

Minimising the damage and nuisance caused by **Muir's corella**



Department of
Environment and
Conservation



Our environment, our future



Australian Government





Introduction

The conservation of Muir's corella (*Cacatua pastinator pastinator*) is a challenge for the Department of Environment and Conservation (DEC) and land managers because, while Muir's corella is endangered, it can be a nuisance for commercial enterprises and private landholders.



This package has been produced to assist land managers to reduce the damage and nuisance caused by Muir's corella. There is no single solution to bird damage control, but with planning, cooperation, persistence and communication, land managers can reduce damage while helping to conserve this endangered species for all Western Australians.

Behaviour and damage control

Not all damage control measures in this information pack will be effective in all situations. Therefore, it is useful to have an understanding of the behaviour and biology of Muir's corella to assist with planning bird damage control.

Key points to keep in mind when developing your damage control plan are:

- Corellas use regular flight paths, flock and feed together and regularly return to good feeding sites.
- Flocks feed in the late afternoon and early morning in summer, and all day in winter.
- Pairs breed from August to December and flock sizes increase from November to December when adults and juveniles leave breeding sites giving the perception of a large increase in numbers.
- Flocks reach maximum numbers from January to March.
- Numbers can be controlled by reducing the availability of grain when food is scarce in summer.
- Corellas can be fed at a suitable decoy food site which they will repeatedly return to unless disturbed or lured away.
- Corellas damage trees and seedlings, grape vines, reticulation, cables and aerials when maintaining beaks, playing or investigating novel objects.
- Corellas are intelligent and very curious and will investigate newly dug soil where they have seen people working.





Elements of an effective damage control program include:

- Persistence – instant results are unlikely, but persistent application of scaring methods will improve damage control.
- Integration – a combination of visual and acoustic scaring techniques such as shooting to scare, gas cannons, luring birds of prey and harassment are needed to maintain constant variety. This will reduce the likelihood that birds will become used to the deterrents employed (or will increase the time before this occurs).
- Advanced planning – scaring must begin when the first few birds arrive, before damage is caused, to prevent the birds establishing a feeding pattern.
- Timing – the scaring effort should be timed according to when the birds are most troublesome. This is usually in the morning and late in the afternoon.
- Variation – the timing and route of patrols must be varied so that birds cannot anticipate perceived danger.
- Decoy feeding – providing a cheaper, undisturbed alternative source of food can lure birds away from more valuable crops where scaring is taking place.

Planning should be carried out to ensure damage control methods are effective:

- Evaluate the size of the problem (value of losses) and the cost of a proposed bird control strategy, to determine the cost : benefit ratio of undertaking that particular strategy.
- Determine where damage is occurring and where control methods should be focussed. You will not be able to move on all birds for the whole year.
- Cooperate with neighbours to ensure they use methods that complement yours (sow at the same time as your neighbours and sow as many paddocks as possible at the same time).
- Develop a program of frequent and random scaring, such as moving scare guns from farm to farm and paddock to paddock.



Damage control techniques and methods

One of the most effective damage control methods is to use 'noise makers'. There is a range of options including:

- Scaring sounds – sounds generated by mechanical, electronic or explosive devices including sirens, bangers, crackers and hooters.
- Bioacoustic sounds – recorded distress, alarm and feeding calls that are amplified and broadcast over crops etc.
- Gas guns/cannons – produce a single, double or triple blast, with some models able to swivel to different directions after each blast, providing 360-degree coverage.
- Bird Frite® Cartridges – pyrotechnic-charged cartridge fired from a 12-gauge shotgun providing a loud report accompanied by a bright flash and smoke.

The best effects with sound are obtained when:

- the sound is presented at random intervals,
- a range of different sounds is used,
- the sound source is moved frequently, and
- the sound is supported by other control methods.

