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Here's What Happens During A Bird Strike

When a collision occurs between an aircraft and an airborne creature.

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Bird strikes can pose a significant threat to flight safety (though most don't), potentially resulting in diversions, emergency landings, and, as we saw in 2009, a water landing. The impact of hitting birds during key sequences like takeoff or landing can damage the engines, windscreen, and nose cone, usually forcing the plane to return. Here's what happens during such an event.

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How bird strikes damage aircraft

To put it in context, in the first quarter of 2023, the US reported 1,696 bird strikes. Of these, only 12 resulted in severe damage to an aircraft (less than 1%). Yet, such issues with smaller flying animals can seriously impact planes and are a common enough occurrence for pilots, who have set procedures in such cases. In 2021, bird strikes cost airlines in the US \$328 million in damages and 140,000 hours of downtime.

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Photo: [NMOS332](#) / [Wikimedia Commons](#)

Naturally, bird strikes almost always damage the forward-facing areas of the aircraft - the windscreen, nose cone, and engines. This can force the plane to perform an emergency landing, as an [Air France A350](#) found after a strike left its [nose crushed](#) in Osaka, but sometimes things can get even more serious.

The most significant risk to flight safety is when a bird gets caught in the engine of an aircraft. This is known as jet engine ingestion and can cause the engine to fail. Most aircraft are certified to fly for hours with only one engine. Yet, pilots will usually divert to the nearest suitable airport to avoid risks, as an [American Airlines 737](#) was forced to do in April after an engine flamed out. However, there are cases where both engines have ingested birds - an exc causing a dual-engine failure, including one very

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US Airways flight 1549

You may be familiar with the ["Miracle on the Hudson" performed 14 years ago](#) by Captain Chesley "Sully" Sullenberger and First Officer Jeff Skiles. On January 15, 2009, an Airbus A320 en route to Charlotte from New York City's LaGuardia Airport flew into a flock of birds shortly after the plane had taken off. Unusually, the bird strikes caused a dual-engine failure at the low recorded altitude, posing a massive threat to those onboard and on the ground.

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Photo: [USACE NY via Flickr](#)

With no power and no suitable airport for pilots Chesley Sullenberger and Jeffrey Skiles to use for an emergency landing, time was of the essence. They decided to glide the aircraft into the Hudson River, where all 155 people onboard, including five crew and 150 passengers, were rescued by boats. Only a handful of people were injured.

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Airports working hard to reduce strikes

Airport authorities are responsible for ensuring airport land is as free from birds as possible. From sirens to landscaping and waste removal, there are plenty of methods to keep birds away from an untimely incident with an aircraft, where one party is far more likely to come off worse. With the support of regulators like [the FAA](#) and [the DGCA](#) in India, airports are adding barriers like spikes to runways while the authorities look for ways to detect our feathered friends before it's too late.

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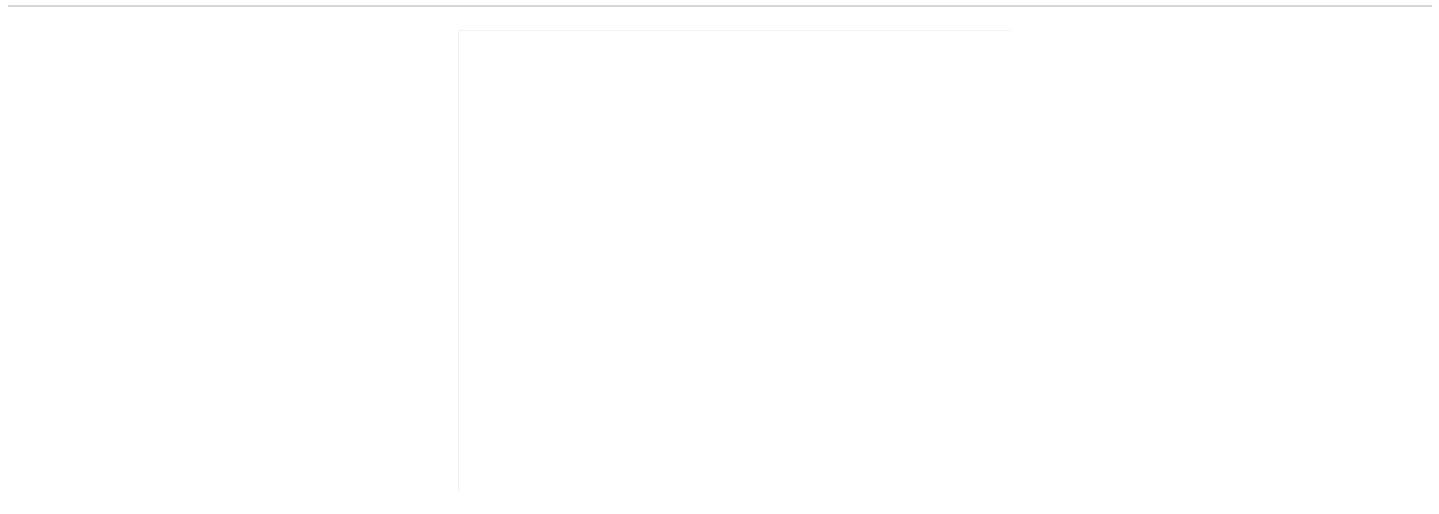
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