



ICAO

International Civil Aviation Organization

ICAO Asia/Pacific Wildlife Hazard Management Workshop
and Seventh Meeting of the Asia/Pacific Wildlife Hazard
Management Working Group (AP-WHM/WG/7)

Pokhara, Nepal, 5 to 9 May 2025

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

STRATEGY AND MITIGATION FOR BIRD STRIKES

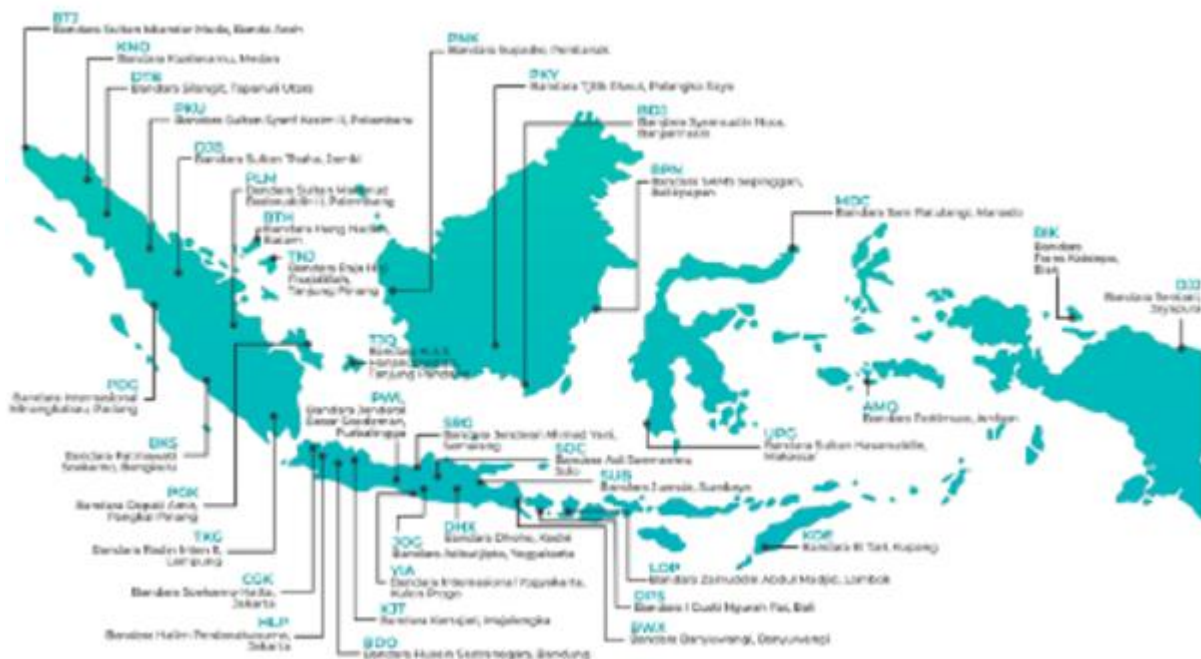
(Presented by Indonesia)

SUMMARY

Based on occurrence reports caused by wildlife for the period 2022–2024 at PT Angkasa Pura Indonesia, bird strikes have been identified as a significant safety issue. Five airports show the highest potential risk for bird strikes. Therefore, the occurrence of bird strikes requires serious attention in safety mitigation management related to wildlife. The Director General of Civil Aviation (DGCA) has established a National Wildlife Hazard Management Working Group consisting of representatives from the DGCA, airport operators, airlines, air navigation service providers, and scientists.

1. INTRODUCTION

1.1 Angkasa Pura Indonesia is a State-Owned Enterprises (SOEs) that engages in the business of airport operator and airport related services in Indonesia. Angkasa Pura Indonesia operate 37 airports which in 2024 had served 1,162,249 aircraft movement both international and domestic a year (exclude KNO & BTH), while 155,937,600 of arriving and departing passengers services in international and domestic flights and 1,437,636,367 kg of cargo transport for international and domestic flights. The increase of aircraft and passenger movements after the Covid 19 pandemic has become challenging in managing airports. Various potential hazards in operational and airport services aspects are still in concern. Therefore, airport operators and all stakeholders are required to create new breakthroughs / innovations in order to create comfort, safety and security for aviation service users.



