



# Wildlife Hazard Management Plan

(CASA Reference Document)

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10.1

**Document Owner**  
Operations and Standards Manager

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## Disclaimer

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This Wildlife Hazard Management Plan (WHMP) considers the strategies adopted by Townsville Airport Pty Ltd (TAPL) and the Department of Defence (DoD) to minimise the risk of wildlife strike to aircraft at Townsville Airport and is provided for the purpose of information only. The content of this Plan is for the information of the party to whom it is addressed and for no other purpose.

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TAPL and DoD gives no warranty as to the information pertained in this Plan, other than the Plan has been prepared and disclosed in good faith.

By way of accepting this Plan, the Addressee acknowledges that the information contained herein is particular to Townsville Airport and may not be suitable for use at other airports.

Any inquiries should be addressed to:

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## Acknowledgements

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This Wildlife Hazard Management Plan has been prepared in consultation with the airline industry, Civil Aviation Safety Authority, Townsville City Council, Department of Environment and Science and Birdlife Townsville. Townsville Airport Pty Ltd and the Department of Defence gratefully acknowledge the cooperation and input from all organisations and individuals who participated in the preparation of this document.

## Distribution

The Townsville Aerodrome WHMP is distributed to the following organisations

Position	Organisation
<b>Queensland Airports Limited</b>	
Chief Operating Officer	Queensland Airports Limited
Regional General Manager	Townsville Airport Pty Ltd
Operations and Standards Manager	Townsville Airport Pty Ltd
Aviation Regulatory Compliance Officer	Townsville Airport Pty Ltd
Aerodrome Reporting Officer Supervisor	Townsville Airport Pty Ltd
Aerodrome Reporting Officers	Townsville Airport Pty Ltd
<b>Defence</b>	
Senior Australian Defence Force Officer	27 Squadron
Air Base Executive Officer	27 Squadron
Base Aviation Safety Officer	27 Squadron
Base Aviation Engineering Officer	27 Squadron
Officer In Charge – Air Base Command Post	27 Squadron
Senior Air Traffic Control Officer	452 Squadron (Air Traffic Control)
Commanding Officer	5 Aviation Regiment
Base Manager	Security and Estate Group
Environment Sustainment Manager	Security and Estate Group
<b>Regulatory or Government Agencies</b>	
Aerodrome Inspector	Civil Aviation Safety Authority
Primary Contact	Department of Environment and Science
Primary Contact	Townsville City Council
<b>Airlines and Aircraft Operators</b>	
Regional Operations Manager	Aerlink
Safety and Compliance Manager	Airnorth
General Manager	Alliance Airlines
Base Coordinator	Aus Flight Handling
Operations Manager	Bonza
Manager	Cabin Services Australia
Chief Pilot	Cleveland Bay Aviation
Managing Director	Hinterland Aviation
Regional Manager	Jetstar
Managing Director	Meridian Aviation
Managing Director	Nautilus Aviation
Manager	National Jet Express
Manager	Oceania Aviation Services
Base Manager	Pakfresh
Manager Airport	Qantas
Safety Manager	Qantaslink
Regional Manager	Qantas Freight
Base Coordinator	Regional Express (REX)
Manager	Skydive Townsville
Regional Manager	Skytrans
Townsville Airport Manager	Swissport
Operations Manager	Toll Aviation

Managing Director	Townsville Helicopters
Regional Operations Manager	Virgin Australia
<b>Refuellers</b>	
Manager	Air Fuel Townsville
Manager	Skyfuel Townsville
<b>Emergency Services</b>	
Inspector	AirServices Aviation Rescue and Fire Fighting Service
Manager	LifeFlight
Manager	Queensland Government Air (Previously EMQ-HR)
Senior Base Pilot	Royal Flying Doctor Service

## Amendment Record

Version	Review Date	Nature of Review	Amendment Details*	Author	Approval
1.0	Aug 2001			Jill Brix (AAL)	Peter Pallot (AAL)
2.0	Mar 2003			Jill Brix (AAL)	Catherine Rule (COO – AAL)
					Base Commander (RAAF TSV)
3.0	Nov 2009			Suzanne Stuart (ARCO – TAPL)	Kevin Gill (COO – TAPL)
					WGCDR A Thorpe (SADFO – RAAF TSV)
4.0	Dec 2011	External review		Brodie Akacich (EWHSO – TAPL)	Kevin Gill (COO – TAPL)
					WGCDR Paul Aggett (SADFO – RAAF TSV)
4.7	Jan 2013		Minor amendments to address Qantas and internal audit	Brodie Akacich (ESMO – TAPL)	Kevin Gill (COO – TAPL)
					Robert Craig (BSM – RAAF TSV)
					WGCDR G Hodgson (SADFO – RAAF TSV)
5.0	Aug 2015	Review & reformat	Incorporation of three external audits	Sarah-Jane Dark (EO – TAPL)	Kevin Gill (COO – TAPL)
					WGCDR Matthew Harvey (SADFO – RAAF TSV)
					Michael Bridgefoot (BSM – RAAF TSV)
6.0	May 2017	Reissue	Re-template	Joel Sinclair (OSM – TAPL)	Kevin Gill (COO – TAPL)
					WGCDR Phil Godfrey (SADFO – RAAF TSV)
					Michael Bridgefoot (BSM – RAAF TSV)
7.0	Jul 2018	Review	Role changes, airline changes	Joel Sinclair (OSM – TAPL)	Kevin Gill (COO – TAPL)
					WGCDR Phil Godfrey (SADFO – RAAF TSV)
					Katrina Matejic (BSM – RAAF TSV)
8.0	Nov 2020	Review	Distribution, role, wildlife data, KPI and Defence updates. Alignment with legislation changes - removal of DMP requirement. Formatting corrections.	Kyle Morris (OSM – TAPL)	Brendan Cook (GMA – TAPL)
					WGCDR Mathew Green (SADFO – RAAF TSV)
					Katrina Matejic (BM – RAAF TSV)
9.0	Nov 2021	Review	Document re-template. Distribution, Authority, Definitions and Acronyms, and Evaluation updates. Minor formatting corrections.	Kyle Morris (OSM – TAPL)	Brendan Cook (RGM – TAPL)
					WGCDR Naomi Gill (SADFO – RAAF TSV)
					Donna-Marie Audas (BM – RAAF TSV)
10.0	Jan 2023	Review	Risk Assessment Update	Chris Perry (JASKO Airport Services)	Brendan Cook (RGM – TAPL)
					WGCDR Naomi Gill (SADFO – RAAF TSV)
					Donna-Marie Audas (BM – RAAF TSV)
10.1	Apr 2024	Review	Annual Review. Amendments to all sections. Minor formatting, phraseology, and grammatical corrections. Updated wildlife statistics and risk statistics. Inclusion of Feral Management	Kyle Morris (OSM TAPL) Vidusha Ratnayake (ARCO TAPL)	Brendan Cook (RGM – TAPL)
					Jacinta Wallace (BM – RAAF TSV)
					WGCDR Luke Headley (SADFO – RAAF TSV)

\*Indicate 'no amendment' in circumstances where systematic review does not result in amendment.

## Authority

This Plan has been prepared as required by the Civil Aviation Safety Authority in accordance with the Civil Aviation Safety Regulations Part 139 to provide particulars of the procedures to deal with danger to aircraft operations caused by the presence of wildlife (birds or animals) on or near the aerodrome. This Plan also forms Part 3 Section 3.11 of the Aerodrome Operations Manual for Townsville Airport.

Townsville Airport Pty Ltd is the organisation responsible for implementing this Plan and in accordance with the Joint User Deed.

This plan has been compiled for the use of both civil and military operators at Townsville Aerodrome and has been approved and authorised by Townsville Airport Pty Ltd and Department of Defence representatives.

This plan was initially drafted in January 2023 in collaboration with JASKO Airport Services to meet the criteria outlined in CASA MOS Part 139 Chapter 17.04 – Preparation of a Wildlife Management Plan. The current iteration of the document represents an annual review.

### Prepared



20/01/2023

Chris Perry  
JASKO Airport Services

Date

### Reviewed and Approved

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29 April 2024 | 9:43 AM AEST

Brendan Cook  
TAPL – Regional General Manager

Date

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06 May 2024 | 7:00 PM AEST

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Date

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13 May 2024 | 10:40 AM AEST

WGCDR Luke Headley  
RAAF Base Townsville – Senior Australian Defence Force Officer

