





Cockatoos in crisis

Western Australia's south-west is host to three species of black-cockatoo, but extensive changes in the landscape, as well as the rapid expansion of some native species and introduced pests, have impacted on their distribution and prospects for survival. A program initiated by the WA Museum and the WA Water Corporation is helping to raise awareness of and increase public support for the plight of the State's cockatoos and collect data for their conservation.

by Ron Johnstone
and Tony Kirkby

The south-west of Western Australia is one of the world's 34 biodiversity hotspots. The region is also home to two species of white-tailed black-cockatoo—Baudin's cockatoo (*Calyptorhynchus baudinii*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*)—and the forest red-tailed black-cockatoo (*Calyptorhynchus banksii*). The glossy and yellow-tailed black-cockatoos occur in other parts of Australia.

During the past century, forests and woodlands in the south-west have been cleared on a scale and at a rate with few parallels anywhere else in the world. Almost 90 per cent of the original vegetation in the south-west has been cleared for agriculture, mining, or for cities and towns. Extensive tracts of uncleared land remain only in the larger nature and forest reserves, and even these are disturbed to varying degrees.

This change in the landscape, along with the rapid expansion of some native species and the introduction of some exotic pest species, has greatly influenced the distribution and prospects for survival of all of WA's south-west species. Of particular concern is the future of the State's black-cockatoos.

Carnaby's and Baudin's cockatoos are currently listed as endangered and the forest red-tailed black-cockatoo as vulnerable. Based on recent studies, nominations for upgrading the listing



of Baudin's cockatoo to endangered and forest red-tailed black-cockatoo to vulnerable are currently being assessed.

About the cockatoos

Baudin's cockatoo, named after French explorer Nicolas Baudin, is found mainly in heavily forested areas of the south-west corner, and Carnaby's cockatoo, named after WA naturalist Ivan Carnaby, lives mostly in the woodlands and scrubs of the semi-arid interior. It is difficult to tell the two species apart, especially in southern forests where both species regularly occur and sometimes feed and roost close together. Their bill size and shape (Baudin's cockatoo has a long, narrow upper bill and Carnaby's has a short, thick upper bill) and different contact calls (the short 'witcha-witcha' and 'bunyip-bunyip' flock calls of Baudin's versus the longer 'weeloo-weeloo' of Carnaby's) are the only reliable means of identification. In most of the south-west and throughout most of the year, Carnaby's cockatoo outnumbers Baudin's by at least five to one.

An estimate of the total population of Baudin's cockatoos is 10,000 and, currently, illegal shooting by orchardists and loss of feeding and breeding habitat are the major threats. Like Baudin's cockatoos, the major threats to Carnaby's cockatoos are loss and fragmentation of habitat, especially in the Wheatbelt, and competition for nesting hollows, especially from galahs, corellas and feral honey bees.

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Main Forest red-tailed black-cockatoo.

Left Baudin's cockatoo.

Photos – Tony Kirkby

Below left Clearing for agriculture in the Wheatbelt has contributed to the loss of habitat for WA's black-cockatoos.

Photo – Jiri Lochman

Interestingly, galahs and western long-billed corellas have greatly increased their range and numbers since the 1950s. Originally, both were absent from much of the Wheatbelt until the 1970s. The impact of European feral honey bees has also greatly increased since the 1970s.

The forest red-tailed black-cockatoo is confined to the lower south-west humid zone, mainly the hilly interior. Once common, but now rare to uncommon and very patchily distributed, this species has disappeared from about 30 per cent of its former range. The total population is about 10,000, with less than 10 per cent capable of breeding in any one year, and it is threatened by loss of feeding and breeding habitat, competition for nesting hollows, especially from feral bees, and from invading galahs at the edges of forests.

All three cockatoo species live for about 50 years, begin breeding at four years of age, mate for life, tend to nest in the same hollow each breeding season, and lay one or two eggs but rear only one young in each breeding season. In many areas, the cockatoos you see are from an ageing population with little or no recruitment.

Baudin's, Carnaby's and forest red-tailed black-cockatoos are very conspicuous forest birds. But, apart from a study of the breeding biology of the Carnaby's cockatoo in the Wheatbelt during the 1970s, little was known about their breeding, feeding and/or habitat preferences until research began in the past decade or so. Programs conducted by conservation groups, government departments and volunteers are providing important information about these species that is being used to aid their conservation.





Cockatoo Care

The Cockatoo Care program is a conservation partnership between the WA Museum and the Water Corporation. Launched on Threatened Species Day in 2002, the research and public awareness program continues to gain public support to help the survival of these iconic birds.

The program is made up of four main components: research into the distribution and ecology of each of the three species and the threats to their survival; habitat enhancement through habitat planting and installation of artificial nest boxes; assessing and responding to the impact of feral honey bees; and community education and involvement.

The program is promoted by a website, brochures and other publications, displays and a comprehensive program for schools. It relies on volunteers and museum staff, as well as the support and involvement of the community. Of particular importance is the use of 'Observation Cards' and 'Frequent Sighting Forms', which enable members of the public to contribute information to the research of WA's black-cockatoos by documenting sightings of Carnaby's, Baudin's and forest red-tailed black-cockatoos.

Cockatoo Care has a full-time Coordinator at the Water Corporation

and a full-time Field Research Officer, based at the WA Museum. So far, hollows used by 64 forest red-tailed black-cockatoos, 14 Baudin's cockatoos and 85 Carnaby's cockatoos have been found in the south-west and these are monitored regularly. Six 'hotspots' have been observed in the south-west and about 50 nest boxes and PVC pipe hollows have been mounted in trees, with assistance from Water Corporation rangers, to encourage breeding. An important role associated with the nest boxes is to protect them from the damage caused by invading feral bees—at some study sites up to 50 per cent of nest hollows were lost to feral bees in the past year. Scientists are trialling techniques to discourage and eradicate them, including the use of a range of pesticides, including citronella. The nest boxes are important to the survival of black-cockatoos because studies have shown that it takes at least 230 years for trees to develop a suitable hollow and some nest trees are up to 450 years old.

Two volunteers also contribute to the Cockatoo Care program by collecting and databasing information, and mapping flock sizes and distribution. So far, 4500 records have been entered into a database with a further 4000 yet to be entered. The distribution maps have provided important information about the reduced numbers of forest red-tailed black-cockatoos and the significant

Above left Ron Johnstone checks a nest box.

Above Female (left) and male (right) forest red-tailed black-cockatoos.
Photos – Tony Kirkby

decline of Baudin's cockatoos as well as the increase in distribution of Carnaby's cockatoos in areas where they did not occur previously.

Cockatoo Care, and the research and operations it involves, is helping to build a profile of these charismatic birds that, while commonly seen in areas of the State's south-west, are declining significantly in number.



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For more information on Cockatoo Care, visit www.cockatooocare.com or contact Barbara Jones by email (barbarajones@watercorporation.com.au).

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