

WHM CASE STUDY

ICAO APAC WHM Workshop

05 TO 06 May 2025

Background

ABC International Airport, located along a coastline with abundance of waterbirds, maintains a rigorous wildlife monitoring program to safeguard future flight operations. On the morning of 06 May 2025, between 07:00 and 07:45 local time, the airport's Wildlife Hazard Management team noted an unusually large congregation of Black-headed Gulls (*Chroicocephalus ridibundus*) roosting on adjacent mudflats. With over 300 birds in the vicinity, the team coordinated closely with air traffic control (ATC) to track their movements and deployed suitable deterrents, setting the stage for a critical test of the airport's wildlife strike response protocols during a routine landing sequence.

Sequence of Events

Time	Events
07:00	Routine Wildlife Patrol: WHM team begins runway perimeter sweep; notes 300+ gulls roosting on adjacent mudflats.
07:05	ATC Alert: Patrol relays high gull count to ATC; issues “bird activity” advisory.
07:10	Aircraft on Final Approach: Flight GF123 (A320) to Runway 27.
07:12	Patrol flags a cluster of ~ 150 gulls soaring at 200 ft AGL directly in the flight path. (just inside the airfield perimeter)

What Actions were likely taken at this stage ? What are the likely outcomes ?

Actions

Communication:

- **ATC Alert:** Patrol relays high gull activity likely affecting flight to ATC.
- **ATC :** in turn issues “bird activity” advisory through NOTAM .

Measures taken:

- Active Measures used. (??)
- Continue monitoring.

Sequence of Events

Time	Events
07:13	Deterrent Deployment: WHM team activates gas cannon bursts and launches distress-call playback near mudflats
07:15	ATC Alert: Patrol relays high gull count to ATC; issues “bird activity” advisory.
07:18	Pilot Report: GF123 crew reports “large bird strike” (visual and engine vibration) at 150 ft AGL, ~ 0.5 nm from runway threshold.
07:19	Go-Around: ATC instructs GF123 to execute missed approach; crew follows go-around procedure safely.

What Actions were likely taken at this stage ? What are the likely outcomes ?

Actions

Communication:

- **ATC** : instructs GF123 to execute missed approach.
- **Pilots**: follows go-around procedure safely.

Measures taken:

- **Ground Actions:**
 - Emergency Response . (??)
- **WHM Team** – Continues action till birds are dispersed.

Sequence of Events

Time	Events
07:22	Emergency Response: Fire and rescue crews stand down.
07:25	Second Approach: GF123 touches down uneventfully after WHM team clears remaining birds.
07:30	Post-Strike Inspection: Maintenance inspects aircraft—minor damage to left engine cowling; no ingestion detected.
07:35	Data Logging: Incident logged; species, location, time, and strike details recorded.

Actions

Measures taken:

- **Ground Actions:**

- ✓ **Debrief:** WHM team and ATC review response; agree to increase patrol frequency during peak tide periods.

- **Adaptive Measures:**

- ✓ Scheduled additional patrols at high-risk times;
- ✓ plan Passive measures for long term results.

Key Issues & Analysis

Understand Bird Behaviour:

Mudflats adjacent to the runway attracted large gull flocks, especially at dawn. What causes this ?

Detection & Communication:

Rapid sharing of bird-radar data and ATC advisories enabled timely deterrent action and a safe go-around.

Adapt Effective Deterrents:

Propane gas cannons and distress calls dispersed most of the flock—but residual birds still posed a risk.

Aircraft Response:

The crew's prompt go-around prevented a potentially dangerous strike during landing.

Lessons Learned & Recommendations

01

Habitat Management:

Consider modify water levels on mudflats during early-morning high tides to reduce roosting /feeding by water birds.

02

Enhanced Patrols:

Increase perimeter sweeps to every 15 - 30 minutes during dawn and dusk (40 minutes after dawn and 40 mins before dusk).

03

Deterrent Variety:

Integrate multiple deterrent measures to prevent habituation. (No silver bullet , using one or two methods yields partial results only. Birds adapt)

04

Data-Driven Timing:

Use data (tidal and seasonal bird-activity and patterns) to re-schedule flights or impose temporary runway restrictions during peak risk windows.

Conclusion

- This incident underscores the importance of :
 - **Continuous monitoring,**
 - **Rapid communication,**
 - **Adaptive management** in mitigating wildlife strike risks.
- By integrating real-time data with proactive habitat controls and varied deterrents, airfields can significantly reduce both the frequency and severity of bird-strike events.

