

Roadkill may accelerate local extinction of mammal populations

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More than 120 species of terrestrial mammals are particularly vulnerable to roadkill mortality and several populations could become extinct in 50 years if the observed roadkill rates persist, according to an assessment of

roadkill impacts on terrestrial mammals worldwide conducted by a team of international researchers from different continents.

These results were published in the scientific journal *Global Ecology and Biogeography*.

Dr. Manuela González-Suárez, researcher at the University of Reading and co-author of the study, said: "We analyzed the impact that observed [roadkill](#) rates had on 71 populations of threatened [mammal species](#) and the non-threatened species with the highest observed roadkill rates worldwide.

"Our results show that populations of the maned wolf and the southern tiger cat in Brazil, the brown hyena in South Africa and the leopard in North India are at risk of local extinction in the near future if observed levels of roadkill persist.

"We then developed models using species characteristics that allowed us to assess vulnerability to roadkill mortality for 4,677 mammal species worldwide and revealed 124 species as particularly vulnerable including the Iberian lynx, brown and [black bear](#), tiger, jaguar, and lion-tailed macaque with known records of collisions with vehicles."

There are ambitious plans to facilitate future global trade particularly in emerging market countries in Latin America, Asia, Africa and Europe. These initiatives will facilitate regional and intercontinental trade flow through the construction of more than 25 million kilometers of new roads.

This will expand the global road network by 60% compared to 2010 and is in conflict with the global objectives of environmental sustainability, as many of these new roads will cross environmentally sensitive areas where many [threatened species](#) occur.

Dr. Clara Grilo, researcher at Center for Environmental and Marine studies (CESAM) of the University of Lisbon and lead author of the study, said: "We developed a tool to assess the risk of extinction associated with observed roadkill levels under current road densities, these can be updated as new roadkill estimates for different species in different regions of the world are obtained.

"Our study also offers a priority ranking of species vulnerability to roadkill, which can inform road infrastructure agencies, NGOs and public administration. These assessments can help identify, combined with [species](#) distribution data, current and future roads segments where roadkill monitoring programs are most needed to evaluate risk and trigger the most appropriate measures to avoid local extinctions."

Dr. González-Suárez added: "Although emerging market countries will need to develop their connecting infrastructure to support [economic development](#), it is essential that ecologists and conservation scientists are consulted in the planning and implementation of these infrastructures to minimize impacts on wildlife."

More information: Clara Grilo et al, Conservation threats from roadkill in the global road network, *Global Ecology and Biogeography* (2021). [DOI: 10.1111/geb.13375](https://doi.org/10.1111/geb.13375)

Provided by University of Reading

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