

Post-fire issues: Landscape use by NSO

I. Excerpts of literature in post-fire foraging (PFF) appendix completed by Yreka FWS staff:

*These include Bond et al. (2009), Clark (2007), Clark et al. (2012), Lee et al. (2012), Lee et al. (2013), Irwin et al. (2012), Eyes (2014), Comfort (2013), and others.

** Most studies on NSO use of burned areas examine short term occupancy and use and have been unable to factor in duration or persistence at a site over an extended period time.

- There appears to be a negative influence of high severity wildfire on affected spotted owl site occupancy and survival, though most of the results were confounded by prior forest management or post-fire management activities
- NSO appear to display site fidelity by returning to burned areas that were suitable pre-fire, even if they no longer meet the definition of suitable NSO habitat. Site fidelity is strongest in cores where NSO have been documented as nesting previously.
- NSO foraging activity in moderate and high severity burned areas is supported in the literature, although the extent to which they rely on these burned areas for survival and reproduction is not fully understood.
- NSO select unburned or low fire severity affected habitat for nesting.
- NSO use of burned areas may be influenced by standing snags and surviving green trees as perch sites for foraging, particularly along edges where sufficient cover is available.
- The likelihood of a burned area being used by NSO may be strongly affected by the pre-fire habitat type and distance from unburned or low severity burned habitat.
- NSO may be more likely to use the edge between suitable habitat and high fire severity affected areas than the interior portion of a high severity burned area.

II. Other relevant information:

- NSO have been observed several times roosting in moderate severity (as defined as 50 to 75 percent basal area loss), but generally roost in low severity burned or unburned areas.
- There did not appear to be a strong relationship between 2015 occupancy of approximately 100 NSO sites and burn severity in 2014 fires on Klamath national forest based on analysis done this fall by Yreka FWS staff.
- Depending on the scope of salvage harvest, FWS believe in some instances removal of moderate to high severity burned NRF (nesting, roosting, and foraging habitat pre fire) particularly in core areas will cause a reduction in fitness of NSO.