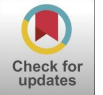




Human-wildlife conflict in urban environments: an introspection

Conflictos entre humanos y animales silvestres en ambientes urbanos: una introspección



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The growth of the human population and the associated productive activities have created a mixed landscape with land uses at different scales¹. This mosaic of productive activities and natural vegetation areas creates scenarios where multiple human-wildlife interactions occur¹. From a human perspective, some of these interactions are positive and some are negative². Negatively perceived interactions are known as human-wildlife conflicts², where the result of these interactions has negative effects, real or perceived, that produce a corresponding human reaction that may result in potential harmful impacts on individuals and/or populations of wildlife³.

Urban areas are made up of a mosaic of complex habitats containing a mix of buildings, streets and green spaces⁴. The urban matrix is not homogeneous. It can contain a mix of high- and low-density clusters of buildings, small to large green spaces containing intensively managed parkland to remnants of natural habitats, or linear structures such as rivers, roads, and railways⁴. This mix of habitats, along with their size and extent, gives each urban area its own unique habitat mosaic.

Wildlife has existed in urban areas for as long as humans have lived in settlements, although the first formal studies of urban ecology did not occur until the late 1600s, with basic descriptions of plant diversity⁴. As a discipline, urban wildlife research did not really begin until the late 1960s and early 1970s, although overall this still represents a small proportion of published wildlife research output⁴. With urbanization increasing globally, both in terms of the total urban area covered and the speed of the process, there is a real need for research to look at the ecology of urban wildlife and, in particular, the relationship between life wild and humans⁴.

At some point in their lives, animals living in urban areas will interact with humans, due to the high human population density in these areas. These interactions vary on a continuum from positive and neutral to negative, they vary in intensity from minor to severe and vary in frequency from rare to common⁵. Negative interactions, plus aptly termed human-wildlife conflict, they emphasize the conscious antagonism between wildlife wild and humans⁵. Interestingly, there is no alternative term to describe the positive interactions between humans and wildlife, likely reflecting the significant bias toward negative interactions in the literature⁶.

The human participants in the interactions are important because the results depend on the socioeconomic and political context⁷ and a “conflict” in one context may not be considered as such in another⁸. In fact, many conflicts are more about social and cultural values than actual impacts. Understanding how individuals and communities respond to wildlife and the impacts it has is therefore a key part of understanding and addressing potential human-wildlife conflict situations in urban areas⁴.

Urban wildlife can provide a variety of positive values for humans, including opportunities for physical utility and health, recreational, scientific, ecological, and historical values⁹. Depending on the philosophical point of view, urban wildlife can also have intrinsic or existence value. Many of these benefits are difficult to quantify because many of the results



are often intangible, but their impact can be significant. In an increasingly urban society, it is recognized that human beings are moving further and further away from the natural environment and this is related to the increase in mental health problems associated with more urban life¹⁰. However, public health policy tends to focus on lifestyle change at the individual level, and the potential transformative capacity of natural environments to improve population health remains a neglected and relatively untapped area¹¹.

Wildlife agencies and non-governmental organizations have an important role in promoting education about urban wildlife and its risks. It is important to avoid different and sometimes contradictory messages and to present to the public the real risks and how to avoid or mitigate them. Better education has an important role in preventing hysteria and ill-informed management decisions when conflict occurs. At the same time, education has an important role in increasing the 'value' placed on urban wildlife¹². However, behavior change requires more than just education, and it is also important that the benefits of living with wildlife are apparent to people on an individual level, so that there is a cultural shift away from viewing urban wildlife as a problem to a situation in which wildlife is seen as an integral part of the urban ecosystem⁴.

Our world is becoming increasingly urbanized, forcing organisms to adapt on rapid time scales. Such adjustments are exacerbating levels of conflict globally, and the recent global pandemic of COVID-19 is a significant case study¹³. The convergence of human and wildlife populations in urban areas has substantial feedback on regional and international economies, conservation efforts, and public health initiatives¹³. Our changing relationships with urban wildlife are affecting how we view, conserve and manage wildlife, all of which will dictate our success in promoting coexistence¹³.

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