Australian Government
Australian Transport Safety Bureau

ATSB Bird Information Sheet No.8

Rock Dove

Managing bird strike risk at Australian airports

Rock Dove

Columba livia

Strike Risk

ATSB rank 9 *

Between 1991 and 2001 there were 53 bird strikes reported to ATSB which involved "pigeons" (Rock Doves). Of these:

- 16.9% resulted in damage to aircraft
- 0% had an effect on planned flight
- 30.9% involved more than 1 bird

A medium-small sized bird, Rock Doves present a serious risk to aircraft as they take off explosively from the ground, forming compact fast flocks and wheeling unpredictably. Frequently, more than one bird is struck which can potentially cause the failure of one or more engines.

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

B. Green

About Rock Doves

Rock Dove

Columbia livia

Other Names
Feral Pigeon, Domestic Pigeon, Homing Pigeon.

Size
Length 31-34cm; wingspan 63-70cm; weight 295-320g.

Identification
Adults can be quite a variety of colours from grey to black and white and red-brown. Most are blue-grey with green and purple metallic sheen on neck, two black bars near centre of wing; underwing and rump white and upper wing a light blue-grey.
Juveniles are similar to adults but colours tend to be duller and sheen is not developed.

Distribution
Rock Doves are found throughout much of the continent, with escapee Homing Pigeons extending the range and distribution of the species.

Preferred Habitat
In their natural environment, Rock Doves nest in loose colonies on coastal cliffs. In human environments, nesting takes place on skyscrapers and a variety of buildings whose structure and perches effectively emulate that of the traditional coastal cliffs.

Food
Food preference is for seeds from a variety of native and introduced plants. Rock Doves also scavenge for food scraps.

Behaviour
Throughout urban environments, individuals and flocks are generally tame. Breeding individuals may be wary.

Breeding
Breeding takes place anywhere within its distribution, without any definite season. Like most pigeons, males will undertake a series of bowing and posture display. Generally two eggs are laid.

Rock Doves at Airports

The main attractions for Rock Doves at airports include:

- **Food**
  Rock Doves are mainly granivourous, feeding on seeding grasses and weeds, and occasionally invertebrates. Poorly managed grasslands provide a food source when grasses and weeds are allowed to seed.
- **Nesting**
  Buildings and other sheltered areas provide suitable nesting sites for Rock Doves.
- **Roosting**
  Rock Doves roost communally in concealed areas such as buildings, disused machinery and communications towers.
- **Water**
  Watering points at airports provide Rock Doves with a permanent water source, allowing them to live exclusively on airports.

Trapping Birds

Birds such as Rock Doves that may inhabit hangars or other airport buildings and other species that are persistent even after appropriate dispersal is attempted may have to be trapped.

There are various types of traps available, depending on the bird species. Cage traps that can hold up to 100 birds are readily available for capturing Rock Doves. Following capture, Rock Doves should be humanely destroyed. Permits are not required for destruction of this species as it is an introduced pest.

Trapping and relocation should also be considered where culling is perceived to be unsavoury, such as with birds of prey or species listed under State or Federal legislation. Larger traps for birds of prey may need to be specifically designed. The relocation of trapped birds must be carefully considered. Many bird species will return to their place of capture if not released some distance away and care must be taken not to release birds in an area where other birds of the same species have an existing territory. Permits are required from state/territory authorities prior to trapping native animals.

Managing the Feral Pigeon Hazard at Airports

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 Rock Dove attraction at airports may require:

Restricting Nesting, Roosting and Perching Areas

- Prevent Rock Doves from accessing roosting and nesting sites in buildings and all other potential areas by sealing all entrances.
- Install anti-perching spikes and wires to eliminate attractive roosts and loafing areas.

Food Reduction

- Ensure effective waste management procedures are followed by all staff and tenants working on or in the vicinity of an airport.
- Public education through signs and pamphlets to discourage public feeding of pigeons at or adjacent to the airport.
- Manage grasslands to limit the production of seeds. This involves mowing at a height which only removes seed heads, whilst maintaining tall grass.

Removing Watersources

- Watering points and other watersources must be managed to ensure that no water is available to birds.

Restricting the Keeping of Homing/Racing Pigeons

- Racing Pigeons kept in a yard of an airport's neighbour can fly unpredictably when being exercised or escape, posing a risk to aircraft.
- Homing/Racing Pigeons should not be kept within 13km of an airport

Active Pigeon 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 Rock Doves, the following active management options can be considered:

- ✓ Shooting at night using air riffles. Permits are not necessary for this introduced species, but extreme care must be exercised and operators must have a firearms license.
- ✓ Trapping and humane destruction.
- ✓ Poisoning of Rock Doves is a common technique for removing unwanted populations. This should be conducted by a qualified and registered pest control professional.
- ✓ Disperse using pyrotechnics (such as cracker shells), portable distress callers, sirens, lights and vehicles. Dispersal of this species is often only a very temporary solution and culling should be considered first.
- ✓ Off-airport active management may include removal of nests at breeding sites and rendering them inaccessible for future breeding. Some management programs use traps and suitable poisoning techniques to aid in limiting population growth.

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

Bird Proof Building

Bird proofing buildings is necessary to reduce numbers of several bird species that inhabit airports, including Rock Doves. Following an inspection to identify the main entry points and perching areas for birds, the following can be considered:

- All entry points to building cavities should be sealed by filling gaps, using netting, or any other means necessary. It is important that sealing is carried out in such a way as to not trap any birds inside the building as this will lead to inhumane death of birds and cause unsavoury odours.
- Spikes installed on perching areas are a simple way of restricting access to pigeons.
- Gel products can be applied to building surfaces which pigeons find uncomfortable to perch on.

Active Management Tools

The following recommendations for active management tools are derived from international research and experience (particularly in North America) and may or may not be relevant for Australian conditions. As little research into active management tools has been conducted in Australia, the recommended tools may serve as a starting point for individual airports to trial.

(Note: these recommendations are not specific to Rock Doves, but are meant for consideration in managing all species at airports)

Not Recommended	Limited Recommendation	Highly Recommended
High-intensity sound	Gas cannons	Pyrotechnics
Microwaves	Phoenix Wailer ®	Falconry
Lasers	AV-Alarm ®	Distress and alarm calls
Ultrasound	Bird Gard AVA ®	Shooting
Aircraft hazing	Bird Gard ABC ®	Trapping & remote release
Smoke	Scarecrows	
Magnets	Reflecting tape	
Lights	Predator models	
Dyes	Hawk kites and balloons	
Aircraft engine noise	Gull models	
Infrasound	Chemical repellents	
	Foam	
	Predator calls	
	Lure areas	
	Surfactants and water spray	
	Model aircraft	
	Poisons	
	Dogs (Border Collie)	

Source: Sharing the Skies, Transport Canada 2001. http://www.tc.gc.ca/civilaviation/aerodrome/wildlifecontrol/tp13549/menu.htm

For further information:

ATSB (02) 6274 7452
www.atsb.gov.au

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