



Australian Government

Australian Transport Safety Bureau

ATSB Bird Information Sheet No.7

Magpies

Managing bird strike risk at Australian airports



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AUSTRALIAN MAGPIE

Gymnorhina tibicen

Strike Risk

ATSB rank 13 *

Between 1991 and 2001 there were 117 bird strikes reported to ATSB which involved Magpies. Of these:

- 5.1% resulted in damage to aircraft
- 5.9% had an effect on planned flight
- 5.9% involved more than 1 bird

A medium-small grassland species, Australian Magpies present a significant risk to aircraft due to their preference for short grassland habitat and their highly territorial behaviour. Young birds are more likely to pose a strike risk as they are inexperienced and less likely to avoid aircraft.

*Ranking and figures were obtained from *The Hazard Posed to Aircraft by Birds* (ATSB 2002). <http://www.atsb.gov.au/aviation/research/birdstrike.cfm>

About Magpies

Magpies at Airports

Australian Magpies are attracted to the short or sparse vegetation on airports, which provide access to terrestrial invertebrates. They are well represented in the ATSB bird strike database, and are a significant risk to aircraft at many Australian airports.

There are various attractions for Australian Magpies at airports:

- **Food**
Short grassland areas that are found at most Australian airports are the preferred habitat of Australian Magpies, allowing them access to the soil to forage for invertebrates.
- **Territories**
Territories are formed in areas which provide adequate resources such as food and nesting sites. Most airports are ideal and several birds may form territories in airside areas.
- **Perching**
Perching areas are vital for magpies to hunt for prey, view their territory and display to other magpies. Perching sites include fences, trees and shrubs, gable markers, runway lights and other airside equipment.

Australian Magpie

Gymnorhina tibicen

Size

Length 38-44cm; wingspan 22-30cm; weight 206-387g.

Identification

Adults are a medium sized black-and-white bird with white/grey bill that has a pointed black tip.

Juveniles are duller in colour and mottled, and the bill is grey and shorter.

Distribution

Magpies are found right throughout Australia except for the desert regions of Western Australia, the tip of Cape York and the northern region of the Northern Territory. Different varieties of magpie are found in different regions.

Preferred Habitat

They prefer open areas with tall trees. Magpies are commonly observed in orchards, golf courses, playing fields, suburban areas, gardens, airports, and crops.

Food

Magpies eat a large variety of insects and other invertebrates. However they have been known to eat seed and some meat. They mostly forage on the ground, especially in open grassed areas, using their strong bill to probe the soil.

Behaviour

They are highly territorial during nesting seasons. The male will swoop other birds to keep them away from the territory. This swooping behaviour is used against humans who are perceived to have threatened the nest or young. In the non-breeding season, Magpies are generally observed in small groups of 2-24 individuals.

Breeding

Breeding takes place from June to December, with the most territoriality shown throughout September and October. Usually 2-3 eggs are laid in a small shallow nest, which is constructed by the female, comprising sticks and twigs lined with a variety of leaves and other plant material as well as wool, hair and wire. The nest is usually located 5-15m above the ground in tree forks.



K. Murray

Managing the Magpie Hazard at Airports



Active Management

Active bird management involves scaring or removing birds from the airport. There are numerous options available for the task, some of which have limited effect in the long term as birds become used to them. Generally, a combination of techniques provides the best results. For Magpies, the following active management options can be considered:

- ✓ Disperse Magpies using pyrotechnics (such as cracker shells), portable distress callers, sirens, lights and vehicles.
- ✓ Occasional killing (shooting) may be required (under permit from the relevant state or territory authority) to reinforce the impact of equipment used for dispersal. It should not, however, be considered as the primary solution for airports.
- ✓ Use qualified and licensed specialists to trap and relocate breeding males. Active nests should be destroyed before eggs hatch.
- ✓ Using trained animals such as birds of prey to disperse birds from airports has been highly successful in North America and Europe. This can be a costly operation, requiring specially trained animals and experienced handlers. Permit requirements for such activities vary between states and territories in Australia.

Note: not all the suggested strategies have been proven in Australia and it may be necessary for each airport to independently trial any particular method before incorporating it into their bird management plan.

