

Birds avoid crossing roads to prevent predation

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Roads can be dangerous to wildlife. Animals making the perilous journey against the traffic run the risk of meeting an untimely death. Until recently, it was widely believed, unlike other animals, birds were largely unaffected by the presence of roads and traffic, simply because they could fly.

A new study, published in the open-access journal, *Frontiers in Ecology and Evolution*, reveals this is not the case. Birds can find roads challenging too - they are less likely to be found next to roads and are hesitant to cross them.

"We observed fewer [bird species](#) and individuals of each [species](#) near to roads. In addition, they were less likely to cross wide roads," says Christopher Johnson, who completed this research as part of his graduate studies at the Griffith University, Brisbane, Australia. "We found the smaller-bodied, forest-dependent species were the most affected, avoiding all but the narrowest of roads.

A keen bird-watcher, Mr. Johnson spent many hours carefully recording birds seen next to and crossing roads of different widths around the southern suburbs of Brisbane, Australia. He made sure that the vegetation on either side of the road of his recording sites were the same, as it was more likely that bird crossings occurred between similar habitats. These results were compared to the number of birds seen and heard in the vegetation 100m in from the roadside, to see if the species and numbers of individuals differed.

"For this study, we decided to try something new, by looking at the influence of different road widths (two, four and six-lanes) on bird crossings. In addition, we analyzed the road-crossing ability of birds of different body sizes and whether the type of bird, for example, small forest dependent, large forest dependent, honeyeater or urban tolerant species, had an effect," explains Mr. Johnson.

The results were quite clear. The widest roads - six-lane carriageways - had fewer bird species and individuals of each species crossing them than the narrower two- and four-lane carriageways. When they looked at the different body sizes and bird types, it was the smaller forest-dependent species that showed the biggest difference.

The authors have suggested several reasons for these findings, such as birds choosing not to come out into the open for fear of predation and the creation of territorial boundaries, as breaks in vegetation can be used by birds to mark the edge of their territory. In addition, many highly aggressive, territorial bird species were seen to be taking advantage of the space near the roads, which would put off other [birds](#) crossing.

The findings of this study raises concerns, because bird species play an important role in the health of our natural environment.

Professor Darryl Jones, co-author of the study and Deputy Director of Environmental Futures Research Institute and the School of Environment at the Griffith University explains. "Birds perform a range of services that are of huge benefit to humans, from controlling pests such as mosquitoes and flies to the pollination and seed dispersal of many plants, including those of economic and medicinal value. By restricting bird movements through transportation networks, we are limiting their ability to perform these services and, ultimately, undermining the benefits we gain."

The authors of the study strongly advise that measures are put in place to connect fragments of forest across roads, allowing wildlife to move freely.

"People use the road transport system to get from point a to b. Unfortunately, this has a negative impact on wildlife movement, particularly within urban environments," says Daryl Evans, who also collaborated on this the research and is based at the Griffith University. "There are wildlife-friendly solutions to many of these issues, such as specially-designed overpasses, fauna underpasses and fencing so animals can avoid accessing the road, all of which need to be incorporated into the design of our [road](#) systems."

"Further studies should look at the impacts of man-made breaks in vegetation, such as forest tracks and park walkways on bird movements," adds Professor Jones. "We are currently using our data to identify the 'at risk' bird species within suburban areas, to assist with conservation management."

More information: Christopher D. Johnson et al, Birds and Roads: Reduced Transit for Smaller Species over Roads within an Urban Environment, *Frontiers in Ecology and Evolution* (2017). [DOI: 10.3389/fevo.2017.00036](#)

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