

# More Bird Strike Reports, Please

**A U.K. CAA regulation that requires reporting all bird strikes is achieving its purpose.**

BY RICK DARBY

A change in U.K. regulations requiring the reporting of all bird strikes rather than, as formerly, only those causing “significant” damage or those that might affect flight safety, has succeeded in increasing the number of reports by aircraft operators and airports.

That is the conclusion of a study<sup>1</sup> commissioned by the U.K. Civil Aviation Authority (CAA), based on reports in a period before the requirement (1990–2003) and the two years after reporting became mandatory (2004–2005). The research was principally concerned with bird strikes involving commercial air transport and licensed airports. Strikes occurring in the United Kingdom or involving U.K.-registered aircraft abroad were included.

The study’s methodology included two complementary efforts. The first was a quantitative analysis of the data from the CAA Mandatory Occurrence Reporting Scheme (MORS)<sup>2</sup> database and the CAA bird strike database. The second was a qualitative review of reporting, based on structured interviews of aircraft and airport operators. For this article, we will look at the quantitative measures.

The MORS database is designed to register events that endanger or potentially endanger

aircraft. “For a bird strike to qualify as an MOR, the specific test stated is that it cause ‘significant damage or loss or malfunction of any essential service,’” the report said.

Beginning in January 2004, a new regulation required operators to report all bird strikes to the CAA bird strike database. “Before this date, it had been mandatory to report only those strikes in which damage to aircraft was sustained, which had in some CAA references and guidance been defined in more limiting terms, only requiring reporting of bird strikes causing ‘significant’ damage or damage that ‘might affect flight safety,’” the report said. “The CAA was therefore aware that reporting levels may have been deteriorating, and the intent of the new mandate was to assure a proper and more accurate level of reporting.”

The rate of reports to the CAA bird strike database has fluctuated (Figure 1). Because the volume of aircraft traffic changes, the researchers needed to factor out differences in the number of bird strikes associated with differences in the number of flights. “It was decided to use air transport movements (ATMs) as the measure, since ATMs are one of the most reliable and complete measures,” said the report. “To establish the extent to which random fluctuations

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might confound the interpretation of data, a statistical test was performed on the numbers of strikes in the CAA database, comparing the observed year-on-year variability with that which would be expected from a purely random process. The results strongly indicated that real changes in underlying factors are more important than purely random variation.”

Thus, the higher rate of reports per 1,000 ATMs shown in Figure 1 for 2004 and 2005, compared with prior years beginning in 1990, effectively measures an actual increase — the goal of the regulatory change.

The report also examined the ratio of “non-serious” to “serious” reported incidents (Figure 2). MORS incidents were considered “serious,” and CAA database incidents (except those that were also reported to MORS) were considered “non-serious.” The rationale for the comparison was that individuals are more inclined to report incidents that they believe have safety implications, and organizations “tend to have more rigorous procedures for ensuring that

serious incident reports are collected, analyzed and passed on as necessary,” the report said. “It is apparent ... that, in the period prior to the mandate [changing the reporting requirements],