Date

## Definitions and Acronyms

<b>Active Management</b>	The use of short-term management techniques such as distress calls, pyrotechnics, trapping and culling to disperse or remove wildlife.
<b>Aerodrome/Airport</b>	A defined area intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft at Townsville.
<b>Aircraft Operator</b>	A person, organisation or enterprise engaged in, or offering to engage in, an aircraft operation.
<b>Aircraft/Aeroplane</b>	Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.
<b>Airline Operator</b>	The operator of a Regular Public Transport air service. Also see Aircraft Operator.
<b>Airport Operator</b>	The Airport is jointly operated by Townsville Airport Pty Ltd and the Department of Defence.
<b>Airside</b>	The movement area of an Airport, access to which is controlled.
<b>ARO</b>	Aerodrome Reporting Officer
<b>AROS</b>	Aerodrome Reporting Officer Supervisor
<b>ASTB</b>	Australian Transport Safety Bureau
<b>ATC</b>	Air Traffic Control, provided in Townsville by 452 Squadron.
<b>Wildlife strike</b> (all must be reported)	<p>Is the collision of an aircraft with an animal, including a bird.</p> <p>Bird and Wildlife strikes are defined according to an aircraft incident by the ATSB Transport Safety Investigation Regulations 2022:</p> <ul style="list-style-type: none"> <li>A. (passenger transport) aircraft operations <ul style="list-style-type: none"> <li>• Passenger Airport Operation</li> <li>• Medical Transport Operations</li> <li>• Repositioning a flight for category A operations</li> </ul> </li> <li>B. (commercial non-passenger) aircraft operations <ul style="list-style-type: none"> <li>• Operations of a commercial purpose</li> <li>• Cargo Transport Operation</li> <li>• Type 1 RPA (package delivery, agricultural etc.)</li> <li>• Repositioning of a flight for category B operations</li> </ul> </li> <li>C. (non-commercial) aircraft operations <ul style="list-style-type: none"> <li>• An operation that is not type A, B or D (local aero clubs, gliding, solo flying, community services etc.)</li> </ul> </li> <li>D. (type 2 RPA and certain unmanned balloons) aircraft operations <ul style="list-style-type: none"> <li>• Type 2 RPA (an RPA that is not a type 1 RPA, not an excluded RPA, and not a micro RPA.)</li> <li>• A medium balloon</li> </ul> </li> </ul> <p>The definition of an aircraft incident (external) can be found in section 6 of the regulations, and is below:</p> <p><b>aircraft incident (external)</b> means an aircraft incident that originates from any of the following outside the aircraft:</p> <ul style="list-style-type: none"> <li>(a) infrastructure;</li> <li>(b) flying and other objects;</li> <li>(c) animals or birds.</li> </ul>
<b>CASA</b>	Civil Aviation Safety Authority
<b>DESI</b>	Department of Environment, Science, and Innovation
<b>DMP</b>	Damage Mitigation Permit
<b>DoD</b>	Department of Defence
<b>ERSA</b>	EnRoute Supplement Australia
<b>Foraging</b>	Animal activity that means to search widely for food or provisions.
<b>Hazard</b>	Any source of potential damage, harm or adverse health effects on something or someone under certain conditions.
<b>ICAO</b>	International Civil Aviation Organisation

<b>Landside</b>	Those parts of an Airport not considered Airside; that is normally accessible to the public.
<b>Logbook</b>	Sequential recording system required by CASA under the MOS to record daily events, including significant events and actions on the airfield entered by ARO daily.
<b>Migration</b>	When wildlife passes periodically from one region to another. The movements of birds due to correlate with the seasons
<b>Movement Area</b>	That part of an Airport used for the surface movement of aircraft, including manoeuvring areas and aprons.
<b>NOTAM</b>	Notice To Airmen
<b>OSM</b>	Operations and Standards Manager
<b>Plan, the</b>	Refers to this Wildlife Hazard Management Plan
<b>Passive Management</b>	The modification of habitat to render it less attractive to wildlife.
<b>QAL</b>	Queensland Airports Limited
<b>QPWS</b>	Queensland Parks and Wildlife Service
<b>RAAF</b>	Royal Australia Air Force
<b>RGM</b>	Regional General Manager
<b>Risk</b>	The chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and probability.
<b>Risk Rating</b>	The rating given to a risk that has been assessed using the risk matrix. This rating is used to determine prioritisation and controls.
<b>Roosting</b>	When birds repeatedly return to a particular place in numbers to loaf or spend the night.
<b>RPT</b>	Regular Public Transport
<b>Runway</b>	A defined rectangular area on an aerodrome, prepared for the take-off and landing of aeroplanes along its length.
<b>Runway Strip</b>	An area provided both to reduce the risk of damage to aircraft running off a runway and to provide an obstacle free airspace for aircraft flying over the area during landing and take-off operations. The area is centrally located around the runway and includes any associated stop way.
<b>TAPL</b>	Townsville Airport Pty Ltd
<b>TSV</b>	Townsville Airport, IATA location identifier code
<b>Transit</b>	When birds fly from one place to another.
<b>Undershoot</b>	The area within the take-off and approach splays preceding the runway threshold.
<b>WHM</b>	Wildlife Hazard Management
<b>WHMC</b>	Wildlife Hazard Management Committee
<b>WHMP</b>	Wildlife Hazard Management Plan
<b>Wildlife Count</b>	Scheduled counts conducted by Airport staff.

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## 1. Introduction

Aircraft have encountered wildlife both in the air and on the ground since flight began. Encounters with birds and animals have become more frequent with the emergence of faster, quieter aircraft, thus increasing the potential for serious damage to aircraft and the risk to human lives.

The activity of birds and animals on and around an airfield is a recognised potential source of hazard to the safe operation of aircraft. This hazard results from the possibility of a collision between an aircraft and one or more birds (i.e., a bird strike) or animals (i.e., a wildlife strike). In some strike events, damage is sustained to the aircraft involved and/or the aircraft is delayed allowing for an inspection of possible damage. In more serious cases, the damage from a wildlife strike could result in the aircraft being unable to maintain safe operations. According to recent worldwide data most strikes occur either on or within the immediate proximity of an aerodrome (within 5km).

Airports have many features that attract wildlife, including grassy fields for foraging, breeding, structures for perching such as hangars and other buildings used as shelter. The coastal lowland environment of Townsville Airport is a particular challenge due to the seasonal variation and the unique mangrove and tidal flat wetland habitat known as the “Townsville Town Common Conservation Park” adjacent to the Airport. These areas support several wildlife species including flocking waders, migratory birds, wild dogs, feral cats, pigs, kangaroos, and wallabies.

Townsville Airport is a Joint User Aerodrome and operates under a Joint User Deed between the Department of Defence (DoD) and Townsville Airport Pty Ltd (TAPL). Under the Deed TAPL have overall responsibility for wildlife management on the Civil and Joint User areas and as such has compiled this Plan for the use of both military and civil operators at the Townsville Aerodrome.

The purpose of this document is to outline the objectives, responsibilities, and procedures for managing, assessing, monitoring, and recording wildlife hazards and or activity at Townsville Aerodrome.

The Plan is structured to incorporate and guide other documentation provided by TAPL including procedures for wildlife hazard management. These will continue to be amended and published separately to meet operational requirements and should be read in conjunction with the Plan. Copies of these documents are available for approved persons.

## 2. Legal and Other Requirements

### 2.1. Legislation and Regulations

TAPL have a legal obligation to implement a Wildlife Hazard Management Plan (WHMP) under the Airports Act 1996 and associated regulations, including though not limited to:

- *Airports Act 1996 (Cth).*
- *Airports (Environment Protection) Regulations 1997 (Cth).*
- *Environment Protection and Biodiversity Conservation Act 1999 (Cth).*

Queensland Government Legislation which applies to Townsville Airport Pty Ltd includes:

- *Animal Care and Protection Act 2001 (Qld).*
- *Animal Care and Protection Regulations 2012 (Qld).*
- *Biosecurity Act 2014 (Qld)*
- *Nature Conservation Act 1992 (Qld).*
- *Nature Conservation (Animals) Regulation 2020*
- *Weapons Act 1990 (Qld).*

### 2.2. Permits and Licenses

The Department of Environment, Science, and Innovation (DESI), under the Nature Conservation (Animals) Regulation 2020, has classified Townsville Airport as a Strategic Airport. Strategic Airports are exempt from obtaining a Damage Mitigation Permit (DMP). This authorisation to take, remove and relocate a protected animal without a DMP is subject to the following legislative requirements:

- a) The owner of the airport has made a reasonable attempt to prevent or minimise the damage or threat and the action taken has not prevented or minimised the damage or threat.
- b) The taking of the animal will not adversely affect the survival of the animal/species in the wild.
- c) The proposed way of taking the animal is humane.
- d) The animal will be released into a prescribed natural habitat i.e., a natural habitat that is appropriate for the animal (if culling was not applied); and
- e) The owner of an airport must, unless the owner has a reasonable excuse, keep a record for an animal that was taken.

Townsville Airport Pty Ltd is the holder of a Group Firearms Licence (Licence Number – 83002037-00. The licence is issued for the sole purpose of wildlife harassment, dispersal and to reduce wildlife numbers as required. The Licence is subject to the conditions that the holder.

- a) Must comply with relevant safekeeping and storage requirements under the Act.
- b) Must not permit any other person to possess or use a firearm in the holder's possession if that person is not authorised to possess or use the firearm; and
- c) Must permit a member of the Police Force to inspect, at any reasonable time, the holder's facilities for the storage and safekeeping of the firearms in the holder's possession.

All staff working for or on behalf of TAPL who are required to use a firearm as part of their day-to-day duties **must** hold a current Queensland Firearm Licence and be listed on the Group Firearms Licence. Employee's must ensure their firearm licences are renewed prior to expiry through the Queensland Police. Annual refresher firearm safety training is undertaken by each license holder from an approved firearms training instructor.

