

PRELIMINARY REPORT

on

THE APPLICATION OF EEC COUNCIL DIRECTIVE 79/409

INTRODUCTION.

The Council Directive, dated 2nd April, 1979, concerning the preservation of wild birds, came into force on the 2nd April, 1981, in accordance with the wording of article 18.

However, article 9 deals with certain exceptions, i.a. "in the interest of air safety".

As the use of these exceptions necessitates a yearly report on the application, cf. article 9, 3rd paragraph, this document and the attached supplements sum up the status of the actions taken by the French Civil Aviation Authorities in order to secure the safe movement of aircraft at the aerodromes which they administer or have administered.

This report covers two fields:

- evaluation of the risk caused by the presence of birds at aerodromes on the basis of bird strike reports,
- description of the methods used for scaring away the birds; medium and long-term measures initiated.

1. DATA ON RISKS1.1. Registered bird strikes

205 bird strikes were registered in 1981. These have resulted in more than 40 serious incidents, and in some of these cases it has been necessary to replace the engines.

These incidents concern:

- 9 cases of superficial damage to the engines,
- 7 cases of serious damage to the engines,
- 14 cases of indents or perforations of the skin,
- 7 cases, where the aeriels have been torn off or the beacons have been broken,
- 11 cases of collisions that have caused change of route, acceleration stop and return to aerodrome of departure.

Helicopter bird strikes amount to 10 per cent of the total number of collisions (i.e. 19 cases), while the number of helicopter movements does not attain that percentage of the total number of air traffic movements.

Supplement 1 gives a survey of the bird strikes registered in France in 1979 and 1980. In the survey you will find indication of the nature and dangerousness of the damages as well as of the distribution of the reported cases.

1.2. Species involved

The Laridae (the common gull and the herring gull) do, as they have done in the previous years, cause the greatest number of incidents (38 per cent) as indicated in table 3 and 4 in supplement 1.

The birds of prey are the cause of a significant number of incidents (17 per cent).

The lapwings and the pigeons cause an increasing number of incidents.

The swallows and the martins constitute 14% of the species involved in bird strikes, but they cause only little damage in comparison to the species mentioned above.

Certain species of little birds, like for instance the black-headed gull (*Larus ridibundus*) or the bee-eater (*Meops apiaster*) have caused serious damage to the engines (damaged turbine blades).

It must, however, be noticed that the information given in the tables mentioned above probably does not give a picture of the present situation. As a matter of fact - despite the constant efforts to activate the pilots and the aerodrome ground personnel - not all bird strikes are reported. Moreover, some of those registered do not allow a precise identification of the species involved in the bird strike. Consequently, it seemed

preferable not to regard the number of bird strikes as significant, but instead rather to take an interest in the yearly pro rata development.

As a matter of curiosity it may be noted that the lapwings constitute a veritable danger at the Toulouse aerodrome in the period 15th November - 15th March. They appear in the air in flocks of several thousands, and on certain days you may see more than 10.000 of these birds sojourning on the ground, thus creating a permanent and almost unverifiable danger.

2. METHODS USED IN ORDER TO SCARE AWAY THE BIRDS

2.1 Methods recommended by the BSCE

The French Civil Aviation Authorities employ the measures recommended by the Bird Strike Committee Europe (BSCE). These are recorded in supplement 2, which was drawn up by the working group appointed by the BSCE. These measures have been studied, tested and employed methodically in Europe since 1970.

2.2 DNA Circular, dated 15th May, 1979

According to article 18 of the directive the Air Navigation Authorities have sent out a circular (supplement 3), No. 10312 of 15th May, 1979, to all their employees in order to draw their attention to the measures to be taken to prevent the danger presented by the birds in the area of the aerodromes.

This circular:

- allocates the duties of the various employees,
- defines the form and nature of information to be conveyed to the pilots,
- specifies the techniques to be used to scare away the birds, as well as the type of interventions,
- prescribes the general rules concerning the shooting of birds and defines the long-term ecological means to be laid down.

2.3 Decision by the ministry for environmental protection concerning certain species

The minister for environmental protection has decided for one year to authorize the scaring away and extermination of species protected pursuant to the order of 24th April, 1979 (decision dated 2nd September, 1981, - supplement 4).

