*International Civil Aviation Organization*

Sixth Meeting of the Asia/Pacific Wildlife Hazard Management Working Group **(**AP–WHM/WG/6**)**

*Bangkok, Thailand, 14 to 17 May 2024*

**Agenda Item 4: Progress Update on Tasks assigned to States and International/Regional Organizations**

# SHARING STATE'S/AERODROME OPERATOR'S EXPERIENCE IN MANAGING WILDLIFE HAZARD MANAGEMENT ISSUES

(Presented by Thailand)

**SUMMARY**

This paper presents the experience of the state's/aerodrome operators in managing Wildlife Hazard Management (WHM) in Thailand. As a state authority, the Civil Aviation Authority of Thailand (CAAT) established the Wildlife Hazard Management Taskforce as part of the national WHM plan with the goal of reducing wildlife risk. Each aerodrome operator implements a Wildlife Hazard Management Programme (WHMP) tailored to their specific challenges such as Data Collection Methods, On and Off Aerodrome Wildlife Hazard Management Strategies. This paper also emphasizes the need for coordination among relevant stakeholders, such as aerodrome operators, aircraft operators, air traffic controllers, and local communities which is crucial for successfully implementing mitigation measures and managing wildlife risk.

This paper is prepared in response to Task 5/3 (AP–WHM/WG/5).

## 1. INTRODUCTION

1.1 As a State Aviation Authority responsible for Thailand's aviation safety, CAAT is mandated to maintain and improve the regulatory system to align with international standards, and also promote, and develop efficient sustainable civil aviation activities.

1.2 CAAT has promulgated regulations to require WHM to be conducted at each aerodrome. The aerodrome operator has to assess and manage hazards posed by wildlife on and around aerodromes.

1.3 Thailand has a total of 39 public aerodromes, which are operated by 4 aerodrome operators, including the Department of Airports (DOA), Airports of Thailand Public Company Limited (AOT), Bangkok Airways Public Company Limited (BA) and the Royal Thai Navy (RTN).

1.4 Thailand has several types of airport ownership which result in a different management system, organizational structure, and financial capability. This circumstance brings up a challenging supervision strategy, as well as biodiversity in Thailand.

## 2. DISCUSSION

State Aviation Authority: CAAT

2.1 The continuous improvement of aviation safety through a national aviation safety strategy is set out in the Thailand Aviation Safety Action Plan (TASAP). The TASAP promotes the effective implementation and continuous improvement of Thailand's State Safety Programme (SSP).

2.2 TASAP includes actions to implement an effective safety oversight system and a proactive approach to managing safety. It also includes actions for addressing High-Risk Category (HRC) accidents to continuously reduce the risk of fatal accidents. Although most bird strikes do not result in HRC occurrence as defined in the GASP and AP-RASP, It remains one of the top risks in TASAP due to safety data and information from safety events reported to CAAT. Actions are aimed at reducing the rate of bird strikes that cause damage to aircraft parts.

2.3 CAAT has taken a proactive approach to address not only birds but also wildlife by establishing a dedicated Wildlife Hazard Management Taskforce. This task force is a crucial component of the TASAP 2021–2023 and carries out awareness-raising activities to encourage concern and collaboration among various stakeholders regarding WHM. Comprising representatives from CAAT and aviation industry stakeholders, including aerodrome operators, air operators, and Air Navigation Service Providers (ANSPs), the task force effectively identifies potential hazards and develops strategies to minimize the risk of wildlife.

Aerodrome operator

2.4 The aerodrome operator shall assess wildlife risk through a procedure that records and reports wildlife strikes, collects information, and evaluates the wildlife hazard using competent personnel. This procedure should also identify wildlife trends at the aerodrome regarding wildlife strikes involving aircraft. Based on the assessment results, specific measures or recommendations can be formulated to mitigate or reduce wildlife risk at the aerodrome.

2.5 The aerodrome operator shall take action to decrease the risk to aircraft operations by adopting measures to minimize the likelihood of collisions between wildlife and aircraft. These measures include, but are not limited to:

- Wildlife patrol, observation, and statistical data collection
- Wildlife safety risk assessment
- Wildlife hazard mitigation measures
- Collaboration between the aerodrome and other stakeholders such as government authorities, aircraft operators, air traffic control, the community, etc.
- Any other measures for dealing with challenges and limitations in wildlife hazard management at each aerodrome.

