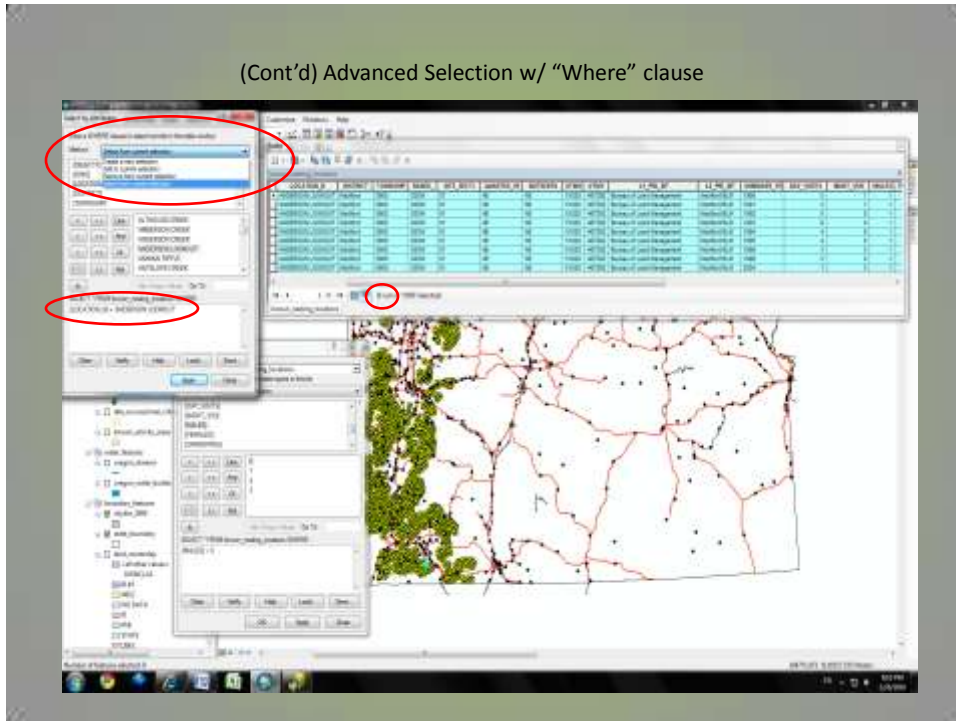
USFS Land Around Project Area



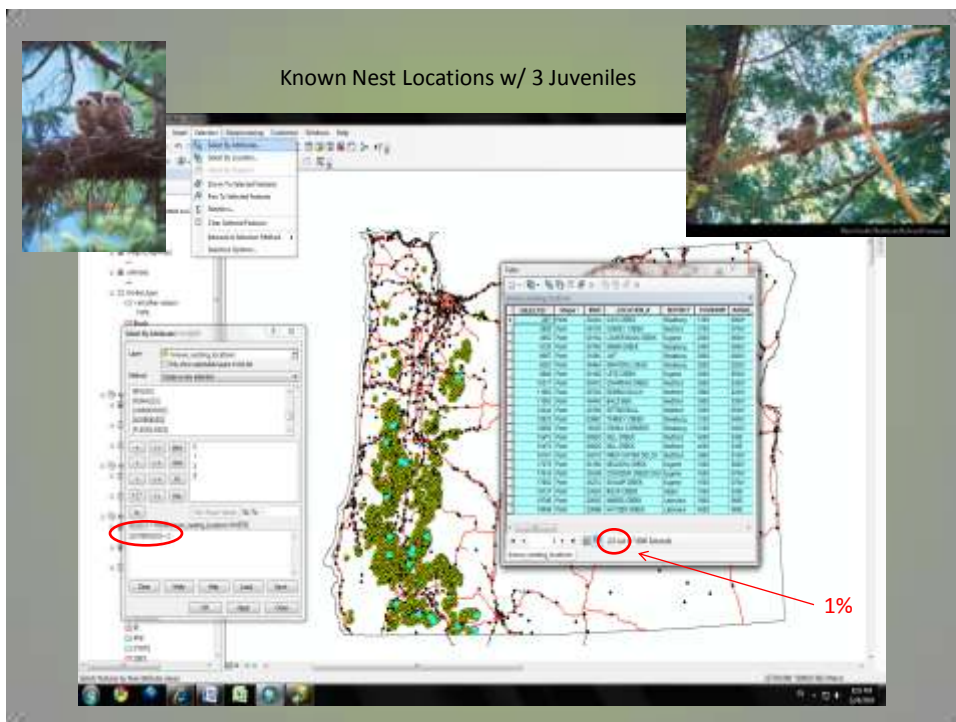
Number of Known Nest Locations w/ Males



(Cont'd) Advanced Selection w/ "Where" clause

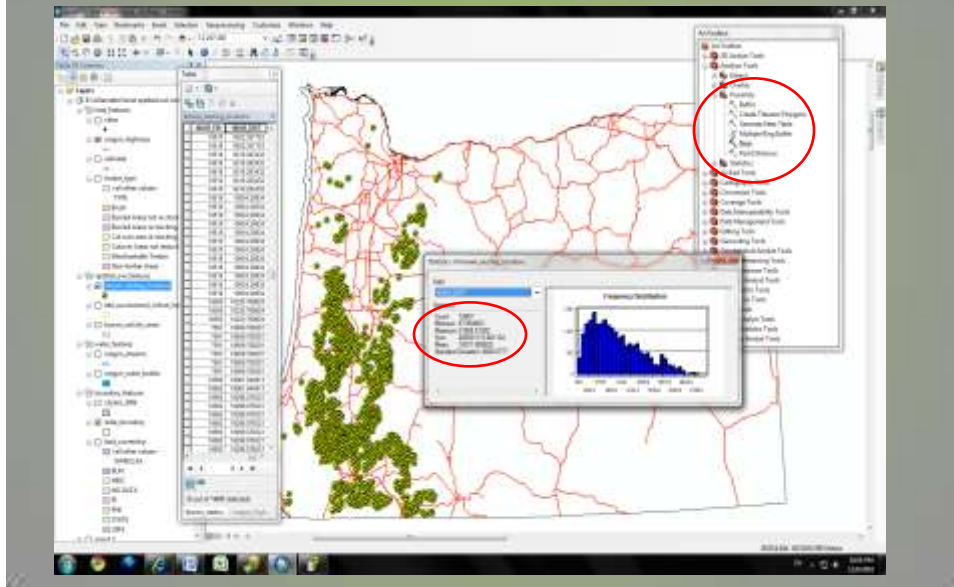


Known Nest Locations w/ 3 Juveniles

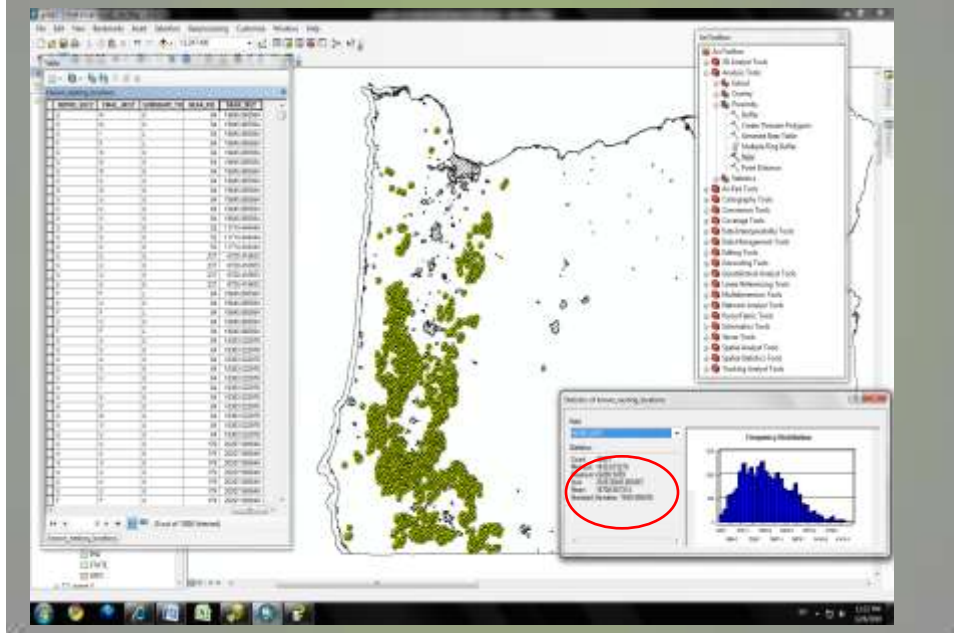


Proximity Analysis Using “Near” Tool Examples

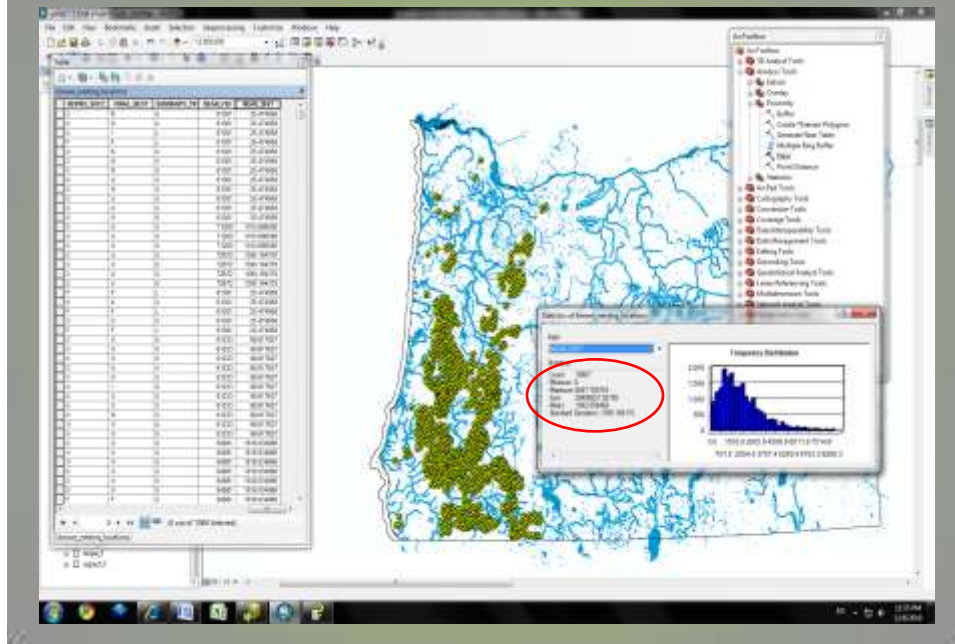
Nesting Location Proximity to Highways



Nesting Location Proximity to City Limits



Nesting Location Proximity to Water Bodies



Results:



Out of 19,907
nests

- 58% of nests are located in late-succession forests