### 3. Objectives, Roles, and Responsibilities

#### 3.1. Objectives

Objective	Description
<b>Legislation &amp; Regulatory Requirements</b>	To develop, implement and maintain procedures and systems to ensure operations at Townsville Airport comply with applicable legislation, regulations, standards, and industry best practice.
<b>Assurance</b>	<p>To develop, implement and maintain a Wildlife Hazard Management Plan (WHMP) that ensures wildlife management aspects are an integral part of operations at Townsville Airport.</p> <p>To review the WHMP annually, following incidents, changes in operations or legislation.</p> <p>To conduct regular internal and external audits.</p> <p>To clearly define accountabilities and responsibilities for all airport employees, starting with Senior Management.</p>
<b>Culture</b>	<p>To develop, embed and continually encourage a positive culture where wildlife management aspects are a priority for all operations at Townsville Airport, recognising the importance and value of an effective WHMP.</p> <p>To develop, embed and continually encourage a Reporting Culture supported by Senior Management.</p>
<b>Risk Management</b>	To minimise the risk of wildlife strike to aircraft at Townsville Airport through a continuous process of identifying, recording, and reviewing risks, objectives, targets, and indicators.
<b>Communication</b>	To develop, implement and maintain successful tools that encourage open communication, delivery of key messages and awareness of responsibilities under the WHMP to airport employees, tenants, visitors, business partners and contractors.
<b>Training</b>	<p>To ensure there are enough skilled and trained resources available to develop, implement, maintain, and improve the WHMP.</p> <p>To ensure airport employees are competent and provided with adequate information and training appropriate to their duties.</p>
<b>Infrastructure &amp; Facilities</b>	To develop, implement and maintain a maintenance system that ensures new and existing infrastructure and facilities at Townsville Airport are kept clean, safe, and operational to reduce the risk of wildlife hazards where possible.
<b>Participation &amp; Action</b>	<p>To actively encourage airport employees, tenants, visitors, business partners and contractors to participate in the WHMP.</p> <p>To encourage activities that promote and establish positive wildlife management on airport.</p>

### 3.2. Roles and Responsibilities

Wildlife Hazard Management is an important aspect of operations at Townsville Airport and is supported by organisational processes and strategies as depicted in Figure 1 below. Please refer to Table 1 for the list of Key Responsibilities for both internal and external personnel.



**Figure 1 – Organisational processes and strategies to support the Wildlife Hazard Management Plan**

**Table 1 – Roles and responsibilities for agencies and personnel involved in the WHMP**

Position or Entity	Authority Roles/Responsibilities
TAPL – Regional General Manager (RGM)  BH: (07) 4727 3272  AH: 0409 302 530	<p>Endorse the final version of the WHMP.</p> <p>Ensure the resources for implementing the WHMP are provided.</p> <p>Oversee the implementation and review of the WHMP.</p> <p>Liaise with airport operators, local government, and other stakeholders to assist in identifying and managing wildlife issues at Townsville Airport.</p> <p>Provide information regarding bird and animal hazard and its management at Townsville Airport to regulatory authorities and operational publications as required.</p> <p>Coordinate interactions with WHMC stakeholders for the management of land use surrounding the Airport, as well as coordinating with other surrounding land holders.</p>
TAPL – Operations and Standards Manager (OSM)  BH: (07) 4727 3280  AH: 0417 723 692	<p>Chair the Wildlife Hazard Management Committee Meeting (WHMC).</p> <p>Ensure that all Operations Procedures contained in the Plan involving Aerodrome Reporting Officers are implemented.</p> <p>Ensure that Townsville Airport Aerodrome Reporting Officers are trained in the functions required for wildlife hazard management, including bird counts, bird and animal identification, bird harassment, reporting techniques, and management of feral animals. Townsville Airport has a General Biosecurity Obligation (GBO) under the Biosecurity Act 2014 to manage feral animals on their land.</p> <p>Ensure the WHMP and procedures are issued to relevant staff and applied where necessary.</p> <p>Invite relevant external stakeholders to biannual Runway Safety meetings to assist with wildlife management at off airport sites.</p> <p>Conduct a review of the Plan at least once per year with input into Operations Procedures contained in the Plan and the Firearms Policy and forward any recommended modifications to the RGM.</p> <p>Ensure that appropriate wildlife training is conducted for all new aviation staff including refresher training each 2 years or as required thereafter.</p>
TAPL – Aerodrome Reporting Officer Supervisor (AROS), Aerodrome Reporting Officers (ARO)  ARO: 0418 771 999  AROS: 0417 767 869	<p>Ensure Aerodrome Reporting Officers monitor, inspect, assess, record and report as described in the WHMP.</p> <p>Ensure Aerodrome Reporting Officers and other relevant Townsville Airport staff deal with wildlife and their habitats as described in the WHMP.</p> <p>Count, survey, inspect, assess, record and report as described in the relevant sections of the WHMP and any procedures.</p> <p>Deal with birds, animals and their habitats as described in the relevant sections in the WHMP and adhere to wildlife management procedures.</p> <p>Attend bird and animal hazard management training as required.</p> <p>Use, store and maintain firearms and ammunition as required by QAL/TAPL firearms policy and procedures.</p> <p>Accurately record management actions as per wildlife management procedures.</p>
TAPL – General Manager Asset Services	<p>Ensure that all mowing practices are in line with the WHMP.</p> <p>Ensure all vegetated areas, drainage systems and any bird deterrent measures are suitably maintained.</p>

Position or Entity	Authority Roles/Responsibilities
BH: (07) 4727 3218 AH: 0417 720 498	Update the database with information on maintenance of grassed areas, fences, and drains.
TAPL – Environmental Advisor	Provide advice regarding environmental matters in the WHMC.
BH: (07) 4727 3253	At least once per year, assist the OSM with the review and update of the WHMP.
AH: 0431 004 466	Facilitate an external review of the wildlife hazard at Townsville Airport every 5 years.
	Ensure that the principles of the Strategy and Plan are consistent with the Airport Environmental Management System.
	Maintain vegetation removal permits.
	Ensure that conditions of vegetation removal permits are fully complied with.
	Where necessary, assist with the management and control of birds and other wildlife in occupied buildings and hangars.
	Regularly review waste management practices at the airport to reduce food and waste attractants for birds and other wildlife.
TAPL – Aviation Regulatory Compliance Officer (ARCO)	At least once per year, assist the OSM with the review and update of the Plan.
BH: (07) 4727 3278	Update and apply data collected as part of the WHMP to assess trends and hazards.
	Ensure the relevant section of the WHMP is reflected in the Aerodrome Operations Manual.
	Maintain the necessary records for culling, egg and nest removal, and relocation of birds and other wildlife.
	Ensure that the conditions of legislative requirements are complied with.
	Maintain training records of TAPL Aerodrome Reporting Officers competency standards.
RAAF Base Townsville – Base Manager & SADFO	Endorse the final version of the WHMP.
	Ensure the RAAF Aerodrome Manual and Defence Procedures relevant to WHM are implemented.
Townsville Airport/Security and Estate Group – All Ground Services/Maintenance Staff, Contract supervisors	At least once per year, assist the OSM with the review and update of the WHMP.
	Facilitate an external review of the wildlife hazard at Townsville Airport every 5 years.
	Provide direct/or contribute to wildlife control measures or services during Defence activities or operations i.e., Airfield Mowing and maintaining drains.
	Monitor and report wildlife attraction to landscapes on Townsville Airport and Defence land.
	Maintain or modify grass, landscapes, and ground conditions where need is identified.
Aircraft Operators and Airport Tenants including ground handlers and maintenance organisations.	Require air and ground crews to promptly inform Aerodrome Reporting Officers of all bird and animal strikes or hazardous conditions.
	Require ground staff to relay evidence of strikes including damage, carcasses, feathers, or other material to Aerodrome Reporting Officers for collection.
	Provide copies of strike records to Townsville Airport Aerodrome Reporting Officer Supervisor for inclusion in the Townsville Airport database.
	Annually review the WHMP and forward recommendations to Townsville Airport Aviation Department.

Position or Entity	Authority Roles/Responsibilities
	<p>Where appropriate, consider changing operations to avoid times and locations where consistent wildlife hazards occur.</p> <p>Attend biannual Runway Safety meetings and twice-yearly Wildlife Hazard Management Committee meetings to provide feedback on wildlife management issues at Townsville Airport.</p> <p>Ensure waste is disposed of appropriately and bins and other waste storage facilities are maintained with closed lids or other suitable covering wherever practicable.</p> <p>Promptly report observations of bird nesting, wasps and other wildlife presenting an aviation hazard in hangars to Townsville Airport Aerodrome Reporting Officers.</p>
Townsville City Council	<p>Consider the potential for bird and wildlife attraction when developing land use strategies.</p> <p>Review and discuss, with Townsville Airport management, all proposals for land use changes within 13 kilometres of Townsville Airport, giving due consideration to potential bird and wildlife hazards. Where necessary, ensure such proposals are modified to ensure that the risk posed by birds to aircraft is not increased.</p>
Department of Environment and Science	<p>Consider the safety imperative and legislative requirements of Townsville Airport.</p> <p>Assist Townsville Airport to determine the appropriate actions where rare or threatened species become an aviation hazard.</p>
Wildlife Hazard Management Committee (WHMC)	<p>Sharing information, identifying risks, and ensuring stakeholders are engaged in collaborative management of these risks.</p> <p>Meet twice per year.</p> <p>Discuss relevant wildlife issues and management practices.</p> <p>Review and provide feedback specific to the WHMP.</p> <p>Review wildlife strike reports, cull reports, bird count reports, wildlife recording, and overall strike statistics and discuss strategies for improvement as required.</p> <p>Review performance of Key Performance Indicators.</p> <p>Discuss off airport wildlife hazard management strategies.</p> <p>Attendees include but not limited to Department of Infrastructure and Transport, Regional Development and Communications (DITRDC), Department of Environment and Science (DES), Queensland Parks and Wildlife Service (QPWS), Royal Australian Air Force (RAAF) (various units), Defence Support Group, Airlines, Ground Handling Agents, General Aviation Operators, James Cook University, Townsville City Council and Birdlife Townsville.</p>

## 4. Risk Management

TAPL and the DoD are committed to ensuring the safety of aircraft using the Townsville Aerodrome. While the safety of aircraft at Townsville Aerodrome is paramount, it is not possible to prevent all wildlife strikes. The Plan aims to reduce the frequency and severity of strikes by focusing management efforts on species and habitats that constitute significant hazards to aircraft that operate at Townsville Aerodrome.

