

Brown Bag Seminar, January 30, 2019
3:30 p.m., 100 Castetter Hall

Cross-border Conservation: Golden Eagle Movement and Distribution Patterns across the Chihuahuan Desert

Doctorate candidate **J. Lizardo Cruz-Romo**, Institute of Biology, Universidad Nacional Autónoma de México, Mexico City

The golden eagle (*Aquila chrysaetos*) is an iconic wildlife species of North America. In Mexico, it is the national species, much like the bald eagle is in the United States. The golden eagle also is considered an endangered species in Mexico and has been designated as a species of common concern in the Chihuahua Desert Region. Due to the species' great vagility and wide distribution across North America, its conservation must be shared by Canada, Mexico, and the United States. A sound understanding of the eagle's movement behavior is fundamental for designing and implementing conservation measures on this international scale.

In a joint effort with USFWS and Eagle Environmental, Inc., long-term monitoring of golden eagles in the Chihuahua Desert of Mexico and borderlands of the south-central United States recently has been initiated. Nestlings have been fitted with satellite transmitters; some have been tracked into adult age. Using the satellite telemetry data, I document: (1) golden eagle dispersion patterns in the first year of life; (2) relationships between the eagle's movement behavior and ecosystem productivity patterns, based on remote sensing information, particularly the Normalized Difference Vegetation Index; and (3) vegetation types preferred by the eagle during its journeys. I also have intensively studied long-distance movement patterns of an individual eagle that has traveled several times from central Mexico to the United States borderlands, mainly by exploring possible environmental influences.

Knowledge of the movement behavior of golden eagles from both the northern and southern limits of the Chihuahuan Desert should improve our understanding of dynamics that influence population demography on an ecosystem scale, a key for conserving the biological integrity of this important region. The information should help expand the vision of collaborative, cross-border conservation of this apex predator by identifying factors potentially influencing movement behavior at multiple scales, with implications for connectivity, gene flow, and consequences of major environmental perturbations.