Visual deterrents can also be used to scare corellas from paddocks:

- Objects – scarecrows, bird hides, plastic bags, balloons displaying big eyes, reflective tapes and mirrors, humming tapes.
- Birds of prey – corellas are scared of birds of prey; their main natural predator. Kites that simulate birds of prey can work on small paddocks. Real birds of prey can be attracted to certain paddocks with strategically placed animal carcasses.
- Model aeroplanes – provide visual as well as auditory disturbance. Corellas may think it is a predator or simply an unknown object to be wary of. These devices have been trialled with black cockatoos near Manjimup with promising results. Some models have a range of 1.5 kilometres and can stay airborne for 30 minutes. They require skill to operate and regular repair due to crashes.
- Vehicle patrols – includes motorcycle and/or vehicle harassment by patrolling crops and pursuing corellas from crops. Ensure the timing and route taken is varied.



Case study: Birds of prey kites

A farmer at Telangatuk in Victoria uses kites that simulate birds of prey to reduce damage to his crops caused by long-billed corellas. The kites are constructed from heavy black plastic and dowel and the crossbars are light wood. The kites are about two metres wide and have a tail.

The kite is launched each morning and is fixed to a fence into the prevailing wind on three to 400 metres of baling twine. The kites work best on light breezy days as they won't fly when it's still, or too windy.

The farmer reports that by using the kites he has halved his use of the gas cannon. While this method is used to protect grain crops it is only effective on paddocks of 40 hectares or less.



Case study: Birds of prey – the real thing

There is nothing quite like a natural predator to scare corellas. Farmers throughout the range of Muir's corella report that birds of prey are attracted to animal carcasses placed in their fields to frighten corellas. Although birds of prey are not present at all times, when they do make an appearance they complement other scaring methods and can help reduce damage caused by Muir's corellas by keeping them in hiding in trees and off the crop.

Tactile deterrents can also be used to reduce the amount of damage caused by Muir's corellas:

- Polycarbonate spikes can be used on ledges and other sites where birds perch and cause damage to fixtures.
- PVC or poly-pipe sections prevent birds perching on wires or antennas. This limits their ability to damage items such as TV aerials, coaxial cables and wires.
- Fine wire (which corellas find difficult to perch on) can be stretched across and above some structures.



Decoy feeding can also be an effective damage control method:

- Decoy feeding is the provision of an alternative, low-cost food source to assist in diverting birds from a crop during critical periods, particularly during sowing, germination and ripening. It may involve ploughing Guildford grass in paddocks to expose the corms or laying a trail of second seed or a cheaper alternative.
- Decoy feeding should be carried out at the same time as scaring methods. However, the decoy feeding site should be at least 500 metres from the crop so the birds are not disturbed by the scaring activities. The decoy food site source must be left undisturbed if it is to draw birds away from the more valuable crop.
- Decoy sites are more likely to be effective if they are located close to the bird's flight path and to trees which can be used as perches or roosts.
- Decoy feed must be as attractive to corellas as the crop you are trying to protect. Birds will not feed on old, mouldy, poor-quality or soggy feed, so decoy feed may need to be re-applied after rain.
- Decoy feed should be trailed out in long rows. If it is heaped, dominant birds will prevent birds lower in the social hierarchy from gaining access to the grain. It is possible the less-dominant birds will seek other food sources and may return to the crop you are trying to protect.
- Providing decoy feed when food is not limited (e.g. autumn and winter) will not lead to an increase in population numbers but may reduce damage to your crop.





Case studies: Decoy feeding

Oat seconds

In a South Australian trial of decoy feeding, up to 4,000 long-billed corellas were fed 20 tonnes of oats for 10 weeks, during the main sowing and germination phase of winter cereal crops. Taking into account the value of the grain, wages and on-costs, there was an estimated 10 to 15 fold benefit in increased production. This doesn't include the lower costs to farmers of reduced scaring activities.

Ploughing onion grass

In Victoria, a grain farmer had some success with giving long-billed corellas and sulphur-crested cockatoos 'free feed' to distract them during sowing. He ploughed up four hectares of onion grass 800 metres away from the paddock he was sowing. The ploughing was effective in distracting the birds away from the crop, but didn't work when he repeated the activity the next year.

