

# Four in five bird species cannot tolerate intense human pressures, data show

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Noise and constant human presence do not prevent blackbirds from nesting in urban environments. Blackbird nests under a pedestrian bridge in the Helsinki metropolitan area, Finland. Credit: Andrea Santangeli

Currently 14% of the world's 11,000 bird species are threatened with extinction. A new study assessed the populations of bird species across a

spectrum of landscapes from pristine habitats to human-dominated environments.

[The study](#) is published in *Global Ecology and Biogeography*, and was a joint effort of researchers from the University of Helsinki (Finland), Aarhus University (Denmark), University of St Andrews (UK), and the Institute for Mediterranean Studies (Spain).

"Threatened species, and species with declining populations, are less tolerant to breeding in human-dominated habitats. For example, the Fern Wren, a species occurring only in tropical forests of northeastern Australia, is endangered, has a [declining population](#) and a very low tolerance to any human pressure," says Ph.D. Emma-Liina Marjakangas, leader of the study affiliated at both University of Helsinki in Finland and Aarhus University in Denmark.

However, not all species are as sensitive to living alongside humans. "Some species can tolerate even the most intense human pressures on all continents. Common Swifts are an example of such species that can be found breeding in [urban areas](#) all around the world," explains Marjakangas.

Following the UN's Kunming–Montreal Global Biodiversity Framework, goals have been set to protect 30% of the Earth's land for conservation, but not much of that percentage will be pristine [habitat](#).

"This study enables us to identify species that are particularly sensitive to [human activity](#) and need more protected habitats to thrive, for example the Great Snipe in Europe, the Nkulengu Rail in Africa and the Hume's Lark in Asia. Conservation action to protect or restore habitat can then be targeted towards the species and locations that need it most," explains senior curator Aleksi Lehikoinen from the Finnish Museum of Natural History at the University of Helsinki in Finland.

Europe and North America had higher proportions of human-tolerant [bird species](#) than Latin America and Africa did. Europe has a long history of environmental impacts spanning millennia, which, according to the researchers, may have resulted in historical disappearances of sensitive species and also in a long time frame for the remaining species to adapt to the gradually changing landscapes.

The researchers quantified tolerance to breeding in human-dominated environments for 6,000 bird species. The data on birds originated from citizen science observations from the eBird project from 2013–2021. The data on the extent of human impact was the Human Footprint Index that summarizes the combined pressures of built environments, human population density, night-time lights, agriculture and roads.

**More information:** Emma-Liina Marjakangas et al, Bird species' tolerance to human pressures and associations with population change, *Global Ecology and Biogeography* (2024). [DOI: 10.1111/geb.13816](https://doi.org/10.1111/geb.13816)

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