



School of Natural Resources
and the Environment

Seminar Series: Spring 2024

HUMAN-BAT INTERACTIONS IN A DISEASE EMERGENCE HOTSPOT

SPEAKER: Reilly Jackson, Arizona Game & Fish Dept.

DATE: Wednesday, April 24th

TIME: 3:00 - 4:00 pm

LOCATION: ENR2 S210 & [Zoom](#)

ABSTRACT:

Many wildlife species are synanthropic and their use of anthropogenic areas can create a high-risk interface for human-wildlife contact. These interactions can expose humans to zoonotic pathogens and wildlife to increased rates of human-induced mortality. Based on several years of field studies, we show that in rural southeastern Kenya, almost 10% of buildings display signs of bat use. Many of these buildings are simultaneously used by people, who frequently interact with cohabitating bats. Over 70% of respondents who live with bats reported bat use of human properties for at least 5 years, however most respondents stated consistent bat use for 10-20 years. Survey participants described frequent exposure to bats that would support pathogen transmission through two routes: indirect (fecal/oral) and direct contact. Indirect contact between bats and people was most common and nearly 80% of respondents reported daily contact with bat excrement. Almost 80% of respondents reported efforts to remove bats from buildings, which often led to bat mortality and even consumption of bats by domestic animals. Pathogens, like filoviruses, coronaviruses, and paramyxoviruses, are also present in bats in these settings. We demonstrate that buildings in rural East Africa may serve as high-risk interfaces that facilitate human bat contact, with subsequent opportunities for human exposure to bat-borne pathogens and human-induced bat mortality. However, mitigation efforts are possible as our work shows that building height, wall material, water vapor pressure levels, and use by humans actively attract or repel different species of bats. Efforts to reduce contact by modifying building conditions could partially mitigate this contact to the benefit of both bats and humans.

