

# Faced with the growth of collisions between birds and aircrafts, researchers propose mitigation and management measures

Carolina Paz Comerlato / 23 de setembro de 2024 / In English



## Biological | Study of the UFRGS Graduate Program in Animal Biology deepens data on avifauna and aviation in Brazil

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\*First published March 14, 2024

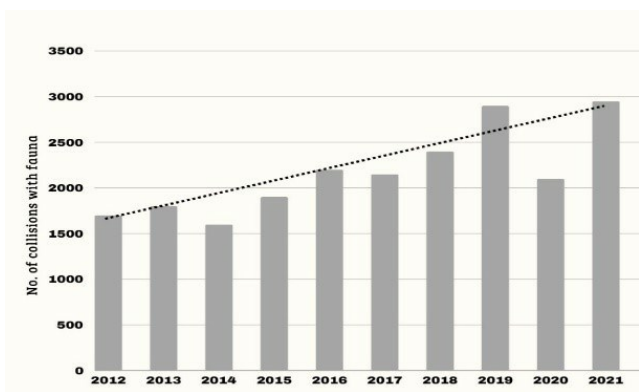
\*Photo: Ravena Rosa/Agência Brasil

In 2009, the collision with geese stopped the two engines of an aircraft in the United States. The aircraft, which was carrying 150 passengers and 5 crew members, had to make an [emergency landing on the Hudson River](#) in New York – [the story even turned into a movie](#). In Brazil, this type of collision – of birds with airplanes – happens every four hours, but there is still a lack of research that establishes a deep understanding of the matter.

It was curiosity about such events that motivated Rodrigo Souza Torres to choose his research object. During his master's training in the Graduate Program in Animal Biology (PPGBAN) at UFRGS, the researcher sought to deepen the relationship between avifauna and civil aviation in Brazil. "My goal was to understand what is known about it today," he begins.

### Initial notions

Better known by the English term "bird strike", collisions between birds and aircrafts are very common and have increased in the last ten years, according to data from the Center for Investigation and Prevention of Aeronautical Accidents (CENIPA). These incidents are mainly related to the increase in air traffic and the adaptation of species to urban and airport environments.



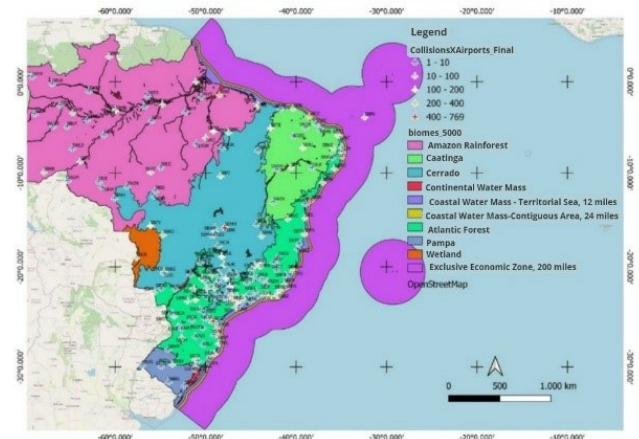
In an [interview given to G1](#), commercial aircraft commander Fernando Crescenti stated that the impacts of a collision with birds are small on a commercial aircraft: "most cases mean absolutely nothing." According to Rodrigo, although there is [legislation on the subject](#), an anthropocentric way of thinking about the problem still prevails. "Since the beginning of aviation there has been this concern, but more inclined to the safety of those who use the transport than of the bird species."

Guided by professor Caio José Carlos, the researcher divided his study into two parts. The first included a literature review on the topic, in which more than 70 scientific articles were pre-selected to guide the research. In the second part, the focus was to produce an analysis of collisions made from [CENIPA reports](#), from 2012 to 2021. With detailed perspectives on the incidents, Rodrigo made important findings, such as the most affected species, the places with increased risk of occurrence and the risk variances across the seasons of the year.

### Attractive spotlights

One highlighted aspect by the researcher is that "the airports are within the urban zone, and the species are adapting". According to the analyzed data, most of these collisions occur in the airport environment or in its vicinity, during the take-off, approach, and landing phases. This is because airfields are often attractive spotlights for local fauna. The existing vegetation on the slopes, in addition to the surroundings with feeding points, are aspects that explain the presence not only of birds, but of fauna in general, which seeks food, shelter, safety, and rest.

In the city of Porto Alegre, for example, there is a shopping center with several restaurants located below the head 11 of the Salgado Filho International Airport. Known as the best place to observe airplanes in the region, the establishment deviates from the recommendation of experts, who advise minimizing the attractions for fauna in an area of at least approximately 5 miles around the airports. The highest concentration of collisions between birds and airplanes in Brazil occurs in the main airports located in the South and Southeast regions of the country, including Salgado Filho. "We are not measuring how much aviation is affecting these communities," the researcher points out.



Graduation map/categorization of aircraft collisions with avifauna by airfields with occurrence records and biome (2012 - 2021). Source: Made by Rodrigo Torres (research author).

### The importance of data

Although they are on a growing trend, it is estimated that only 31% of these incidents are reported. Given that the information in the reports is one of the pillars for solving the problem, the data gap hinders the development of paths that seek improvements in this context. Reports of collisions and the identification of the species involved are essential to obtain reliable statistics, aiming at the effectiveness of fauna risk management plans, improvement of projects and aircraft components, making it possible to subsidize environmental management plans.

According to Rodrigo, "we need to be with the trained teams inside the airports", and he believes we are on this path. As he explains, the trend is that, with the use of technology, these risks can be better monitored and mitigated. The use of poultry radar and bird migration forecasting in airspace management, as well as the development of aircraft lighting systems to improve detection and avoid collisions, can set up an effective path.

In this way, not only the possible economic losses or dangers related to these accidents can be avoided, but the protection of these animals can also be optimized. In this sense, the research presented, significantly aided by the CENIPA collision data, can be very beneficial for avian risk assessment in the national territory. In addition, it is also an important step to direct fauna risk management programs, aimed at reducing collisions and accidents. The work will be available in full, soon, in [Lume - digital repository of UFRGS](#).

Translated into English by [Julia Ribeiro Noronha Gomes](#), undergraduate student enrolled in the course "Supervised Translation Training I (English)" of the Undergraduate Program in Language and Literature, under the supervision and translation revision of Professor Elizamari R. Becker (P.h.D.) - IL/UFRGS.

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