

**Using vocal behaviour to monitor a threatened subspecies
of Northern Saw-whet owl, *Aegolius acadicus brooksi***

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Managed landscapes, such as those of the Queen Charlotte Islands of northwestern British Columbia, Canada, present a mosaic of habitats, ranging from regenerating stands of variable age to old forests. The threatened subspecies of Northern Saw-whet owl endemic to the Queen Charlotte Islands (*Aegolius acadicus brooksi*) is thought to prefer mature and old forest sites, yet individuals are also known to occupy younger forests. How such occupation of sites with variable forest cover impacts the condition of the owls is largely unknown. In numerous avian species, the rates of singing correlate with various measures of phenotypic condition, which can indicate the fitness of the individual. If habitat influences the condition of owls, we expect that individuals occupying areas with greater amounts of mature and old forest will advertise at increased song rates. We conducted surveys for owl activity during the breeding season in 2002 and 2003. We determined individual male song rate by collecting recordings of males singing at active sites. Habitat composition was defined by the percentage of mature/old forest contained within a 500-meter radius surrounding a male's territory apex. A significant correlation between song rate and habitat was apparent. Further analysis of the data yielded a significant threshold of required mature/old forest content below which song rate begins to decline appreciably. Because calling rate is thought to relate to individual condition, such a threshold is useful in managing for this species, as insufficient habitat attributes may lead to decreased condition and therefore fitness.