

A LANDSCAPE PERSPECTIVE ON THE EFFECTS OF CLEARCUTTING ON BIRDS  
IN CEDAR/HEMLOCK FORESTS <sup>TWS</sup>

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Landscape patterns in cedar/hemlock forests in northern Idaho have been modified by clearcutting. I investigated the effects of these changes in landscape patterns on birds by examining bird distribution and nesting success (1992-1994) in three landscapes: (1) a continuous old-growth forest landscape, (2) an old-growth landscape with recently embedded clearcuts, and (3) a landscape composed of selectively harvested forest fragments and older clearcuts. Three species (Brown Creeper (*Certhia familiaris*), Winter Wren (*Traglydytes traglydytes*), and Golden-crowned Kinglet (*Ragulus satrapa*)) were clearly associated with continuous old-growth cedar/hemlock; these may be interior forest species. Twenty species were associated with landscapes fragmented by clearcuts. Surprisingly, many forest species were as abundant or more abundant in clearcut landscapes as in continuous forest. Probability of daily nest success did not differ significantly between the continuous and modified old-growth landscapes for five species. The trend for four of these five species (all cavity-nesters), however, was lower nesting success in the modified landscape, with lower nesting success on clearcut edges than in interiors. Management recommendations are tentative, because the nesting success data is based on small samples and only two landscapes. Maintaining continuous, unlogged, old-growth cedar/hemlock forest is a reasonable, conservative strategy for maintaining interior-associated birds. But this study indicates that more research is needed on nesting success of birds, especially cavity nesters, in clearcut landscapes to ascertain whether leaving trees and snags in clearcuts is a good universal strategy for maintaining cavity nesting birds.