



Landscape Patterns Around Northern Spotted Owl (*Strix occidentalis caurina*) Nest Sites in Oregon's Central Coast Ranges

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Abstract.—We investigated landscape characteristics around 41 Northern Spotted Owl (*Strix occidentalis caurina*) nest sites to assess habitat proportions and patterns on this highly fragmented landscape in the central Coast Ranges of Oregon. We compared the proportion of seven forest cover-types between nest sites and random sites at plot sizes of 112 ha, 456 ha, 1,037 ha and 1,844 ha, and fragmentation patterns at the 1,844-ha plot size. Random sites represented available but unused sites. Nest-site selection by Northern Spotted Owls appeared to be influenced by the amount of old-conifer forest around nest sites and the patch size of old-conifer stands where nests were located. Owl nest sites had more old-conifer forest than random sites at all plot sizes ($P \leq 0.058$), but this difference decreased as plot size increased. Old/young forest, consisting of young stands with remnant old trees, was also important as breeding habitat but apparently less than old-conifer forest. The remaining five cover-types were either used in proportion to availability or avoided by owls. We tested for pattern differences in old-conifer forest between nest sites and random sites when the amount of old-conifer forest (habitat) was the same. Most landscape pattern parameters (patch interior, mean patch area, GISfrag, ratio of patch interior to patch area, coefficient of variation of patch area, and perimeter density) did not differ, suggesting that amount and not pattern of habitat is most important for owls when choosing a nest site. Old-conifer forest patches containing nests were larger than random old-conifer patches ($P = 0.050$). We recommend a very conservative approach to timber harvest of remaining old-conifer forests in the region.

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