1.2 Angkasa Pura Indonesia is committed to maintaining 5 Safety Performance Indicators (SPI) as determined by the Directorate General Civil Aviation such as: Runway Incursion, Runway Excursion, FOD Incident, Ground Collision and Wildlife/ Bird Strike. Based on the safety overview in 2024, Angkasa Pura Indonesia was able to maintain zero accident as an evidence of consistency in the implementation of the Safety Management System (SMS) and the Occupational Health & Safety Management System (OHSMS) in all aspects of corporate activities. This achievement supports the Company's Vision **"To Become World Class Airport Operator, Connecting Global Travelers with Distinctive Indonesia Hospitality"**.

1.3 Birds and wildlife are a serious hazard to aircraft, and it attempts to outline what can and should be done to overcome this hazard. This paper aims to highlight the importance of organization and planning in bird and wildlife control programs.

1.4 Angkasa Pura Indonesia has issued Directors Regulation Number PD.DO.0004/I/2025 on Guidelines for Handling Wildlife Hazard Management at Angkasa Pura Indonesia Airport referring to Regulation of the Director General of Civil Aviation Advisory Circular CASR 139-03 (AC 139-03) Wildlife Hazard Management On Or In The Vicinity of An Aerodrome.

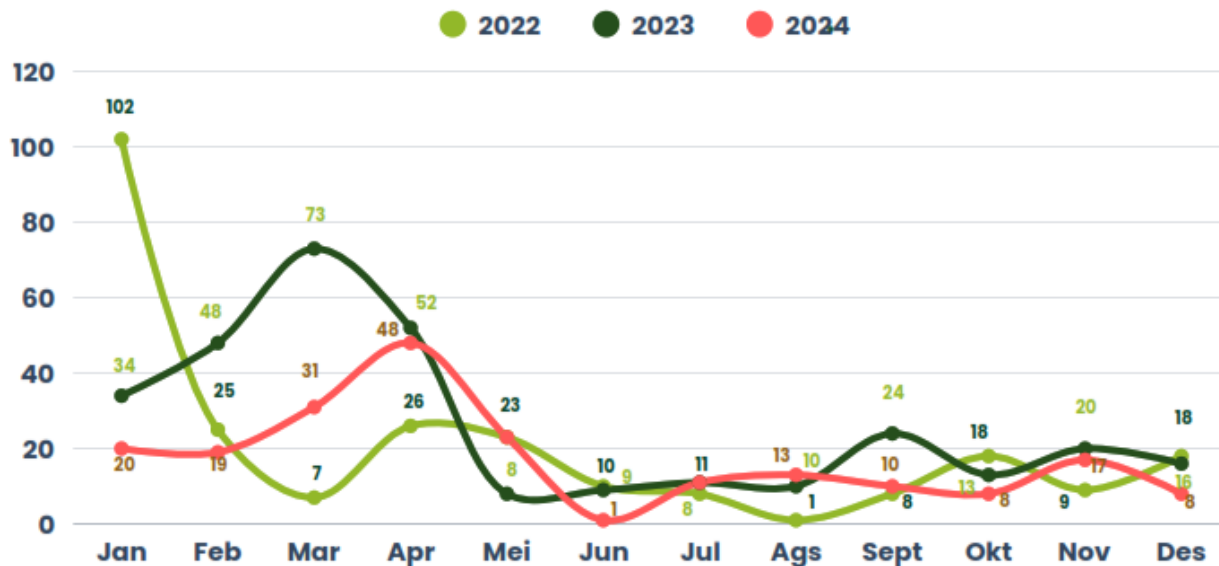
1.5 According to AC 139-03, wildlife/ bird strikes incident categorized by:

- Confirmed attack, is a collision between wildlife/ bird strikes by proven aircraft with the discovery of the carcass in the aircraft damage
- Unconfirmed attacks, is a collision report between wildlife / bird strikes and aircraft no physical evidence was found; and
- Serious incidents, is an incidents that can be dangerous to flight safety due to existence wildlife/ Bird strikes in the airport and in the vicinity whether bird attack was found or not.

