

**THE EUROPEAN MILITARY BIRD STRIKE DATABASE  
PROGRESS REPORT**

A. Dekker  
RNLAf Flight and Ground Safety Division  
Natural Environment Section  
P.O. Box 20703  
2500 ES The Hague

**ABSTRACT**

During the previous two meetings of BSCE and several AFFSCE meetings the feasibility, set-up and standardization of a joined European database of military bird strikes has been subject of discussions. Since then more and more emphasis is put on the expansion of the contributions, both in number of participants and in the amount of data. By march 1994 the database contained information on 25,569 bird strikes from 9 air forces, covering a period of 3 to 17 years. Apart from the development of the database in this paper some characteristics of the material are presented.

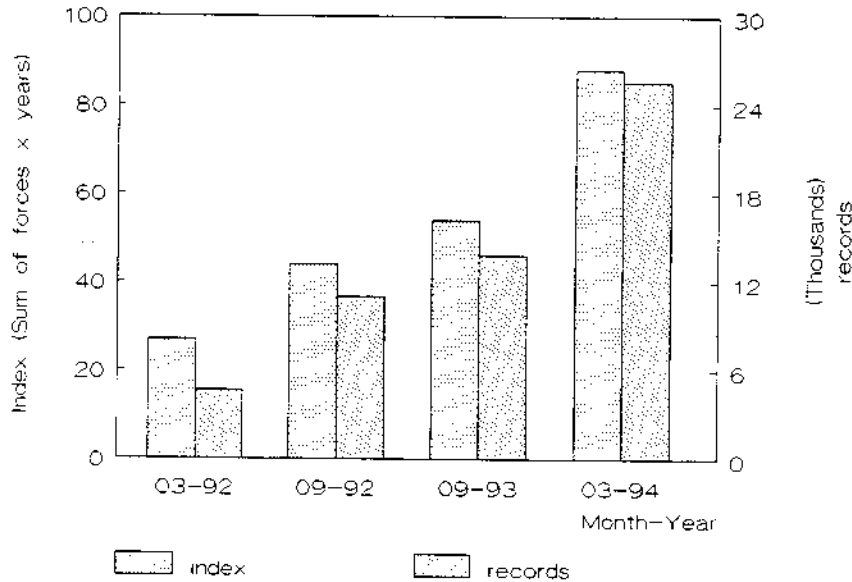
**INTRODUCTION**

After some preliminary discussions within the Air Forces Flight Safety Committee Europe (AFFSCE) the feasibility and the surplus value of a joined European Military Bird Strike Database has been explored. The results, presented during the Helsinki meeting of BSCE in 1990 (1), were very promising and brought to light that a standardized structure was of vital importance. In order to meet this requirement the RNLAf has taken the initiative to develop a uniform reporting form and accompanying database structure. Since the BSCE Low Level Working Group is considered by AFFSCE as their specialist group, discussions on the further development of the database were held during several meetings of this working group. At the Jerusalem meeting of BSCE in 1992 the set-up of the database and the final version of the European Military Bird Strike Form were presented (2). This paper deals with the developments since this last meeting.

**DEVELOPMENT OF THE DATABASE SINCE 1992**

In March 1992 the contributions mainly consisted of data from several air forces for only 2 to 4 years. Since then the Low Level Working Group has met twice. During these meetings several aspects of the database have been subject of discussions. Mainly technical matters like the format of the information and compatibility with existing computerfiles were discussed in detail. Regular contributions were made while at the same time the existing files of previous years were added to the database. This resulted in a set of data from 9 air forces covering a period of 3 to 17 years. The increase in the number of contributions during these last two years is given in figure 1. It is clear that the five-fold in numbers is due to both more air forces joining the project and the contribution of data from more years (forces x years index). The origins of the 25,569 records is presented in figure 2 and given in detail in table 1.