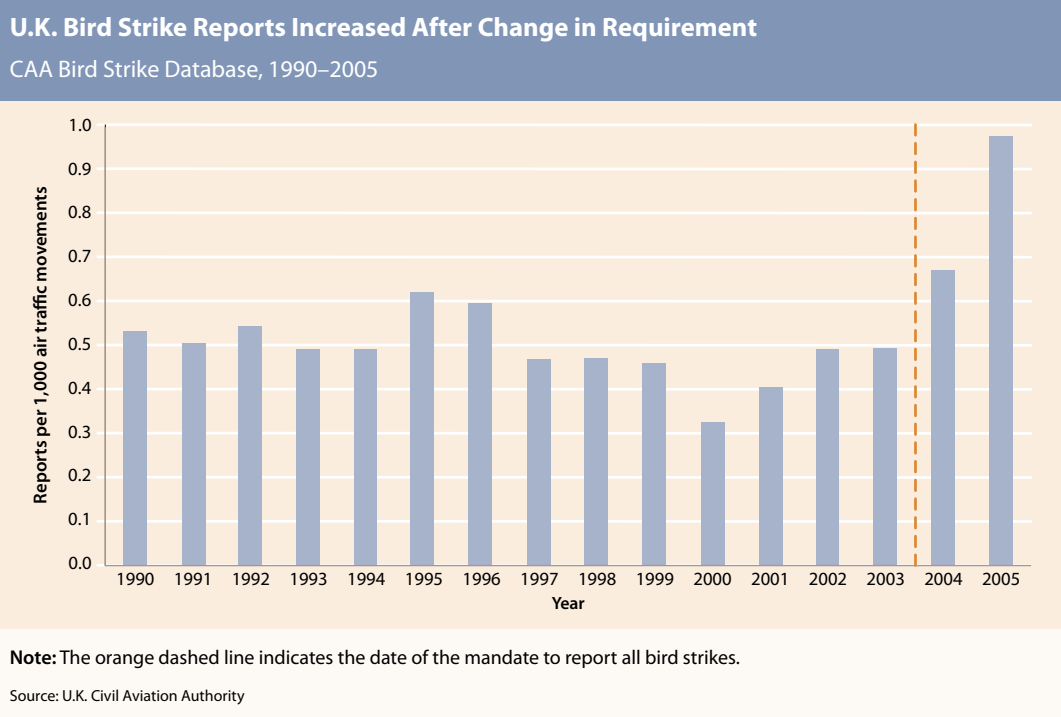


Figure 1

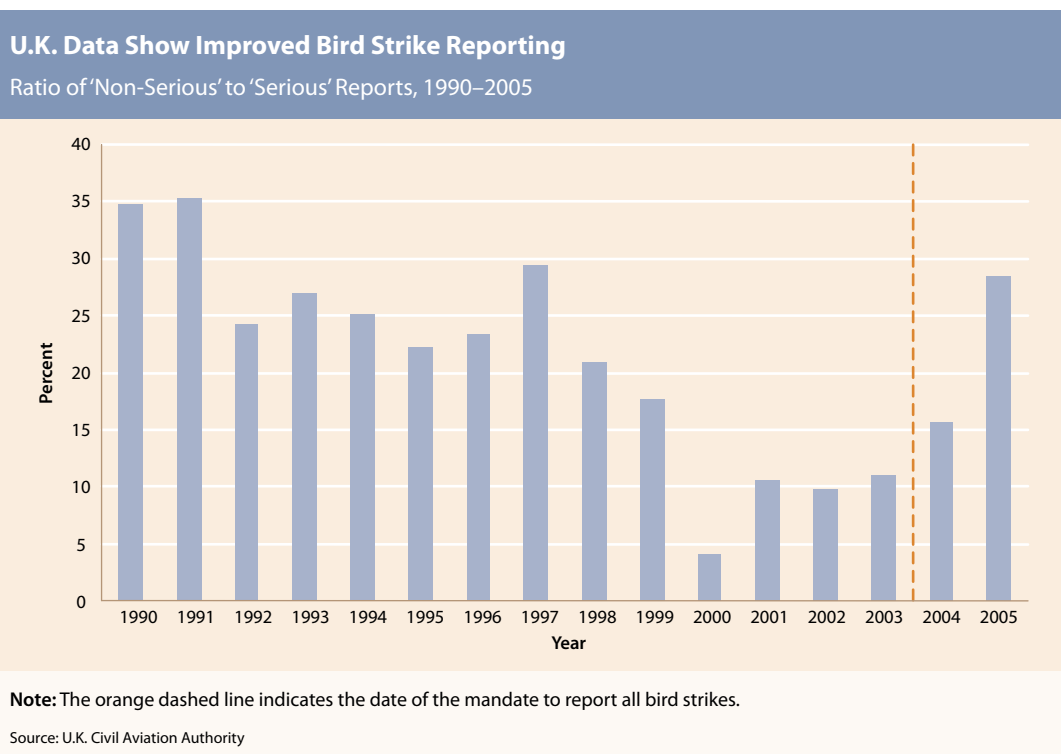


Figure 2

the rate of reporting ‘non-serious’ incidents was declining markedly relative to the reporting rate for ‘serious’ ones but that it recovered after the mandate took effect.”