2. DISCUSSION

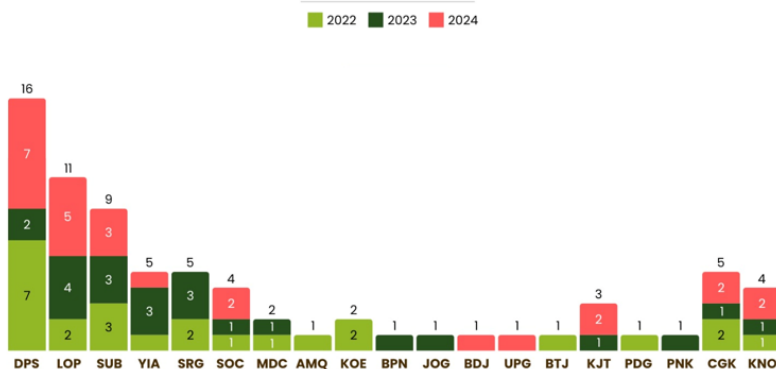
Occurrent / Hazard Report Caused By wildlife

2.1 Based on data on the occurrence report graphic for the period 2022-2024, it is shown that wildlife-related hazard reports have been collected over the past three years.



2.2 Bird Strikes Reports Graphic below shows of the number of bird strikes reports of Angkasa Pura Indonesia, categorized as confirmed attacks, from 2022 to 2024. Occurrence of the bird strikes reports need to be serious concern in the safety mitigation management of wildlife and / or bird strikes.

BIRDSTRIKE TERKONFIRMASI TAHUN 2022 - 2024



2.3 According to the graphic above, there are 5 Airports with the Highest Potential Risk Birdstrikes. These are I Gusti Ngurah Rai Airport (WADD), Zainuddin Abdul Madjid International Airport (WADL), Juanda International Airport (WARR), Soekarno Hatta International Airport (WIII) and Yogyakarta International Airport (WAHI). To reduce the risk of bird strikes with aircraft and the presence of wildlife in and around airports, the following joint mitigation action are recommended:

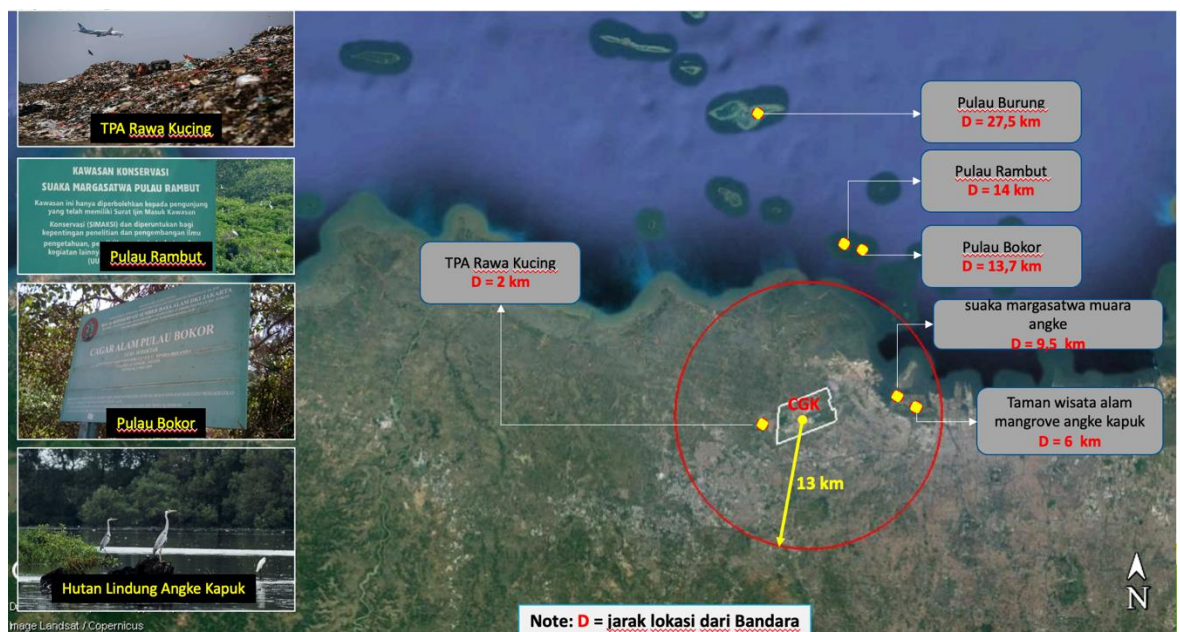
- Identification and analysis of wildlife observation data;

