

TRAINING AND COMPETENCY: FLIGHT CREW



# RECOMMENDED PRACTICE

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**Release Date:** August 2015

**Document:** AAWHG RP5.2 (0)

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## 1. Outline

1.1 This Recommended Practice (RP) aims to provide the aviation industry, in particular air operators, with information on how pilots can minimise their risk of wildlife strikes. (Note: The AAHWG believes that wildlife strike education for ab-initio pilots should be integrated into the PPL, CPL, MPL and ATPL Competency Based Training syllabi in due course.)

1.1 This document has been developed through the Australian Aviation Wildlife Hazard Group (AAWHG). It has drawn upon information available from the AAWHG membership, local industry representatives and from international sources.

1.2 It is recommended that this document should be read in conjunction with:

- AAWHG Wildlife Hazard Management Plan Template

1.3 It is intended that the practices outlined in this document will be utilised to develop:

- Education for pilots and aircraft operators in the tools, techniques and procedures available to minimise the likelihood of a wildlife strike occurring; and
- Education for pilots and aircraft operators in the tools, techniques and procedures available to minimise the consequence of wildlife strike should it occur.

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- 1.3 This document will be subject to regular review through the Australian Aviation Wildlife Hazard Group. Should you wish to provide comment or would like to contribute to the content of this document, please contact the group at its email address: [rp@aawhg.org](mailto:rp@aawhg.org)

### **2. Wildlife hazards which affect aircraft - the need for training**

Wildlife (which includes birds and animals) are a significant in-flight collision hazard to aircraft. This hazard has been confirmed by frequent safety incidents and relatively infrequent hull loss or serious accident both internationally and in Australia. Between 2004 and 2013, there were 14,571 wildlife strikes reported to the ATSB, most of which involved high capacity air transport aircraft. Domestic high capacity aircraft were those most often involved in wildlife strikes, and the strike rate per aircraft movement for these aircraft was significantly higher than all other categories. The number of engine ingestions for high capacity air transport operations had been increasing until 2011, but has since decreased to the lowest level in 10 years. Still, one in nine reported wildlife strikes for turbofan aircraft involved an engine ingestion (ATSB 2014). Wildlife strike, even if not resulting in damage or serious accident can result in substantial losses to airlines, such as delays, service disruptions, passenger accommodation and brand reputation, as well as the cost of maintenance checks to rule out undetected engine damage. Even apparently minor strikes which result in no visual damage can reduce engine performance, further prejudicing the safety cascade. In addition wildlife strike always results in wildlife mortality. This is an emerging issue in first world countries which is beginning to further erode the brand reputation of operators and the industry.

- 2.1 Civil pilots receive very little, if any, formal education and training in either identifying or dealing with wildlife hazards. This contrasts to training received for assessing and avoiding other airspace hazards, such as wind shear, weather or a midair collision with other aircraft.
- 2.2 The aircraft operator should hence ensure that aircrew receive formal training for assessing the wildlife strike risk to their operation and applying the tools, techniques and procedures appropriate to reduce that risk.
- 2.3 Aircrew should be able demonstrate their skills in wildlife risk assessment and their ability to plan and execute a flight to minimize those risks through a formal assessment. Wildlife strike prevention Education and Training should consist of initial and refresher training.
- 2.4 Aircraft operators should develop standard operating procedures (SOP) for aircrew to both assess and mitigate the risk of strikes for a flight. A dedicated Recommended Practice will be drafted on this topic at a later date.

### **3. Regulatory context**

#### **3.1 Aircraft Operators**

- 3.1.1 Holders of an Air Operators Certificate are required by Civil Aviation Orders 82.3 and 82.5 to implement an SMS that is applicable to their level of operation. This SMS is required to contain a safety risk management plan including documented details of the hazard identification and risk management process.

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- 3.1.2 Civil Aviation Advisory Publication SMS – 1(0) describes the required process to identify hazards associated with the organisation's operations and to analyse and assess the risk.

#### **4. Definitions**

- 4.1 The following terms are used within this Recommended Practice:

<b>Training</b>	The transfer of knowledge and the attainment of skills and competencies as a result of an educational process. Training has a specific goal of improving the capability, capacity, productivity and performance of a trainee.
<b>Competency</b>	The demonstrated attainment of an ability or skill by the trainee.
<b>Assessment</b>	To evaluate and measure the academic readiness, Learning progression and skill acquisition of a trainee.
<b>Commensurate</b>	In proportion. Corresponding in size or degree.

