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FEATURE ARTICLES

USING HYDROGEN ISOTOPE GEOCHEMISTRY TO ESTIMATE THE NATAL LATITUDES OF IMMATURE COOPER'S HAWKS MIGRATING THROUGH THE FLORIDA KEYS[1]

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Abstract. We constructed a regression model for the relationship between stable-hydrogen isotope ratios in immature Cooper's Hawk (*Accipiter cooperii*) feathers (δD_f) and precipitation in areas where feathers were grown (δD_p) across much of the latitudinal and longitudinal extent of the species' breeding range. We used our model to estimate δD_p values from δD_f values of immature Cooper's Hawks captured during migration in the Florida Keys. We compared these estimated δD_p values to a published map of δD_p values of North American precipitation to learn the latitudinal origins of migrants. We reviewed previous migration banding studies to estimate the longitudinal range of migrants. Our analysis suggested that most of the immature Cooper's Hawks migrating through the Keys originated in natal areas in the Mid-Atlantic and Southeast regions of the continent. We found no difference in the passage date of northern and southern birds or in the latitudinal origins of males and females. This new information will aid in the interpretation of population trends generated from the ongoing migration count in the Keys.

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