Nguyen, O. L. [1], D. Childers[2], J. Haight[1], S. Hall[1], N. Koper[3], and J. S. Lewis[4]. *Human behavior and wildlife population dynamics in relation to the COVID-19 pandemic across the gradient of urbanization*.

Humans can influence wildlife populations and behavior through structural and behavioral disturbances, which vary across the gradient of urbanization. Although anthropogenic structural disturbances are relatively static for a given period, human activity can be dynamic on daily and seasonal scales, which can affect wildlife behaviors and activities. The sudden onset of the COVID-19 pandemic created a unique opportunity to evaluate how a rapid change in human behavior affected wildlife populations along the gradient of urbanization. Using a before-after-control-impact (BACI) study design, we evaluated how changing human behavior influenced wildlife species by comparing time periods before and during the COVID-19 pandemic. The objectives of this project were to utilize data gathered from 50 wildlife cameras distributed throughout the Phoenix Valley, AZ to evaluate (1) how human behavior changed in response to the COVID-19 pandemic and (2) occupancy and daily activity patterns of 11 wildlife species, including mammals and birds, in response to changing human behaviors. We found that human activity did not significantly vary during the COVID-19 pandemic. Further, we found that wildlife populations did not appear to alter occupancy or daily activity patterns in relation to the COVID-19 pandemic. In our study area, wildlife may not have responded to COVID-19 restrictions because human activity occurred at consistently high levels and did not change during the period of COVID-19-related restrictions. This project can help us to better understand how structural and behavioral characteristics of humans can shape wildlife populations along the gradient of urbanization.

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