The study also compared the rate of reports to the CAA database from aircraft operators and from airports during the periods before and after the advent of the new reporting regulations (Figure 3). The analysis showed “a marked decline in the reports from aircraft operators up to the year 2000, recovering slightly thereafter and more sharply when the mandate came into effect in 2004,” said the report. “No credible

mechanism could be identified that could have so substantially changed the *actual* number of bird strikes that air operators could be expected to report, so the implication is that there have been major changes in the completeness of reporting by aircraft operators.”

The report made an effort to compare the reporting situation in the United Kingdom with other International Civil Aviation Organization (ICAO) states, all of which theoretically report strikes to the ICAO bird strike database. “However, few actually do so,” the report said.

France, Germany and Italy were considered

to offer the most reasonable comparison of reported bird strike rates, on the grounds that they were like the United Kingdom in having a well-developed system of aviation safety management and similar bird habitats. As Table 1 shows, the rate of bird strikes per 1,000 ATMs was fairly consistent among the four states. There was more variation in the percentage of what the report labeled “serious” strikes, although the terminology for

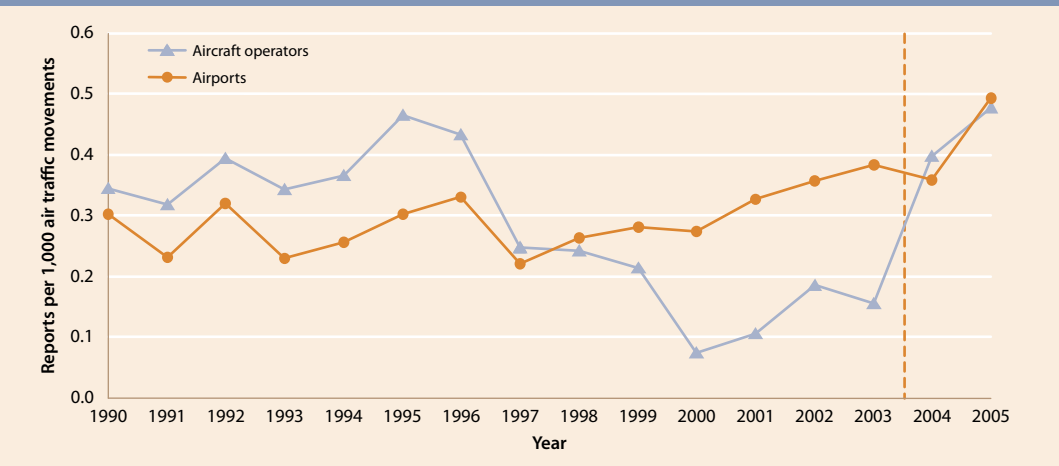
Germany and France differed from the United Kingdom’s, and no data from Italy enabled such a comparison. ●

**Notes**

1. U.K. Civil Aviation Authority (CAA), Safety Regulation Group. “The Completeness and Accuracy of Birdstrike Reporting in the UK.” CAA Paper 2006/05. November 2006. Available via the Internet at <www.caa.co.uk/docs/33/2006\_05.pdf>.
2. CAA, Safety Regulation Group. CAP 382. “The Mandatory Occurrence Reporting Scheme: Information and Guidance.” November 2005.

**Operators, Airports Increase Bird Strike Reporting, 2004–2005**

U.K. CAA Bird Strike Database, 1990–2005



**Note:** The orange dashed line indicates the date of the mandate to report all bird strikes.

Source: U.K. Civil Aviation Authority

**Figure 3**

**Reported U.K. Bird Strike Rates Similar to France, Germany, Italy**

State	Strikes per 1,000 ATMs	Serious Strikes
France	0.52 (average, 1990–2000 commercial movement)	14% (“serious incidents”)
Germany	0.60 (average, 1998–2002 civil movement)	28% (“damaging”)
Italy	0.53–1.94*	No data
United Kingdom	0.54 (average, 1990–2005)	5.6% (MORs)

ATMs = Air traffic movements MORs = Mandatory occurrence reports  
 \*No national statistics could be obtained; the range shown is for four airports.

Source: U.K. Civil Aviation Authority

**Table 1**