### 4.1. Site Specific Background

Table 2 outlines location specific factors and wildlife attractants to give an overall insight into the location and current management issues faced at Townsville Aerodrome.

**Table 2 – Townsville Airport General Information**

Element	Description
<b>Airport location</b>	Townsville Aerodrome is located in North Queensland 5km west of the City Centre on a coastal plain between Rowes Bay and the Bohle River. The northern end of the main runway is 1km from the coast with the terminal building approximately 2.6km inland.
<b>Geography</b>	<p>The Aerodrome is a highly modified environment, characterised by landscaped gardens, turf grassed areas and an undeveloped portion of land dominated by weed vegetation.</p> <p>The Aerodrome is situated on coastal land predominantly characterised by thin, sandy loam soils overlying heavy clay subsoils. These soils are poorly draining and highly dispersive with adverse chemical properties causing corrosion of underground services and have the potential to become acid sulphate soils when exposed to air.</p> <p>Water drains from the east of Runway 01/19 to the wetland system to the north and into Rowes Bay via Captains Creek. The western side drains into Louisa Creek which flows into the Town Common.</p>
<b>Climate</b>	<p>The average temperature varies throughout the year from 31.6°C to 25.2°C in summer and 24.3°C to 13.7°C in winter.</p> <p>The average annual rainfall is 1,136mm on an average 91 rain days, most of which falls in the six month "wet season" November to April. There is considerable variation from year to year due to the "hit or miss" nature of tropical lows and thunderstorms. Seasonal flooding occurs within the aerodrome.</p>
<b>Elevation</b>	The Aerodrome is low lying with levels ranging from 1.0m to 4.5m AHD.
<b>Communications</b>	Air Traffic Control is manned 0600–2000hrs (EST) Monday to Friday, and 0800-1800hrs (EST) Saturday and Sunday. CTAF procedures apply outside of manned hours.
<b>Hours of operation</b>	Townsville Airport has 24-hour operations with no curfew.

## 4.2. Potential Impacts

On Aerodrome habitats, operational practices, water availability and off Aerodrome land uses that could interfere with operations at Townsville Aerodrome have been assessed and are listed below.

### On aerodrome

Due to the level topography of the airport, the western side of the airfield floods during the wet season creating a wetland environment. There are permanent and ephemeral water bodies located on Aerodrome grounds that attract water bird colonies.

Activities at Townsville Aerodrome that can be attractive to wildlife include:

Activity	Description
<b>Aerodrome mowing</b>	Attracts Black Kites ( <i>Milvus migrans</i> ) and Whistling Kites ( <i>Haliastur (Milvus) sphenurus</i> ) and creates a preferential habitat for Masked Lapwings/Plovers ( <i>Vanellus miles</i> ) and Bush Stone-curlews ( <i>Burhinus grallarius</i> ).
<b>Controlled Burns</b>	On or around the Aerodrome (e.g., The Townsville Town Common, Defence land or State land/Council Reserves) during the dry season attracts Black Kites ( <i>Milvus migrans</i> ) and Whistling Kites ( <i>Haliastur (Milvus) sphenurus</i> ) to the smoke plumes to feed on the insects and small mammals/reptiles flushed out by the fire.
<b>Airport lighting</b>	Attracts insects that the Bush Stone-curlew ( <i>Burhinus grallarius</i> ) feed on. During the wet season Striped Burrowing Frogs ( <i>Cyclorana alboguttata</i> ) feed on the insects and is an attractant for the Nankeen Night Heron ( <i>Nycticorax caledonicus</i> ).
<b>Earthworks</b>	During periods of development of maintenance works there may be periods where earthworks are conducted. This activity has the potential to expose food and ponding of water. Attracting species such as Black Kites ( <i>Milvus migrans</i> ), Whistling Kites ( <i>Haliastur (Milvus) sphenurus</i> ) and Masked Lapwings/Plovers ( <i>Vanellus miles</i> ).
<b>Drains/Ponding water</b>	Airside drains and ponding water attract Masked Lapwings/Plovers ( <i>Vanellus miles</i> ) and Bush Stone-curlews ( <i>Burhinus grallarius</i> ). Duck Spp. And Gull, Tern, and Ibis Spp.
<b>Landscaping</b>	Beautification of the terminal and Landside areas have the potential to attract opportunistic species such as Feral Pigeon ( <i>Columba livia domestica</i> ), Starling ( <i>Sturnus vulgaris</i> ), Common Mynas ( <i>Acridotheres tristis</i> ) and Sparrow Spp. And seasonally flowering plants can attract a variety of Native Honeyeater Spp.
<b>Waste management</b>	TSV endeavours to ensure all waste is collected and stored in sealed sanitary containers, preventing wildlife access until it is collected and removed from site by waste management services.

Locations of airside wildlife activity hotspots are identified below on Map 1. Mass is totals from one professional surveys across morning, midday, afternoon, and nocturnal periods.

During the time of survey, TSV had experienced significant rainfall. The RED hotspots highlight wildlife activity that was attracted to ponding water. Significant species of concern were Brolga, Silver Gull, Black-necked Stork, Ibis Spp. Duck Spp. Egret Spp. Magpie Goose and Masked Lapwing.

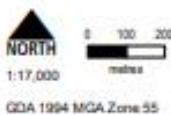
## Wildlife Activity Hotspots – Map 1



Mass recorded in air (kg)

- <0.085
- 0.086 to 0.795
- 0.796 to 1.15
- 1.16 to 3.65
- >3.65

Mass recorded onground (kg)



AIRSIDE DENSITY

Townsville Airport

November 2022

**JASKO**  
AIRPORT SERVICES

## Off aerodrome

In accordance with the National Airport Safeguarding Framework (NASF) 2012 Guideline C. Off aerodrome sites within 3km, 8km and 13km are provided below and mapped in Appendix B.

Site No.	Location/Land-use Type	Distance from Airport (km)	NASF Land-use Category	NASF Guideline Attraction Risk
1.	Stuart Landfill	14.5	Putrescible waste facility – landfill	High
2.	Cleveland Bay Waste Treatment Plant	9.9	Sewage/wastewater treatment facility	Moderate
3.	Townsville Palmetum	7.2	Wildlife sanctuary/conservation area- wetland	High
4.	Turf Club	9.8	Racetrack/horse riding	Moderate
5.	JBS Meatworks	13.0	Cattle/dairy farm	Moderate
6.	Golf Club	6.3	Golf Course	Moderate
7.	Bicentennial Park	5.8	Park/playground	Moderate
8.	Town Common	2.1	Wildlife sanctuary/conservation area- wetland	High
9.	Water Treatment Plant	2.8	Sewage/wastewater treatment facility	Moderate
10.	Rowes Bay Golf Club	2.3	Golf Course	Moderate
11.	Dan Gleeson Flying-fox Colony	7.7	Park/playground	Moderate
12.	Barra Fish Farm	14.8	Fish processing/packing plant	High
13.	Aquaculture	13.5	Wildlife sanctuary/conservation area- wetland	High
14.	Turf Farm	14.1	Turf farm	High
15.	Showgrounds	3.7	Showground	High
16.	Queensland Nickel Evaporation Ponds	16.8	Wildlife sanctuary/conservation area- wetland	High
17.	Flood Plains	1.1	Wildlife sanctuary/conservation area- wetland	High
18.	Rowes Bay Wetlands	1.6	Wildlife sanctuary/conservation area- wetland	High
19.	Secret Beach Coastal Tidal Zone	7.4	Wildlife sanctuary/conservation area- wetland	High
20.	Sun Metals Evaporation Ponds	14.9	Wildlife sanctuary/conservation area- wetland	High
21.	Estuary System	6.9	Wildlife sanctuary/conservation area- wetland	High
22.	Magnetic Island Landfill	11.0	Putrescible waste facility – landfill	High

### 4.3. Risk Assessment

To quantify the risk presented by wildlife at Townsville Airport it is necessary to undertake periodic risk assessments of wildlife species and Aerodrome facilities annually. A standardised approach allows comparison between years.

#### Wildlife Species Risk Assessment

To understand the scale of the hazard and to appropriately prescribe an effective response, it is critical to first define the risk. For a wildlife strike to occur you must have three things - 1. Wildlife, 2. Aircraft and 3. Both aircraft and wildlife occupying the same space at the same time.

The airport has adopted a two-step approach to assessing the risk posed by wildlife to aircraft:

1. **Wildlife Risk Assessment** – considers probability vs consequence. Probability is calculated by assessing the number of species observed over time and their presence in manoeuvring areas. Consequence is calculated by assessing the frequency the species is struck (over 5-years) and the weight of the species.
2. **Specific Operational Risk** – considers the aerodrome's type of aircraft operations and movement frequency, wildlife attracting habitats, activities, natural ecological events, off-airport hazards, and strike history.

### 4.4. Wildlife Risk Assessment

Species are separated into four risk groups: Low Risk, Medium-Low Risk, Medium-High Risk and High Risk.

**Low Risk:** Species identified as Low Risk, are those that are Low Impact and Low Exposure (LL). Meaning they are infrequently surveyed in manoeuvring areas and infrequently struck.

**Medium-Low Risk:** Species identified as Medium-Low Risk are those that are Low Impact and High Exposure (LH). Meaning they are frequently surveyed in the manoeuvring area but are rarely struck.

