



Australian Aviation Wildlife Hazard Group

WHO WE ARE

Formed in 2003

Recognised as Australia's national bird strike committee in 2010

Executive Committee:



Australian Government
Civil Aviation Safety Authority



Australian Government
Department of Infrastructure, Transport,
Regional Development and Communications

Executive Members:



Australian Government
Department of Defence



Australian Government
Australian Transport Safety Bureau





Australian Aviation Wildlife Hazard Group

WHAT WE DO

- Raise awareness
- Engage industry stakeholders
- Consult with government to develop effective policy
- Develop guidance material
- Disseminate information
- Guide future research and direction
- Facilitate forums
- Communicate with similar groups/committees

**RECOMMENDED
PRACTICE**

WILDLIFE RISK ASSESSMENT AND ANALYSIS

Release Date: October 2014
Document: AAWHG RP 1.3(0)

Disclaimer: *This Recommended Practice has been developed by the Australian Aviation Wildlife Hazard Group. All material contained in this document is provided for information only. The use of and or the taking of any action in reliance on this information, by any person or entity, is entirely at their own risk. Any outcome as a result of action or reliance on this information is the sole responsibility of the user and not of the Australian Aviation Wildlife Hazard Group.*

1. **Outline**
 - 1.1 This Recommended Practice (RP) aims to provide the aviation industry and supporting authorities with information on how to assess the risk that wildlife pose to operating aircraft.
 - 1.2 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 also from the industry.
 - 1.3 The practices outlined in this document should be considered representatives when:
 - Assessing the risk that wildlife pose to aircraft operations already do so; or
 - Modifying their existing wildlife risk assessment and approach to support a common industry approach.
 - 1.4 This document should be read in conjunction with:
 - RP 1.1 Wildlife Monitoring and identification (Reserved)
 - RP 1.3 Database Management (Reserved)

- 1 -
AAWHG RP 1.3(0)

05
AUGUST 2020

AAWHG
AUSTRALIAN AVIATION
WILDLIFE HAZARD GROUP

Plane wild




Photo: Jackson Ring and Ozzie, Supplied

IN THIS ISSUE

Ozzie's 'big backyard'
Wildlife hazard management at Brisbane Airport

Icon of Australian ornithology
The passing of Peter Slater in May 2020

Civil aviation agencies' Covid advice
India's CAA, and EASA, release circulars

AAWHG biennial conference 2021
Planning for 2021

New aerodrome rules now in effect
CASA releases guidance material to support the transition to the new Part 139

Ozzie's big backyard

Q: When is an animal on an airport not a wildlife hazard?

A: When it's Ozzie, Brisbane Airport's latest member of the airside operations team.

Ozzie, a two-year old German shepherd, began his career with the Queensland Police Service. However, according to his handler, wildlife and planning coordinator in Brisbane's airside operations team, Jackson Ring, he wasn't aggressive enough for a life fighting crime. On the other hand, his love of balls and hatred of birds, along with his social temperament, make him perfect for a life dispersing birds.

Jackson is working with ex-army dog trainer, Tom Brown, now the principal of The Stoic Dog and Origin K9, to hone Ozzie's skills. *Plane Wild* spoke to them about the benefits of using dogs for bird dispersal, and the training required to ensure such dogs work safely and efficiently. "The idea for the trial program," Ring says, "was the work overseas airports in the US, Canada and Europe, as well as South Africa, are doing





Australian Aviation Wildlife Hazard Group

POLICY INITIATIVES

Contributed to the National Airports Safeguarding Framework

Prepared by the Australian Aviation Wildlife Hazard Group

Guideline C
Attachment 1 to Wildlife Strike Guidelines


Land Use	Wildlife Attraction Risk	Actions for Existing Developments			Actions for Proposed Developments/ Changes to Existing Developments		
		3 km radius (Area A)	8 km radius (Area B)	13 km radius (Area C)	3 km radius (Area A)	8 km radius (Area B)	13 km radius (Area C)
Agriculture							
Turf farm	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Piggery	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Fruit tree farm	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Fish processing / packing plant	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Cattle /dairy farm	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Poultry farm	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Forestry	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Plant nursery	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Conservation							
Wildlife sanctuary / conservation area - wetland	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Wildlife sanctuary / conservation area - dryland	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Recreation							
Showground	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Racetrack / horse riding school	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Golf course	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Sports facility (tennis, bowls, etc)	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Park / Playground	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Picnic / camping ground	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Commercial							
Food processing plant	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Warehouse (food storage)	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Fast food / drive-in / outdoor restaurant	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Shopping centre	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Office building	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Hotel / motel	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Car park	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Cinemas	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Warehouse (non-food storage)	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Petrol station	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Utilities							
Food / organic waste facility	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Putrescible waste facility - landfill	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Putrescible waste facility - transfer station	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Non-putrescible waste facility - landfill	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Non-putrescible waste facility - transfer station	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Sewage / wastewater treatment facility	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Potable water treatment facility	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action



Australian Aviation Wildlife Hazard Group

POLICY INITIATIVES

Helped develop Advisory Circular 139-26(0):
Wildlife Hazard Management at Aerodromes



Australian Government
Civil Aviation Safety Authority

Advisory Circular

AC 139-26(0)

JULY 2011

**WILDLIFE HAZARD MANAGEMENT AT
AERODROMES**

CONTENTS	1. REFERENCES
1. References	1 This Advisory Circular (AC) should be read in conjunction with:
2. Purpose	1
3. Status of this Advisory Circular	1 <ul style="list-style-type: none"> • Civil Aviation Safety Regulations 1998 Part 139 – Aerodromes. • Manual of Standards (MOS) Part 139 – Aerodromes. • Transport Safety Investigation Regulations 2003 (TSIR).
4. Acronyms	2
5. Definitions	2
6. General	3
7. Wildlife hazard management at certified aerodromes	4
8. Wildlife hazard management at registered aerodromes	6
9. Wildlife hazard monitoring	6
10. Wildlife hazard treatment	8
11. Reporting requirements for certified and registered aerodromes	9
12. Further information	10
	2. PURPOSE
	6 The purpose of this AC is to provide general information and advice for the management of wildlife hazards at aerodromes.
	3. STATUS OF THIS ADVISORY CIRCULAR
	9 This is the first AC on the subject of wildlife hazard management at aerodromes.

Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material.

ACs should always be read in conjunction with the referenced regulations.

This AC has been approved for release by the Executive Manager Standards Development and Future Technology Division.

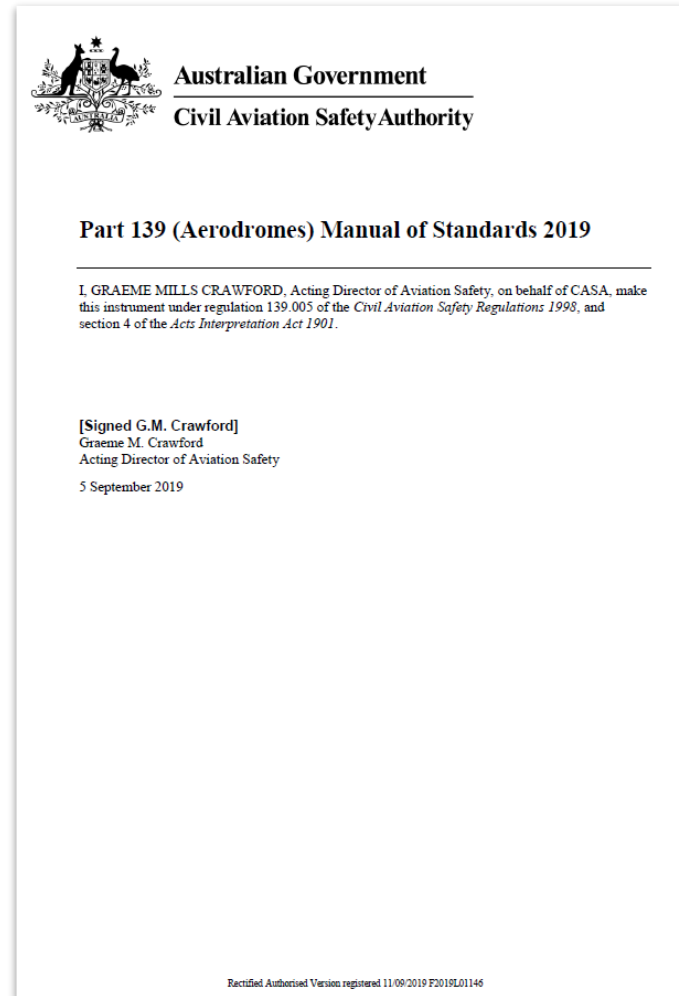
July 2011



Australian Aviation Wildlife Hazard Group

POLICY INITIATIVES

Contributed to the most recent MOS Part 139 update





Australian Aviation Wildlife Hazard Group

RESEARCH

Australian Government
Australian Transport Safety Bureau

ATSB RESEARCH AND ANALYSIS REPORT
Aviation Safety Research Grant – B2005/0117
Final

Forensic Identification of Aviation Bird Strikes in Australia

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Science and Collections Division, Australian Museum

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June 2006

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Insects and aviation safety: The case of the keyhole wasp *Pachodynerus nasidens* (Hymenoptera: Vespidae) in Australia

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Eradication
Pachodynerus nasidens

ABSTRACT

While birds and other vertebrates are well known hazards to aviation at airports, the threat posed by invertebrates is less well understood. Here we present an example of a serious risk to flight safety from the mud-nesting keyhole wasp (*Pachodynerus nasidens*) which views aircraft pilot probes as an attractive nesting opportunity at Brisbane Airport. Pilot probes measure airspeed, and obstructions can render measurements inaccurate, leading to serious and potentially catastrophic consequences. We undertook experiments over 39 months to determine rates of nesting in pilot probes and the associated risk of blocked probes. We also examined how this risk was reduced by covering probes. A low-risk analysis was completed to assess the safety, reputation, one-off financial loss, and injury and illness costs of a range of incidents of increasing severity, and climate modelling was used to show the potential spread of the keyhole wasp in Australia. The reduction in risk from covering 33% to 75% of all probes on arrival is substantial and made more significant when the costs of incidents are set against those of wasp management. The prospects for eradicating the keyhole wasp and the prospect of it spreading to other parts of Australia with suitable climatic conditions are discussed in view of the substantial risk the species presents.

1. Introduction

"They build very remarkable cells or nests of earth, finely tempered, and formed in layers of tiny mud-pats, like a swallow's nest. Many of these were placed in a small wooden outhouse, between the upright studs and the boarding of the wall; several were formed on a shelf in the porch, where some small pieces of wood lying heaped together offered convenient nooks; and one wasp, resolving to have a more costly lodgment than his friends, took possession of a meerschaum pipe-bowl which lay on the same shelf, and very snugly laid out his house in its interior."

(Meredith, 1849)

The risks to air travel posed by wildlife are well known. In Australia, aircraft-wildlife encounters increased steadily between 2008 and 2017, with 16,626 confirmed birdstrikes with a high of 1921 in 2017 (Australian Transport Safety Bureau, 2018) equating to 8.7 strikes per 10,000 aircraft movements. This rate is higher than that in other countries (e.g. UK 5.0 strikes/10,000 movements (Civil Aviation Authority, 2017); New Zealand 2.5 strikes/10,000 movements (Civil Aviation Authority of New Zealand, 2017); USA 1.7 strikes/10,000 movements (Federal Aviation Authority, 2019); Canada 4.0 strikes/10,000 movements (Transport Canada, 2017), but similar to those in climatically equivalent regions (e.g. Brazil, mean of three airports 6.6 strikes/10,000 movements (Mendonça et al., 2010)). Costs of wildlife strikes are very substantial globally – up to US\$2 billion annually 2009 (Weller, 2014), and an annual cost of US\$72 million to civil aviation in Australia (McKee and Shaw, 2016). Costs are not confined to equipment repair or replacement: significant expense may be incurred through delays in services, damage to reputation, loss of life and property, financial penalties and complex lawsuits (Dale, 2009).

While birdstrikes, and strikes of other wildlife such as bats and ground-dwelling animals, make headlines (e.g. US 1549; Marrs et al., 2009; AWACS Boeing 707, Flight Safety Foundation, 1996), threats to flight safety from insects are less well understood. Our interest in the relationships between insects and aircraft is limited to what they can tell us about the mechanics of flight (e.g. Takahashi et al., 2018), how aircraft can aid in insect detection for pest control or other purposes (e.g. Amendt et al., 2017; Stone and Mohammed, 2017) and dissection to manage insects potentially carrying disease (Rayman, 2006; Mier-y-Teran-Romero et al., 2017). For wildlife management at airports, insects are generally seen as an attractant for birds that might pose a risk to flight safety (Cleary and Dolbeer, 2005; Hauptfleisch and Dalton, 2015), rather than a risk in their

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E-mail address: alan.house@ecoloz.com.au (A.P.N. House).

