

Carnaby's Cockatoo

There are two species of White-tailed Black-Cockatoo in south-west Western Australia. The long-billed species *Calyptorhynchus baudinii* is known as Baudin's Cockatoo and the short-billed species *Calyptorhynchus latirostris* is known as Carnaby's Cockatoo (see Figure 1).

It can be difficult to distinguish between these two species and their ranges overlap, especially during the non-breeding season. Carnaby's Cockatoo has a long drawn out 'whee-loo' call, whereas Baudin's Cockatoo produces a shortened 'we-ow' whistle. Baudin's Cockatoo is known to damage pome fruit (apple and pear) crops and Carnaby's Cockatoo damages tree shoots, persimmons and nut crops.

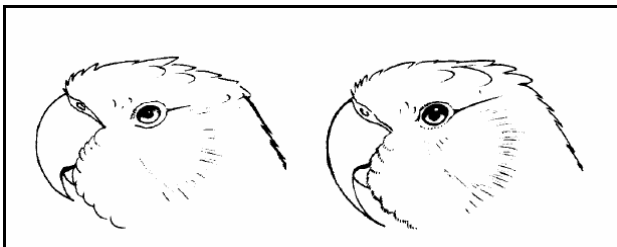


Figure 1 Comparison of the heads of Carnaby's Cockatoo (left) and Baudin's Cockatoo (right) showing the shorter upper bill in Carnaby's Cockatoo. Image reproduced with permission from the WA Museum.

Description

Carnaby's Cockatoo is a large, black bird with white cheek patches and white panels on the tail. It is 53-58 cm in length and 540-790 g in weight. The body feathers are brownish black in colour and narrowly edged with dull white, giving them a scalloped appearance. The tail has large white panels and the patch on the cheek is whitish in females and duller in males. The skin surrounding the eye is pink in males and dark grey in females. The bill is light grey in females and black in males (Figure 2). Immature birds look similar to adults, but their bills are duller in colour and begin to darken in the birds' third year.

Distribution and Habitat

Carnaby's Cockatoo inhabits a large area of south-west Western Australia, extending from Kalbarri south-east to Esperance (Figure 3). The species is mainly found in uncleared or remnant areas of eucalypt woodland,

particularly Salmon Gum *Eucalyptus salmonophloia*, or Wandoo *E. wandoo*, and shrubland and heath country dominated by *Hakea*, *Dryandra* and *Banksia* species. Carnaby's Cockatoo now frequently occurs in Marri *Corymbia calophylla*, Jarrah *E. marginata*, and Karri *E. diversicolor* forests.

The breeding success of Carnaby's Cockatoo is dependent upon heathland feeding areas within 12 km of woodland nesting habitat. Most breeding occurs between Three Springs and the Stirling Range and areas to the west (Cataby to Tone River). Since the 1930s, pine plantations in coastal regions have become important feeding and roosting sites during the non-breeding season.

Carnaby's Cockatoo is scarce and patchily distributed in the driest parts of its range and in the extreme south-west. Elsewhere, it is uncommon to common. Its range has contracted, particularly in the northern and eastern wheatbelt, due to clearing and fragmentation of its habitat for agriculture.

Diet

Carnaby's Cockatoo feeds on the seeds of a variety of native plants including *Banksia*, *Dryandra*, *Hakea*, *Grevillea*, *Allocasuarina* and *Eucalyptus* species. These birds break the rim of Marri fruits open with their short bills, unlike Baudin's Cockatoo which can extract the seeds without damaging the rim, using its long bill. Other seeds taken include Pine *Pinus* spp. and Storksbill *Erodium* spp., Double Gee *Emex australis*, Wild Radish *Raphanus raphanistum* and lupins. Carnaby's Cockatoo has been observed taking nectar from the flowers of native plants and it feeds on insects hidden in the stems of flowers and fruits of some *Banksia* and *Dryandra* species.

Breeding

One or two (average of 1.7) eggs are laid between July and November in a hollow, usually in Salmon Gum or Wandoo. The female incubates the eggs for 28 to 29 days and broods the chicks, but later in the nestling phase, both parents return at mid-morning and dusk to feed the young. After fledging, the juvenile is dependent on its parents for several months and remains with them until they return to the breeding area the following season.



Figure 2 Carnaby's Cockatoo male (left) and female (right) (Photo Rick Dawson / DEC).



Figure 3 Distribution of Carnaby's Cockatoo (Adapted from Johnstone and Storr (1998)).

The percentage of young that successfully leave the nest can vary greatly – the average survival rate is 63%, but the maximum recorded is 86%. Studies show that sites with extensive areas of native vegetation have greater breeding success than sites that have been extensively cleared. When feeding and nesting sites are more than 12 km apart, the parents take longer to find and gather food for the nestlings and, as a result, the young birds often die or fledge underweight. A population of Carnaby's Cockatoos studied in the 1970s ceased breeding at one site after the gradual loss of three quarters of native vegetation in the area.