**Medium-High Risk:** Species identified as Medium-High Risk are those that are High Impact and Unknown Exposure (HU). Meaning they are infrequently surveyed but are struck. This may also include unidentified species due to there being little or no remains to identify.

**High Risk:** Species identified as High Risk are those that are High Impact and High Exposure (HH). Meaning they are frequently surveyed and frequently struck.

It is generally accepted that an airport will never be a sterile environment free of all wildlife. As such we use the above categorising of species risk to direct management. Low risk species are present on the airport but are less likely to come into conflict with aircraft. The Medium-High and High risk species are more likely to come into conflict with aircraft, due to their frequency to be active within the critical areas of the airport.

Generally, these species are successfully managed through good operational practices and active and habitat management. This is detailed in Section 5 - Assurance.

The results of the species risk assessment are shown in Figure 1 below:

Figure 1: Perry Quadratus Risk Model, Reviewed March 2024

<p><b>Medium-Low Risk – 17%</b></p> <ul style="list-style-type: none"> <li>Australian Bustard</li> <li>Grey Headed Goshawk</li> <li>Straw-necked Ibis</li> <li>Sulphur-crested Cockatoo</li> <li>Barn Owl</li> <li>Black Shouldered Kite</li> <li>Feral Pigeon</li> <li>Grass Owl</li> <li>Laughing Kookaburra</li> <li>Silver Gull</li> <li>Unknown - Flying-fox</li> <li>Fairy Martin</li> </ul>	<p><b>High Risk – 11%</b></p> <ul style="list-style-type: none"> <li>Plumed Whistling Duck</li> <li>Black Kite</li> <li>Masked Lapwing</li> <li>Little Red Flying-fox</li> <li>Black Flying-fox</li> <li>Nankeen Kestrel</li> <li>Magpie Lark</li> <li>Bush Stone-curlew</li> </ul>
<p><b>Low Risk – 56%</b></p> <ul style="list-style-type: none"> <li>Australian Pratincole</li> <li>Black-winged Stilt^</li> <li>Common Myna</li> <li>Plover (genus Charadrius)</li> <li>White-throated Needletail</li> <li>Australasian Pipit</li> <li>Beccari's freetail bat</li> <li>Eastern Freetail Bat</li> <li>Goulds Wattled Bat</li> <li>House sparrow</li> <li>Insect Bat</li> <li>Northern Free-Tailed Bat</li> <li>Rainbow Bee-eater</li> <li>Unknown - Sparrow</li> <li>Welcome Swallow</li> <li>White-breasted Woodswallow</li> <li>Cattle Egret</li> <li>Little Egret</li> <li>Royal Spoonbill</li> <li>Australian Magpie</li> <li>Torresian Crow</li> <li>Tawney Grassbird</li> <li>Zebra Finch</li> <li>Pacific Black Duck</li> <li>Osprey</li> <li>Intermediate Egret</li> <li>Peaceful Dove</li> <li>Chestnut breasted Mannikin</li> <li>Radjah Shelduck</li> <li>Australasian Darter</li> <li>Comb-crested Jacana</li> <li>Great egret</li> <li>Sulphur-crested Cockatoo</li> <li>Glossy Ibis</li> <li>Silver Gull</li> <li>Australasian Grebe</li> </ul>	<p><b>Medium-High Risk – 16%</b></p> <ul style="list-style-type: none"> <li>Barking Owl</li> <li>Black-necked Stork</li> <li>Brahminy Kite</li> <li>Nankeen Night Heron</li> <li>Pacific Reef Heron</li> <li>Red-tailed Black-cockatoo</li> <li>White-faced Heron</li> <li>Brolga</li> <li>Whistling Kite</li> <li>Australian White Ibis</li> <li>Magpie Goose</li> </ul>

## 4.5. Specific Operational Risk

The presence of wildlife and aircraft are required for a strike to occur. As such, it is generally the case that the more aircraft movements there are at an aerodrome the greater the chances for aircraft and wildlife to occupy the same space at the same time resulting in a strike.

Different aircraft have different susceptibility to wildlife strikes. Large turbo fan aircraft tend to fly fast, have a large frontal surface area, have a great sucking power through their engines, rendering them more likely to strike wildlife than propeller driven aircraft.

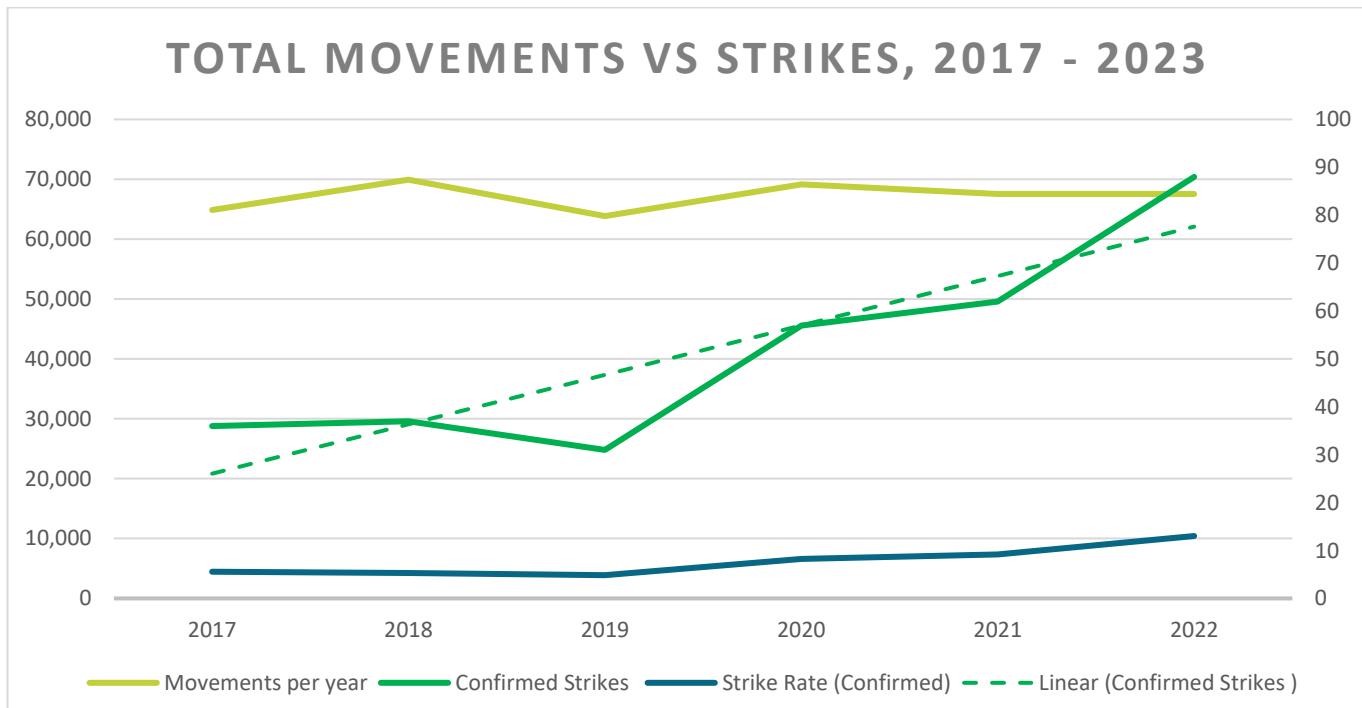
“High-capacity air transport aircraft continue to have a significantly higher bird strike rate than all other operational types. It is likely that the speed and size of these aircraft, longer take-off and landing rolls, and large turbofan engines are factors contributing to the higher rate. Bird strike rates for low-capacity aircraft have generally increased over the ten-year study period, while general aviation bird strike rates remain comparatively low and have not changed significantly over the ten years.”<sup>1</sup>

Aircraft operating at TSV are predominantly RPT turbo fan, General Aviation and helicopter operations combined with significant operations by RAAF. (Figure 2).

Figure 2 illustrates the number of confirmed strikes vs the total movements at Townsville Airport since 2017. A clear correlation can be observed between the number of confirmed strikes and the total number of movements. The implementation of new Flight Strip reporting procedures by AirServices Australia resulted in a notable decrease in reported aircraft movements, particularly due to the exclusion of military aircraft movements. Consequently, this led to a significant distortion in bird strike rate data. To ensure more precise and reliable indicative results, we have opted to utilize the average number of movements between 2017 and 2022, which amounted to 67,560 annual movements, as the factual basis for strike rate data since 2022.

A breakdown of the most common species struck at TSV is contained within **Appendix A**.

**Figure 2: Total Movements vs Strikes, 2017 - 2023<sup>2</sup>**



<sup>1</sup> ATSB 2019, Australian aviation wildlife strike statistics 2008 – 2017

<sup>2</sup> To ensure more precise and reliable indicative results, the average number of movements between 2017 and 2022 has been utilised as the factual basis for strike rate data since 2022., which amounted to 67,560 annual movements per year

## 5. Assurance

### 5.1. Monitoring

#### Routine Monitoring

Where possible, Wildlife management and surveillance patrols are conducted on the runway by ARO's prior to every RPT movement and are mandatory following reports of a wildlife strike. Standard data is entered into the Daily Log and includes areas of the airport patrolled, numbers, location and species of wildlife seen, action taken to disperse the wildlife and results of the action.

Formal standardised wildlife counts are conducted by the ARO's during three different observation periods over Saturday, once per week, and are used to monitor short term trends in wildlife numbers and hazards. Data is entered into the bird count database by the ARO and analysed as required (or at least annually) to monitor short to medium term and seasonal trends.

The frequency of wildlife monitoring, beyond the activities detailed in Table 3, are a matter of professional judgement by the Townsville Airport Aviation department.

