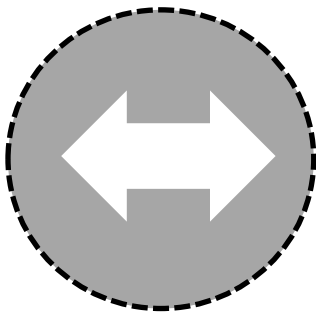


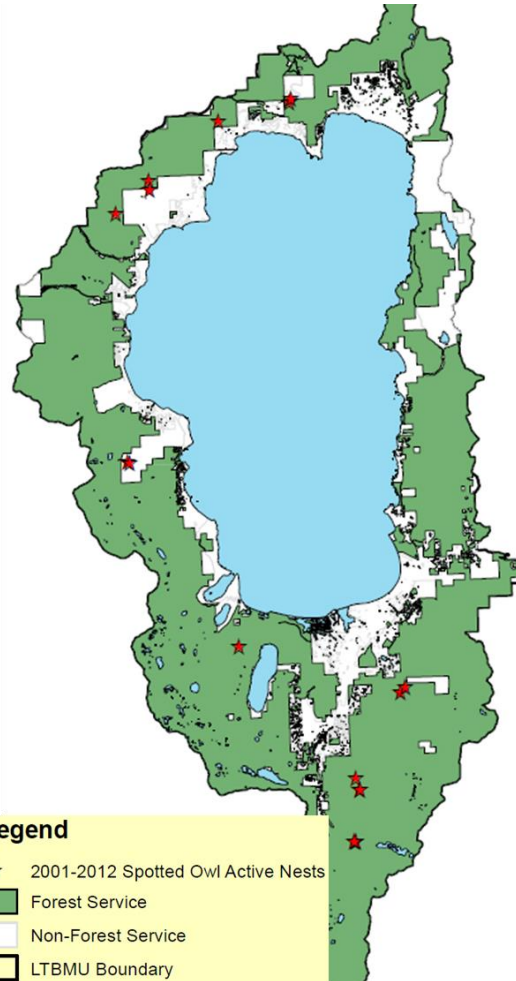
Upland Species: California Spotted Owl

Reporting Icon



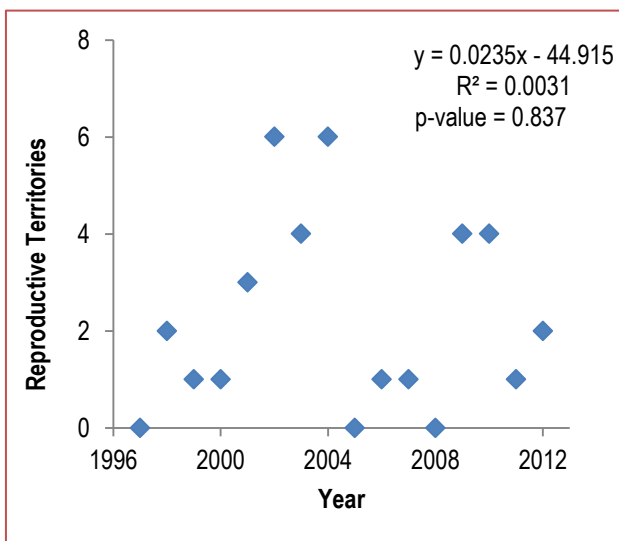
Status: No Target Established
Trend: No Trend Determination
Confidence: Low

Map



Locations of observed California spotted owl nests in the Tahoe Basin 2001 to 2012 (Map by Debra Scolnick, LTBMU).

Trend



Total number of active California spotted owl reproductive territories recorded in the Tahoe Basin from 1997 through 2012. The number of sites visited per year varies depending on the number of projects requiring a site survey, which significantly influences the number of active territories recorded in each year.



Photo of female and juvenile CA spotted owl (by Sheila Whitmore).

