

ABSTRACT

DEMOGRAPHY OF THE CALIFORNIA SPOTTED OWL IN THE SOUTHERN SIERRA NEVADA AND CLIMATIC CORRELATIONS TO TEMPORAL VARIATION IN FECUNDITY AND SURVIVAL

I studied fecundity, apparent survival, and rates of population change in California spotted owls (*Strix occidentalis occidentalis*) in the Sierra National Forest (SIE) and the Sequoia and Kings Canyon National Parks (SKC) in the southern Sierra Nevada from 1990-2004. Average adult fecundity was similar among habitat classes and between study areas. For second-year subadults and adults combined, estimated mean apparent survival was higher in SKC (effect size = 0.0418, 95% CI from 0.0080 to 0.0756); lower estimated mean apparent survival in oak woodlands compared to conifer forests accounted for some of this difference. Climate models that included winter and pre-nesting precipitation effects and nesting period temperature effects explained an estimated 100% of temporal process variation in SIE and SKC fecundity and SIE apparent survival in conifer forest sites. Population rates of change could not distinguish the study areas from stable or slightly decreasing populations.

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