Aerodrome operator: AOT

2.6 The collection of wildlife statistical data was previously based on daily patrols and inspections of the airfield. However, this approach has the following limitations:

- Some wildlife activities may go undetected.
- Bird strike reports are frequently incomplete.
- Identification of bird species is often hindered by the absence of carcasses or other physical evidence.

2.7 To enhance data collection, the point count survey method is utilized for estimating bird populations in specific areas, encompassing the 6 AOT airports, which each characterized by distinct physical features or habitats. Conducting surveys at various locations within the airports during different seasons can ensure valuable insights into bird activity patterns.

2.8 With bird population surveys and the integration of such data with existing bird strike reports a more comprehensive understanding of the bird strike risk at our airport can be achieved. Through the analysis of this data, high-risk areas and bird species of concern can be identified. This information will enable the development of targeted mitigation strategies and enhance efficiency in reducing bird strike risk as well as the safety of both wildlife and aircraft at our airport.

2.9 To ensure the competence of wildlife management personnel, AOT provides comprehensive training on bird surveys and risk assessment which includes both initial and recurrent sessions. This training covers the identification of common bird species at the airport and the conduct of basic bird surveys using the point count method.

Aerodrome operator: RTN

2.10 U-Tapao Rayong Pattaya International Airport (UTP) is operated by the RTN. The On-Aerodrome WHM Strategies are in place to address wildlife hazards within the airport. To ensure effective management of wildlife hazards, UTP implements the WHMP through surveys, inspections, and training programs, which gather data and recommendations from experts. This comprehensive effort aims to identify potential risks, develop effective mitigation strategies, and ensure the safety of aircraft operations at UTP.

2.11 When hazardous animals are identified, airport personnel take immediate action to safely disperse or capture the animals, depending on the threat level and specific circumstances, to mitigate the risk to aviation operations. Repellent strategies include:

- Audio Repellents: pyrotechnics (fireworks/crackers), distress calls (sound), alcohol cannon (portable bird repellent)
- Visual Repellents: the presence of humans and vehicles, lasers
- Relocation

Aerodrome operator: BA

2.12 Off-aerodrome WHM are crucial issues hidden in the face of environmental and cultural characteristics of the surrounding areas. Those can lead to either conflicts or challenges. Not only in Thailand but in some of the Asia-Pacific region, various kinds of wildlife protections and hotspots related to several stakeholders are found in the forms of:

- Wetlands especially agricultural areas and farmlands
- Protected areas
- Religious-related animal sanctuaries
- Local businesses with wildlife as tourist attractions
- Inefficient waste management

2.13 Examples and case studies can range from traditional farming that attracts mixed flocks of birds, widespread of a new colonizing species with ecological services benefiting local farmers, classic cases of Buddhist sanctuaries as refugia habitats or feeding grounds, to intensive wildlife feeding activities for tourism purposes which a behavioral change of overpopulated species may affect whole bird community in the areas.

2.14 Some attractions and widespread problems affecting many airports require national-level management and collaborations regarding WHM. Some underlying roots are entwined with people's knowledge and understanding of safety issues and basic ecological literacies. To come up with solutions, each airport needs to work on capacity building for its personnel as well as for local communities. Outreach efforts and practices may need to be designed on socioeconomic and educational aspects using various approaches, incorporating social and conservation actions.

Aerodrome operator: DOA

2.15 Collaboration between the aerodrome and other local stakeholders around the aerodrome is essential, particularly concerning aviation safety concerns related to land development in the vicinity, to minimize the attraction of wildlife.

2.16 To prevent, eliminate, or mitigate hazards on and around aerodromes, aerodrome operators are encouraged to communicate their safety concerns with local authorities to raise awareness by:

- Promoting community engagement in neighboring areas to encourage cooperation in caring for and supervising pets.
- Coordinating with local government agencies to capture stray animals and prevent them from entering airport premises through the Airport Safety Committee or Airport Wildlife Hazard Management Committee.
- Raising awareness and advocating against animal feeding, as it is crucial for reducing bird habitats.

## 3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this Paper.

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