

Seminar on Bird Hazards, Environmental Protection and Land Use at Airports for the NAM/CAR/SAM Regions

Miami, 24 - 27 April 2001

Agenda Item 1.2: ICAO Position and Activities with respect to Bird Strikes

(Presented by ICAO Secretariat)

1. Introduction

1.1 ICAO has long been concerned with the problems birds pose to aviation. In 1969, the Council of ICAO adopted Amendment 23 to Annex 14 which added a requirement to decrease the number of birds at aerodromes. Since that time, the Organization has developed the ICAO *Airport Services Manual*, Doc 9137, Part 3, *Bird Control and Reduction* and introduced the ICAO Bird Strike Information System (IBIS). The Organization has also attempted to bring the importance of bird hazard reduction at airports to the attention of States through the holding of workshops, such as the present one, at ICAO Regional Offices. Today ICAO's activities continue to be focused on Annex 14, Volume I, the Airport Services Manual and the ICAO Bird Strike Information System (IBIS).

2. Annex 14, Volume I

2.1 The Annex 14 provision to decrease the number of birds at aerodromes, introduced through Amendment 23, was general in nature and contained no detailed requirements for assessing the extent of the bird strike hazard, reducing birds at aerodromes, and dealing with bird attractants, whether on or off the airport. ICAO brought this lack of detailed requirements to the attention of the International Bird Strike Committee (IBSC) in 1985, with a request to assist ICAO by identifying measures which could be recommended for global application. As a result of activities within the IBSC, a number of European States jointly forwarded to ICAO proposals for amendment of Annex 14, Volume I, as well as Annex 15, which were adopted by ICAO in March 1990.

2.2 Annex 14, Volume I, paragraphs 9.5.1 through 9.5.3, as adopted in March 1990, contain recommendations that authorities should assess the bird hazard on or in the vicinity of an airport, take necessary action to decrease the number of birds by adopting measures for discouraging their presence, eliminate or prevent the establishment of any site which would be an attraction to birds, and establish a National procedure for recording and reporting bird strikes to aircraft. Standards and Recommended Practices (SARPs) detailing measures to be taken to reduce the number of birds, which could be applied on a world-wide basis, were not developed, as such measures are considered to be dependent on the local situation and not suitable for application internationally.

3. Manual on Bird Control and Reduction

3.1 The first edition of the *Airport Services Manual, Part 3 ! Bird Control and Reduction* was published in 1975 and was based primarily on experience gained in North America. It was replaced by a second edition in 1978 which broadened its scope to take into account other experience and particularly that in Europe.

3.2 A third edition of the manual was published in 1991. The prime purpose of this latest edition is to provide airport personnel with the information necessary to develop and implement an effective bird control programme for their airport. The manual stresses the importance of good organization and planning in the creation of a successful bird control programme. However, the manual does deal with the reasons why birds occur at an airport and briefly outlines some modifications which may be made to the airport to reduce its attractiveness to birds. Also, the *Airport Planning Manual, Doc 9184, Part 2 ! Land Use and Environmental Control*, highlights the importance of considering the bird hazard problem when selecting a new airport site.

4. Reporting bird strikes

4.1 With the proliferation of jet aircraft and the attendant increases in traffic which occurred throughout the 1950s and 1960s, modern jet-powered transport aircraft, with their greater speed, were seen to be at greater risk of suffering damage when colliding with birds than piston-powered aircraft had been. It became apparent that ICAO should collect data on bird strikes in order to form a data base which States could then use to develop bird hazard control and reduction measures and airworthiness criteria related to bird strike damage resistance. To this end, a bird strike data collection system was developed by ICAO with the aid of a group of experts in the field of bird strikes to aircraft. This system is known as the ICAO Bird Strike Information System (IBIS).

4.2 The ICAO Bird Strike Information System is the subject of ICAO Document 9332. The third edition of this manual became available in January 1989. It was revised during 2000 and will be submitted to production shortly. The bird strike reporting system has been in operation since 1980 and has proven itself to be a useful tool both internationally and nationally for analysing bird strikes to aircraft. At the present time, more than 95 000 bird strikes are stored within the system. Although the problem is world-wide, on an average, only 45 of ICAO's member States report bird strikes. These reports, however, usually include bird strikes occurring in approximately 110 States and territories.

4.3 Concerning the Caribbean and South American regions, for the years 1994 to 1999 inclusive, a total of 346 bird strikes were reported to ICAO. Bird strike reports were received from only nine States while bird strikes were reported to have occurred in thirty-one States. Approximately 34 percent of the bird types were identified. The birds most frequently reported were the Turkey Vulture, (*Cathartes aura*) and gulls, as a species. Sixty two percent (62%) of the strikes occurred below 101 feet above ground level (AGL). These bird strikes caused 20 precautionary landings, 15 aborted take-offs and one engine to be shut down. Forty aircraft were substantially damaged while 41 sustained minor damage. A statistical analysis of these bird strikes will be found in Appendix A to this paper.

4.4 As ICAO considers that the study of bird strike reports is basic to understanding and resolving the problem of bird strikes to aircraft, this very limited reporting of bird strike data is viewed with concern from the point of view of operational safety. The IBIS programme is an excellent tool for storage and analysis of bird strike reports and can assist States which do not have in place a bird strike data collection system for this purpose. States which are not reporting bird strikes to ICAO are urged to do so.