Interpretation and Commentary

- **Relevance** – The California spotted owl (*Strix occidentalis*) is a USDA Region 5 Forest Service Sensitive Species and a California Department of Fish and Wildlife Species of Special Concern. California spotted owls are strongly associated with mature coniferous forests with high tree canopy cover ($\geq 70\%$), multi-layered canopies, and an abundance of large trees and snags.
- **Status** – No threshold standard or target has been adopted for the California spotted owl within the Tahoe Basin. The long-term (1997-2011) and five year (2007-2011) average number of individual spotted owls detected are 19.6 and 13.5 respectively. The long-term and five year averages for the number of reproductive territories are both 2.3. These annual detections are, however, dependent on the number of sites surveyed per year, which varies considerably and is not systematic. While no threshold standard has been adopted for the California spotted owl, a target of 1.4 reproductive territories detected per year over a five year period was proposed by the 2007 Pathway Technical Working Group.
- **Trend** – The data cannot be used to illustrate a trend because the data collection process is inconsistent from year to year, and

the linear regression confidence is too low, as discussed below.

- **Confidence** – The overall confidence in the data is low.
 - Status Confidence: Species status confidence is low because variation in reproductive territories could be entirely attributable to variation in sampling from year to year.
 - Trend Confidence: The linear regression of reproductive territories from 1997 to 2012 produced very low confidence values ($R^2 = 0.003$, $P = 0.837$), indicating that there is essentially no trend. The Lake Tahoe Basin Management Unit (LTBMU) suggests that trends not be extrapolated from survey data because of annual variation in survey effort.
- **Human and Environmental Drivers** – Threats and stressors to the California spotted owl include stand-replacing catastrophic fires, expansion of barred owls (*Strix varia*), habitat manipulation that results in the loss of key structural elements (e.g., large trees, dense canopy cover) or habitat fragmentation, climate change, and disease. In some areas, thinning timber stands to reduce the risk of fire may reduce habitat for owls in the short term, but improve the rate of growth toward high quality habitat in the long-term. Finding a balance between immediate impacts to owl habitat and long-term benefits of reduced catastrophic fire risk is an important management challenge.
- **Monitoring Approach** – LTBMU and their monitoring partners conduct surveys following the Forest Service, Region 5, 'Protocol for Surveying for Spotted Owl in Proposed Management Activity Areas and Habitat Conservation Areas' (USDA Forest Service, 1993). The protocol is based on the use of repeated tape-playback surveys during predetermined times of the year, to confirm presence or absence at a site. The objectives of spotted owl surveys are to determine survey area occupancy, individual and pair status, nesting status, and reproductive success. The presence of owls is confirmed by sound (call responses) and visual identification.
- **Monitoring Partners** – U.S. Forest Service, California Department of Parks & Recreation, and Nevada Department of Wildlife, Insignia Environmental (contractor for Sierra Pacific Power Company), Hauge Brueck Associates (contractor for Heavenly Mountain Resort)

Supporting Information

REFERENCES

1. **Monitoring and Evaluation Program.** [Analysis Excel File, available from M&E Program Manager]
2. **USDA Forest Service.** Lake Tahoe Basin Management Unit Monitoring Program Annual Reports (1997-2011):
 - 2010/2011: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5348784.pdf
 - 2009/2010: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5350166.pdf
 - 2007/2008: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm9_045826.pdf
 - 2006/2007: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm9_045889.pdf
 - 2005/2006: http://www.r5.fs.fed.us/ltbmu/documents/ecd/2005_2006%20Annual%20Monitoring%20Report.pdf
 - 2004/2005: http://www.r5.fs.fed.us/ltbmu/documents/ecd/Annual_report_2004_Final.pdf
3. **USDA Forest Service.** 1993. Protocol for Surveying for Spotted Owl in Proposed Management Activity Areas and Habitat Conservation Areas
4. **WS LaHaye, RJ Gutiérrez, DR Call.** Nest-site selection and reproductive success of California spotted owls, The Wilson Bulletin, 1997: <http://64.106.42.23/sora/Wilson/v109n01/p0042-p0051.pdf>

ADDITIONAL INFORMATION

1. **US Fish & Wildlife Service.** Frequently Asked Questions about the California Spotted Owl:
<http://ucanr.org/sites/spottedowl/files/66792.pdf>