**Table 3 – Routine monitoring activities**

Task	Description	Frequency	Responsible	Procedure
Wildlife patrols (routine)	Conduct airside wildlife management and surveillance patrols	Daily - ongoing	ARO	Wildlife Management Procedure
Wildlife patrols (post-strike)	Conduct airside wildlife management and surveillance patrols	Daily - ongoing	ARO	Wildlife Management Procedure
Wildlife patrols data management	Record all strikes, management, surveillance and inspection actions in relevant logs and forms	Daily - ongoing	AROS	Wildlife Management Procedure
Wildlife counts (staff)	Conduct wildlife counts	Weekly	ARO	Wildlife Management Procedure
Wildlife counts data management	Maintain electronic records of wildlife counts and review as required to assess changes in populations	Ongoing	ARCO	Wildlife Management Procedure
Hazard Trending	Management and review of wildlife and aircraft movement trends	Ongoing	RGM, OSM	'WHM_Data' Database Noggin Wildlife Reporting Dashboard

#### Non-routine Monitoring

**Table 4 – Non-routine monitoring activities**

Task	Description	Frequency	Responsible	Procedure
Development on Airport land	Applications for development on Townsville Airport Civil and Joint-user Area land are assessed for wildlife attraction.	As required	All TAPL Staff	TAPL EMS
Development in the vicinity of Airport	Development on Defence land is at the discretion of Defence and consulted with TAPL.	As required	DoD	
	Liaise with local authorities / landholders to ensure the airport is considered in development applications or land use planning.	As required	RGM, OSM	Protection of Airspace

## 5.2. Recording

Records of the above monitoring activities are kept in relevant logs, spreadsheets, and databases to provide evidence of management actions. These records are available via the Aviation SharePoint site, Townsville Airport Online Reporting System – *Noggin*, or by contacting [aviation@tsvairport.com.au](mailto:aviation@tsvairport.com.au).

## 5.3. Wildlife Management

### Passive Management

Passive management involves modifying habitats or other aspects of the environment to indirectly remove or reduce the amount of wildlife in high strike risk areas. Techniques utilised at Townsville Airport are assisted by the DoD contractors for airfield mowing.

### Active Management

Sometimes manipulating the habitat is not possible or does not reduce the attractiveness of the Airport and as such, active management techniques are employed to manipulate wildlife behaviour. Active management involves directly removing or reducing the numbers of wildlife in high strike risk areas.

### Removal

When efforts to manipulate wildlife behaviour from returning or relocating to the area have failed; and the risk they pose is too great for safe aircraft operations then further intervention techniques will be employed. Removal techniques will vary based upon the risk the wildlife poses to Aerodrome safety and staff as well as species behaviour.

### Management of Feral Animals

Townsville airport has a GBO under the Townsville Airport has a General Biosecurity Obligation (GBO) under the Biosecurity Act 2014 to manage feral animals on their land. Where feral animals are sighted or reported to have been sighted in airside areas, Townsville airport, will join efforts with DoD, Townsville City Council and/or other external agencies to manage the risk of strikes involving feral animals.

### Ethical Responsibility

Townsville Airport staff, that are required to handle wildlife, are trained in the ethical handling and treatment of wildlife at Townsville Aerodrome. All staff ensure that they comply with the Animal Care and Protection Act 2001 (Qld), with advice sought from specialists such as Biologists for ethical removal of species where required. Townsville Airport follow the Humane Code of Practice for ethical removal of pest species. More information is available at <http://www.feral.org.au/animal-welfare/>.

## 6. Promotion

### 6.1. Training and Education

The below training and education are included within the QAL Learner Management System and is updated in line with the WHMP review. Practical on-the-job training is also provided to new staff as part of the Aerodrome Reporting Officer (ARO) Training Plan and Practical/Competency Checklist.

**Table 5 – Townsville Airport Pty Ltd staff training outline**

Training Type	Frequency
Induction to the Wildlife Hazard Management Plan and Procedures	On commencement of employment and on completion of document reviews
Bird and Animal Identification	On commencement of employment and as required
Bird and Animal Counting Techniques	On commencement of employment and as required
Harassment Techniques	On commencement of employment and as required
Firearm training	Accredited firearm safety training renewed 5 years and annual refresher training
External Contractors	Site Inductions for major airside projects
Wildlife Refresher Training	Biennial

### 6.2. Communication

A bird hazard warning notice is included in the ERSA. ATC is notified as to inform pilots where a wildlife hazard is above normal and presents a high risk to safe aircraft operations. In addition to notifying ATC, the ARO will work with ATC and Air Services Australia to raise a NOTAM which must provide specific information on species, period of risk, likely location, and flight path.

**Table 6 – Wildlife hazard reporting**

Task	Description	Frequency	Responsible	Procedure
Reporting hazard (immediate)	Notify ATC to inform pilots of additional risk levels. The AROS and OSM is also notified.	As required	ARO	Wildlife Management Procedure
Bird Watch Report	Report to be issued to airlines and operators advising on known Wildlife hazards present at the aerodrome when the risk is increased.	As required	AROS, ARCO	Wildlife Management Procedure
NOTAM	NOTAM to be issued if a Wildlife Hazard exists whereby a Wildlife Strike is likely.	As Required	AROS, ARO, OSM	Wildlife Management Procedure

The following methods are available to TAPL to formally communicate wildlife related messages to relevant stakeholders.

**Table 7 – Communication methods**

Task	Description
Aviation SMS Alert System	A form of critical information that is issued when there is an urgent need to promulgate environment, safety, security or operational related information or action. This may follow the investigation of an event or a change to the operating environment. These may be issued for internal information only or to the wider airport community including regulatory agencies and DoD (Appendix C).
Notice To Officers	A formal method to disseminate and record acknowledgement of information or to advise of new, revised or reinforce operations and procedure (Appendix D).
Bird Watch Report	A formal method to distribute information relating to the existence and location of birds that pose a hazard to flight safety to relevant stakeholders (Appendix E).
Meetings	Internal and external forums designed to discuss aerodrome safety and wildlife issues. These include: <ul style="list-style-type: none"> <li>▪ Runway Safety Committee Meeting.</li> <li>▪ Wildlife Hazard Management Committee.</li> <li>▪ Safety Management System Committee.</li> </ul>

Task	Description
	<ul style="list-style-type: none"> <li>▪ Aerodrome Reporting Officer Operational Team Meeting.</li> </ul>

### 6.3. Reporting

All strike reports are forwarded to the ATSB and entered in the Townsville Airport's strike database.

To assist in identifying the species involved, photos of, or physical carcasses/remains (feathers or fragments) are collected where possible and stored for possible further analysis. The AROS/ARCO will organise for the remains to be identified by the Museum of Tropical Queensland or the Australian Museum where the species cannot be determined by physical inspection.

Airlines and Aircraft Operators must ensure that they check data provided to them through strike reports and notify the OSM of any changes or corrections required. To ensure priority risk species can be identified it is essential that Airlines and Aircraft Operators provide an approximate damage report and any delays (including costs, where possible) to the OSM.

Table 8 outlines the regular reports that are created with reference to wildlife information. A copy of the reports listed can be made available by contacting the Townsville Airport Aviation department.

**Table 8 – Regular reporting documents and responsibilities**

Report Type	Frequency	Comments	Responsible
Aerodrome serviceability inspection report	Daily	Information is used to determine minimum harassment methods/resources required.	ARO
Daily Log	As Required	Information on the wildlife activity is recorded in the Daily Logbook electronically. Information from the Logbook is used to inform Airport management of the status of the wildlife hazards at the Airport.	ARO
Notice to Airmen (NOTAM)	When an unusually high bird hazard is present at the Airport.	A NOTAM is issued when an unusually high bird hazard is present at the Airport. The NOTAM must include species details. The Airport procedure for issuing a NOTAM must be followed.	ARO
Wildlife counts	As specified in Airport Procedures	Counts are entered into the Townsville Airport Online Reporting Platform - Noggin.	ARO
Wildlife Strike Reporting	Please refer to definitions for reporting.	<p>All suspected and confirmed wildlife strikes to aircraft, no matter how insignificant they might appear, are to be reported to the ATSB within 72hrs of the incident.</p> <p>Please refer to the Wildlife Management Procedure for further information.</p>	Engineers, Pilots, ATC, ARO, Ground staff
Significant Strike Reporting	As required	<p>A “significant wildlife strike” is deemed to occur whenever:</p> <ul style="list-style-type: none"> <li>▪ There is damage evident on the aircraft due to a strike</li> <li>▪ There is an effect on flight</li> <li>▪ More than one bird is involved: or</li> </ul> <p>At the discretion of the OSM</p>	Engineers, Pilots, ATC, ARO, Ground staff
Bird Watch Reports	As required	Released for above low risk conditions. Bird watch reports aim to provide information to stakeholders on what species to look out for over a certain period, including details on behaviour and location.	ARCO/AROS
Bird Strike and Management Report	Twice yearly	Presented to the WHMC	ARCO/AROS

#### **6.4. Research Projects and Trials**

The Airport will consider all applications for trials to reduce bird activity at the Airport. Applications are submitted and reviewed by the WHMC. A trial application must include (but not limited to):

- Measurable outcomes.
- Risk assessment including ensuring maintaining CASA compliance with MOS 139 throughout the trial.
- Implementation and management of the trial.
- Trial period and costs.

After reviewing the application, the WHMC will either:

- In writing refuse to conduct the trial due to safety concerns.
- Submit the proposal to the Operations and Standards Manager for approval.

