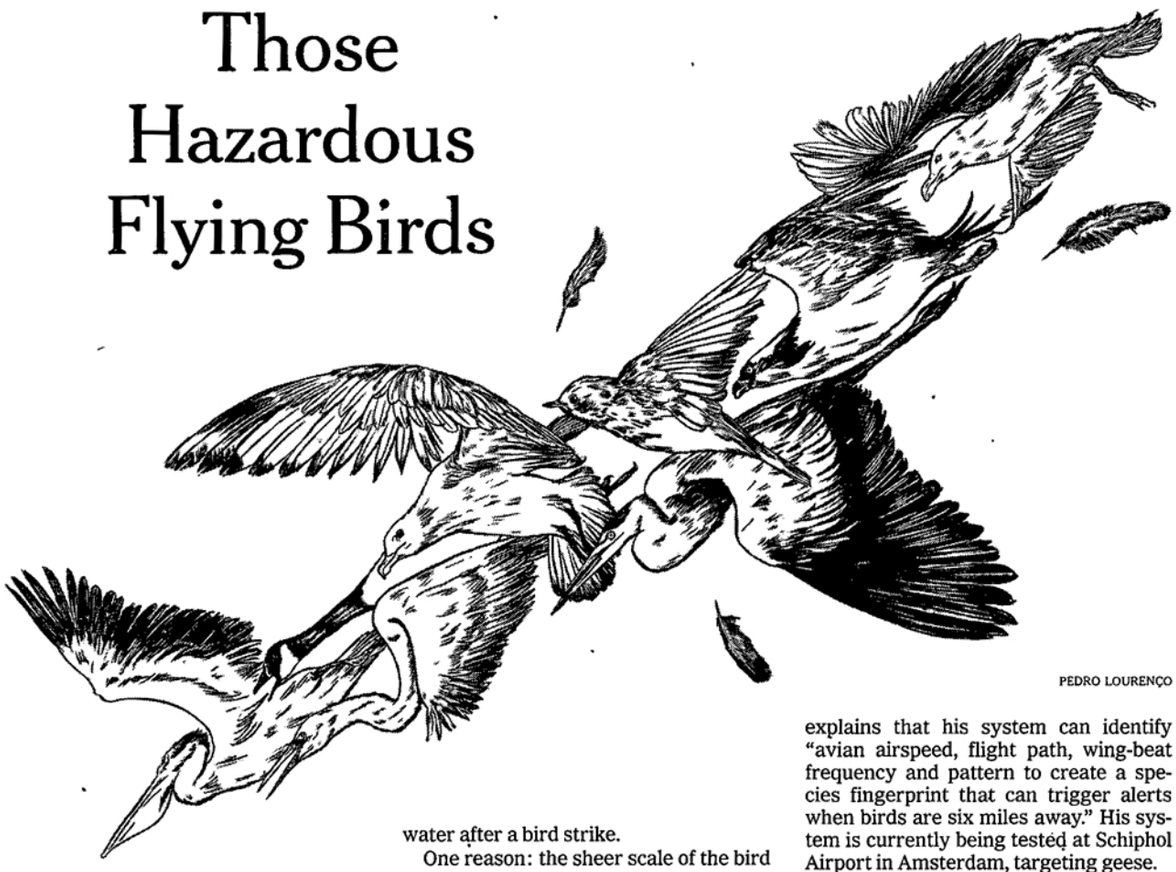
Those Hazardous Flying Birds



PEDRO LOURENÇO

By Eric Uhlfelder

WHEN a US Airways jet leaving Reagan National for New York struck birds as it took off, it had to return to Washington. A JetBlue flight departing from Westchester County Airport was rerouted after colliding with birds. Ditto for another JetBlue flight leaving Kennedy Airport.

Planes hit birds all the time. That doesn't typically mean captains have to glide crippled jets onto a river as Capt. Chesley Sullenberger III famously did in January 2009. But a number of collisions have led to crashes, with some deaths. The Federal Aviation Administration says more than 9,000 birds are struck annually, a figure that's increasing every year, with the total probably twice as large when unreported hits are included.

Over the past 23 years, bird strikes have forced an average of one plane a day to land prematurely, according to the F.A.A.

Since US Airways Flight 1549 went down in the Hudson River after its engines were disabled by geese, the Agriculture Department has been working to reduce the number of geese near airports nationwide. The agency says that every year approximately 25,000 Canada geese have been cornered into cages, carted off and slaughtered. Local governments have also enhanced land management in and around airports to reduce the presence of certain species.

Still, the number of Canada geese sucked into jet engines nationwide in 2012 was the same as it was in 2009. In spite of government action, many experts agree the skies are no safer from bird strikes now than they were when Capt. Sullenberger's plane went into the water after a bird strike.

One reason: the sheer scale of the bird population. It's illusory to think we can sufficiently regulate the environment and kill our way out of this problem.

While we should always practice smart land-use and wildlife management, even the former national coordinator of the Agriculture Department's Airport Wildlife Hazards Program, Richard Dolbeer, recently concluded, "management actions at and in the immediate vicinity of airports do little to mitigate the risk of off-airport strikes during departure and approach." He said new technologies like avian radar should be more vigorously pursued.

The basic technology has been around for decades and has been partially tested at many airports including Kennedy. And yet not one civilian airport in the United States has installed a fully integrated network that would allow air traffic controllers to respond in real time.

Akin to weather radar, such units cost about $2.5 million for a large airport like J.F.K. The industry in the United States is estimated to lose $700 million each year because of bird strikes.

> We're killing birds to keep planes safe, but it's not working.

Skeptics like Edwin Herricks, professor emeritus at the University of Illinois, who has helped coordinate the F.A.A.'s testing of avian radar across the United States, say it's not ready for use. As in the early years of wind shear gauges, he found systems can generate false positive as well as false negative results because of limitations in distinguishing target information.

Advocates of avian radar, like Siete Hamminga, head of the Dutch radar manufacturer Robin Radar, disagree. He explains that his system can identify "avian airspeed, flight path, wing-beat frequency and pattern to create a species fingerprint that can trigger alerts when birds are six miles away." His system is currently being tested at Schiphol Airport in Amsterdam, targeting geese.

In Israel, the issue is a particularly urgent matter because the country sits in the middle of major intercontinental avian migratory routes that twice a year bring 500 million birds passing overhead.

Avian radar combined with the study of migratory and weather patterns has helped reduce Israeli Air Force bird strikes by 76 percent over the past 30 years.

Prof. Yossi Leshem, a senior researcher in Tel Aviv University's zoological department, who spearheaded the effort to mitigate strikes, says avian radar can track very small birds 12 miles away and larger birds like geese 60 miles out.

Once significant risk is determined, air traffic controllers could then temporarily delay takeoffs or redirect planes under 3,500 feet — the space in which virtually all bird strikes happen.

Had avian radar been fully in place at La Guardia Airport when Captain Sullenberger took off, Professor Leshem contends that his plane would probably not have collided with the large migratory geese flying at 3,000 feet.

Avian radar effectiveness was substantiated in a 2011 Department of Defense study that found systems could simultaneously track extensive information about more than 100 targets from around six miles away and up to 3,000 feet. Detection is 50 times greater than human observers, and data are seamlessly communicable with other airports to enhance awareness of avian movements.

So without avian radar, how are pilots warned about birds? With general warnings from control towers that essentially say, be careful out there, we see some birds.

This is flying with eyes wide shut. We can develop protocols for ironing out system imperfections as we go so as to better protect passengers and reduce the slaughter of wildlife both on the ground and in the air. But we shouldn't wait for the next catastrophic event before beginning to install integrated avian radar systems. □

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