



Acoustics of Anthropogenic Habitats: Noise Pollution and its Impacts on Wildlife

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Abstract

An increasing number of habitats are affected by anthropogenic noise pollution, which is often louder, has a different frequency emphasis, and may occur over a different temporal scale, than natural noise. Although a handful of studies have indicated that acoustically-communicating animals in such areas modify their vocalizations in order to make themselves heard over the noise, many questions still remain, including: How taxonomically widespread is vocal flexibility in response to anthropogenic noise, and do all vocally flexible species employ the same mechanisms to escape acoustic masking? Are there fitness repercussions for living, communicating, and breeding in noisy habitats? And, can particular habitat features be used to predict environmental noise levels and sound propagation characteristics? Here, I present data collected from the breeding territories of eastern bluebirds (*Sialia sialis*) to address each of these questions. My results add another species to the list of those who are able to avoid acoustic masking by modifying temporal and spectral traits of vocalizations. I also show that anthropogenic noise is associated with changes in several eastern bluebird breeding parameters. Finally, I demonstrate that both anthropogenic noise levels and sound propagation traits can be predicted by particular habitat characteristics.