Strategies for damage control

Use the following methods to reduce the damage to germinating and ripening cereal crops:

- Begin scaring when the first few birds arrive to feed at the crop in order to prevent a feeding pattern becoming established.
- Start the damage control program by shooting to scare with Bird Frite® to condition the birds to associate loud noise with danger.
- Shoot to scare from near the birds' main approach route. Set up several bird hides of hessian or other material and shoot from these hides, but switch to others regularly. Vehicles could be used as mobile hides and left near crops.
- Pursue the birds by stealth, until they cannot be approached readily, once they have come to associate the hides with danger. At this point the shooter (and other people working around the crop) should adopt bright clothing and become as obvious as possible. The same colour clothing should be used each time the crop is approached. Scarecrows can be used at this stage, dressed in same bright colour. Move scarecrows regularly.



- Introduce gas cannons at this stage. Set to operate at long intervals and only when birds are likely to be feeding in the crop (usually early and late in the day). Move scare guns every two to three days. They may be more effective if concealed (use bird hides). Keep gas cannons out of sight when not in use.
- Reinforce gas cannons by shooting with Bird Frite® and blanks, and regularly patrol crops.
- Combine bird hides, Bird Frite®, blanks and gas cannons, decoy feeding, vehicle harassment and birds of prey, which among others, should be effective in reducing damage.
- Consider decoy feeding away from the crop while scaring at the crop or ploughing adjacent fields to expose corms of Guildford grass.
- Synchronise planting of the crop with other nearby growers; grow crops away from trees and water.
- Plant varieties suitable to your local conditions to promote dense, even growth. Thin or open patches in a crop, whether created by bird damage or other factors, will provide a focus for bird attack at ripening.

Ripening crops are usually damaged from the edges of the crop. This 'edge effect' is created around the perimeter of the crop as well as around trees, dams and bare or thin patches within a crop. Minimising the edges occurring within a crop will reduce the number of sites at which a bird can attack the crop.

Reducing damage to planted tree seedlings

- Leave or plant strips of vegetation such as long grass, at intervals on either side of and across the area planted with tree seedlings. These should function as visual screens and inhibit the activity of corellas. Planting of seedlings should be delayed until screens are 0.6 to one metre high.
- Plant seedlings among long grasses or other vegetation, and cause as little disturbance to the area as possible.
- Fence plantings in small areas with hessian or shade cloth to function as visual screens. This will be enhanced by patrolling combined with some scaring.
- Direct drill seed to reduce visual disturbance that may attract curious birds. Consider promoting natural regeneration of vegetation as this rarely suffers damage.



Reducing loss and fouling of stock feed

- Corellas like to have a clear view when they are feeding so place hoods over feed troughs or erect shade cloth screens on three sides and above the troughs to deter them from eating there.

To reduce grain taken from feed trails and stubble:

- Place feed out for stock late in the day when corellas are going to their roosts and only put out the right amount so there is none left over in the morning. This will enable the stock to feed through the night.
- Feed smaller amounts more frequently and keep the birds away until stock has eaten grain.
- Reduce wastage by placing feed in bird-proof troughs.
- Set harvesting machinery to minimise the amount of grain left in stubbles after harvest. Collect chaff and grain for stock feed or for burial. Allow stock to graze stubble and remove remaining chaff and grain.

To reduce or eliminate damage to aerials, power lines and other fixtures:

- Remove food sources or other features that attract the birds to the vicinity.
- Avoid bird damage through strategic design and placement of infrastructure, such as placing powerlines to farm buildings underground.
- Protect fittings by providing perches above them, furnished with 50-millimetre sections of black poly-pipe. The pipe sections roll under the birds' feet when they land so they are unable to balance sufficiently to damage the fittings. Perches need to be placed so that they prevent the birds perching on the fitting themselves.
- Protect aerials in the same way as above by the fitting cross-pieces with black poly-pipe.
- Sheath communication cables in PVC or metal conduit.
- Stretch fine wire (which corellas find difficult to perch on) across and above some structures.
- Place polycarbonate spikes on ledges to prevent access to fixtures.

