International Civil Aviation Organization

The Eighth Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/8)

Bangkok, Thailand, 25 to 28 May 2026

Agenda Item 3: Global, Regional and National Guidance/Best Practices on Wildlife Hazard Management

CAPACITY BUILDING AND TRAINING STANDARDISATION

(Presented by WORLDBIRDSTRIKE ASSOCIATION)

SUMMARY

This paper presents and highlights the critical need to standardise Wildlife Hazard Management (WHM) training across ICAO Member States, aligned with ICAO provisions, including International Civil Aviation Organization Annex 14 Volume I, Doc 9137 Part 3, and PANS-Aerodromes.

It emphasises the integration of competency-based training frameworks, technology-enabled monitoring systems, and data-driven decision-making tools to strengthen aviation safety outcomes and reduce wildlife strike risks.

1. INTRODUCTION

1.1 Wildlife strikes remain a persistent and globally significant aviation safety risk impacting aircraft operations, safety, and economic performance.

1.2 ICAO provisions, particularly:

- Annex 14, Volume I – Aerodrome Design and Operations;
- Airport Services Manual (Doc 9137), Part 3 – Wildlife Hazard Management; and
- Procedures for Air Navigation Services — Aerodromes (PANS-Aerodromes) (Doc 9981)

require aerodrome operators to establish and maintain effective WHM programmes supported by trained personnel.

1.3 However, variations in training quality, lack of standardisation, and limited adoption of modern technologies continue to constrain the effectiveness of WHM programmes globally.

2. DISCUSSION

ICAO Requirements for WHM Training

2.1 ICAO Guidance mandates that:

- Wildlife control personnel must be adequately trained by competent specialists;

- Training must follow competency-based principles; and
- Aerodrome operators must ensure ongoing proficiency through recurrent training.

2.2 WHM Guidance outlines structured training requirements:

- Wildlife identification;
- Hazard assessment;
- Control techniques;
- Equipment usage;
- Communication and coordination;
- Regulatory compliance; and
- Emergency response procedure.

Core Components of Initial Training

2.3 Initial WHM training programmes should include:

- General WHM Principles aligned with aerodrome WHMP;
- Species Identification, including migratory and behavioural patterns;
- Wildlife Hazard Assessment (WHA) using probability – severity frameworks;
- Control Measures:
  - Passive (habitat management)
  - Active (deterrence and dispersal techniques)
- Equipment Handling (pyrotechnics, vehicles, deterrent systems);
- Regulatory Knowledge (ICAO and national compliance);
- Communication Protocols with ATC and stakeholders; and
- Emergency Response Procedures for wildlife strike events.

Integration of Technology-Based Applications

2.4 Modern WHM programmes must integrate technology-enabled systems, including:

- Real-time wildlife monitoring platforms;
- Wildlife strike reporting and analytics systems;
- Predictive risk modelling tools; and
- Digital dashboards and heatmaps.

These tools enhance:

- Accuracy of data collection;
- Speed of response;
- Strategic mitigation planning; and
- Evidence-based decision-making.

2.5 Technology integration aligns WHM with broader Safety Management Systems (SMS) under ICAO Safety Management Manual (Doc 9859).

Recurrent Training and Continuous Improvement

2.6 Recurrent training programmes are essential to maintain competency and must include:

- Updates on local environmental changes;
- Review of recent wildlife incidents;
- Adoption of new technologies and mitigation techniques; and
- Continuous performance evaluation and improvement.

ICAO APAC Curriculum and Capacity Building

2.7 The ICAO APAC Office has developed a structured WHM curriculum through Go-Team initiatives, focusing on:

- Wildlife hazard awareness;
- Habitat management;
- Risk assessment methodologies;
- Data-driven WHM strategies; and
- Integration of digital tools.

2.8 The curriculum is modular, flexible, and adaptable to aerodrome-specific requirements, ensuring scalability across regions.

Need for Global Standardisation

2.9 Despite existing guidance, gaps remain in:

- Training consistency across States;
- Adoption of technology-based WHM systems;
- Integration with SMS frameworks; and
- Off-airport (13 km safeguarding zone) risk understanding.

There is a need to:

- Standardise WHM training curricula globally;
- Promote ICAO-endorsed competency frameworks;
- Encourage adoption of digital WHM platforms; and
- Strengthen collaboration between regulators, airports, and environmental authorities.

Conclusion

2.10 Effective Wildlife Hazard Management is dependent on trained personnel, structured programmes, and modern technology integration. Standardising WHM training in alignment with ICAO provisions will:

- Enhance aviation safety;
- Improve operational efficiency;
- Reduce wildlife strike risks; and
- Enable data-driven safety management.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the importance of standardised WHM training aligned with ICAO provisions;

b) encourage States to adopt competency-based WHM training programmes;

c) promote integration of technology-based wildlife monitoring and reporting systems;

d) support ICAO initiatives to develop a globally harmonised WHM training framework; and

e) encourage collaboration between aviation authorities, environmental agencies, and industry stakeholders.

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