This type of authorization is granted every year to a limited number of qualified persons, and it is limited to certain species.

2.4 Means and methods of scaring away the birds

The scaring away of birds at the major aerodromes is usually carried out by means of electro-acoustic units fitted on the vehicles, and special pyrotechnics (pistols and cartridges with double detonation). As a total on all the French aerodromes 12.000 cartridges were spent in the course of the past year.

A list of the major aerodromes equipped with the different means of combatting the birds is to be found in supplement 5. This list also contains the number of bird strikes as well as the number of commercial movements for the same period of time. The measures planned or contemplated are also indicated. When studying this table you will notice that pyrotechnics is the method most commonly used in the scaring away of the birds.

2.5 Intentional extermination of birds

No extermination through poisoning has been effected. The difficulties in using it and the delay in the results do not impel the managers of the aerodromes to resort to these measures, and besides, this type of extermination is rarely selective and contributes towards creating other risks that are difficult to control.

It is, however, sometimes necessary to exterminate the birds (see 2.3). The number of birds exterminated in 1981 at the major French aerodromes in connection with the campaign for scaring away the birds is shown in supplement 6. These species are not listed in annex 1 to the directive.

2.6 The methods employed on a French aerodrome as an example

The biologists regularly visit the aerodromes in order to prepare a map showing the frequentation of the aerodromes by the birds. They then prepare a report recommending the measures to be taken in order to reduce the bird-activity that present a danger to air traffic at the aerodrome in question. A report of this type concerning the Nice-Côte d'Azur aerodrome is found in supplement 7.

2.7 Long-term ecological actions

Independantly of the methods described above there is a continuous and progressive action going on at the aerodromes. It bears on:

- extermination of rodents,
- abolition of small ponds and fallow where these are to be found,
- provision of regulations for arable land,
- application of certain crops or prohibition of crops,
- extirpation of refuse dumps near the aerodromes.

Especially concerning the last point a decree is being prepared.

Moreover, the measures that have proved efficient when they were introduced on an experimental basis have been adopted universally. Thus, a protective wire, intended for preventing the birds from settling in an area frequently overflown at low altitudes was placed on a dike near Marseille. The same method has since then been applied at Roissy with the same end in view.

3. CONCLUSIONS

The campaigns to activate the pilots from the various companies and the aerodrome security personnel that have taken place for several years, have resulted in evoking a general interest in preventing bird strikes. This has for instance been reflected in the very large number of reports received on bird strikes, without indicating an aggravation of the bird strike risk. The number of bird strikes registered has gone up by 10 per cent without a corresponding rise in the number of traffic movements, while the number of serious incidents has remained relatively constant.

The means of combatting the birds, described in supplement 4, is gradually being replaced by more up-to-date material, and 3 new French aerodromes have been equipped in 1982.

Because of the moderate economic resources and the limited personnel available it has not been possible in 1981 to develop certain long-term investigations, although encouraging results have already been obtained.

A harmonization of the methods applied in Europe in the combat against the bird-peril has proved necessary.

Also, the circulation of information collected by the various states on the usefulness of these methods must be encouraged as much as possible. It

would be useful to assure a close coordination concerning the investigation-activities in order to derive the greatest benefit from the investments made by each of the states.

The various activities mentioned above could be coordinated by an organization who has at its disposal legal and economic means, which ICAO cannot have.

List of supplements:

1. Report No. 278. Statistics on bird strikes in France in 1979 and 1980.
2. BSCE-AWG, 2nd edition, January, 1982. Measures used in different countries for reduction of bird strike risk around the airports.
3. Circular No. 10312 of 15th May, 1979, "Consignes d'exploitation relatives a la prévention du danger représenté par les oiseaux au voisinage des aéroports".
4. Authorization to exterminate birds at the aerodromes.
5. Report on the means of combatting the bird peril.
6. Report on the extermination of birds at the French aerodromes (15.9.80 - 30.10.81).
7. Report No. 108, "Risque de collision présenté par les laridés sur l'aérodrome de Nice Côte d'Azur (March 1976).