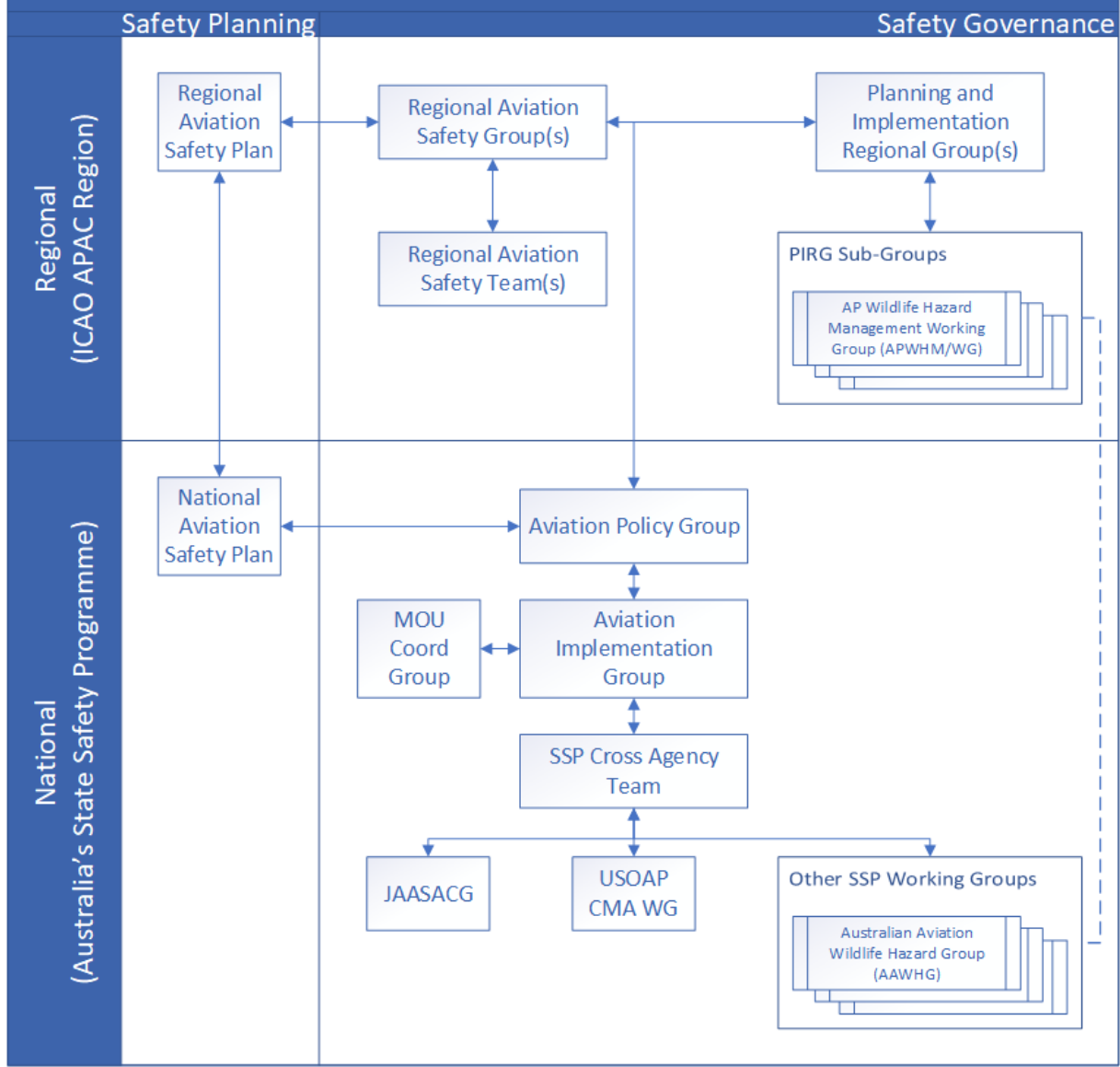
Bird Risk Assessment Model for Airports and Aerodromes

David C. Paton
University of Adelaide

Revision 3
March 2010



State Safety Programme – Regional Structure





Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

Australian Transport Safety Bureau (ATSB) overview

Australian reporting requirements (*Transport Safety Investigation Act 2003*) (TSI Act)

Australian wildlife strike data



Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

ATSB:

- Independent Commonwealth Government statutory agency
- Governed by a Commission separate from transport regulators, policy makers, and service providers
- Established by the TSI Act and conducts investigations according to the Act's provisions



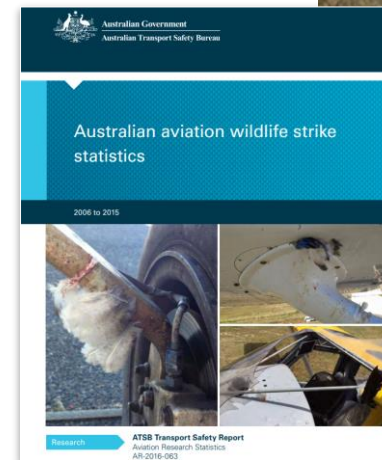


Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

ATSB purpose:

- To improve the safety of, and public confidence in, Australian transport (aviation, rail, marine) through:
 - The independent investigation of transport accidents and other safety occurrences
 - Safety data recording, analysis and research
 - Fostering safety awareness, knowledge and action.






Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

Australian occurrence reporting requirements:

- Definitions in the TSI Regulations:
 - Immediately reportable matters
 - Routinely reportable matters
 - Wildlife strikes.


Transport Safety Investigation Act 2003
No. 18, 2003


Compilation No. 9

Compilation date: 10 March 2016
Includes amendments up to: Act No. 4, 2016
Registered: 9 June 2016

Prepared by the Office of Parliamentary Counsel, Canberra

Authorised Version: C2016C00617 registered 09/06/2016




Transport Safety Investigation Regulations 2003
Statutory Rules No. 158, 2003
made under the
Transport Safety Investigation Act 2003

Compilation No. 7

Compilation date: 13 August 2020
Includes amendments up to: F2020L00913
Registered: 1 September 2020

Prepared by the Office of Parliamentary Counsel, Canberra

Authorised Version: F2020C00779 registered 01/09/2020



Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

Australian occurrence reporting requirements:

- Who is required to report:
 - Any crew member of the aircraft involved in the occurrence
 - The owner or operator of the aircraft
 - Any person providing an Air Traffic Service
 - Any person performing a dedicated aerodrome fire or rescue service
 - Aircraft maintenance engineers or anyone doing work in relation to the aircraft
 - Any person operating as a ground handler in relation to the aircraft
 - A staff member of the Civil Aviation Safety Authority
 - An aerodrome operator.



Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

How to report to the ATSB:

- ATSB on-line report
- Email
- Phone (generally for IRMs)
- APIs (AsA, High Capacity RPT, Defence)
 - Bird strikes xml schema
- Mail
- Fax



Notify the ATSB via secure online form
Click here

www.atsbasir.gov.au



1800 011 034

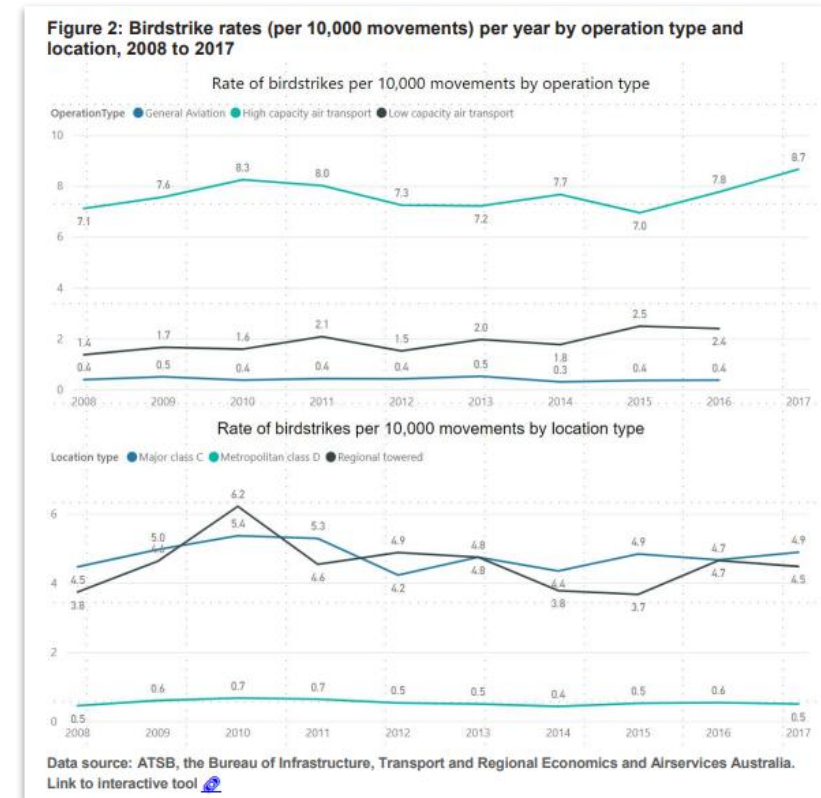


Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

Australian wildlife strikes:

- 8,000 – 10,000 occurrences per year (pre-COVID)
- ~1,700 wildlife strikes reported per year
- 99.8% incidents and events:
 - ~0.03% serious incidents,
 - 0.1% accidents
- No fatalities in civil aviation (~0.05% minor injuries).





Operational Practices

REPORTING & RECORDING DATA ON WILDLIFE STRIKES

Aviation occurrence data:

- ATSB National Aviation Occurrence Database

Wildlife strike data:


- Monthly summaries sent to aerodromes
- Wildlife strike report
- Wildlife strike database (16,626 rows, 37 columns).

 Australian Government Australian Transport Safety Bureau												
Date range: From 01/07/2020 to 14/09/2020 Location: All Occurrence Type: Birdstrike, Wildlife - Other Aircraft and Airspace: All Highest Injury Level: All												
Date	ATSB Reference Number	Category	ATSB Investigation	Location	State	Aircraft Manufacturer	Model	Operation Type	Operation Sub Type	Airspace Type	Airspace Class	Summary
1/07/2020	202003301	Incident		Dubbo Aerodrome	NSW	Piper Aircraft Corp	PA-31	Aerial Work	EMS	CTAF	G	During landing, the aircraft st
2/07/2020	202003326	Incident		Port Macquarie Aerodrome	NSW	Diamond Aircraft Industries	DA 40 NG	Flying Training	Training Dual	CTAF	G	During landing, the aircraft st
3/07/2020	202003334	Incident		Bathurst Island (VFR)	NT	Cessna Aircraft Company	208	Charter	Passenger	CTAF	G	During landing, the aircraft st
4/07/2020	202003364	Incident		Newman Aerodrome	WA	Fokker Aircraft B.V.	F28	Air Transport High Capacity	Passenger	CTAF	G	During landing, the aircraft st
7/07/2020	202003400	Incident		Mackay Aerodrome, 173A ^M 28Km	QLD	Bell Helicopter Co	412	Aerial Work	EMS	OCTA	G	During cruise, the helicopter s
7/07/2020	202003405	Incident		Bunbury Aerodrome	WA			Unknown	Unknown	CTAF	G	During a routine runway inspe
7/07/2020	202003407	Incident		King Island Aerodrome	TAS	Piper Aircraft Corp	PA-31	Charter	Passenger	CTAF	G	During take-off, the aircraft st
7/07/2020	202003420	Incident		Browse Island (ALA), 271A ^T 44Km (Offshore Rig - Maersk Deliverer)	WA	Sikorsky Aircraft	S-92	Charter	Passenger	OCTA	G	During take-off, the aircraft st
2/07/2020	202003428	Incident		Edinburgh Aerodrome	SA	The Boeing Company	P-8A Poseidon	Military	Other	CTR	C	During landing, the aircraft st
6/07/2020	202003439	Incident		Charleville Aerodrome	QLD	S.A.A.B. Aircraft Co	340	Air Transport Low Capacity	Passenger	CTAF	G	During take-off, the aircraft st
9/07/2020	202003463	Incident		Richmond (NSW) Aerodrome	NSW	Unknown	Unknown	Military	Other	PRD	PRD	During the post-flight inspecti when the strike occurred.
9/07/2020	202003466	Incident		Cairns Aerodrome	QLD	The Boeing Company	737	Air Transport High Capacity	Passenger	CTR	C	During landing, the aircraft st
11/07/2020	202003478	Incident		Sydney Aerodrome	NSW	Bombardier Inc	DHC-8	Air Transport High Capacity	Passenger	CTR	C	During the pre-flight inspectio when the strike occurred.
11/07/2020	202003485	Incident		Sydney Aerodrome	NSW	The Boeing Company	737	Air Transport High Capacity	Passenger	CTR	C	During landing, the aircraft st
13/07/2020	202003497	Incident		Perth Aerodrome	WA	Fokker Aircraft B.V.	F28	Air Transport High Capacity	Passenger	CTR	C	During landing, the aircraft st
13/07/2020	202003509	Incident		Brisbane Aerodrome	QLD	The Boeing Company	737	Air Transport High Capacity	Passenger	CTR	C	During landing, the aircraft st



Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES

 **Australian Government**
Civil Aviation Safety Authority

Part 139 (Aerodromes) Manual of Standards 2019

I. GRAEME MILLS CRAWFORD, Acting Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 139.005 of the *Civil Aviation Safety Regulations 1998*, and section 4 of the *Acts Interpretation Act 1901*.

[Signed G.M. Crawford]
Graeme M. Crawford
Acting Director of Aviation Safety
5 September 2019

Rectified Authorised Version registered 11/09/2019 F2019L01146

Include wildlife hazards as part of Serviceability Inspections

Monitor wildlife on and off-airport

Risk assessment (using strike or monitoring data)

Various provisions for plan inclusions

Communicate hazards (AIP, NOTAM, CTAF)

Manage and control wildlife hazards on-airport

Training



Operational Practices

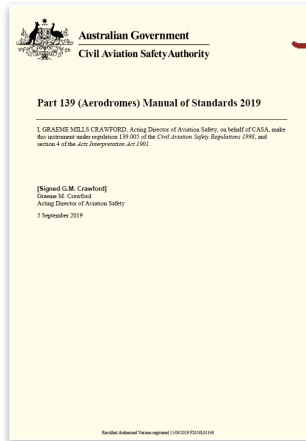
WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG





Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



Include wildlife hazards as part of Serviceability Inspections

Bird/Animal Hazard

Bird/Animal Hazard - Comments

WILDLIFE ACCESS aerodrome fence Serviceable Yes No

Bird ponding and drainage attractant Yes No

Bird ponding and drainage attractant Details

Obstacles

Work in Progress

NOTAM

Signage

Security Fence/Barriers Yes No

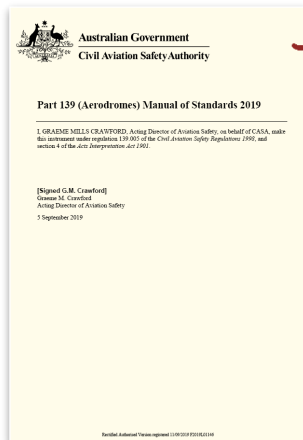
Other

Time Completed *



Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMME



Monitor wildlife on and off-airport



7.1.2 Bird Counts

Bird counts are conducted three times a day every Sunday. Count periods are dawn, midday and dusk. The aerodrome is divided into eight Bird Count Areas. At the observations points of each count area the ARO vehicle is stopped and the entire sector is scanned using binoculars.

