

Urbanization may hold key to tiger survival

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A first-of-its-kind analysis overlays human population scenarios with the fate of tigers. Credit: TSFD/WCS-India/HyTiCoS

A new WCS-led study published in the journal *Biological Conservation* says the future of tigers in Asia is linked the path of demographic

transition—for humans. The study marks the first-of-its-kind analysis that overlays human population scenarios with the fate of these endangered big cats.

Prior to the 20th century, some experts estimate there were more than 100,000 tigers living in the wild; today that number is between 3000—4000. At the same, over the last 150 years, the human population of Asia has grown from 790 million to over 4 billion, with dire consequences for tigers and other wildlife.

But these trends are changing. The [demographic transition](#) is the process by which human populations peak and then go down. The researchers looked at different scenarios of economic, education, migration, and urbanization policy. In 2010, 57 million people lived in areas defined as "[tiger](#) conservation landscapes" that contained all of the world's remaining wild tigers. However, by 2100, depending on population trends, as few as 40 million people could be sharing space with tigers, or it could be as many as 106 million.

Different population scenarios depend on the course of the demographic transition. Over the long-term, the scenarios associated with the lowest human populations are also associated with the greatest levels of urbanization and education. At the same time, urban consumption is the source of many of the threats to tigers. Therefore, the authors say conservation authorities must engage with people in cities to save tigers, while continuing to support site-level protection efforts around tiger source sites.

Said lead author Eric Sanderson, Senior Conservation Ecologist with WCS: "Urbanization and the subsequent human demographic transition is arguably the most important historical trend shaping the future of conservation. How that transition plays out is not pre-determined. Rather it depends on the [policy decisions](#) that governments, and the societies

they represent, take with respect to fundamental matters such as urban governance, education, economic reform, and the movement of people and trade goods. These decisions matter for us and tigers too."

Said co-author and WCS Senior Vice President of Field Conservation Joe Walston: "If we want a world with tigers, forests, and wildness to persist beyond the 21st century, conservation needs to join forces with groups working to alleviate poverty, enhance education for girls, reduce meat consumption, and build sustainable cities."

Said co-author Professor Bryan Jones of Baruch College: "Demographic futures, and the socioeconomic causes and consequences thereof, are notoriously difficult to predict. As such, biophysical futures are similarly fraught with uncertainty. Understanding the consequences of different pathways, driven in large part by policy decisions, is crucial to developing a conservation strategy to protect the planets most endangered habitats. Our ability to understand the future will depend in part on how well we understand urbanization, in terms of both land use and demographic behavior."

The paper builds on a 2018 WCS study that found that the enormous trends toward population stabilization, poverty alleviation, and urbanization are rewriting the future of biodiversity [conservation](#) in the 21st century, offering new hope for the world's wildlife and wild places.

More information: Eric W. Sanderson et al, Implications of the shared socioeconomic pathways for tiger (*Panthera tigris*) conservation, *Biological Conservation* (2019). [DOI: 10.1016/j.biocon.2018.12.017](https://doi.org/10.1016/j.biocon.2018.12.017)

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