The Operations and Standards Manager has the authority to stop the trial if at any time aircraft safety is at risk.

Trial applications will be evaluated via a cost benefit analysis in addition to a formal risk assessment.

## 7. Evaluation

### 7.1. Key Performance Indicators

**Table 9 – Wildlife Hazard Management performance indicators**

Target	Performance Indicator	Type
Mitigations commensurate with risk exposure	Monthly wildlife management actions follow the trend in wildlife counts	Leading
Year on year reduction or steady number of wildlife strikes	Number of wildlife strikes (per 10,000 movements)	Lagging
Year on year reduction or steady number of high-risk wildlife strikes	Number of high-risk wildlife strikes (per 10,000 movements)	Lagging
Year on year reduction or steady in number of damaged aircraft from wildlife strikes	Number of damaged aircraft from wildlife strikes (per 10,000 movements)	Lagging
Year on year reduction or steady unknown wildlife strikes	Number of unknown wildlife strikes, DNA analysis completed (per 10,000 movements)	Lagging
Timely reporting of wildlife strikes	% Strikes reported to ATSB within 72 hours	Lagging
Regular reviews of the system	Annual review of WHMP and WHM Procedures conducted	Lagging
Consultation occurs with TAPL stakeholders	Number of Wildlife Hazard Management Committee meetings (over 12 months) or other meetings where wildlife is referenced as outlined in section 6.2.	Lagging

### 7.2. Review and Audits

A review of the WHMP is undertaken annually by suitably qualified persons. The scope of the review will:

- Be based on performance indicators and audit findings.
- Ensure compliance with all current legislation.
- Update the assessment of risk using updated strike and monitoring data and observations.
- Ensure all procedures, roles, responsibilities, and associations listed are current and relevant.
- Ensure all management actions undertaken by TAPL are appropriate and listed in the WHMP.

#### External

Townsville Airport aims to conduct an external audit of the WHMP every 5 years. Airport operators are encouraged to carry out their own internal audits on Townsville Airport based upon their own internal company policies.

## 8. Supporting Information

### 8.1. Procedures

The Wildlife Management Procedure and Firearms Procedure provide the details and background for correct and safe implementation of the WHMP.

### 8.2. Documents

The following documents provide further background:

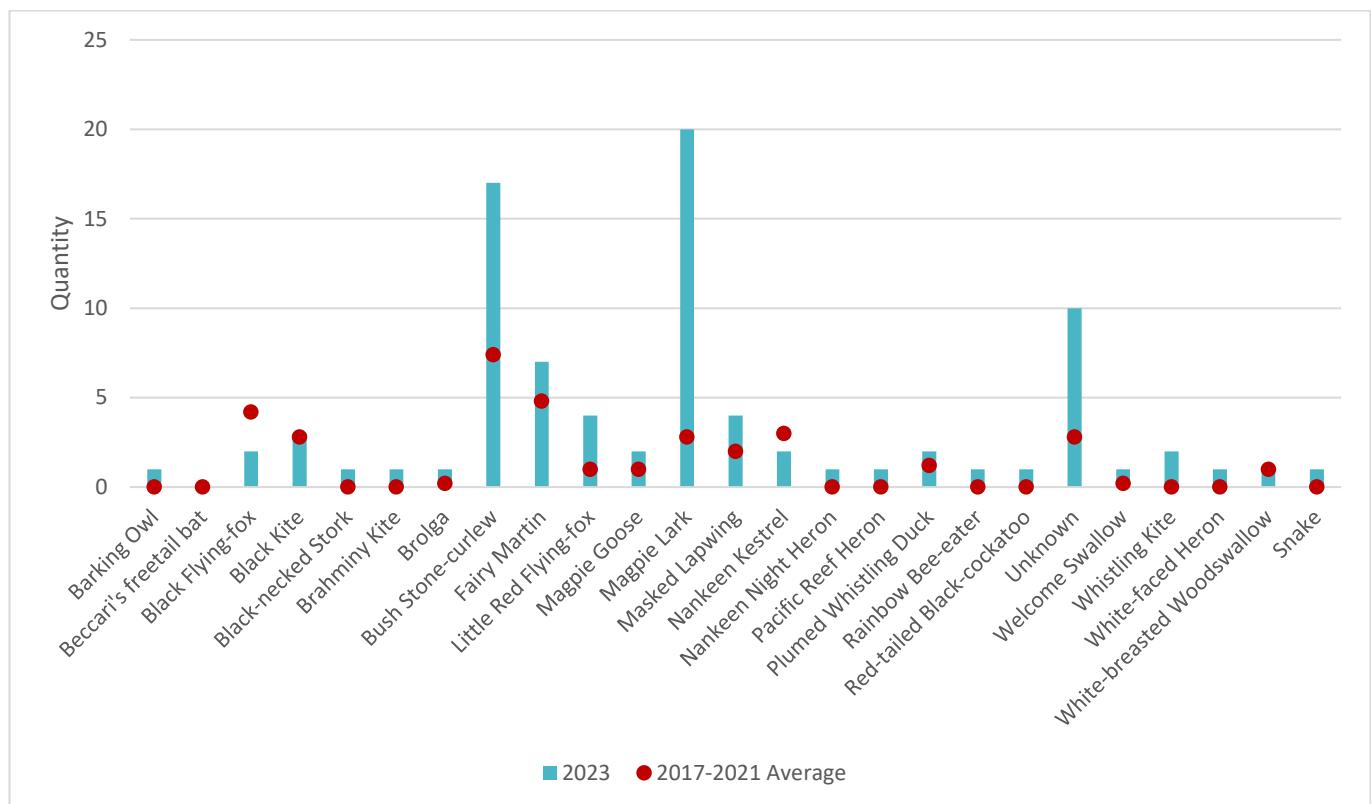
- Townsville Airport Master Plan (incorporating Airport Environment Strategy) 2016-2036
- Townsville Airport Aerodrome Operations Manual 2022
- Townsville Airport Aviation Safety Management System 2023
- Queensland Airports Limited Environment Policy 2022

## 9. Appendices

- Appendix A: Strike Data History
- Appendix B: Off Aerodrome Wildlife Attracting Features NASF Map
- Appendix C: Aviation Alert System
- Appendix D: Notice to Officers
- Appendix E: Bird Watch Report
- Appendix F: RAAF Base Townsville Aerodrome Manual – Military Supplement. Available from RAAF.

## Appendix A – ATSB Strike Data History

### 2023 Species Struck vs. 5-year Average.

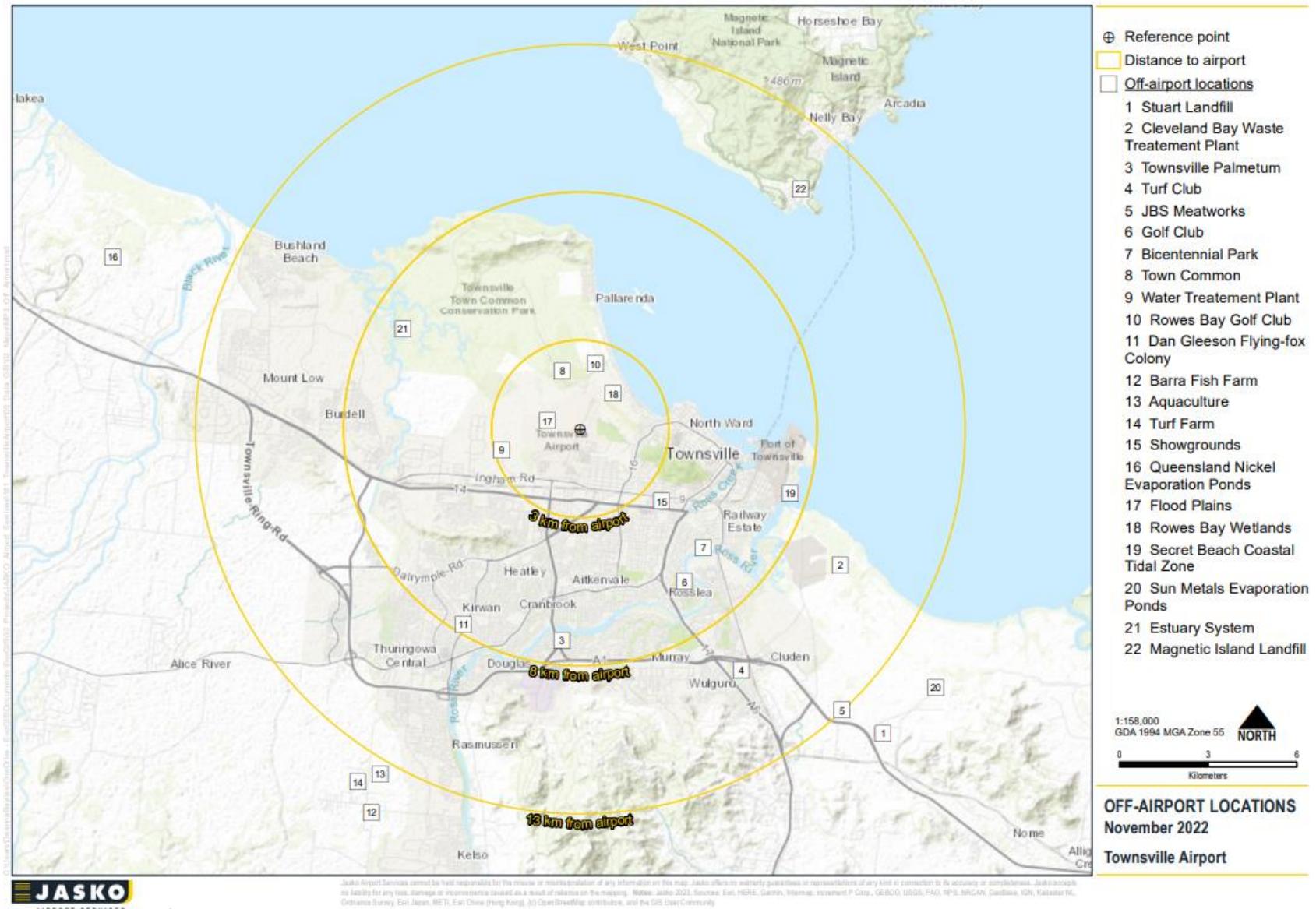


Above chart depicts the count of species struck in 2022 vs the 5-year average from 2017-2021. The most significant finding is the decline in count of 'unidentified bird' strikes. This metric is significant in achieving better understanding of the risk and is commensurate with a mature and functioning Wildlife Hazard Management Program.