- Area 1 – Centre RWY NSW
- Area 2 – RWY Nth end QLD
- Area 3 – RWY south end NSW
- Area 4 – TWY Golf/TWY Delta
- Area 5 – TWY Delta centre line – eastern side of terminal NSW
- Area 6 – Centre line RWY or VOR road western side NSW
- Area 7 – Western side NSW
- Area 8 – Eastern side QLD.

All data is to be recorded using the iPad Bird Count Blink Form or alternatively the *Bird Count Form OPS 12a*. Information recorded includes:

- Date
- Start time of count
- Name of observer (inspecting officer)
- Weather conditions (in ATIS format)
- Species and number observed
- Habitat of the birds observed
- The activity of the birds observed e.g. chasing, feeding, perching, sheltering, thermalling, or transiting
- Area recorded (including birds transiting the airfield)
- Special notes such as mowing or ponded water that may create additional attractants
- Finish time of count.

If increased activity is observed issue a NOTAM if required, or request ATC to include on ATIS.

7.1.3 Flying Fox Monitoring Procedure

Flying fox movements are seasonal with a high activity period from February to May. Daily flying fox surveys are to be conducted during this period with weekly surveys conducted outside of this period. If an increase in flying fox activity is observed, additional surveys may be implemented at the discretion of the Airside Operations Supervisor.

The observer is to be located by default at the Southern Perimeter Road adjacent Charlie South for the survey. A position at the north-west perimeter road adjacent gate 14 may be required dependant on flying fox trends to be advised by Avisure.

The observer is to start 25 minutes prior to last light. In overcast/low ambient light conditions flying foxes may depart camps earlier than normal, therefore the timing of monitoring is adjusted accordingly. Observations are to continue until after dusk and no flying foxes have been observed for a minimum of five minutes.

It is recommended that monitoring tools such as binoculars and thermal imaging scope be applied to assist in the detection of flying fox movements during low light conditions.

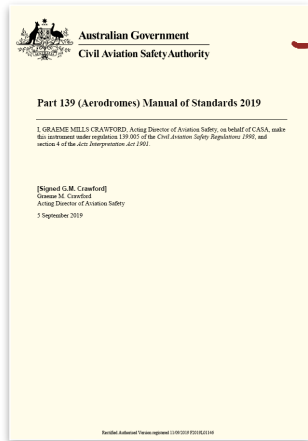
The observer is to record all data using the iPad Flying Fox Count blink form or alternatively **Flying Fox Count Form OPS 12b**. The observer needs to note the following information:

- Date
- Start time of count
- All flying foxes observed |



Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



Monitor wildlife on and off-airport



Figure 16: Morning wildlife survey density, showing average mass recorded, YBCG, 2019/20
 Gold Coast Airport Pty Ltd
 Bird and Wildlife Management Program 2019-20

□ Airport boundary
→ Mass in air (kg)
→ Moderate (0.415 to 0.696)
→ Mass recorded onground (kg)

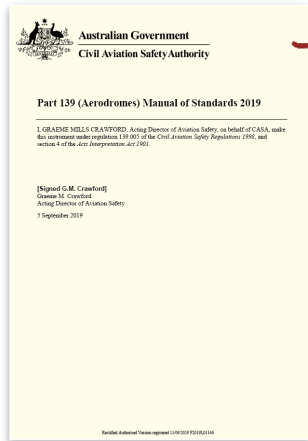
→ Very low (< 0.140)
→ High (0.697 to 1.407)
→ Very high (>1.407)

→ Low (0.140 to 0.414)
→ Very high (>1.407)
→ Very low (<0.140)

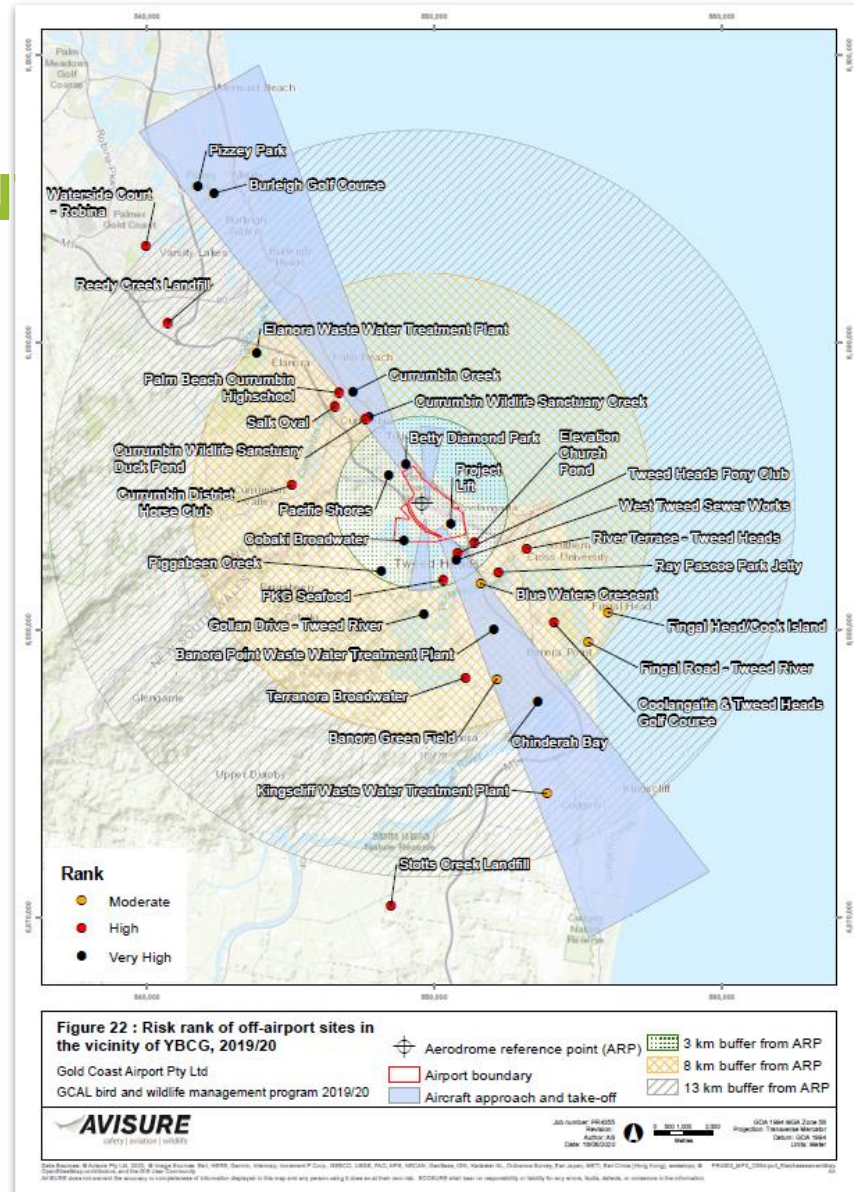


Operational Practices

WILDLIFE HAZARD MANAGEMENT



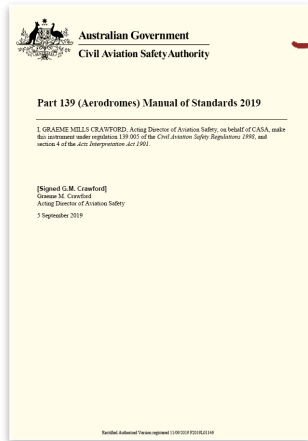
Monitor wildlife on and off-airport





Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



Monitor wildlife on and off-airport

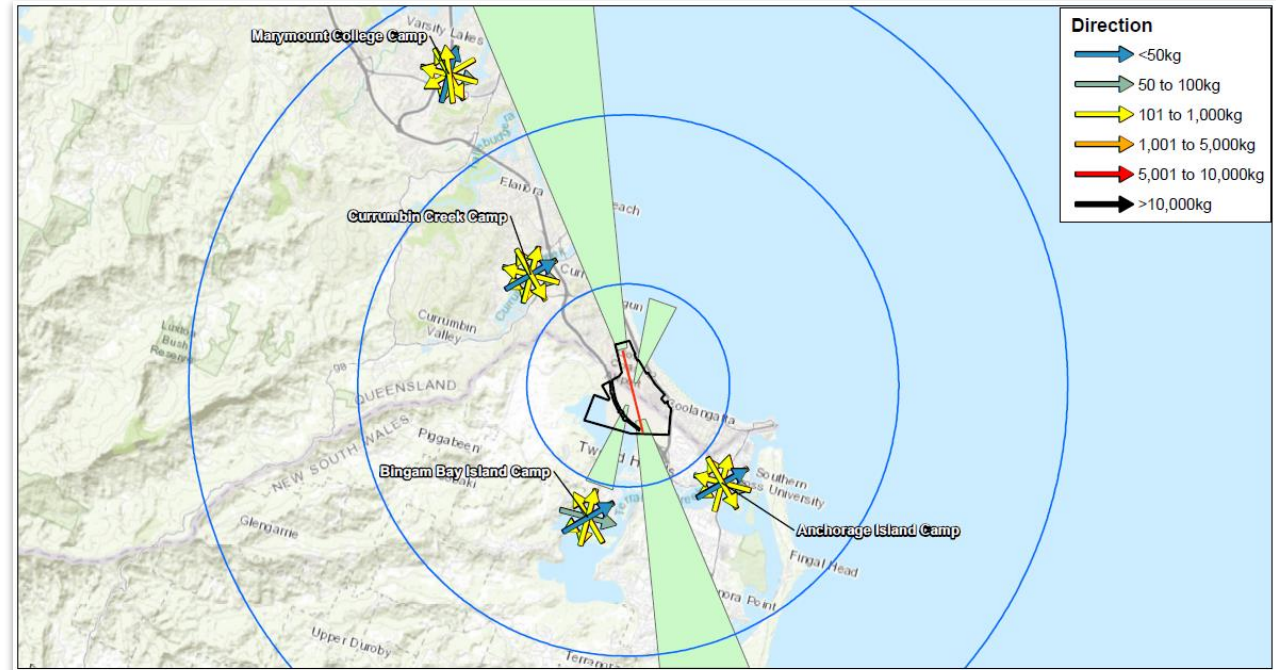


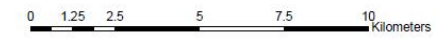
Figure 26: Flying-fox average airspace biomass (kg) and direction indicator, YBCG, 2019/20.

Gold Coast Airport Pty Ltd
Wildlife Hazard Management Program 2019/20

- Flying-fox Camps
- Airport Boundary
- 3, 8 & 13km Buffers
- Approach/Departure Paths
- Runway Centreline



Job number: PRA365
Revision: 6
Author: AJP
Date: 22/06/2020



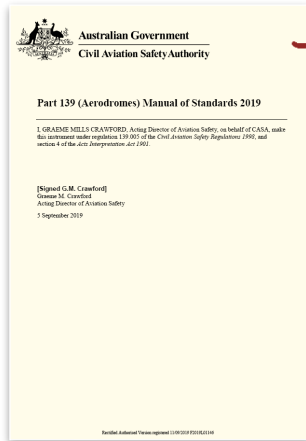
GDA 1994 MGA Zone 55
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: AVISURE Pty Ltd, 2020; Image Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeBCo, IGN, Katadaer NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, © OpenStreetMap contributors, and the GIS User Community
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Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



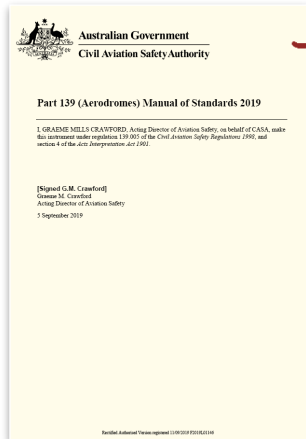
→ Risk assessment (using strike or monitoring data)

Risk	Species	Survey Risk		Strike Risk
		Diurnal	Nocturnal	
High	Masked Lapwing	High	Low	Low
High	Unidentified Flying-fox	High	-	Low
High	Red Fox	High	-	-
High	Grey-headed Flying-fox	High	-	-
High	Unidentified Bird	High	-	-
High	Black Flying-fox	High	-	-
High	Black Kite	High	-	-
High	Little Red Flying-fox	High	-	-
High	Little Corella	High	High	-
High	Pacific Black Duck	Moderate	Moderate	Moderate
Moderate	Purple Swamphen	Moderate	Moderate	Low
Moderate	Wood Duck	Moderate	Very Low	Low
Moderate	Torresian Crow	Moderate	Moderate	-
Moderate	Silver Gull	Moderate	Low	-
Moderate	Little Pied Cormorant	Moderate	Moderate	-
Moderate	Tree Martin	Moderate	Moderate	-
Moderate	White-throated Needletail	Moderate	Moderate	-
Moderate	Rainbow Lorikeet	Moderate	Moderate	-
Moderate	Pacific Golden Plover	Moderate	-	-
Moderate	Eastern Barn Owl	Moderate	-	-
Moderate	Australian White Ibis	Moderate	Moderate	-
Moderate	Yellow-tailed Black-Cockatoo	Moderate	Moderate	-
Moderate	Little Black Cormorant	Moderate	Moderate	-
Moderate	Unidentified Duck	Moderate	-	Moderate



Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



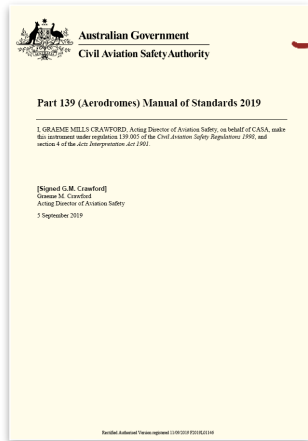
Prepare a Wildlife Management Plan



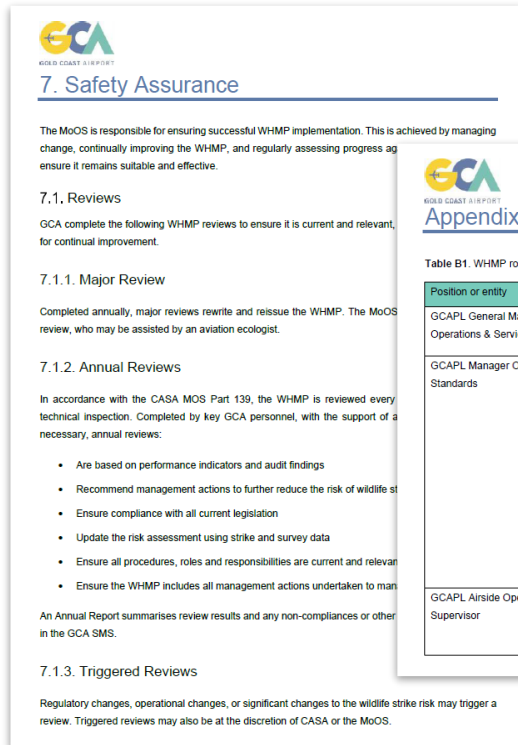


Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



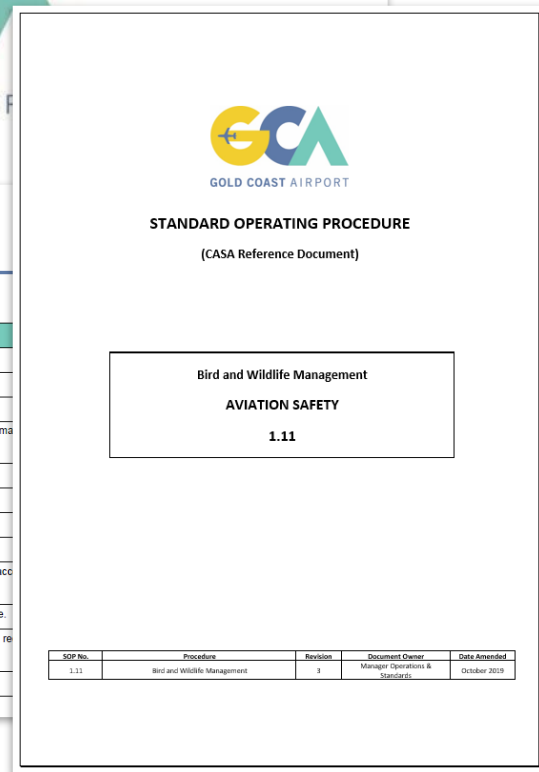
Wildlife Management Plan provisions



Appendix B: Roles and Responsibilities

Table B1. WHMP roles and responsibilities, GCA.

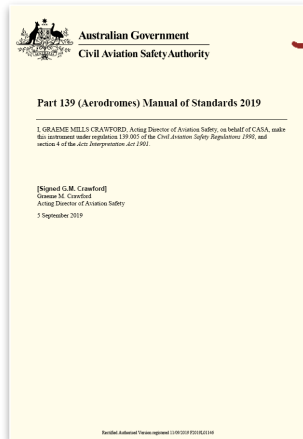
Position or entity	Responsibilities
GCAPL General Manager Operations & Service Delivery	Endorse the final version of the WHMP. Ensure the resources for implementing the WHMP are provided.
GCAPL Manager Operations & Standards	Oversee the implementation and review of the WHMP. Ensure that GCA AROs are trained and competent in the functions required for wildlife hazard management, bird and animal identification, bird harassment and reporting techniques. Ensure the WHMP and procedures are issued to relevant staff and applied where necessary. Facilitate an external review of the wildlife hazard at GCA every five years. Ensure the relevant section of the WHMP is reflected in the AOM. Conduct a significant strike investigation for strikes that meet criteria. Ensure all drains in the ILS Glidepath and Localiser sites have exclusion devices that prevent access to the runway. Liaise with ATSB to update bird strike records with consistent species confirmed and strike time.
GCAPL Airside Operations Supervisor	Ensure AROs adhere to responsibilities listed in the WHMP, monitoring, inspecting, assessing, reporting and recording wildlife hazards. Update and apply data collected as part of the WHMP to assess trends and hazards.





Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



Communicate hazards (AIP, NOTAM, CTAF)

GG YBCGMAIL
 132359 YBBBZEZX
 C0234/19 NOTAMN
 Q) YBBB/QFAHX/IV/NBO/A/000/999/2810S15330E005
 A) YBCG
 B) 1905140700 C) 1905210830
 D) DAILY 0700/0830
 E) INCREASED ANIMAL HAZARD (FLYING FOX)
 UP TO 300 ANIMALS TRANSITING RWY 32 THR WEST TO EAST/SOUTH EAST AT
 APRX 50-70FT AGL
 AD REPORTING OFFICER MNT DAILY. CTC ATC FOR CURRENT STATUS.
 CTC AD REPORTING OFFICER TEL: 0407 755 722

AIP Australia	13 AUG 2020	FAC YBCG - 5
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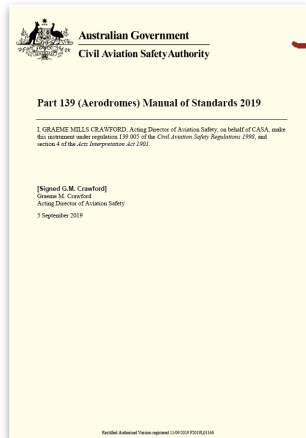
ADDITIONAL INFORMATION

1. Bird Hazard exists. Increased numbers of the following species are expected during the specified times:
 - a. MAR to MAY - increased flying-fox numbers present after dark, peak activity around dusk.
 - b. JUL to MAR - flocks of small birds feeding in air above runway and short final including fairy martin, welcome swallow, tree martin and white-throated needletail.
 - c. FEB to JUN - black kite may be present. Activity focuses foraging above runway between 1000-1500 Local with increased temperatures.
 - d. APR to OCT - increased masked lapwing activity. Activity focuses NE and SE corners of airfield day or night.
 - e. Increased bird activity during and post rainfall and adverse weather events including Australian white ibis, straw-necked ibis and silver gulls.
 - f. Species specific NOTAM will be issued during periods of increased activity.



Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMME



Manage and control wildlife hazards on-airport



DUCKS and GEESE

Pacific Black Duck
Anas superciliosa

MODERATE RISK

HAZARD DESCRIPTION
Drains, water retention areas, access to food, and lack of predators, make airports particularly attractive to Pacific Black Ducks. Their relatively large body size, coupled with their tendency to form small groups, create a serious strike risk when left unmanaged. Short grassed areas adjacent water bodies provide safe loafing areas with easy access to water when disturbed. Densely vegetated waterbodies provide an additional refuge.

HAZARD MANAGEMENT

Active Management:

- Monitor flight strips for individuals, report hazard to aircraft operators.
- Do not allow individuals to settle, apply permanent dispersal and disperse during early morning periods to prevent them settling for the day.
- Apply lethal control in circumstances where individuals are presenting a serious and immediate strike risk.

Passive Management:

- Remove, or restrict access to, permanent or semi-permanent water sources on-airport (e.g. retention ponds, drains etc.).
- Locate and fill low-lying areas on the airfield that temporarily accumulate water after rainfall.
- Regularly remove grass seed heads.
- Where possible, schedule flight operations to avoid peak activity.

Additional Responses:

- Issue a WHN or NOTAM if the hazard is likely to remain high for a definable period.
- Where regular monitoring identifies a defined or seasonal trend, update the ERGA to include hazard details, time of hazard, location, expected duration, and general hazard avoidance advice for pilots.

7.2 Bird and Wildlife Dispersal

Control activities are based on a priority rating with a concentric approach from the runway (i.e. birds closest to the runway are the immediate priority for dispersal. Control and those furthest away are a lesser priority).

When engaging in dispersal there are some important guidelines to be followed:

- Dispersal needs to be most intense at the end of the breeding season to discourage young wildlife from foraging at the airport.
- Young are easily deterred from airports providing they recognise the airport as an unattractive and threatening environment (note that different species breed at different times of the year).
- Do not allow settling wildlife to feed in order to discourage regular visitation. It is easier and more effective to harass newcomers to the airport than birds that have established their territory on-site. Concentrate dispersal activities for most species in the early morning and mid/late afternoon, prior to peak feeding periods. Early morning harassment discourages visitors settling in for the day.

It may be necessary to continuously patrol and disperse during periods where aircraft movements are scheduled closely together.

Where wildlife identify a particular vehicle as a risk and move to a different airside location, consider undertaking dispersal in a different type of vehicle (e.g. tractor).

As much as possible concentrate dispersal effort on removing wildlife from critical areas. Farms are provided to ARO's for the purpose of harassing, dispersal and where necessary, culling. Under no circumstances will they be used for any other purpose.

Only 14 ILS critical areas, identified with white and red ILS exclusion markers, are to be kept clear at all times by all vehicles and equipment, including dispersal equipment such as gas cannons.

Approval is required prior to performing wildlife hazard management in the RWY 14 ILS critical areas.

On dispersal shift handover AROs must review log book entries and perform vehicle and equipment serviceability checklists.

New staff are to take a ride along with an ARO to familiarise with common species and their behaviours, and observe dispersal and firearms procedures.

Staff to evaluate staff on bird identification skills and dispersal and firearms procedures through competency checks.

Dispersal procedures are implemented when the ARO, ATC and/or aircrew observe and presence of birds and other wildlife airside. The ARO is to assess the situation and decide the most and most effective method of use.

When dispersal of wildlife has been identified, the ARO is to:

- Identify the wildlife requiring dispersal
- Communicate the location of the hazard to ATIS
- Issue a WHN or NOTAM if the hazard is likely to remain high for a definable period.
- Where regular monitoring identifies a defined or seasonal trend, update the ERGA to include hazard details, time of hazard, location, expected duration, and general hazard avoidance advice for pilots.

When dispersal of wildlife has been identified, the ARO is to:

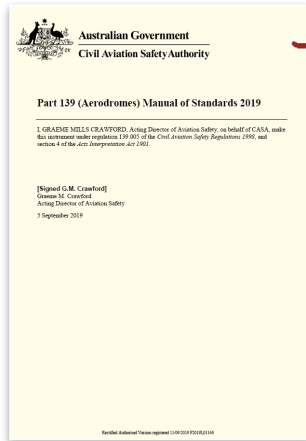
- Determine the effectiveness of dispersal
- Continue until the hazard is successfully removed.

If a serious hazard remains refer to section 7.3 Bird and Wildlife Culling below.



Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES: YBCG



→ Training





Operational Practices

WILDLIFE HAZARD MANAGEMENT PROGRAMMES

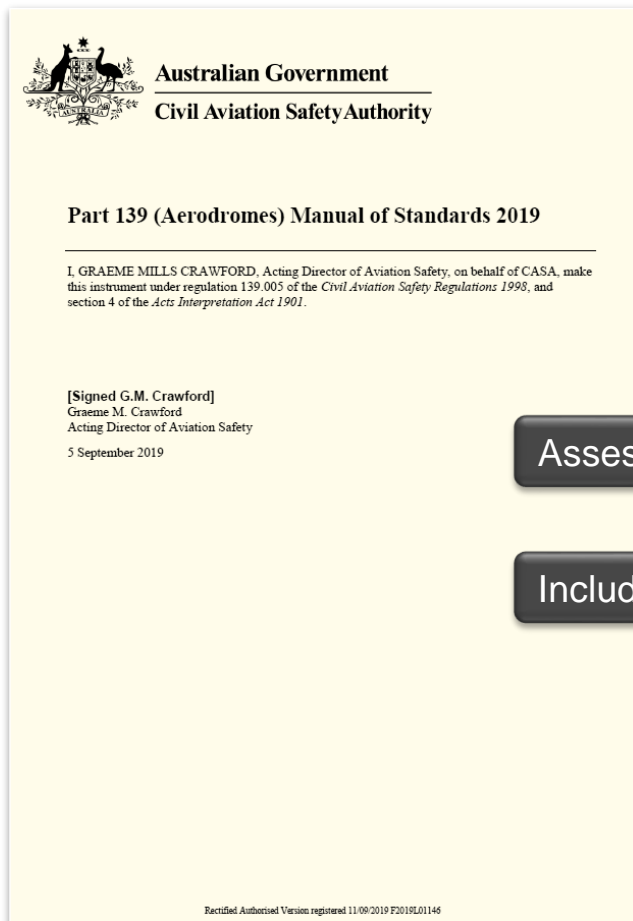
Programme audits and evaluations:

- Checks compliance
- Identifies gaps
- Detects any emerging risks
- Assesses progress against goals, targets, KPIs, objectives



Operational Practices

WILDLIFE SAFETY RISK ASSESSMENT



Assess the risk using strike or count data

Include a risk assessment procedure in the Wildlife Management Plan




Operational Practices

WILDLIFE SAFETY RISK ASSESSMENT

AAWHG Recommended Practice:

- Why assess the risk
- Regulatory obligations
- Who should assess the risk
- How to assess the risk
- How to analyse the risk

**RECOMMENDED
PRACTICE**

WILDLIFE RISK ASSESSMENT AND ANALYSIS

Release Date: October 2014

Document: AAWHG RP 1.3(0)

Disclaimer: *This Recommended Practice has been developed by the Australian Aviation Wildlife Hazard Group.*

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Any outcome as a result of action or reliance on this information is the sole responsibility of the user and not of the Australian Aviation Wildlife Hazard Group.

