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Title: Monitoring of Wildlife and Scavenging Behaviors in Recreationally Used Nature Reserves in the Greater Boston Area

Presenter: Samantha J. Sawyer, PhD (Curry College, Milton, MA; samantha.sawyer@curry.edu)

Co-Authors: Lillian DiNoto (Curry College, MA), Amelia Beauregard, BS. (Curry College, Milton, MA), William Noyes, BA. (Curry College, Milton, MA)

Abstract: Forest blocks aid in the maintenance of biodiversity within urbanized landscapes, serving as refuge for a variety of wildlife in areas with high human density. Greater Boston is one such area where downtown Boston is ~11km from the Blue Hills Reservation, a ~2,800 hectares nature reserve connected to the ~500 hectare Neponset River Reservation. According to the 2023 US Census, more than 28,000 people live in Milton, MA where both the Blue Hills and Neponset River reside. Wildlife densities are high enough within the blue hills that annual deer-hunting has been permitted in areas of the reserve since 2015 to curb the growing population. Curry College exists along the Blue Hill's forest edge and maintains 53 hectares of protected wetland that feeds into the Neponset River Reservation, forming a contiguous forest block between both reservations. Like the Blue Hills, hiking trails are open for recreational use by the public and their dogs, including the 1,835 students attending Curry College. Human impact on wildlife in these areas can be indirect, where the presence of human subsidiaries and pest management strategies through poison-based cull programs in urban areas can influence wildlife behavior, community interactions, and land use. For example, in densely populated urban areas, both mesocarnivores and prey are often found in high densities due to human subsidiaries alleviating predation pressure. However, it is currently unknown if wildlife in forest blocks adjacent to densely populated areas experience a similar reliance on scavenging in mesocarnivore populations. The purpose of this study is to better understand the community dynamics, scavenging behaviors, and land use of wildlife in the recreationally used nature reserve on Curry College's campus. To do this, 24 motion sensor game cameras were placed ~50 meters from each other around the wooded habitat of the Curry College campus and have monitored wildlife since October 2022. Feeder rats (Rattus norvegicus) were placed in front of game cameras to monitor scavenging behaviors during February and March 2023 using still image and video. Land use strategies of wildlife across seasons in addition to novel interactions with carrion exhibited by mesocarnivores will be discussed.