

# Highway noise deters communication between birds

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Northern cardinals and tufted titmice are two abundant bird species in the woods of eastern North America. Many bird and mammal species rely on information from tufted titmice calls to detect and respond to dangerous predators. This causes important information networks to form around tufted titmouse communication. Normally, northern cardinals listen to tufted titmouse predator alarm calls and will typically respond by fleeing or freezing until the danger passes.

New research from University of Florida Institute of Food and Agricultural Sciences researchers shows birds may be avoiding habitats near noisy highways because they can't hear fellow birds' alarms that warn them of attacking hawks or owls.

Some highways cut through or run along natural areas, and researchers know that wild [birds](#) often make their homes away from those highways, but they don't know why.

UF/IFAS researchers tested whether highway noise could be interfering with bird communication. Results of their study suggest too much noise around these highways keeps birds from hearing warnings from fellow birds about predators in the area, and that puts them at a higher risk of being eaten. It is also possible that the birds are hearing the alarms, but are too distracted by the noise to respond to them.

The researchers caution that they did not establish a causal link between highway noise and bird population reductions, although noise-disrupting alarm calls is a compelling possibility.

"Conservation of bird species should include decreasing noise in sensitive wildlife areas," said Aaron Grade, who led the study as part of his master's thesis in the UF/IFAS wildlife ecology and conservation department.

Grade and his graduate adviser, UF/IFAS wildlife ecology and conservation professor Katie Sieving, tested the abilities of northern cardinals to hear the predator alarm of tufted titmice by playing alarm calls to cardinals through speakers in both noisy and quiet locations in Florida state parks. They found that noise from vehicles along the busy highways often drowns out the alarms emitted by birds. Researchers went to Florida state forests near Interstate 75 and U.S. 441 in Alachua, Marion and Columbia counties to test whether highway noise could

interfere with bird communication.

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But when tested near noisy roads, cardinals failed to respond to titmouse [alarm calls](#), suggesting that the [noise](#) may prevent cardinals from escaping when there are dangerous predators around, Sieving said.

"Our work suggests that disruption of animal communication networks could hinder natural behaviors of wildlife and help explain patterns of reduced biodiversity near roadways," said Grade, now a doctoral student at the University of Massachusetts.

The study was published online in April in the journal *Biology Letters*.

**More information:** Aaron M. Grade et al. When the birds go unheard: highway noise disrupts information transfer between bird species, *Biology Letters* (2016). [DOI: 10.1098/rsbl.2016.0113](https://doi.org/10.1098/rsbl.2016.0113)

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