1. Outline

1.1 This Recommended Practice (RP) aims to provide the aviation industry and supporting authorities with information on how to assess the risk that wildlife pose to operating aircraft.


1.2 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 also from international sources.

1.3 The practices outlined in this document should be considered by industry representatives when:

- Assessing the risk that wildlife pose to aircraft operations if they do not already do so; or
- Modifying their existing wildlife risk assessment and analysis process to support a common industry approach.

1.4 This document should be read in conjunction with:

- RP 1.1 Wildlife Monitoring and identification (Reserved)
- RP 1.3 Database Management (Reserved)

 - 1 - AAWHG RP 1.3(0) October 2014



Operational Practices

WILDLIFE SAFETY RISK ASSESSMENT

What makes a good risk assessment?

Use good data

Consider likelihood and
consequence factors

Use the same method

Done by someone that
knows about aviation
wildlife hazards

Done regularly

Establish a risk profile



Operational Practices

WILDLIFE SAFETY RISK ASSESSMENT

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Operational Practices

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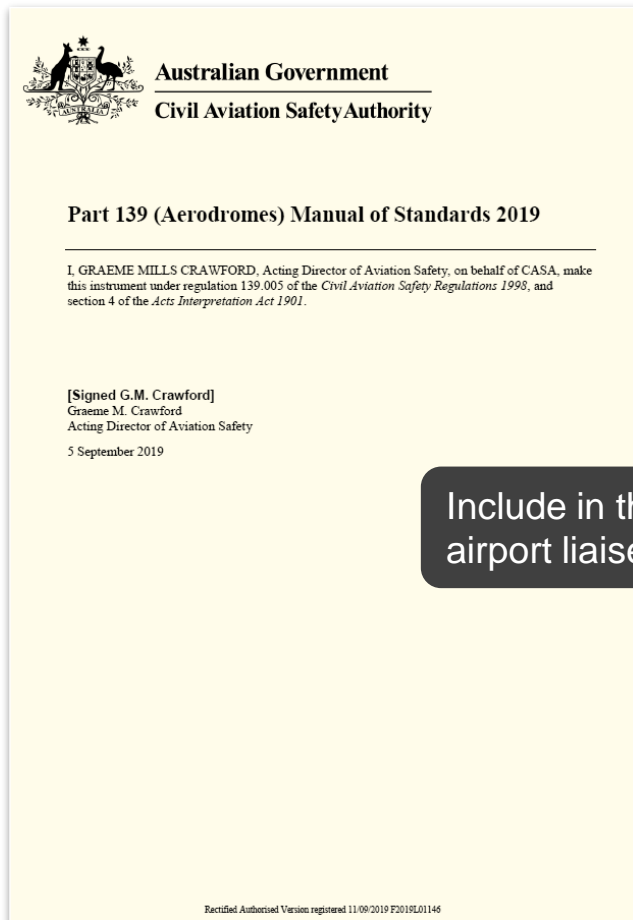
Done regularly

Establish a risk profile



Operational Practices

STAKEHOLDER COORDINATION



Include in the Wildlife Management Plan how the airport liaises with local planning authorities



Operational Practices

STAKEHOLDER COORDINATION

National Airports Safeguarding Framework

Prepared by the Australian Aviation Wildlife Hazard Group

Guideline C
Attachment 1 to Wildlife Strike Guidelines

Land Use	Wildlife Attraction Risk	Actions for Existing Developments			Actions for Proposed Developments/ Changes to Existing Developments		
		3 km radius (Area A)	8 km radius (Area B)	13 km radius (Area C)	3 km radius (Area A)	8 km radius (Area B)	13 km radius (Area C)
Agriculture							
Turf farm	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Piggery	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Fruit tree farm	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Fish processing /packing plant	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Cattle /dairy farm	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Poultry farm	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Forestry	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Plant nursery	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Conservation							
Wildlife sanctuary / conservation area - wetland	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Wildlife sanctuary / conservation area - dryland	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Recreation							
Showground	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Racetrack / horse riding school	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Golf course	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Sports facility (tennis, bowls, etc)	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Park / Playground	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Picnic / camping ground	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Commercial							
Food processing plant	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Warehouse (food storage)	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Fast food / drive-in / outdoor restaurant	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Shopping centre	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action
Office building	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Hotel / motel	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Car park	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Cinemas	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Warehouse (non-food storage)	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Petrol station	Very Low	Monitor	No Action	No Action	Monitor	No Action	No Action
Utilities							
Food / organic waste facility	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Putrescible waste facility - landfill	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Putrescible waste facility - transfer station	High	Mitigate	Mitigate	Monitor	Incompatible	Mitigate	Monitor
Non-putrescible waste facility - landfill	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Non-putrescible waste facility - transfer station	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Sewage / wastewater treatment facility	Moderate	Mitigate	Monitor	Monitor	Mitigate	Mitigate	Monitor
Potable water treatment facility	Low	Monitor	Monitor	No Action	Monitor	Monitor	No Action

Managing on-airport wildlife strike risk

19. All certified airports (airports certified under Part 139 of the Civil Aviation Safety Regulations 1998 – CASR Part 139) are required to document procedures for wildlife hazard management in their aerodrome manual. Certified airports with a confirmed wildlife hazard are also required to have a wildlife hazard management plan (WHMP). The role foreshadowed for aerodrome operators in these guidelines should form part of future WHMPs and be incorporated in revisions of existing WHMPs.

Managing off-airport wildlife strike risk -general

20. There are many existing locations where there would be advantages in mitigating existing risk. It is also essential that new land uses and changes to land zoning within 13 km of the airport property are regularly monitored and action plans created to mitigate any unacceptable increase in the risk of bird strike. For example, the ICAO document 'Airport Services Manual- Bird Control and Reduction' suggests that dumps should be not be sited within 13km of airport property.

Managing off-airport wildlife strike risk – the role of airport operators and council/land use planning authorities

21. Airport operators should work with local councils (or the relevant land-use planning authority) to establish mechanisms that will identify land uses and prevent the creation of land uses that would cause hazardous wildlife attraction or activity at or across the airport and/or its approaches and departures. This can be accomplished through the following:

- airport operators and land use planning authorities should use the guidance at Attachment 1 as the criteria for deciding on appropriate action in relation to a particular existing or proposed development within a 13 km radius of an aerodrome. Airport operators should conduct ongoing and regular consultation with planning authorities on land uses of concern;
- airport operators should conduct ongoing consultation with bodies such as national /state wildlife and parks management and wetlands management agencies on land uses of concern;
- land use planning authorities should ensure that airport operators are given adequate opportunity to formally comment on planning applications for new or revised land uses that fall within the guidance provided in **Attachment 1**. Airport operators will be expected to respond with comments on how the proposed changes to land use might increase the risk of wildlife strike and on any regulatory actions that could increase the risk of wildlife strike, such as permits related to land uses of concern;
- airport operators should conduct regular outreach/education activities to sensitise relevant stakeholders and the surrounding community to bird strike hazards and land uses that may increase these hazards;



Operational Practices

STAKEHOLDER COORDINATION





Operational Practices

STAKEHOLDER COORDINATION

Often in the form of a Wildlife Management Committee that:

- Is chaired and administrated by the airport
- Comprised of relevant stakeholders
- Meets regularly (monthly, quarterly, annually)
- Defines roles and responsibilities
- Delegates actions and accountabilities.



Operational Practices

STAKEHOLDER COORDINATION

- For smaller airports, committees may be too onerous
- Direct consultation with land use planning authorities on a development-by-development basis
- Airport-Land user agreements (e.g. MOU)
- Triggers for airport consultation for certain land use types
- Triggers for airport consultation for land use within 13km of the airport
- Requires clear communication and transparency.



Operational Practices

STAKEHOLDER COORDINATION

Example: Western Sydney Airport and the Western Sydney Planning Partnership



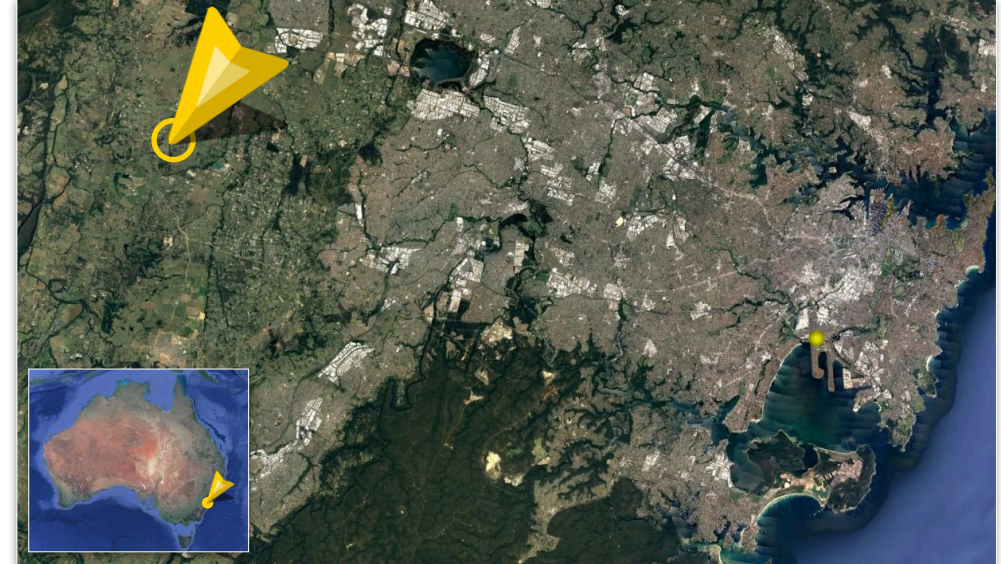


Operational Practices

STAKEHOLDER COORDINATION

Western Sydney Airport:

- New international airport ~40km from Sydney Airport
- First runway operating in 2026
- Second runway operating in 2050
- Projected annual aircraft movements:
 - 56,000 (2030)
 - 339,900 (2063)
- Monitoring and assessing wildlife risks since 2018





Operational Practices

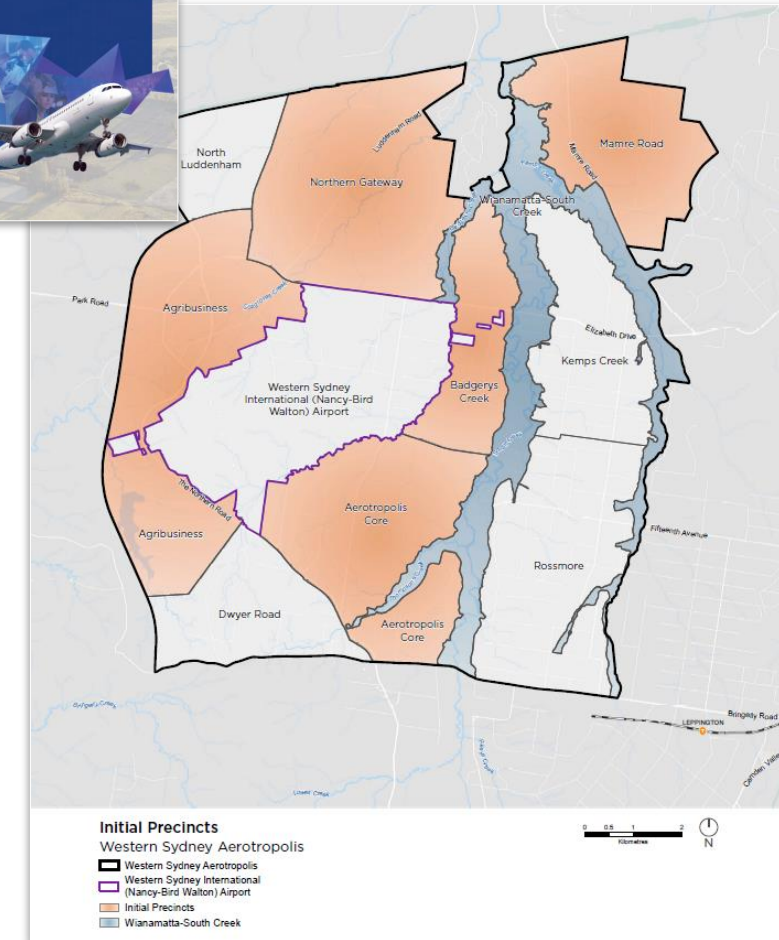
STAKEHOLDER COORDINATION

Western Sydney Planning Partnership:

- Initiative of the NSW Government to help deliver the vision of the Western Sydney Aerotropolis

Western Sydney Aerotropolis:

- 11,200ha site centered around the airport
- Ten precincts (agribusiness, enterprise, environment, recreation)
- Planning principles based on productivity, sustainability, livability, infrastructure and collaboration
- Airport safeguarding considerations (including wildlife strikes)



