

Can detectability analysis improve the utility of point counts for temperate forest raptors?

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Temperate forest breeding raptors are poorly represented in typical point count surveys because these birds are cryptic and typically breed at low densities. In recent years, many new methods for estimating detectability during point counts have been developed, including distance, time-to-detection, multiple observer, and repeat visit methods. As a preliminary assessment of the performance of detectability models for forest raptors we used point count data on twelve raptor species over 15 years in four national forests in the Western Great Lakes. Total numbers of detections ranged from 7 (*Accipiter cooperi*) to 205 (*Buteo platypterus*), despite the large number of point counts completed per year (>1,000). Although these species differ considerably in life-history traits that should affect detectability during point counts (e.g. diurnal versus nocturnal habits), time-to-detection analysis nevertheless predicted consistently high per point detectability rates from 0.76 (*Buteo lineatus*) to 0.95 (*Bubo virginianus*). Our results strongly suggest that availability for detection, which is not measured by time-to-detection methods, is a critical component of detectability in temperate forest raptors. Of the four methods cited above (distance, time-to-detection, multiple observer and repeat visit) only the repeat visit method allows estimation of availability. We will illustrate, using formal analysis and simulation, that many visits would be required to achieve a reasonable detection rate. This abstract does not necessarily reflect U.S. EPA policy.