

Human footprint driving mammal extinction crisis

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The Malay Tapir has moved from Vulnerable to Endangered on the IUCN Red List, due to large-scale deforestation associated with increased hunting. Credit: Tambako

Human impacts are the biggest risk factor in the possible extinction of a quarter of all land-based mammals, according to a University of Queensland study.

Researchers compared a 16-year trend in the global human footprint with the [extinction risk](#) of around 4500 land-based [mammal species](#).

UQ School of Earth and Environmental Sciences Adjunct Fellow Dr. Moreno Di Marco said the analysis redefined how we looked at mammal extinctions.

"We live in an era when one in every four mammal species is at risk of going extinct," he said.

"But with more than 5600 mammal species globally, it's time consuming and expensive to track the changes for every species.

"To get a clearer idea of what's systematically leading to these declines, we decided to combine

mapping of human pressures with extinction risk assessment data for mammal species."

The researchers found that human footprint was linked strongly to extinction risk change for land-based mammals – more than any other variable they tested.

"Human impacts in areas originally in a natural or semi-natural state – those with a footprint of only three or below on a zero-to-50 scale – were the main driver of extinction risk change in [mammal species](#)," Dr. Di Marco said.



Anthropogenic modification of natural habitats is the main driver of mammal species decline globally. Credit: University of Queensland

"In terms of conservation efforts, it makes us look twice at what high-impact human activities really are, since even seemingly low-level impacts are decimating species."

UQ's Professor James Watson said the findings were invaluable for future conservation efforts.

"What we've created has huge potential to provide rapid assessment of species extinction risk, without

having to go through extensive expert consultation every time," he said.

"It has the potential to change how we assess biodiversity conservation status globally.

"The international community has a mission to prevent the decline of species, and this research will assist in the critical job of prioritising actions for minimising species [extinction risk](#).

"They need to see the big picture, before it's too late."

The study has been published in *Nature Communications*.

More information: Moreno Di Marco et al. Changes in human footprint drive changes in species extinction risk, *Nature Communications* (2018). [DOI: 10.1038/s41467-018-07049-5](https://doi.org/10.1038/s41467-018-07049-5)

Provided by University of Queensland

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