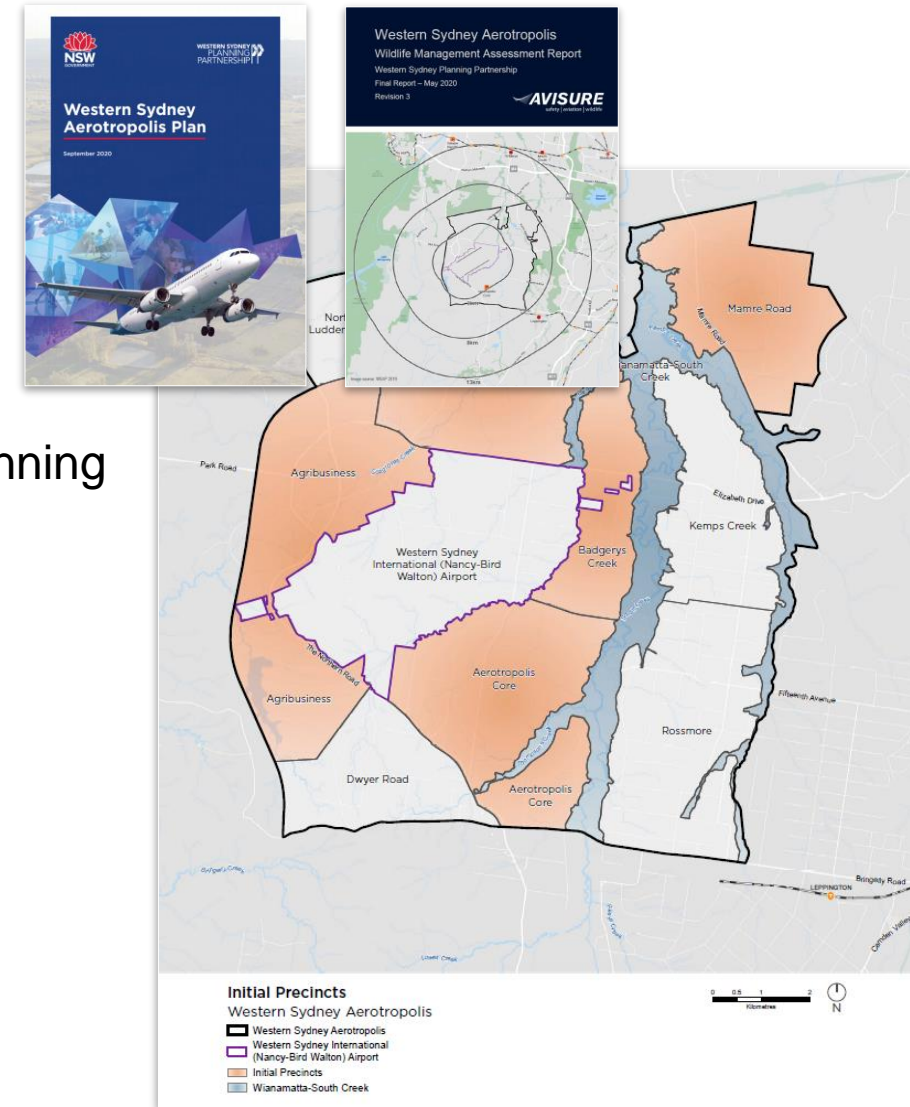


Operational Practices

STAKEHOLDER COORDINATION

Safeguarding the airport from wildlife hazards:

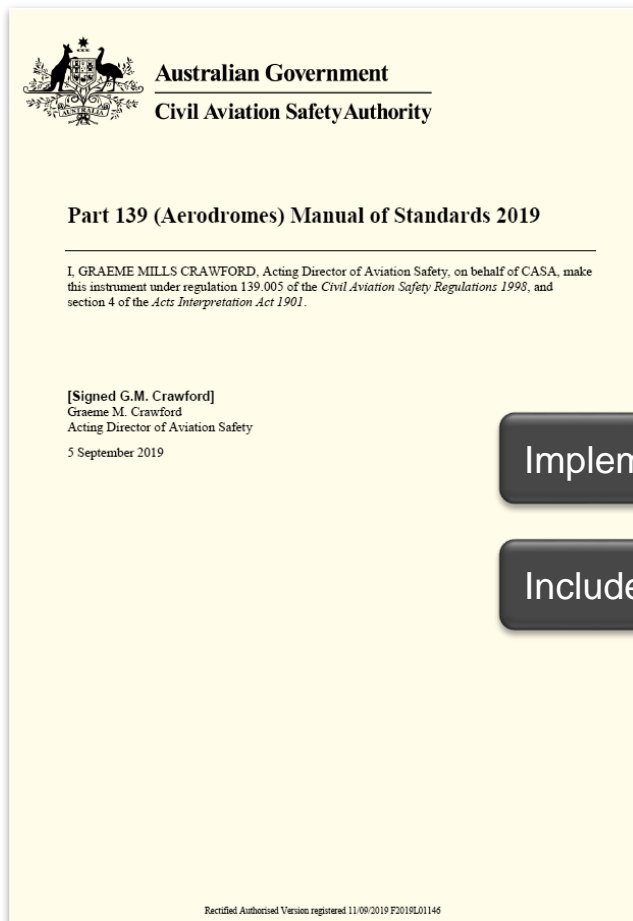
- Identified wildlife attraction issues associated with land use planning
- Developed mechanisms to mitigate wildlife strike risks:





Operational Practices

HABITAT AND LAND USE MANAGEMENT



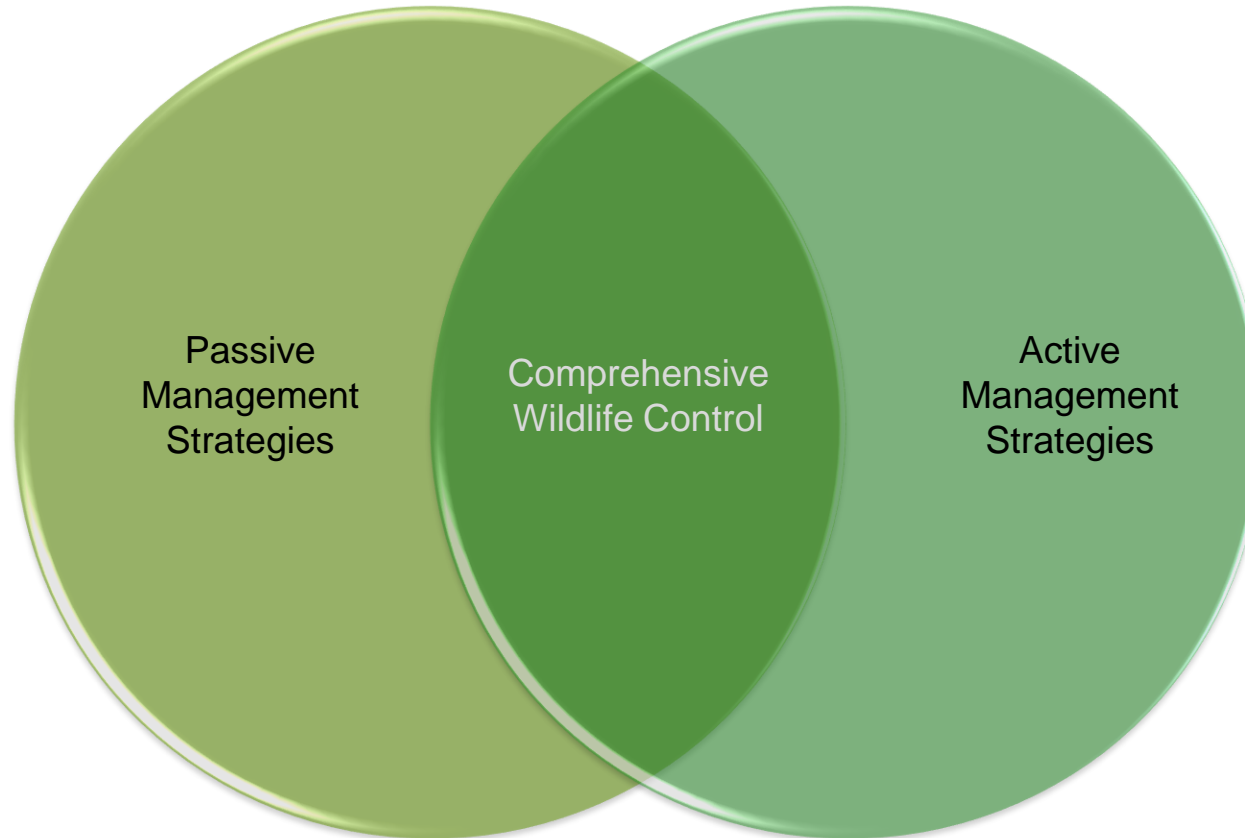
Implement controls to mitigate wildlife hazards

Include passive strategies in the Wildlife Management Plan



Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

HABITAT AND LAND USE MANAGEMENT

Wildlife are attracted to airports because they offer:

