

1) Abstract

Haight, J.D.¹ and Larson, K.L.². Holistically examining ecosystem services and disservices for urban human-wildlife coexistence: An interdisciplinary landscape sustainability approach

People interact with wildlife across urban landscapes in different ways, with negative and positive effects for both human and non-human species. Despite a growing understanding of how these mixed outcomes result from complex interactions between people and diverse wildlife, research has overwhelmingly focused on people's negative interactions (i.e., conflicts) with single species or taxa and on the ecological benefits of vaguely defined urban biodiversity, with further taxonomic biases toward the study of mammals and birds. This past research has advanced knowledge and management of specific human-wildlife dynamics, but more holistic approaches could provide insights into coexistence such that people and wildlife can share the same landscapes. Here we demonstrate how a landscape sustainability approach provides an interdisciplinary lens through which to analyze and manage urban human-wildlife interactions for coexistence, by conducting a taxonomically inclusive systematic review of primary research literature that addresses the ecosystem services and disservices (i.e., benefits and risks) that specific wildlife taxa provide in urbanized settings. Out of 1683 primary research articles included in our review, the vast majority dealt solely with the disciplinary themes of wildlife ecology and behavior (n = 1325) or human dimensions of wildlife (n = 55), while relatively few studies utilized interdisciplinary approaches that combined social and ecological data (n = 215). Of the studies that included empirical analysis of wildlife ecosystem services and disservices, studies of ecological benefits and risks were most often focused on the ES of pollination services provided by bees, butterflies, and birds, and zoonotic disease disservices associated with rodents and insects, whereas human-wildlife interaction studies predominantly examined the mixed contributions to mental well-being and negative physical health and economic outcomes of conflict. In addition to providing an assessment of taxonomic, geographic, and thematic gaps in the literature on urban wildlife's contributions to ecosystem health and human well-being, our review highlights interdisciplinary approaches and methodologies that are already being utilized by researchers seeking to address these gaps through integrative social-ecological research. In doing so, we aim to provide clear recommendations for future studies that consider human-wildlife coexistence through a holistic lens of landscape sustainability.

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2) Citation

Kelli L. Larson and Jeffrey D. Haight. Holistically examining ecosystem services and disservices for urban human-wildlife coexistence: An interdisciplinary landscape sustainability approach.

3) In which of the five CAP V Interdisciplinary Research Teams (IRTs) your research best fits (more than one is acceptable):

Adapting to City Life

Environment and Human Wellbeing