

# Underestimating combined threats of deforestation and wildlife trade will push Southeast Asian birds

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The combined impact of deforestation and wildlife exploitation on bird numbers is severely underestimated and could lead to some species becoming extinct, a joint study by the University of Sheffield and National University of Singapore has found.

Scientists focused on Sundaland—a hotspot of biodiversity in Southeast Asia, spanning Borneo, Sumatra, Java and Peninsular Malaysia—where [habitat loss](#), and hunting and wildlife trades are particularly intense.

Looking at 308 [forest](#)-dependent bird species, they found that when the [loss](#) of forest habitat and bird trapping in the area was examined together it resulted in a much higher average population loss than when accounted for separately.

The study calls for the threats to biodiversity to be considered in totality in order for effective measures to be implemented.

The research, which was conducted between October 2016 and July 2017, also suggests that about 50 to 90 of forest-dependent species in the region, such as the ruby-throated bulbul and white-crowned hornbill will be extinct by 2100.

Tropical forests are the most biodiverse ecosystem globally, however, extensive loss of tropical forests driven primarily by the expansion of

agricultural land threatens the survival of forest species. Coupled with other anthropogenic disturbance such as logging, hunting and fires, the threat to biodiversity in these forests is amplified.

While the International Union for Conservation of Nature (IUCN) has been tracking the different forms of threats to wildlife, the assessments tend to look at each form of [threat](#) separately. These threats, are however, interconnected and the combined impact could be more severe than currently estimated.

The researchers focused their study on quantifying the combined threats of deforestation and wildlife [exploitation](#) in Sundaland.

"Recent extinctions like the passenger pigeon and the dodo present common traits like the simultaneous combination of habitat loss and active hunting," said Dr. William Symes, from the National University of Singapore.

"This fatal combination of ingredients is present for dozens of unique bird species in Sundaland. At current rates, vanishing forests and enormous trapping pressures are likely to drive many of them to extinction in the near future."

Their evaluation revealed that 89 per cent of the 308 forest-dependent bird species studied had experienced an average habitat loss of 16 per cent due to deforestation, and they also estimated that wildlife exploitation had led to a 37 per cent decline in mean population on average.

Among the bird species studied, the researchers also identified 77 'commercially traded' species that are more commonly exploited. They found that the estimated average decline for these exploited species was 15.3 per cent from deforestation alone, but when combined with the

effects of exploitation, the estimated average decline was drastically increased to 51.9 per cent.

In addition, the assessment of the combined impact of deforestation and exploitation in the study suggests that a total of 51 species should be listed as critically endangered, endangered or vulnerable—nearly doubling the number currently listed by IUCN.

Dr. David Edwards, from the Department of Animal and Plant Sciences at the University of Sheffield, said: "Our study highlights the importance of considering the impact of major conservation threats in combination.

"Recent habitat loss and exploitation combine to drive dramatic extinction risks to the forest specialist species of Sundaland. Without urgent policy intervention to curb deforestation and slow the quantities of [birds](#) entering the cage bird trade, many species are likely to be lost.

"Failing to account for these combined threats can lead to a major underestimation of threats in the IUCN Red List assessments."

The combined impacts of deforestation, forest fragmentation and commercial exploitation are not unique to Southeast Asia. Rampant land-use change and wildlife trade drive the decline in parrots from Latin America, Africa and Asia.

"Our technique of evaluating the combined threats can be applied to other [tropical forests](#) facing similar threats, to facilitate the development of effective conservation policies. Coordinated efforts to curb commercial exploitation and slow [deforestation](#), for instance, can limit the extinction of bird [species](#)," Assistant Professor Roman Carrasco from the National University of Singapore added.

**More information:** William S. Symes et al, Combined impacts of

deforestation and wildlife trade on tropical biodiversity are severely underestimated, *Nature Communications* (2018). [DOI: 10.1038/s41467-018-06579-2](https://doi.org/10.1038/s41467-018-06579-2)

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