TSV maintains constant review of data and changes in wildlife hazards and trends via the 'WHM\_Data' Database.

## Appendix B – Off Aerodrome Wildlife Attracting Features up to 13km

Map 2 below shows off aerodrome land uses with the potential to attract wildlife within 3km, 8km and 13km of the Townsville Aerodrome.



## Appendix C – Aviation Alert System

**TSV** Townsville  
Airport

# SMS Aviation Alert

Number	Area	Type	Issue Date	Approved By
014	RPT Apron Bay Allocation	Operations	16 Sep 2021	Operations & Standards Manager

### RPT Aircraft Apron Bay Incursions

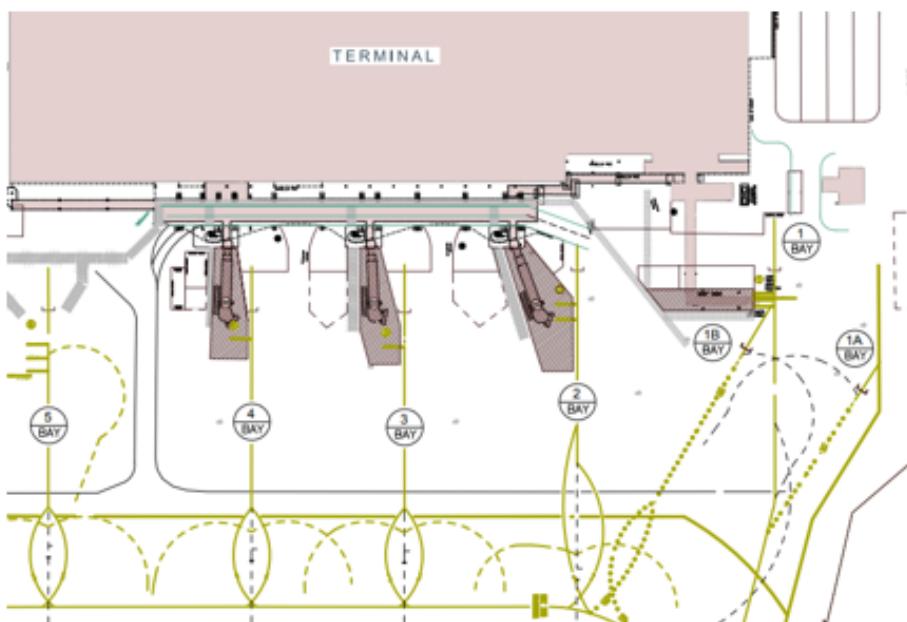
TSV Airport Operations has experienced an increased trend of aircraft incidents specific to RPT aircraft positioning on unallocated RPT apron bays.

In two instances the Airport Authority (TAPL), Ground Handling Agent (GHA) and Air-traffic Control (ATC) provided the correct bay allocation to the aircraft operator though the aircraft operator commenced parking on the unallocated bay. In both instances the aircraft conducted a non-compliant manoeuvre to reposition to the correct bay.

In one instance a late notice bay change resulted in the aircraft positioning on the incorrect bay as there was a failure to adequately communicate the change to the aircraft operator.

As a reminder, please ensure;

- Aircraft operators are aware of the RPT apron parking arrangements at Townsville Airport. The RPT Apron Facilities Plan detailing parking guidance is available upon request from TAPL.
- Aircraft operators remain aware and vigilant of aircraft parking position designation markers and published information detailing apron parking positions.
- The GHA and Airport Authority correctly and sufficiently communicate bay allocation information to the aircraft operator and ATC.



Please report any incidents immediately to the Townsville Airport Aerodrome Reporting Officer ('Safety One') on 0418 771 999 or email [aviation@tsvairport.com.au](mailto:aviation@tsvairport.com.au)

## Appendix D – Notice to Officers

An example of the Notice to Officers is shown below and can be found on SharePoint under Aviation Compliance, Communication.

<b>Notice To Officers (NTO)</b> <small>PO Box 7636 Gerbill QLD 4814   P: +61 7 4727 3211   F: +61 7 4779 1843   ACN 081 257 490</small>		 <small>A Queensland Airports Limited Company</small>																	
<b>Additional Wildlife Management required due Increase of Bird Activity</b>		<b>Number:</b> 029																	
<b>Brief background and description</b> <p>This NTO raises attention to <i>Bird Watch Report #134</i> - Attachment A. Following a Magpie Geese bird strike, additional wildlife management is required to ensure sufficient and consistent management of this high-risk species. Please ensure emphasis is put on wildlife management during the magpie geese times of activity; <b>0600 to 0900 and 1600 to 1900</b>. This includes;</p> <ul style="list-style-type: none"> <li>On-going wildlife management and runway inspections during these times.           <ul style="list-style-type: none"> <li>Aiming to disperse magpie geese as soon as possible before the geese can establish in the critical areas.</li> <li>Consistent harassment to disperse magpie geese West from the aerodrome, with the aim to have no magpie geese on the Eastern side of Runway 01/19 at any time.</li> </ul> </li> <li>Continue to report wildlife management accurately in Noggin.</li> <li>Continue to report additional attractants such as overgrown grass, ponding and ensure appropriate follow-up to mitigate any risks as required.</li> <li>Continue to communicate any wildlife hazards directly and timely to ATC.</li> </ul>																			
<b>Reference Documents, Contacts and Permits</b> <ul style="list-style-type: none"> <li>Wildlife Hazard Management Plan (WHMP)</li> <li>Bird Watch Report 134</li> </ul>																			
<b>Authorisation</b> <p>This NTO has been developed in consultation with the GMRP.</p> <table> <tr> <td><b>Author:</b> OSM / ARCO</td> <td><b>Reviewed By:</b> Kyle Morris</td> <td><b>Issued:</b> 08 March 2021</td> </tr> </table> <table border="1"> <tr> <td>Name</td> <td>Signature</td> </tr> <tr> <td> </td> <td> </td> </tr> </table>			<b>Author:</b> OSM / ARCO	<b>Reviewed By:</b> Kyle Morris	<b>Issued:</b> 08 March 2021	Name	Signature												
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Name	Signature																		
<small>Version 2</small>		<small>February 2017</small>																	
<small>Page 1 of 2</small>																			

## Appendix E – Bird Watch Report



# Bird Watch Report

Number	Issued	Review	Prepared By	Condition
135	13 Oct 2022	13 Nov 2022	Operations & Standards Manager	Moderate

### Details

<b>Current situation</b>	Little Red Flying-foxes and Black Flying-foxes overflying the aerodrome.		
<b>Location</b> Specific on aerodrome	Migrating east/west over aerodrome between TWY Charlie and TWY Golf during dawn and dusk periods.		
<b>Time of activity</b> When wildlife are active	0600 to 0900 Local and 1600 to 2100 local		
<b>Wildlife type, number and size</b>	Little Red Flying-foxes Scattered flocks of up to 100 Medium (600g)	Black Flying-foxes Scattered flocks of up to 100 Large (1000g)	
<b>Weather</b>	Rainfall for August 2022- 14mm Rainfall for October 2022- 23.6mm		
<b>Management strategies implemented</b>	Aerodrome Reporting Officers (ARO) conduct bird harassment as required or requested and runway inspections prior to each jet operation. Additional wildlife inspections conducted throughout the morning and afternoon. Passive management such as grass cutting will continue to reduce numbers.		

### Additional Information

Species	Size	Flocking	Risk Rating	Present at the Airport	Time Active
 Little Red Flying-fox <i>Pteropus scapulatus</i>	Medium (600g)	✓	High	Seasonally, April to December. Main risk period August to October.	0600-0900 1600-2100
 Black Flying-fox <i>Pteropus alecto</i>	Large (1000g)	✓	High	All year round	0600-0900 1600-2100

For further information or to report wildlife hazards and strikes please contact the Townsville Airport Aerodrome Reporting Officer 0418 771 999.

Please preserve any remains for identification purposes, including DNA analysis.

### Information Sources

<b>AIP ERSA</b>	ADDITIONAL INFORMATION 1(a)-(e)		
<b>NOTAM</b>	INCREASED BIRD HAZARD (FLYING FOXES) IN VCY RWY 01/19	Date Raised:	14/10/22 Number: C0501/22

### Condition Legend



<b>Alert</b>	Weather, time of day and seasonal conditions which make an influx of birds onto the airfield likely.
<b>Low</b>	Normal bird activity on and above the airfield with a low probability of hazard.
<b>Moderate</b>	Concentrations of birds observable in locations that represent a probable hazard to safe flying operations.
<b>Severe</b>	Heavy concentration of birds on or immediately above the active runway or other specific locations that represent an immediate hazard to safe flying operations.