Do Bird Species Richness, Abundance, and Diversity Change in Relation to the Degree of Urbanization?

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Bird habitat quality depends on how much food, water, and shelter the habitat provides. Urbanization may affect habitat quality for birds. I made a hypothesis that bird species richness, abundance, and diversity change across a rise of urbanization. In this study, I selected 41 sites and categorized into four groups based on their level of urbanization – natural, rural, suburban, and urban. At each site each bird seen or heard was identified and the number of birds of each species was recorded. Species abundance and richness and diversity indices were calculated for each site, and these calculations were compared across the four groups – natural, rural, suburban, and urban. Natural areas, having little to no human contact, had a higher diversity, species richness, and abundance than urban, suburban, and rural areas, but suburban and rural areas still had high diversity and species unique to each of them. These results show that the level of human urbanization negatively impacts birds, where natural areas were more favorable for a greater number of bird species and total number of birds. Rural and suburban areas still provide good habitat for many bird species, and they could be improved by increasing the habitat quality, like adding more trees, bushes, parks, and natural areas.

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