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NEED FOR IMPARTING TRAINING AT NATIONAL LEVEL TO BIRD CONTROLLERS AT CIVIL AND MILITARY AIRPORTS

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Summary

This paper stresses the urgent need for imparting systematic, extensive and regular training to staff and officers working for flight safety at Civil and military airports in identification of problem birds, their attractions and sources of attractions in and around airports and methods of Bird Aircraft strike prevention. Considering the importance of the liability of Airport operator, especially civil airports, in the event of a bird strike caused aircraft accident, basic training given to bird controllers on a national level assumes great significance especially in countries having airports in varied geography, with varied climate, bird life, type of aircraft flown and other factors . The training course material for the bird controllers discussed in this paper was developed as a result of I S years of field and laboratory research in India.

Key Words : Training, bird control team, Airports, Bird Aircraft strike prevention. Field and laboratory research

INTRODUCTION

In Bird Aircraft strike prevention programme of any country, training to bird controllers of civil and Military airports imparted at national level by experts assumes great significance because of the airport operator liability in the event of a bird strike caused aircraft accident, financial loss of several hundred crores every year due to bird hits and the ineffective ways of handling bird menace by the aviation authorities. Bird problem at airport is a dynamic problem and ornithologists with ample experience at airports should be part of the training given to bird controllers. The guidelines given below for the preparation of training course material on the ormithological side of the problem was developed as a result of field and 'laboratory research since 1980 and after completing work in over 30 airports in India.

MATERIALS AND METHODS

Identification of bird strike remnants carried out at the Bombay Natural History Society (BNHS) since 1966 and the bird strike data analysed by the author as well as the field data collected from various civil and military airports in India forms the basis for the preparation of the training course material actually used for training bird controllers at the Institute of Aviation Management, Airports Authority of India, New Delhi in July 1992 and in October 1996 . These training course materials are critically analysed to prepare the "guidelines for any training course material with universal application.

RESULTS

1. The training course material should have the following aims and objectives:
(a) to help the Bird controllers learn how to identify problem birds correctly.
(b) to help study the basic ecological requirements of these Birds.
(c) to help find out why are they attracted to the aerodrome area in general
(d) to help find out Inside airports and neighbourhood the actual areas having sources or causes of bird activity at airports .
(e) to help identify the more critical sites on airports occupied by birds making them vulnerable to aircraft hit
(f) to help discourage and repel problem birds from inhabiting and frequenting airport area and vicinity by ecological, passive and active methods.
1. In order to fulfil the aims and objectives stated above three lectures, three or more field training sessions will be required ideally.

LECTURES

The three lectures of 75 minutes each should be on (i) bird species involved in aircraft hits (analysis of bird strike data with economic aspects on damage and financial loss as well as brief description on problem birds with colour photographs and slides.) (ii.) Areas having sources or causes of bird activity at aerodromes and (iii) bird strike prevention - ecological, passive and active methods.

During the lecture or bird species it is better to select a few more common problem birds than describe all. In India more than 80 species of birds or bats have collided with aircraft. Instead of confusing the bird controllers by forcing them to learn about 80 species of birds and bats, only 21 species were selected for recognition. In the appendix details of all birds (1-I species) such as common name, scientific name, size, wings span, weight, identification marks, habitat, habits, food, roosting, nesting, clutch size and nesting season and activities in aerodromes were given. This appendix can be used as field guide for identification by bird controllers. While giving statistics

on bird hits they have to be classified into soaring, non-soaring and ground birds and bats with their weight range.

In India birds weighing below 50g have caused no serious damage to aircraft and hence only birds weighing above 50g were taken into consideration in this bird strike analysis. Out of 612 incidents analysed up to 1994 only 438 incidents were caused by birds and bats weighing above 50g and 37 bird species out of 80 were relevant to this analysis. It is necessary to explain the flight pattern of birds whether soaring, non-soaring or ground, migratory or non-migratory because this aspect is important as a factor causing bird strikes.

The critical sites an aerodromes and the birds occupying them making them vulnerable to aircraft hit should be dealt with in detail. These are the sites where the bird controllers have to be watchful to prevent bird strike. Problem birds in India were classified according to the critical sites they occupied in the aerodrome.

BIRDS OCCUPYING CRITICAL SITES ON AERODROME 'MAKING THEM VULNERABLE TO AIRCRAFT HIT

Birds are classified based on the critical sites in the aerodrome they occupied from where they unknowingly move into the path of flying aircraft to cause a strike, that is the mode of their becoming hazardous;

1. Birds flying or soaring over aerodrome or approach paths, at 100-4000 feet or above. Examples: Vultures, Kites, Harriers.
These birds are hazardous to aircraft at climb, cruise, descent and approach phases of flight.

2. Birds flying/sailing low/hovering/skimming over active runway and shoulders at 2200 feet. Examples: Kites, Harriers, Kestrel, Blackwinged Kite. These birds are hazardous at initial climb, final approach, landing roll and take off run phases of aircraft flight.

3. Birds perching, walking on runway and shoulders.
Examples: Lapwings, Stone Curlews, Harriers, Kites, Partridges.
These birds are hazardous to aircraft during landing, take off and taxiing and they can also be sucked into the engine causing damage.

4. Birds squatting on runway to rest.
Example: Pariah Kites.
These birds are hazardous to aircraft during landing, take off and taxiing and they can also be sucked into the engine causing damage.

5. Birds feeding on live or lead insects or animals on runway using it as a dining table. Examples: Kites, Crows, Harriers.
These birds are hazardous to aircraft during landing and take off.

6. Birds perched on runway lights, flood-lit towers, electric poles and other perches to survey the area and hunt for prey.
Examples: Kite, Roller, Kestrel, Backwinged Kite.

These birds are hazardous to aircraft at approach, landing roll, take off run and climb phases of flight depending upon the height of the perch they utilise. On the lecture on areas having sources or causes of bird activity at aerodrome, airport area and a neighbourhood of 25 km. in radius of the aerodrome reference point should be considered. The lecture should cover attractions for problem bird such an food and sources of food including plant, animal and water to drink, water as an attraction for bathing as well as shelter including site for restin$_g$, roasting, nesting and safety of aerodrome area.

The lecture on bird strike prevention method should cover all the known measures used all over the world. The ecological methods should be dealt with first, then the passive methods such as use of barriers and 'then only the bird scaring, trapping, removal and other methods. Information should given as to how they should record a bird strike incident, how to collect and send bird remnants for identification and how to analyse the data.

FIELD TRAINING

Field sessions on developing bird identification skills, recognising bird attractions or sources of attractions in airport area as well as bird strike prevention methods should be at least three hours at a time. Modern bird scaring machines can not be operated witho$_u$t knowledge on the bird behaviour food habits and habituation. A sense of responsibility correct attitude, resourcefulness and dedication in work can be learnt from a good trainer. Airport Operator liability in the event of a bird strike caused aircraft accident should be borne in mind by every bird controller at airport.

CONCLUSION

The financial loss of several hundred crores of rupees every year due to bird hits coupled with airport operator liability should open the eyes of the aviation authority to understand the need for training imparted to bird controllers at a national level, the key to bird strike prevention.