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**Recent advances in the use of stable isotopes to track animal movements**

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Measurements of naturally occurring light stable isotopes (δ13C, δ15N, δ34S, δ2H, δ18O) in animal tissues can be used to infer their origins and movements due to the occurrence of known or theoretical spatial isotopic patterns in foodwebs. Such intrinsic markers have advantages over traditional mark-recapture techniques or the use of transmitters, especially when considering movement patterns of populations vs. individuals. A brief review of this field will be given involving several case studies of taxa ranging from birds to butterflies. An update on recent use of probabilistic assignment models that place individuals and populations on terrestrial “isoscapes” will be emphasized including the use of a multi-isotope feather isoscape for Africa that can be used to establish connectivity involving Palearctic-Afrotropical migratory birds.