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Abstracts

SPECIAL SECTION: AVIAN DISPERSAL

ON THE ESTIMATION OF DISPERSAL AND MOVEMENT OF BIRDS

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Abstract. The estimation of dispersal and movement is important to evolutionary and population ecologists, as well as to wildlife managers. We review statistical methodology available to estimate movement probabilities. We begin with cases where individual birds can be marked and their movements estimated with the use of multisite capture-recapture methods. Movements can be monitored either directly, using telemetry, or by accounting for detection probability when conventional marks are used. When one or more sites are unobservable, telemetry, band recoveries, incidental observations, a closed- or open-population robust design, or partial determinism in movements can be used to estimate movement. When individuals cannot be marked, presence-absence data can be used to model changes in occupancy over time, providing indirect inferences about movement. Where abundance estimates over time are available for multiple sites, potential coupling of their dynamics can be investigated using linear cross-correlation or nonlinear dynamic tools.

Key words: capture-mark-recapture, estimation, occupancy, presence-absence, recoveries, spatial coupling, telemetry.