**FIGURE 1:** Increase in contributions to the database in time (index = forces x years)



FIGURE

10  
8  
6  
4  
2

In the init  
BS), CFE  
included  
additional  
same app  
contribution  
indicates  
1991 no

SOME AS

Giving the  
to be very  
various fo  
and taken  
available i  
the actual

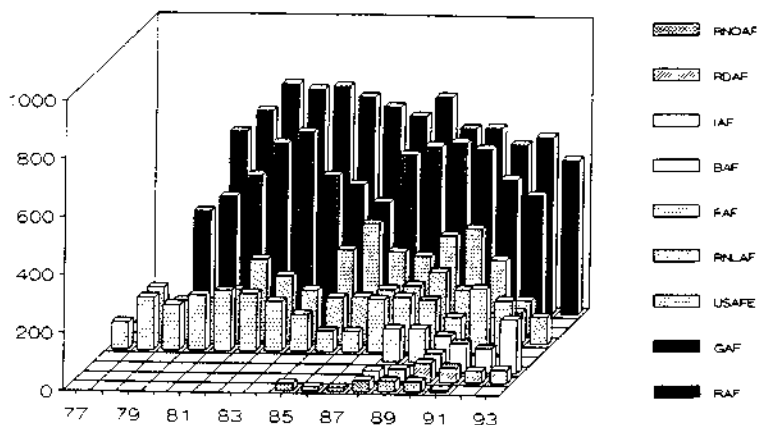
Treating in  
database,  
database v

The  
As

Tha  
forc  
the  
rest

Look

FIGURE 2: Contributions per Air Force and per year by march 1994 (N = 25.569)



In the initial number of records in 1992, small numbers were included from SAF (35 BS), CFE (127 BS) and SHAPE (45 BS); for various reasons these data were not included in the present database. This does not mean that they are of no value. As additional information the summary data from SHAPE may prove very helpful, the same applies for the information from the limited period (2.5 years) of CFE contributions. The very limited contribution of SAF of only 35 bird strikes in 3 years indicates that only a part of the information was contributed to the database, since 1991 no contributions were received.

#### SOME ASPECTS OF THE AVAILABLE DATA

Giving the joined database a good start using back data from previous years has proven to be very successful. But putting together information from various origins and in various formats means a heterogeneous set of data. As long as this drawback is realized and taken into account it is possible to use the data in a justified way. Details on the available information on each item for each year per air force is therefore filed alongside the actual database (3).

Treating in detail each aspect of a bird strike, using the information available in the database, is far beyond the scope of this paper. Only some descriptive properties of the database will be dealt with.

The total composition of the database as for the air forces is given in figure 3. As is to be expected the database is dominated by two larger air forces.

That FAF numbers are so much lower while also being one of the larger air forces of Europe is probably due to a different way of reporting. As indicated by the strong underrepresentation of non-damage bird strikes the FAF reports are restricted to serious incidents.

Looking at the available data over the years (figure 4) it is clear that most

information is available for the period 1988-1990.

In 25% of all cases the bird strike has not been noticed by the pilot during flight, the flight phase therefore is unknown.

Shown in figure 5 is the percentage of local and en-route bird strikes. On average 23% of all strikes could be categorized as being local (on or near airfield) while 52% were reported as being en-route.

FIGURE 3: Total contributions per Air Force, including information on damage

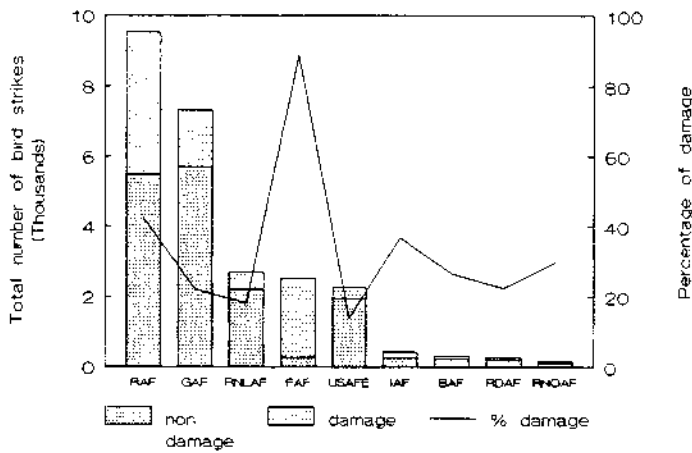


FIGURE 4: Total number of contributions per year.

