Short-Term Effects of Timber Harvest and Weather on Goshawk Reproduction

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Nesting habitat of the northern goshawk (*Accipiter gentilis*) in North America has been associated with the amount of mature, closed-canopy forest in the nesting area. However, few studies have experimentally tested the effects of timber harvest on goshawk reproduction. We studied the effects of clearcutting within the 170-ha nesting territory on reoccupancy and nesting success for 2 yr following disturbance. We also examined the effects of winter and

spring weather on goshawk reoccupancy and nesting success. We used classification trees to relate goshawk reproduction to habitat and weather variables. Classification trees showed that timber harvest did not affect goshawk territory reoccupancy as long as the 170-ha area surrounding the nest contained > 39 percent potential nesting habitat following harvest. However mean (SD) proportion of habitat remaining in reoccupied territories was 0.57 (0.16) in yr 1, and 0.58 (0.19) in yr 2. Increased nesting success was related to mean April daily precipitation <0.3cm and mean January maximum daily temperature >0.7 °C. In the short term, goshawks are more likely to attempt nesting in territories after disturbance if > 39 percent of their territory is left in potential nesting habitat. However, our models suggest that once goshawks attempt nesting, nesting success is more likely to be a function of winter and spring weather. We recommend leaving >50 percent potential nesting habitat within territories to increase the probability of reoccupancy.