#### **5. Education, training and competency assessment: Flight Crew engaged in Air Transport Operations on aircraft in excess of 9 passenger seats**

##### 5.1 Education and Training:

- 5.1.1 The aircraft operator should ensure that all aircrew receive formal training in wildlife hazard awareness and strike minimisation techniques. This training should be provided prior to flight crew undertaking their operational duties.
- 5.1.2 This training should be commensurate with the operational mode and the type, complexity and performance of the aircraft in use.
- 5.1.3 Training for aircrew should be documented. Records should be retained to satisfy periodic reviews, audits and competence checks.

##### 5.2 Assessment:

- 5.2.1 The aircraft operator should ensure that aircrew are assessed formally by a written and/or practical test at the completion of the initial training.
- 5.2.2 The aircraft operator should ensure that aircrew maintain their knowledge and skills by a written and/or practical test at adequate intervals (e.g. in conjunction with an annual line check). In addition, a refresher training course should be provided on a biennial basis..

#### **6. Education, training and competency assessment: Flight Crew engaged in Air Transport Operations on aircraft of 9 passenger seats or less**

- 6.1 The pilot or aircraft operator should ensure that aircrew are generally aware of wildlife hazards techniques prior to undertaking operating an aircraft.

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- 6.2 This training should be commensurate with the operational mode and the type, complexity and performance of the aircraft in use.
- 7. Appointment/Selection of training providers**
- 7.1 Qualification and Experience:
- 7.1.1 The aircraft operator should ensure that any training in wildlife hazard awareness and strike minimisation is conducted by appropriately qualified personnel, or specialists with proven experience in the field.
- 7.1.2 It is also desirable that the trainer/instructor should have a recognised formal training qualification and/or an accreditation from (or association to) a recognised educational institution or provider. For example, a Certificate IV training and assessment qualification.
- 7.1.3 The training may be delivered by a CAR 217 organisation, Part 142 organisation or a recognised educational institution/training provider.
- 7.2 Service level agreements for training provision:
- 7.2.1 If an external training provider is used, service level agreements between the aircraft operator and that external training provider should be developed,.
- 7.2.2 The service level agreement will assist in assuring the competency of training providers and ensuring the contents of their training programs meet the operational requirements of the aircraft operator and any relevant regulatory requirement(s).
- 8. Training Syllabi**
- 8.1 Training programs should also be tailored to the specific threats to aerodromes serviced by the operator, the types of aircraft operated and bird or wildlife strikes and trends.
- 8.2 Initial Training Syllabus:
- 8.2.1 Wildlife hazard initial training programs should address, but not be limited to, the following general modules of competency:
- Roles, responsibilities and legal framework for Wildlife Hazard Management;
  - History and current status of wildlife strikes;
  - Wildlife identification and behavior;
  - Factors affecting the probability of wildlife collision with aircraft;
  - Factors affecting the consequence of wildlife collision with aircraft;
  - Detecting, assessing and analysing wildlife strike risk;
  - Mitigating the wildlife strike risk;
  - Communications and Reporting.
- 8.3 Refresher Training Syllabus:
- 8.3.1 Whilst a formal refresher training syllabus has not yet been developed, a refresher training program should be provided periodically to ensure

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adequate knowledge by flight crew in the above points is maintained.

### 9. Review

- 9.1 The aircrew training programs for aircraft based wildlife strike risk mitigation should be subject to regular review. It is recommended that these reviews should be conducted biennially at a minimum.

### 10. Records management

- 10.1 Training for aircrew should be documented and records retained for a sufficient period, as necessary to satisfy periodic reviews or audits required under regulations/guidelines and evidence provided to the regulator (CASA) upon request as part of an aircraft operator's AOC audit.
- 10.2 In the absence of an overriding legislative requirement, it is recommended that these records are maintained for a minimum of 7 years from the original date of their creation.

### 11. References

- 11.1 ATSB 2014, AR-2014-075, <https://www.atsb.gov.au/publications/2014/ar-2014-075.aspx>
- 11.2 International Organization for Standardization, 2009, Geneva, International Standard 31000:2009
- 11.3 International Civil Aviation Organisation, 1991, Airport Services Manual Bird Control and Reduction (Doc 9137-AN/901 Part 3)
- 11.4 Civil Aviation Safety Authority, 1998, Australia, Civil Aviation Safety Regulations 1998, <www.comlaw.gov.au>
- 11.5 Civil Aviation Safety Authority, 1998, Australia, Civil Aviation Regulations 1988, <www.comlaw.gov.au>
- 11.6 Civil Aviation Safety Authority, 2012, Australia, Civil Aviation Orders, <www.comlaw.gov.au>
- 11.7 Civil Aviation Safety Authority, 2009, Australia, Civil Aviation Advisory Publication SMS-1, <www.casa.gov.au>
- 11.8 IFALPA Annex 14 Aerodromes