



Environmental Science Graduate Program

Effects of Ecological and Agricultural Disturbance on Forest-Grassland Ecotones and Wildlife in Beni, Bolivia

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Dissertation Defense

November 23rd, 2021 | 10:00-11:00 AM

Join via the following Zoom link:



<https://osu.zoom.us/j/93144259808?pwd=VUVUTDQrOVFaWkgrdE9QQ3ZLTmYwUT09>

Abstract

Tropical savannas are mosaic landscapes, characterized by the coexistence of woody and grassy habitats which are strongly regulated by abiotic gradients and disturbance regimes (e.g., fire, flooding and grazing). Consequentially, they are inherently dynamic systems that provide a variety of temporal and spatial ecological niches for wildlife and support globally important biological diversity. Tropical savannas also provide key ecosystem services to humans but have been widely degraded by intensifying land-use and are threatened by climate change. Unfortunately, scientific understanding of savanna ecology is currently limited, impeding development of appropriate conservation approaches, especially in Neotropical systems. My dissertation provides new research carried out in the Beni savannas, a seasonally flooded Neotropical savanna in Bolivia, that aims to address critical knowledge gaps in savanna ecology. My research will contribute to developing sustainable land management and restoration initiatives to secure and protect savanna ecosystems for people and wildlife.

The overarching aim was to examine how ecological (flooding) and agricultural (managed fire and cattle grazing) disturbance influence habitats and wildlife in Beni. Key objectives were to: 1) understand how restoration, through cessation of long-term cattle grazing impacts (i) regeneration, (ii) understory structure and composition, and (iii) populations of large mammals and nocturnal birds, within Beni's naturally patchy gallery forests; 2) examine how compound disturbance from flooding and fire shapes woody-plant and habitat distributions across a savanna-grassland mosaic; and 3) determine functional responses of avian biodiversity to livestock removal across a savanna-grassland ecotone.