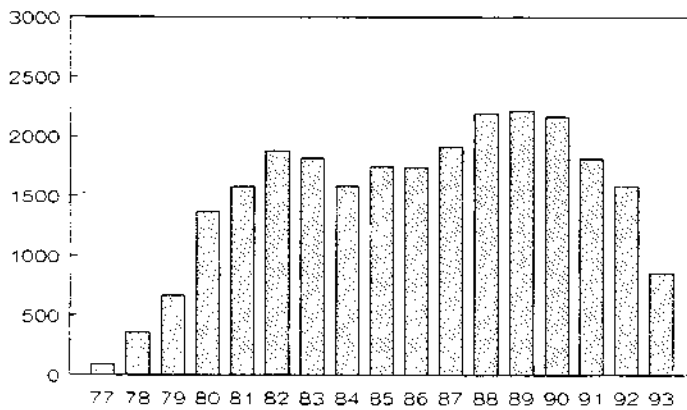


FIGURE 5

DISCUSIO

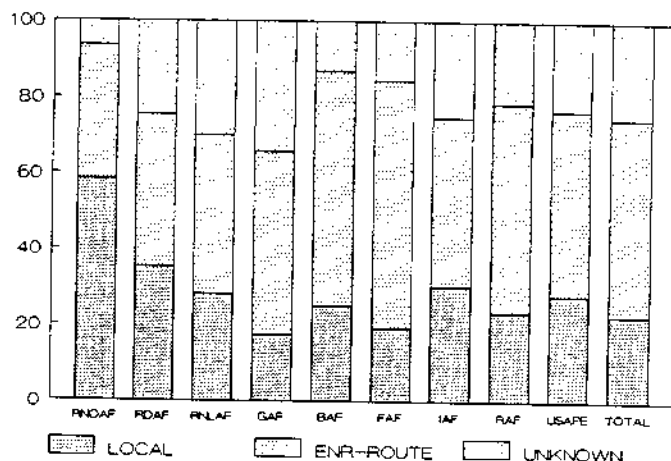
Projects of  
European  
Despite th  
concern. T  
exception

Despite all  
sufficient

REFERENC

1. Dek  
Bird  
199
2. Dek  
21"  
Wo
3. Dek  
mee  
Sep

FIGURE 5: Percentual distribution of bird strikes by flight phase



#### DISCUSSION

Projects of international cooperation are in general known for their slow progress. The European Military Bird Strike Database has so far been an exception to this rule. Despite this enthusiasm and the good cooperation there still is some reason for concern. The majority of the data origins from NW European countries. With the exception of Italy information from Southern countries is missing.

Despite all the limitations, the size and quality of the database by now should be sufficient to use the stored information for in-dept analyses.

#### REFERENCES

1. Dekker, A and L.S. Buurma. 1990. Towards a European Database of Military Bird Strikes. 20<sup>th</sup> Meeting Bird Strike Committee Europe, Helsinki 21-25 May 1990, Working Paper 14.
2. Dekker, A. The European Military Bird Strike Database, from proposal to reality. 21<sup>st</sup> Meeting Bird Strike Committee Europe, Jerusalem 23-27 March 1992, Working Paper 9.
3. Dekker, A. European Military Bird Strike Database, progress Report for the 9<sup>th</sup> meeting of the Working Group Bird Hazard at Low Level, London 14-15 September 1993.

EURBASE, available data in file per march 1994

AIR FORCE	YEARS	TOTAL	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77
RNLAF	16	2702	93	107	92	183	243	195	181	154	151	176	224	281	175	131	136	180	
GAF	14	7328		443	497	602	623	609	580	415	474	505	655	615	503	429	378		
RNCAF	7	171			8	36	37	38	13	14	25								
USAFE	8	2264		115	254	361	336	264	278	374	282								
RDAF	6	286	45	41	51	56	45	38											
BAF	3	323				93	116	114											
LAF	4	435	184	84	101	66													
RAF	14	9534	533	613	589	638	638	746	679	710	743	778	768	785	693	621			
FAF	16	2526		181	221	122	180	189	180	70	70	126	170	196	206	188	155	179	93
TOTAL BS		25569	855	1584	1813	2167	2218	2193	1911	1737	1745	1585	1817	1877	1577	1369	669	359	93
FORCES			4	7	8	9	8	8	6	6	6	4	4	4	4	4	3	2	1

Bird

aircr  
crew  
durin  
know  
avail  
elsew  
but t  
ents  
and/  
invol  
to pr  
for s  
This

Key  
land  
altitu