- Discussions and communication among the Local Government, Regulator, Airport operator, aircraft operator, Aviation Navigation Services and Researchers / Experts;
- Wildlife safety committees;
- Conducting Training Programs;
- Sustaining the Working Group activities (BIG-DATA stage 1).

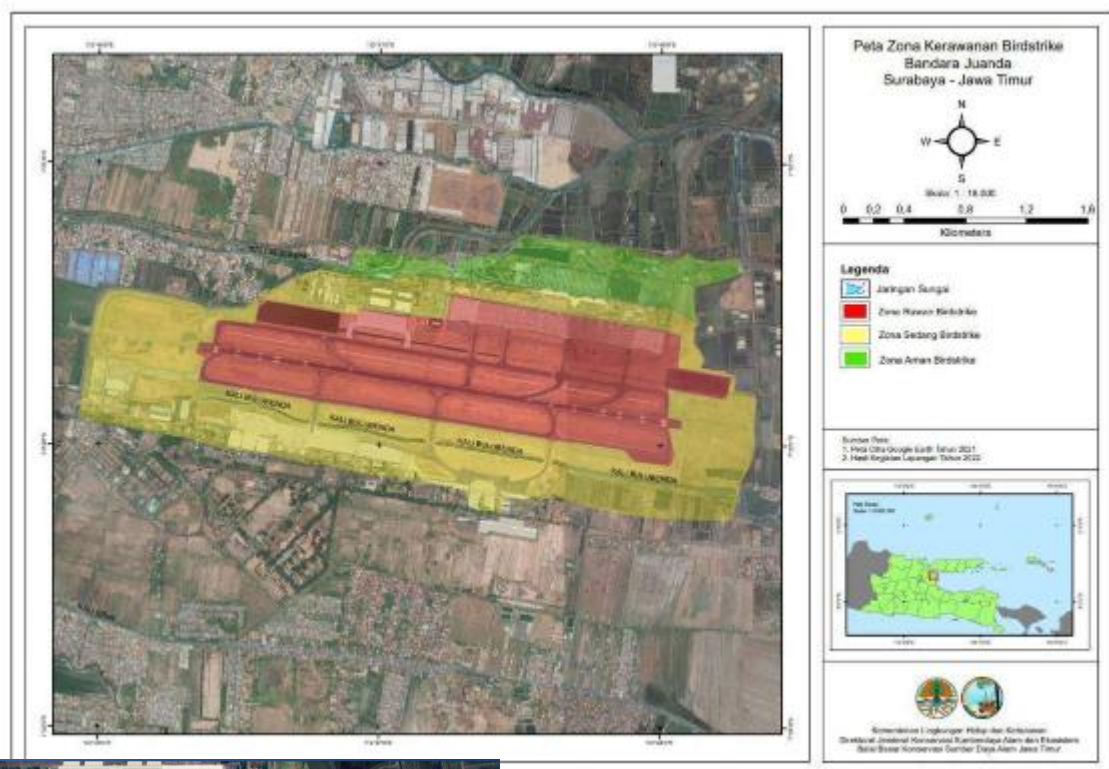
2.4 Based on Bird strikes report for period 2022 – 2024 at Soekarno Hatta International Airport, bird strikes mostly occurred at Runway 07L & 25R.



2.5 Within a radius of 13 km from Soekarno Hatta International airport, several areas have been identified as bird habitat, including rambut island, bokor island, Angke Kapuk Forest and Rawa Kucing Final Landfill.