To reduce damage and losses of fruit and nuts:

- Assess the value of losses caused by corellas and other birds and determine whether netting to exclude birds would be cost-effective.
- Establish hides of hessian or other material, or use vehicles to scare from. Do not allow a pattern of feeding on the crop to develop.



- Combine the use of concealed gas cannons, moved every two to three days and turned off at night with the firing interval varied frequently, with use of Bird Frite® cartridges and blanks. It is important to deflect the birds as they approach the crop.
- Decoy feed to divert birds and continue to scare at fruit and nut crop.

To reduce damage to baled hay:

- Erect walls of shade cloth or hessian two to 2.5 metres high around hay bales. Shade cloth is likely to last longer than hessian and be reusable in later seasons.
- Enclose haystacks on three sides with a shade cloth or chicken wire to inhibit corellas from attacking any but the outermost bales on the open side of the stack.

To reduce damage by pruning vines and grape bunches:

- Assess the value of losses caused by corellas and other birds and determine whether netting to exclude birds would be cost effective, especially in areas adjacent to roost sites.
- Determine whether the area has any particular feature that attracts the corellas. If there is something, assess the feasibility of reducing its attraction for the birds. For example, nearby roost sites can be relocated if possible. If the birds are discouraged from roosting in the vicinity, they may carry out their beak maintenance behaviour (a non-feeding activity), which results in damage to vines, somewhere else.
- Erecting visual screens of shade cloth or other material two to 2.5 metres high may deter corellas from entering the crop.
- Combine scaring methods and use bird hides, Bird Frite®, blanks and gas cannons.

Monitoring and evaluation

This is often the most forgotten aspect of a damage control program. Landowners should determine an acceptable level of damage caused by corellas and assess and record losses to gauge the effectiveness of the program. The costs and benefits of the damage control program can then be assessed and the program can be modified to achieve better control in the following seasons.

Adapted from: Environment and Natural Resources Committee, Victorian Parliament. (1995) *Report on problems in Victoria caused by long-billed corellas, sulphur-crested cockatoos and galahs*. No. 67 Session 1994/95. Victorian Government Printer.

For more information

On the web – Visit the ‘Living with wildlife’ section under the Nature and Biodiversity heading of DEC’s website (www.dec.wa.gov.au) and download:

- Living with Muir’s corella
- Fauna Note No. 04 Muir’s corella
- Fauna Note No. 02 Scaring and repelling birds to reduce damage
- Fauna Note No. 03 Netting to reduce bird damage
- Fauna Note No. 11 Limiting access to food to reduce bird damage
- Fauna Note No. 13 Decoy feeding – Providing alternative foods to birds to reduce damage
- Fauna Note No. 15 Options for corella, galah and cockatoo control
- Fauna Note No. 33 Managing Muir’s corella in bluegum plantations
- Muir’s Corella: conserving a threatened species
- Prevention and control of damage by animals in WA: Corellas and other flocking cockatoos
- Damage prevention and control manual: Prevention and control of damage by animals in Western Australia

These materials are also available from DEC on request:

By phone – Phone your nearest regional DEC office.

In person – Visit your nearest DEC office and ask to speak to a wildlife officer.

Contact us

DEC regional offices

Warren Region – Manjimup (08) 9771 7988

South Coast Region – Albany (08) 9842 4500

Wheatbelt Region – Narrogin (08) 9881 9222

South West Region – Bunbury (08) 9725 4300

DEC State Operations Headquarters

17 Dick Perry Avenue

Kensington WA

Postal: Locked Bag 104

Bentley Delivery Centre

Bentley WA 6983

Phone: (08) 9334 0292

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