

## BSCE 16

## AERODROME WORKING GROUP

ECONOMICAL AND OPERATIONEL ASPECTS OF BIRD PREVENTION MEASURES  
presented by the vicechairman of the Aerodrome Working Group

1. In accordance with the discussions at the 14th and 15th BSCE Meetings the vicechairman asked by letter of 8th March, 1982, participants to the Aerodrome Working Group Meeting from 21 countries to answer a questionnaire on the costs of bird strike prevention measures.
2. Substantial answers have till 21st July, 1982, been received from the below countries:  
Austria, Belgium, Denmark, Federal Republic of Germany, Finland, France, Israel, The Netherlands, Switzerland, Sweden and UK.

3. The answers may be summarized as follows:

Austria:Vienna:

Annual costs: \$ 19,000 corresponding to \$ 0.35 per movement and \$ 2,400 per average yearly bird strike.

Five smaller airports:

Annual costs: \$ 27,000 corresponding to \$ 1.20 per movement and \$ 12,000 per average bird strike.

Belgium:Brussels:

Annual costs: \$ 60,000 corresponding to  
\$ 0.75 per movement.

} corresponding to \$ 1,800 per  
average yearly bird strike.

Three smaller airports:

Annual costs: \$ 44,000

Denmark (12 airports):

Annual costs: \$ 240,000 corresponding to \$ 0.60 per movement and \$ 3,200 per average yearly bird strike.

Federal Republic of Germany (civil airports):

Annual costs: \$ 130,000 corresponding to \$ 8,000 per average yearly bird strike.

It is further indicated that the costs to two airlines registered in the Federal Republic of Germany amount to \$ 1,000,000 per year.

Finland:

Helsinki-Vantaa airport: \$ 110,000 corresponding to \$ 1.38 per movement and \$ 1,700 per average yearly bird strike.

France:

Lyon:

Annual costs: \$ 33,000 corresponding to \$ 0.70 per movement and \$ 2,350 per average yearly bird strike.

Charles de Gaulle:

Annual costs: \$ 74,000 corresponding to \$ 0.70 per movement and \$ 7,400 per average yearly bird strike.

Orly:

Annual costs: \$ 67,000 corresponding to \$ 0.38 per movement and \$ 2,500 per average yearly bird strike.

Marseille:

Annual costs: \$ 63,000 corresponding to \$ 1.35 per movement and \$ 9,000 per average yearly bird strike.

Nice:

Annual costs: \$ 17,000 corresponding to \$ 0.33 per movement and \$ 2,000 per average yearly bird strike.

In the French answer it is further indicated that the global costs of bird strikes between 1977 and 1979 for operators registered in France amount to \$ 3,200,000, the global costs of equipment for scaring away birds on airports during the same time amount to \$ 90,000 and the cost of part-time and full-time persons using this equipment during the same triennial amounts to \$ 150,000.

Israel

Annual costs: \$ 35,000.

The Netherlands

Amsterdam

Annual costs: \$ 310,000 corresponding to \$ 1.75 per movement and \$ 9,000 per average yearly bird strike.

Two smaller airports

Annual costs: \$ 20,000 corresponding to \$ 0.10 per movement and \$ 2,000 per average yearly bird strike.

Sweden

Annual costs: \$ 55,000.

United Kingdom (military airfields)

Annual costs: \$ 900,000 corresponding to \$ 0.50 per movement and \$ 7,000 per average yearly bird strike.

4. As indicated in BSCE 15 Working Paper 11 a study of bird strike at the Canadian airports the costs of bird strike effects several parties. In the above para. 2 only part of the costs to airports are mentioned. It is the costs of prevention measures, but such costs as rearrangement of or addition to facilities e.g. runways, loss of revenue due to diversions are not mentioned. Further only few countries have indicated the costs to airlines such as additional inspections, additional maintenance, repair, and overhaul, delays and effects on schedules and crews, substitution of equipment, aircraft, and crews, ferry costs, cancellations and loss of

revenue, costs of accomodating passengers, diversions and unproductive flying, including fuel dumping, additional insurance premiums, leasing of other operators equipment e.g. aircraft and engines and injuries to personel. Neither are the costs to municipalities such a possible relocation of municipal facilities e.g. garbage dumps and possible expropriation of farms and other agricultural land mentioned. Finally, the costs to insurers, manufacturers, aviation administrations, and the public are not taken into account.

The figures stated in para. 2 could be compared to the figures of \$ 0.65 indicating the bird strike cost per movement from regional Canadian air carriers and the estimated world cost of the disásterous world air carrier accidents due to bird strike per movement \$ 0.76 or a total bird strike cost estimate for damage related costs and disasterous accidents to air carriers amounting to \$ 1.41 per movement.

5. The following should, however, be taken into account when comparing the figures in para. 2 and the figures in BSCE 15 Working Paper 11:
  - a) The extreme range of a bird control activity needed over the spectrum of aerodromes all over the world because of their varying size and also their differing bird hazard situations. Some aerodromes do nothing at all, nor need to do so, whilst others are heavily involved.
  - b) Even at aerodromes where large scale measures are taken against birds and where items such as the cost of shell crackers are easily costed it is not usual to be able to separate out the cost of the work done by the responsible personel from that for their other associated tasks. Especially on smaller civil aerodromes the staff are usually employed in a more flexible manner involving two or more duties.
6. Because of the limited material and the uncertainty as to the comparability of the material received the Working Group may wish to confine itself to note the contents of the Working Paper.

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(ADDENDUM)

Answers have til now been received from Czechoslovakia and Portugal  
and the answers may be summarized as follows:

1. Czechoslovakia

Praha:

Annual costs: \$ 13,000 corresponding to \$ 0,30 per movement and  
\$ 2,200 per average yearly bird strike.

Six smaller airports:

Annual costs: \$ 13,000 corresponding to \$ 0,28 per movement and  
\$ 1,500 per average yearly bird strike.

It is further indicated that the costs to the Czechoslovak Airlines in  
1981 amount to approximately \$ 1,1 million and for the five years  
1977-81 to \$ 1,65 million.

2. Portugal:

Lisboa:

Annual costs: \$ 18,000 corresponding to \$ 0,40 per movement and  
\$ 1,200 per average yearly bird strike.