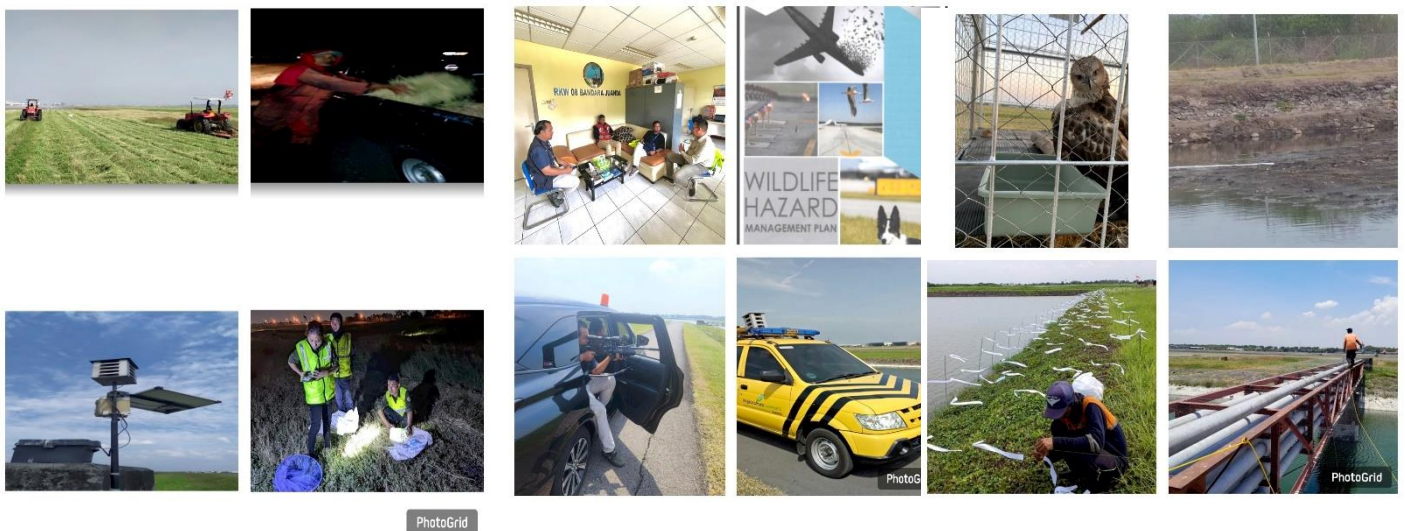
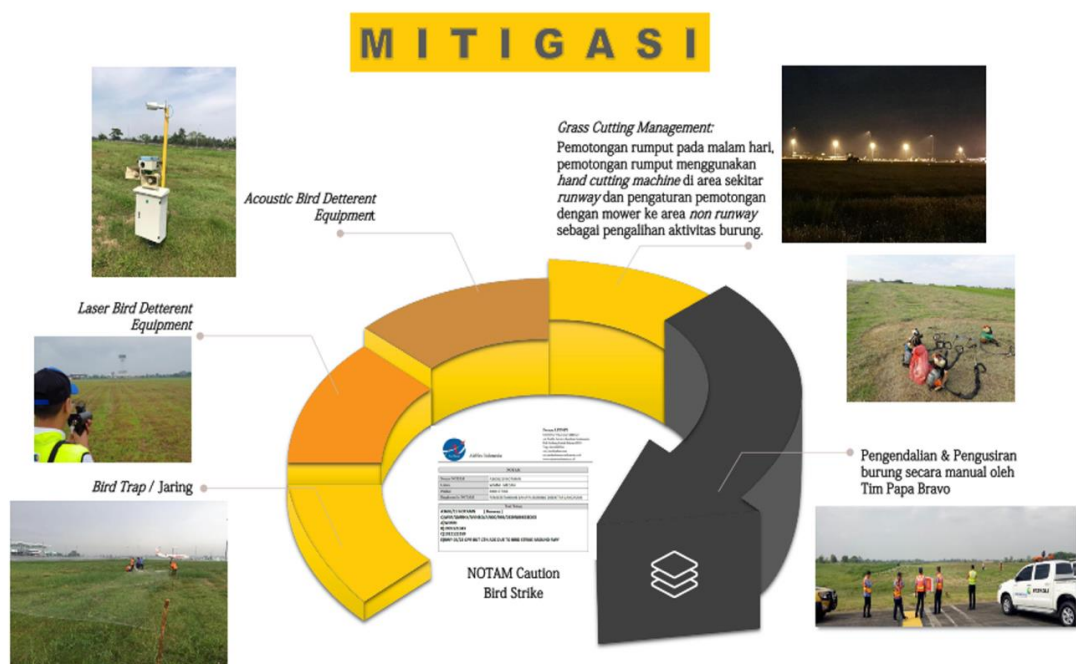
2.6 Picture below shown Potential Birdstrike zone at Juanda International Airport