Habitat Modification

All bird management strategies should seek to initially make an airport as undesirable as possible to birds through habitat modification. An assessment of the airport should be completed by a person qualified and experienced in identifying bird attractions and recommending site-specific modifications.

Limiting Australian Magpie attraction at airports may require:

Limiting Food Supply

- ✓ Reduce the frequency of mowing or mow at night to limit the availability of invertebrates, such as worms or insects, which may be exposed during mowing.
- ✓ If worms adjacent to the runways are the main attraction to Magpies, chemical treatments such as Benomyl or Tersan (commercial fungicides) can be considered after all other measures have been tried. Consideration must be given to possible environmental impacts of using such chemicals.

Perching and Nesting Areas

- ✓ Install anti-perching spikes and wires to eliminate attractive perching and roosting areas.
- ✓ Remove Magpie nests from trees in close vicinity to airside grasslands.

Grass Management

- ✓ Employ a tall grass policy in all non essential areas. Grass maintained at around 30cm makes it difficult for Magpies to access invertebrates in the ground and to see approaching predators.

Note: A tall grass policy should only be adopted if it is carefully planned and monitored. In some instances it may increase rodent populations and attract other bird species such as birds of prey. See "Managing Grasslands" Information Sheet No. 3 – Masked Lapwings.

Pyrotechnics

Various noise-making shells fired from shotguns, starter pistols and flare pistols (e.g. cracker shells, flares, firecrackers, rockets and mortars) are usually the primary bird deterrent used at airports. In Australia, most airports use cracker shells which are expelled from a shotgun.

Pyrotechnics must be used carefully for maximum effect. The best approach is to:

1. Use carefully selected shots,
2. Use a minimum number of shots,
3. Ensure that shots explode very close to the birds and,
4. Use them in conjunction with other deterrents.

The user of pyrotechnics should always be positioned between the flock and runways to avoid sending birds across aircraft flight paths. By overuse or inappropriate use, some bird species will habituate to pyrotechnics. They will quickly learn to stay away from the bird patrol vehicle, potentially moving to a more critical area from a flight safety point of view. Firearm licensing requirements should be satisfied and suitable safety protocols adopted.

Did you know?

- During their breeding season magpies, essentially the male, will aggressively defend their nest from any potential predators that may be likely to threaten their territory, nest, or chicks. Due to their choice of nesting sites, humans are often susceptible to this swooping.
- There are several ways to avoid or minimize the risk of being swooped. Nest avoidance is the most effective, by avoiding the nest and the surrounding territory, the risk of being swooped is significantly reduced. Swooping usually only extends over a period of 6-8 weeks in most areas, and it is extremely unlikely, unless provoked, to be swooped by magpies outside of this breeding time.
- Although the female effectively raises the offspring on her own, without the male's aggressive defense it is likely that it would be too difficult for her to do so successfully.
- Whilst the average lifespan of the magpie is unknown, some individuals have been known to live for up to 30 years.
- As a result of their acute sense of hearing, Magpies are able to locate lawn grubs and other garden pests, therefore making them an effective natural control method for garden pests.

Culling as a Wildlife Management Tool

Culling is considered an important and sometimes necessary part of an airport's wildlife management program. Permits are required from state and territory government environment departments for the removal of any native fauna. Introduced species such as Rock Doves, Common Starlings and Common Mynas do not require permits prior to culling.

Options for culling include shooting, trapping and humane destruction or poisoning. Poisoning should be done in accordance with the label of the selected product and the user should be mindful of negative environmental impacts and adverse public relations that may result from injudicious use.

All culling should be very selective in order to achieve the best results and avoid unnecessary killing. It should be conducted in conjunction with dispersal methods such as pyrotechnics and portable distress callers to reinforce the impact of these techniques.

To ensure strategic use of culling as a wildlife management tool, consideration should be given to:

1. The risk posed by the species (size, flocking nature, population, behaviour, persistence),
2. Location of the bird (particularly if on runways, flight strips and undershoot areas),
3. Ineffectiveness of other control measures on the particular individuals.

There are some species such as birds of prey or birds listed under federal or state government acts (see "Protected birds" Information Sheet 3 – Masked Lapwings) for which alternative measures must be considered first. This may include trapping and relocation where persistent individuals do not respond to dispersal strategies.

For further information:

ATSB (02) 6274 7452

www.atsb.gov.au

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