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Abstracts

SPECIAL SECTION: CHOICES AND CONSEQUENCES OF AVIAN HABITAT SELECTION

HABITAT SELECTION IN A CHANGING ENVIRONMENT: THE RELATIONSHIP BETWEEN HABITAT ALTERATION AND SPOTTED OWL TERRITORY OCCUPANCY AND BREEDING DISPERSAL

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Abstract. Understanding the effect of habitat alteration on avian behavior is important for understanding a species' ecology and ensuring its conservation. Therefore, we examined the relationship between Spotted Owl habitat selection and variation in habitat in the Sierra Nevada. We estimated habitat selection by modeling the probability of territory colonization (γ), territory extinction (ϵ), and breeding dispersal in relation to the amount of mature conifer forest within and among territories. Alteration of ≥ 20 ha of mature conifer forest (coniferous forest with $>70\%$ canopy cover dominated by medium [30.4–60.9 cm dbh] and large [>60.9 cm dbh] trees) within individual territories ($n = 66$) was negatively related to territory colonization and positively related to breeding dispersal probability. Although territory extinction was negatively related to the amount of mature conifer forest, it was not clear whether this relationship was due to variation of mature conifer forest within or among territories. Although modeling results for territory colonization and extinction generally supported the hypothesis that individuals are "ideal" when selecting a habitat in the sense that they settle in the highest-quality site available, we did not find a clear benefit in terms of habitat quality for Spotted Owls that exhibited breeding dispersal.

Key words: *breeding dispersal, habitat alteration, habitat selection, occupancy, Spotted Owl, Strix occidentalis.*