- Food
- Water
- Shelter





Operational Practices

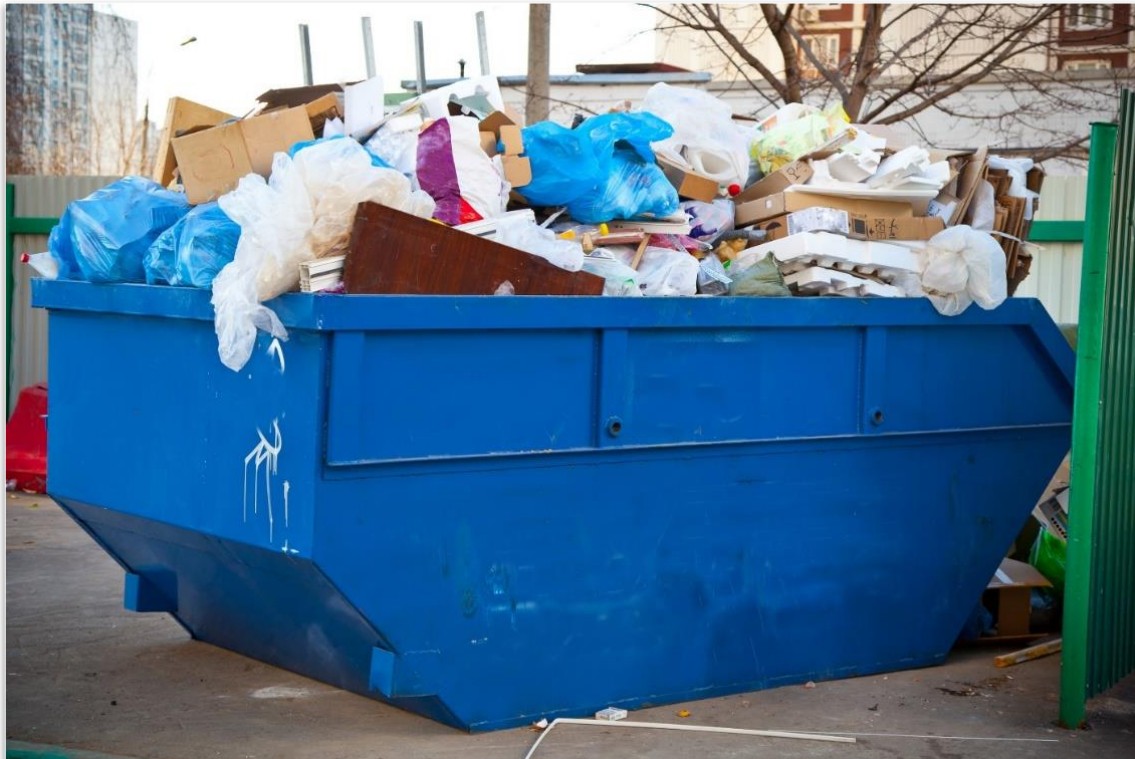
HABITAT AND LAND USE MANAGEMENT: WATER





Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

HABITAT AND LAND USE MANAGEMENT





Operational Practices

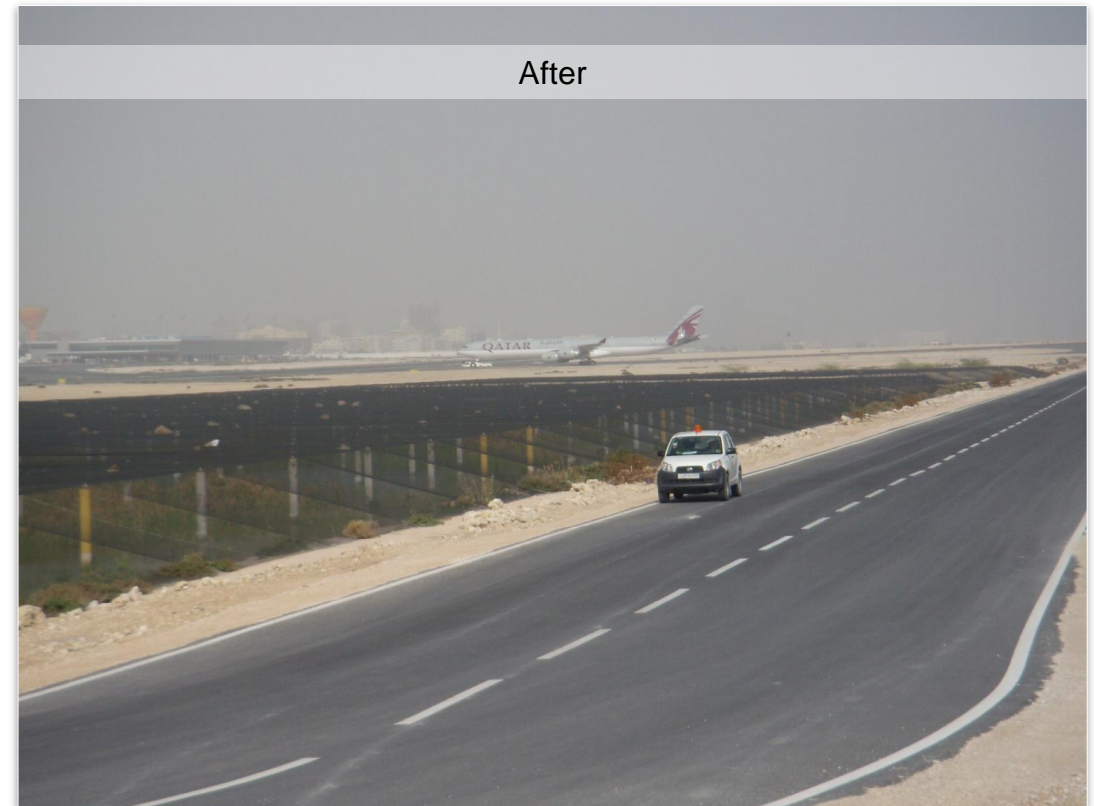
HABITAT AND LAND USE MANAGEMENT





Operational Practices

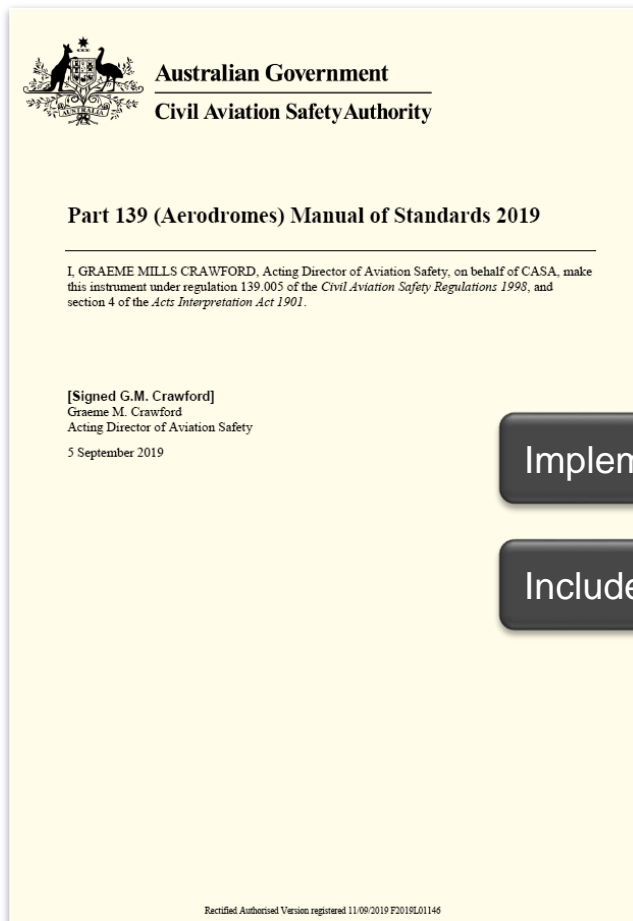
HABITAT AND LAND USE MANAGEMENT





Operational Practices

EXPELLING AND DETERRING WILDLIFE



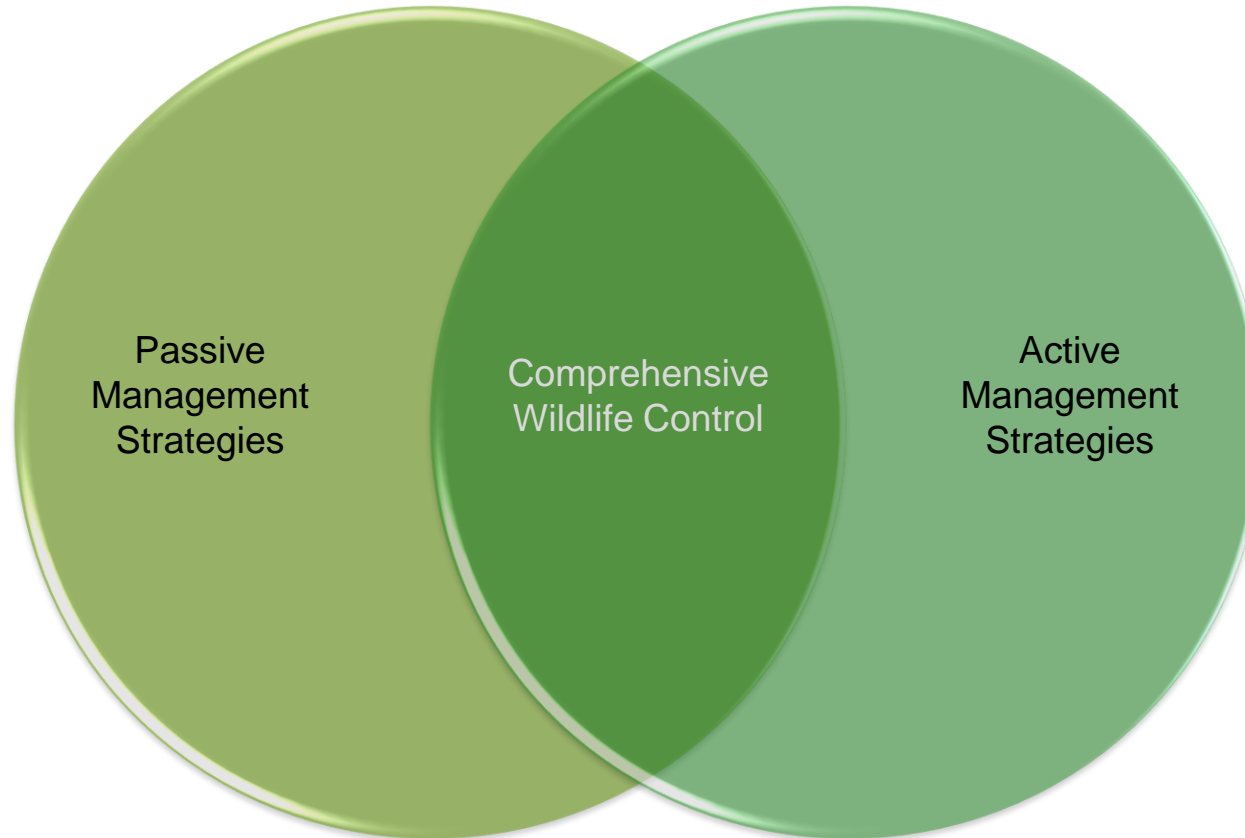
Implement controls to mitigate wildlife hazards

Include active strategies in the Wildlife Management Plan



Operational Practices

EXPELLING AND DETERRING WILDLIFE





Operational Practices

EXPELLING AND DETERRING WILDLIFE

Tools used at Australian airports:

- Firearms
- Vehicle
- Stockwhip
- Gas cannon
- Specialist K9
- Paintball gun
- Human activity





Operational Practices

EXPELLING AND DETERRING WILDLIFE

Advantages of expelling and deterring wildlife:

- Very effective short term
- Relatively cheap
- Measurable
- Targeted in operational environment





Operational Practices

EXPELLING AND DETERRING WILDLIFE

Approach used at Australian airports:

Figure 4: High priority areas for wildlife hazard management on airports

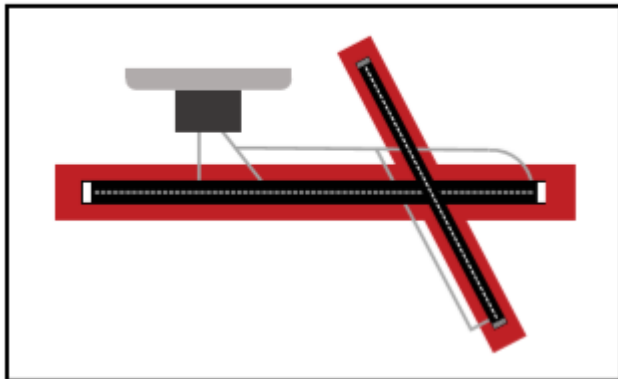


Figure 5: Moderate priority areas for wildlife hazard management on airports

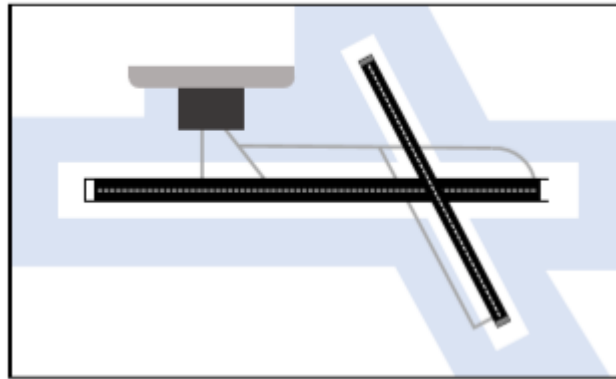
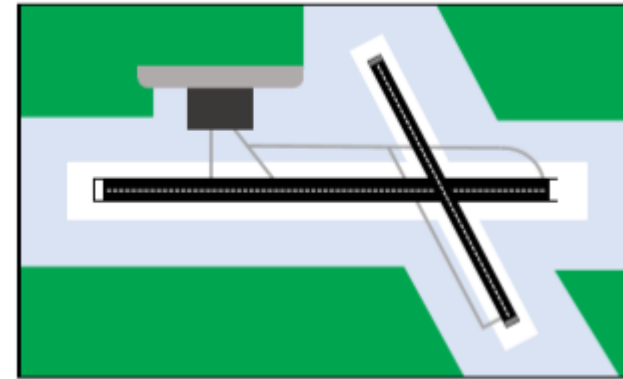


Figure 6: Low priority areas for wildlife hazard management on airports





Operational Practices

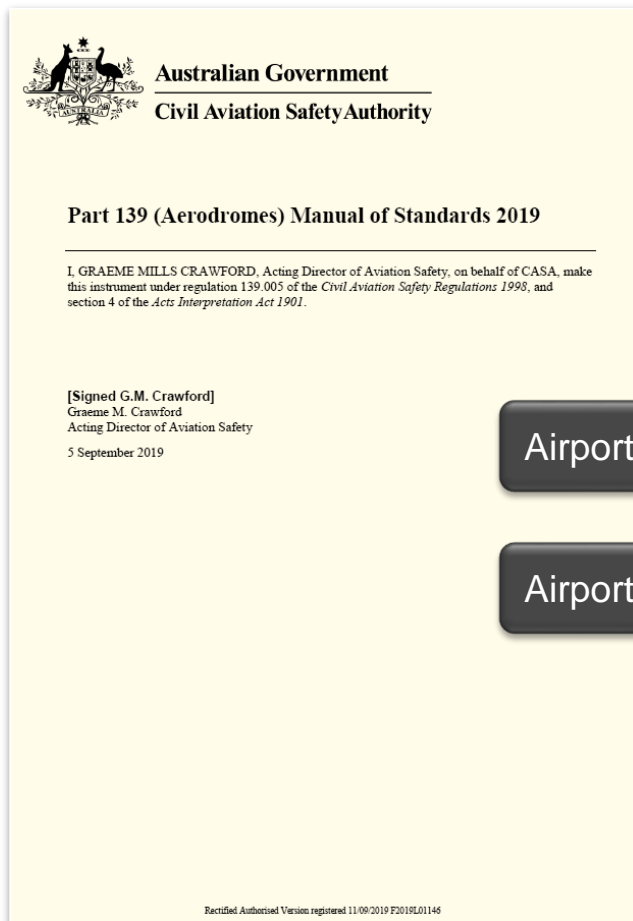
EXPELLING AND DETERRING WILDLIFE

- Create and review SOPs through integrated risk assessments and subject matter experts
- Support the needs of staff and provide on-the-job training
- Issue communications
- Schedule refresher training for all staff
- Service equipment regularly



Operational Practices

PERSONNEL TRAINING



Airport wildlife monitoring and reporting personnel should be trained

Airport wildlife mitigation personnel should be trained

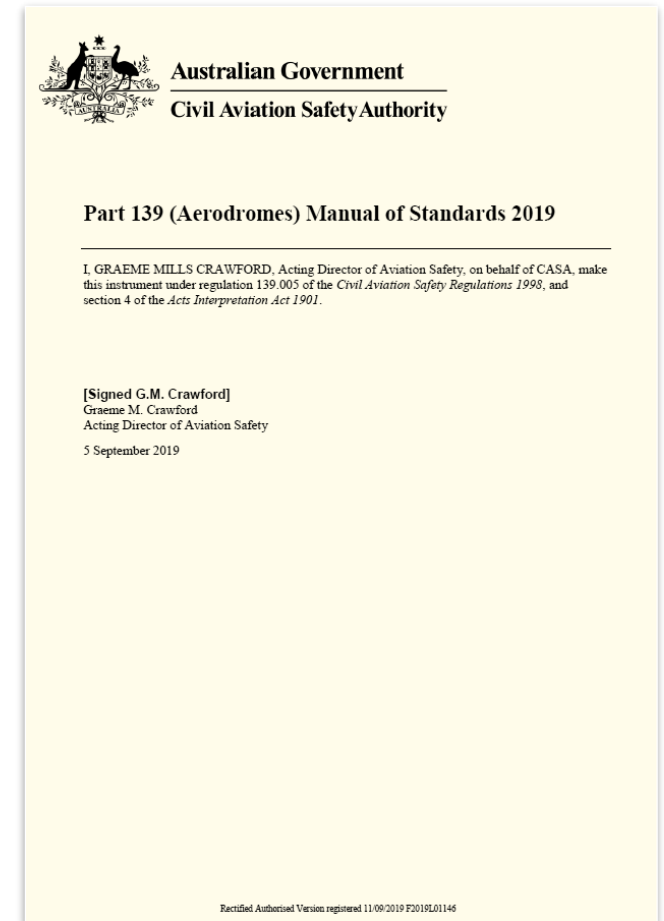


Operational Practices

PERSONNEL TRAINING

Aerodrome Safety Personnel training requirements:

- Conduct wildlife observations
- Assess wildlife populations and describe behaviour
- Record and report wildlife information
- Collect strike remains
- Identify wildlife
- Active wildlife management
- Assess mitigation effectiveness





Operational Practices

PERSONNEL TRAINING

Australian Government
Civil Aviation Safety Authority

ADVISORY CIRCULAR
AC 139.C-02 v1.0

Aerodrome personnel

Date: July 2020
Project number: AS 1424
File ref: 019133182

Australian Government
Civil Aviation Safety Authority

ADVISORY CIRCULAR
AC 139.C-27 v1.0

Risk management plans for aerodromes

Date: July 2020
File ref: 019177183

Australian Government
Civil Aviation Safety Authority

ADVISORY CIRCULAR
AC 139.C-03 v1.0

Serviceability inspections

Date: July 2020
File ref: 019172148

Australian Government
Civil Aviation Safety Authority

Advisory Circular

AC 139-26(0) JULY 2011

WILDLIFE HAZARD MANAGEMENT AT AERODROMES

CONTENTS	REFERENCES
1. References	1 This Advisory Circular (AC) should be read in conjunction with:
2. Purpose	1 • Civil Aviation Safety Regulations 1998 Part 139 – Aerodromes.
3. Status of this Advisory Circular	2 • Manual of Standards (MOS) Part 139 – Aerodromes.
4. Acronyms	3 • Transport Safety Investigation Regulations 2003 (TSIR).
5. Definitions	4
6. General	2. PURPOSE
7. Wildlife hazard management at certified aerodromes	6 The purpose of this AC is to provide general information and advice for the management of wildlife hazards at aerodromes.
8. Wildlife hazard management at registered aerodromes	6
9. Wildlife hazard monitoring	6
10. Wildlife hazard treatment	8
11. Reporting requirements for certified and registered aerodromes	9
12. Further information	10
	3. STATUS OF THIS ADVISORY CIRCULAR
	10 This is the first AC on the subject of wildlife hazard management at aerodromes.

Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material. Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material. ACs should always be read in conjunction with the referenced regulations. This AC has been approved for release by the Executive Manager Standards Development and Future Technology Division.

July 2011

Australian Airports Association

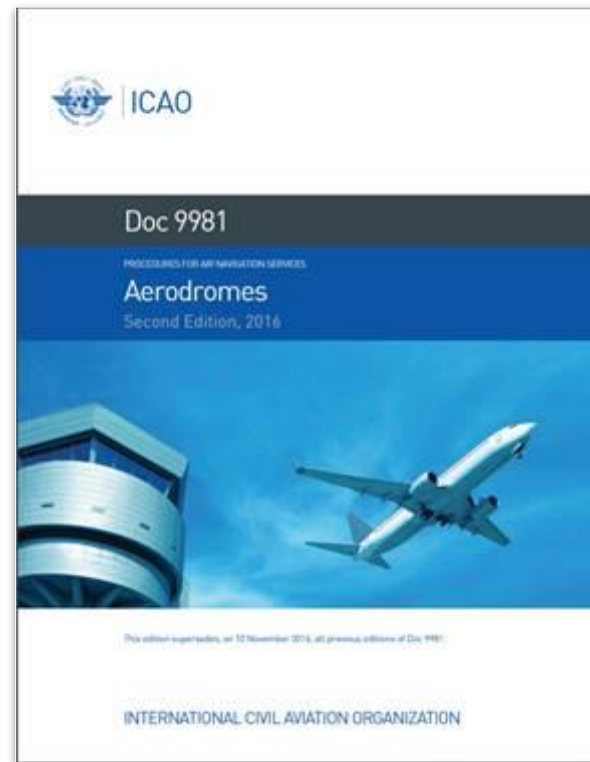
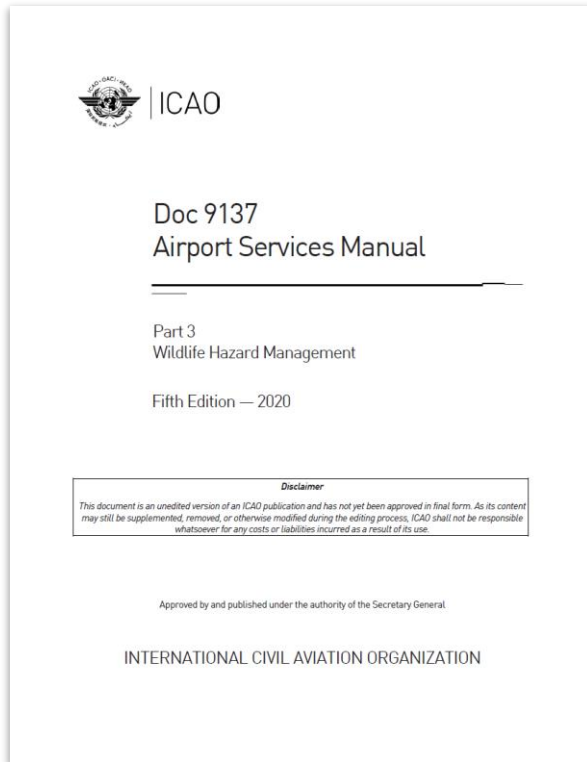
WILDLIFE HAZARD MANAGEMENT AT AIRPORTS

AIRPORT PRACTICE NOTE 9



Operational Practices

PERSONNEL TRAINING






Operational Practices

PERSONNEL TRAINING

Training and Competency – Aerodrome Safety Personnel

- RP intends to educate aerodrome safety and support personnel on the tools, techniques and procedures available to minimise the likelihood and consequence of wildlife strikes



**RECOMMENDED
PRACTICE**

TRAINING AND COMPETENCY: AERODROME SAFETY PERSONNEL

Release date: August 2020


Document: AAWHG RP 5.1(1)

Disclaimer: *This recommended practice has been developed by the Australian Aviation Wildlife Hazard Group.*

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Any outcome as a result of action or reliance on this information is the sole responsibility of the user and not of the Australian Aviation Wildlife Hazard Group.

1. Outline
- 1.1 This recommended practice (RP) aims to ensure that personnel engaged in wildlife hazard management functions at an aerodrome are appropriately trained and are competent.
- 1.2 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 also from international sources.
- 1.3 The practices outlined in this document should be considered by industry representatives to ensure that aerodrome safety and support personnel:
 - are trained in the available tools, techniques and procedures to address aviation wildlife hazards.
 - are competent in their functions related to wildlife hazard management.
- 1.4 It is recommended that this document should be read in conjunction with:
 - RP 1.3 Wildlife Risk Assessment and Analysis
 - RP 4.0 Wildlife Hazard Mitigation (reserved)
- 1.5 This document will be subject to regular review through the Australian Aviation Wildlife Hazard Group.



- 1 -

AAWHG RP 5.1(1)

July 2020




Operational Practices

PERSONNEL TRAINING

Training and Competency – Aerodrome Safety Personnel

- Syllabus:

Preliminary Training	Formal Training	Wildlife Hazard
Inductions	Aerodrome Reporting / Works Safety Officer	Wildlife identification and observation
Policies	Airfield Awareness	Risk assessment and management
Relevant organisations	Airside Driving	Wildlife patrols/inspections
Airport plans	Radio Communication	Wildlife counts
Procedures	Wildlife Hazard Management	Wildlife hazard notification
Aircraft identification	Firearms	Identification and handling wildlife remains
		Wildlife dispersal and lethal control
		Passive management
		Environmental conditions
		Off airport attractants
		Administration
		Incident reporting and investigation
		Wildlife hazard management committee



**RECOMMENDED
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- 1 -

AAWHG RP 5.1(1)

July 2020



Operational Practices


PERSONNEL TRAINING

Training and Competency – Flight Crew

- RP intends to educate pilots and aircraft operators on the tools, techniques and procedures available to minimise the likelihood and consequence of wildlife strikes

AAWHG: Recommended Practice

TRAINING AND COMPETENCY: FLIGHT CREW

 **RECOMMENDED PRACTICE**

TRAINING AND COMPETENCY: FLIGHT CREW

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 AAWHG 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.)

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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.



Operational Practices

PERSONNEL TRAINING

Training and Competency – **Flight Crew**

What is the basic issue?



Generally pilots do not fly through these



Is it a bird, is it a plane? ... The number of bird strikes jumped between 2002 and 2011. Photo: Quentin Jones

Pilots (sometimes) do not regard these
as a similar hazard



Operational Practices


PERSONNEL TRAINING

Training and Competency – Flight Crew

- Syllabus:
 - Roles, responsibilities and legal framework
 - History and current status of wildlife strike
 - Wildlife identification and behaviour
 - 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 risk
 - Communications and reporting

AAWHG: Recommended Practice

TRAINING AND COMPETENCY: FLIGHT CREW

 **RECOMMENDED PRACTICE**

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Operational Practices

PERSONNEL TRAINING


Training and Competency – Flight Crew

- Operator SOPs should include:
 - How to respond to hazardous bird activity reported by ATC / ATIS
 - What to do after a strike or suspected strike

(Note: these procedures will vary from operator to operator dependent on its own risk assessment and SMS.)

AAWHG: Recommended Practice

TRAINING AND COMPETENCY: FLIGHT CREW

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Operational Practices

PERSONNEL TRAINING: YBCS

Training and Competency – **Flight Crew**

Previous report from Cairns Airport: De-identified

With aircraft call sign XYZ10 on 4nm final, aircraft call sign ABC12 advised bats were observed over the 15 threshold.

This was relayed to XYZ10.

After landing XYZ10 advised they had a bat strike on approximately 200ft final, outside the aerodrome boundary.

Result ... bat strike!





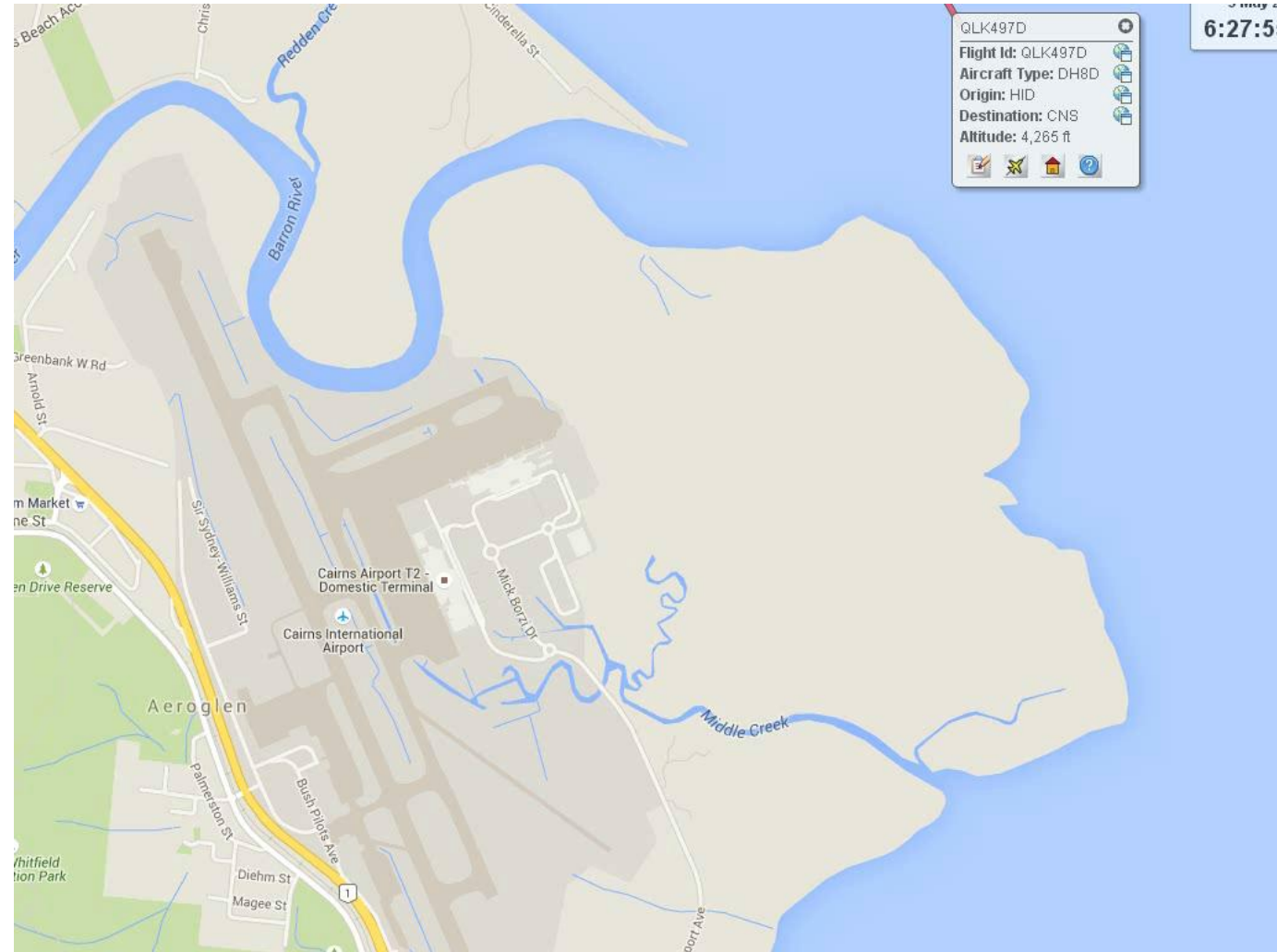
Operational Practices

PERSONNEL TRAINING: YBCS

Training and Competency – **Flight Crew**

Cairns Airport-Pilots/ATC/ARO
do the right thing!

Result ... no bat strike!





Operational Practices

PERSONNEL TRAINING

Training and Competency – **Flight Crew**

- Wildlife strikes are not inevitable
- Timely information and patience pays off
- Informed flight crew can mitigate strikes!

