

# Why making airport food less palatable may benefit passengers

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Research scientists from Murdoch University are tackling the dangerous problem of aircraft 'bird strikes' with a new, leading-edge DNA-based technique.

This technique, to be outlined [here](#) in BioMed Central's open access journal *Investigative Genetics*, involves sequencing the DNA of semi-digested food from the stomachs of [birds](#) that have collided with planes.

The aim is to discover what foods are attracting birds to airports in the first place.

Megan Coghlan, who conducted the study, said the research had a very

serious motivation.

"Animal collisions have directly caused 221 fatalities since 1988, and everyone will recall US Airways flight 1549, which was forced to ditch into the Hudson River in 2009 following an encounter with a flock of Canada geese," Ms Coghlan said.

"Beyond the potential human cost, commercial airlines lose over a billion US dollars per year due to repair expenses and delays."

She said while DNA had been used previously to identify species of bird that had hit aircraft, this was the first time it had been used to look at what attracted them to airports.

"This can help airline authorities remove the birds' preferred food, thereby making the area less attractive to them," she said.

The study involved researchers examining 77 carcasses from Perth Airport over a 12-month period, paying particular attention to the nankeen kestrels, galahs and herons – three species of particular concern.

They collected a large amount of dietary data from 16 species, confirming the kestrel fed primarily on feral mice and locusts/grasshoppers, while the galah was targeting an invasive weed species, Erodium, and herons were eating an invasive mosquito fish which occurs in the [airport](#) waterways.

A spokesperson for Perth Airport said that, like all metropolitan airports, measures were already in place to reduce bird strike risk but that this approach has allowed them greater insights into mitigation strategies.

"Our collaboration with Perth Airport has been a win-win situation," said Ms Coghlan.

"We were able to gain valuable conservation insights into avian diets and pass this information onto airport managers to help manage bird strike risk."

She noted that the high-risk [species](#) of birds varied at different airports, but that the approach can be applied anywhere in the world.

The idea is already gaining traction in Denmark.

Geneticist Associate Professor Anders Hansen from the University of Copenhagen said, "This is a really useful and applied application of new DNA sequencing technologies. The wetlands surrounding Copenhagen airport are attracting birds and now we are working with them using this approach to help manage the issue."

**More information:** Coghlan ML, White NE, Murray DC, et al. Metabarcoding avian diets at airports: implications for birdstrike hazard management planning. *Investigative Genetics* 2013

Provided by Murdoch University

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