The Mitigation of Bird strikes







2.7 The following bird strike mitigation measures have been implemented by PT Angkasa Pura Indonesia :

- Acoustic bird deterrent
- Laser bird deterrent equipment
- Bird traps
- Grass-cutting management
- Information to airmen (NOTAM)
- Bird expulsion manually
- Collaboration with wildlife management expertise



2.8 Angkasa Pura Indonesia (Injourney Airport) has developed an application for Wildlife Hazard Inspection. The Name of the Application is **INSIDE** (Injourney Airports Safety Reporting and Database System).

The screenshot displays the INSIDE application interface. On the left is a dark sidebar menu with various navigation options. Two items are circled in red: 'Dashboard Wildlife' at the top and 'Inspeksi Wildlife' further down. The main area features a satellite map with numerous red location pins. A pop-up window titled 'Reptil' is visible, containing text about a snake sighting and a small image of a snake. Below the map is a table titled 'Wildlife Inspection' with columns for various inspection details. The table contains three rows of data.

Action	ID	Tanggal Inspeksi	Cuaca	Jam Inspeksi	Branch	Unit	Nama Hewan	Perilaku Hewan
 	243	2025-03-27	No Cloud	14:59:00	CGK	SAFETY & RISK MANAGEMENT	Biawak	Berjemur
 	242	2025-03-28	No Cloud	21:58:00	CGK	SAFETY & RISK MANAGEMENT	Kucing	Mencari makan
 	241	2025-03-21	Few	14:30:00	KJT	SAFETY & RISK MANAGEMENT	Ardeola Speciosa (Blekok Sawah)	Mencari makan

National Wildlife Hazard Management Working Group

2.9 On August 25th, 2023, Director General of Civil Aviation (DGCA) established The National Wildlife Hazard Management Working Group, comprising representatives from Director General of Civil Aviation (DGCA), Airport Operator, Airlines, Air Navigation and Scientist. The Working Group's task are:

- Preparing a framework for the formation of the National Wildlife Hazard Management Committee
- Assist airport operators in identifying potential Wildlife hazard at the airports and providing recommendations for wildlife hazard management mitigation in airport.

- Promoting the implementation of wildlife hazard management practices within the aviation industry
- Cooperating with domestic and or international agencies or communities involved in wildlife hazard management in aviation sector
- Assisting in the establishment of collaborative networks between aviation stakeholders and environmental stakeholders as well as institutions or universities that can support wildlife data collection, research activities as well as studies of wildlife and their ecosystems in and around the airport area.
- Organizing discussion forum activities for all relevant stakeholders to address hazard management and risk reduction of wildlife disturbances in aviation.
- Collecting data on accidents/incidents related to wildlife and attacks or impacts that impact flight safety
- Encouraging the provision of training and skills for aviation personnel or airport managers responsible for managing wildlife hazards in the airport environment

2.10 In December 2023, The National Working Group discuss related Safety Issues:

- Optimizing the role of the government and regulators in handling wildlife/ bird strikes around the airports (on a radius of 13 km)
- Developing a simple reporting form that can be used for airport, airline, and air navigation service providers
- Promoting collaboration & Synchronization of reporting data (Authority, Airport, Airlines, Air Navigation) to establish a comprehensive big data
- Establishing an application to provide real time information to airmen
- Strengthening Collaboration with Authorities, Airport, Airlines, Air navigation and Scientist (4A + 1 S) to formulate effective strategies and mitigation plans for wildlife/ bird strikes hazards
- The improvement of Wildlife Hazard Management competence & skill for Airport Personnel

3. ACTION BY THE MEETING

3.1 The meeting is invited to

- a) Note the information contained in this paper; and
- b) Discuss any relevant matters as appropriate.

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