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1) Reference of your publication:

Gagné, S. A., P. J. Sherman, K. K. Singh, and R. K. Meentemeyer. 2016. The effect of human population size on the breeding bird diversity of urban regions. *Biodiversity and Conservation* **25**:653-671.

2) Hyperlink to the publication:

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3) Abstract:

Most studies of the effects of urbanization on avian diversity are carried out in a single urban area. However, urban areas vary in characteristics, such as human population size and biophysical context, that likely influence within-urban area ecological structure and functioning. In this paper, we describe the first direct test of the effect of urban area human population size on bird diversity. We applied simultaneous autoregressive modeling and multi-model inference to North American Breeding Bird Survey and US Census data from 48 urban areas in the conterminous United States to determine the effect of urban area human population size on total breeding bird species richness and abundance in surrounding urban regions, controlling for variation in elevation, air temperature, precipitation, urban area age, human population density, and original habitat type. We hypothesized that increasing urban area human population size is a driver of increasing regional habitat loss and fragmentation and disturbance and therefore would have a negative effect on breeding bird species richness and abundance in regions. We found strong evidence for a negative effect of urban area human population size on species richness and show that urban area human population size is positively correlated with impervious surface cover and air pollutant emissions in urban regions, lending provisional support to our hypothesis. Our results imply that we prioritize urban regions surrounding urban areas with large human population sizes for conservation activities that will benefit birds, such as preserving green spaces. In future, greater emphasis should be placed on the acquisition of high-quality ecological data in multiple urban areas in order to increase our understanding of the structure and functioning of complex urban systems, a frontier in urban ecology.

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