- 38% of observed owl activity has been identified in late-succession forests
- # of nests w/ males = 10,726, or 53%
- # of nests w/ females = 8809, or 44%
- # of nests with juveniles = 2875, or 14%
 - 1 juvenile = 1306, or 45%
 - 2 juveniles = 1547, or 54%
 - 3 juveniles = 22, or 1%
- # of nests with fledglings = 2806, or 14%
 - 1 fledgling = 1305, or 46%
 - 2 fledglings = 1481, or 53%
 - 3 fledglings = 20, or 1%

Proximity Tool

Nest proximity to Highways: Average = 33,041 ft (6.3 miles) Minimum = 288 ft
 Nest proximity to City Limits: Average = 54,819 ft (10.4 miles) Minimum = 4,694 ft
 Nest proximity to Water Bodies: Average = 6,502 ft (1.2 miles) Minimum = 0 ft



Query



Limitations:

- Lack of data availability-no data on owl populations in National Forests

-higher elevation
-temperature
-precipitation
-tree species



-wilderness areas
-hydrology
-forest roads
-food sources

References:

- Wikipedia
http://en.wikipedia.org/wiki/Northern_Spotted_Owl
- Bird Web- Seattle Audubon Society
http://birdweb.org/birdweb/bird_details.aspx?id=248
- USFW <http://www.fws.gov/>
- The Owl Pages
<http://www.owlpages.com/owls.php?genus=Strix&species=occidentalis>
- Spotted Owl Populations
<http://online.redwoods.cc.ca.us/instruct/darnold/laproj/Fall97/Asher/mike.pdf>