The annual survival rate of adult Carnaby's Cockatoos is 61 to 69%. In contrast, after fledging, only 15% of juveniles are thought to reach one year of age. Females do not begin breeding until they are four or five years of age and the average age of breeding birds is estimated at 15 years.

Behaviour

Carnaby's Cockatoo occurs in pairs or small flocks during the breeding season and adults display strong pair bonds throughout their lives. After fledging, the young move with their parents to post-breeding feeding areas where they are joined by other family groups. The birds can collect together into flocks of 30 to 2,000 individuals. During the non-breeding season, in some areas, Carnaby's Cockatoo forages locally in heathland, reasonably close to breeding areas. Other populations move towards the coast and exploit areas of heathlands and pine plantations, where food is concentrated.

Hollow Availability

At present, there are sufficient eucalypts capable of providing hollows for cockatoos in the wheatbelt. However, few new trees have grown there for over 50 years due to grazing by livestock and rabbits and many of those that remain are dead or dying. Establishment of new trees is urgently needed in reserves and shelter belts so that future generations of cockatoos have hollows in which to breed.

Status

Carnaby's Cockatoo is a protected native species under the provisions of the *Wildlife Conservation Act 1950* administered by the Department of Environment and Conservation (DEC). It is a threatened species and is 'rare or likely to become extinct'.

This cockatoo is endangered because it has undergone a major decline in range and present estimates put the total

population at around 40,000 birds. A Recovery Plan for the species has been prepared and its success depends largely on community and stakeholder involvement. The plan seeks to promote the maintenance of significant breeding areas adjacent to feeding areas.

Landholders can assist in the recovery process by protecting existing nest trees and promoting the establishment of new trees by excluding livestock and rabbits. These activities can often have added benefits to farmers in reducing salinity and increasing productivity.

Damage

Carnaby's Cockatoo has been recorded damaging persimmon, almond, pecan and pistachio nut crops. They also damage the shoots of trees in orchards (Figure 4).



Figure 4 Carnaby's Cockatoo in an orchard in the Perth Hills (Photo Christine Freegard / DEC).

Damage control

It is illegal to destroy these birds and offenders will be subject to prosecution.

DEC's Wildlife Officers monitor interactions between people and wildlife in Western Australia and investigate reports of illegal shooting of Carnaby's Cockatoo.

If you are prosecuted for killing a Carnaby's Cockatoo, you face:

- Confiscation of your firearms.
- A fine of up to \$10,000 for each offence under State legislation and a substantial fine or jail term under Commonwealth legislation.

Destroying cockatoos is not an effective means of controlling damage. Flocks can be controlled effectively using netting or well planned and managed non-lethal scaring techniques.

Exclusion netting is the most effective means to prevent damage to crops by Carnaby's Cockatoo. Apart from netting, the best means of controlling the damage caused by Carnaby's Cockatoo is to use gas guns in combination with motor vehicle harassment and Bird Frite® cartridges. Research indicates that scaring devices used in isolation may be ineffective, but when a number of devices are used in combination, damage can be reduced.

It is important not to allow the birds to develop a habit of feeding at the crop. The birds should be repelled as soon as they approach. The firing interval for gas guns should be changed frequently. Gas guns should be moved every two days, turned off at night and during the middle of the day. The use of gas guns and other noise emitting devices must comply with the laws governing noise production (e.g. [Environmental Protection \(Noise\) Regulations 1997](#)).

For more information on non-lethal damage control techniques, see *Further Reading*.

Further Reading

- Fauna Note No. 2. [Scaring and Repelling Birds to Reduce Damage](#). DEC, Western Australia.
- Fauna Note No. 3. [Netting to Reduce Bird Damage](#). DEC, Western Australia.
- [Bird Control in Orchards](#). DEC, Western Australia.
- [Carnaby's Cockatoo](#). Fact Sheet, Department of the Environment, Water, Heritage and the Arts, Australia.
- [Carnaby's Cockatoo Recovery Project](#). Birds Australia WA.

References

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Johnstone, R.E. and Storr, G.M. (1998) Handbook of Western Australian Birds. Volume 1. Non-passerines. WA Museum.

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Mawson, P.R. (1995) Observations of nectar feeding by Carnaby's cockatoo *Calyptorhynchus latirostris*. *West. Aust. Nat.* 20: 93-96.

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Saunders, D.A. (1982) The breeding behaviour and biology of the short-billed form of the white-tailed black cockatoo *Calyptorhynchus funereus*. *Ibis* 124: 422-455.

Saunders, D.A. (1980) Food and movements of the short-billed form of the white-tailed black cockatoo. *Aust. Wildl. Res.* 7: 257-269.

Further Information

Contact your local office of the Department of Environment and Conservation.

See the Department's website for the latest information: www.naturebase.net.

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