Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

Biodiversity and Conservation Science

Final-term Review of the Recovery Plan for the Forest Black Cockatoos (May 2025)

Introduction

The Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) and Baudin's cockatoo (*Zanda baudinii*, previously *Calyptorhynchus baudinii*) are listed as vulnerable and endangered, respectively, under the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999*. The Western Australian *Forest Black Cockatoo (Baudin's Cockatoo Calyptorhynchus baudinii and Forest Red-tailed Black Cockatoo Calyptorhynchus banksii naso*) *Recovery Plan* was adopted by the Commonwealth Government in 2011 and has been superseded by conservation advice.

The aim of this review is to look at recovery actions undertaken over the life of the Recovery Plan and consider key achievements and learnings to facilitate setting the direction for future conservation action.

The overarching objective of the Recovery Plan was:

> "To stop further decline in the breeding populations of Baudin's cockatoo and the forest red-tailed black cockatoo and to ensure their persistence throughout their current range in the south-west of Western Australia for the duration of this plan."

This Department of Biodiversity, Conservation and Attractions (DBCA) review considered the status of Recovery Plan actions implemented between 2012 and December 2024 in the context of the objective of the Recovery Plan. The review incorporates findings from a workshop held in November 2024 with threatened black cockatoo stakeholders and the results from an online questionnaire that engaged a broader group of stakeholders. The review also focuses on the scientific research that underpins our knowledge of these species and informs its conservation management.

Key Achievements

The review highlighted key achievements that have occurred over the life of the Recovery Plan, including:

- Protocols have been developed and implemented to reduce the number of potential habitat trees being removed during fire management activities.
- Some work was undertaken to mitigate illegal shooting of Baudin's cockatoo by advocating for the netting of orchards and other bird scaring techniques.
- Improved understanding of roosting locations and use.
- Community outreach by multiple stakeholders that has raised the profile of both forest black cockatoo species.
- Improved black cockatoo rehabilitation processes through collaborative efforts of Perth Zoo, DBCA, Murdoch University and established rehabilitation centres, with 1000 rehabilitated black cockatoos successfully released into the wild as of September 2024.
- Cessation of commercial-scale timber harvesting in the forests and woodlands in the south-west of Western Australia (WA) in 2024. The *Forest Management Plan 2024-2033* provides for these areas to be managed for increased forest health and resilience.

Key Learnings

This review and engagement with threatened black cockatoo stakeholders have highlighted key barriers and learnings that will direct future conservation effort for the species, including:

- Significant knowledge gaps remain, which has limited conservation action for forest black cockatoos, with new information important to guide future species recovery efforts.
    - Robust population estimates and trends are unavailable, particularly for Baudin's cockatoo.
    - Identifying Baudin's cockatoo requires skilled and experienced observers making monitoring this species challenging.
    - The breeding biology and movement ecology of forest red-tailed black cockatoos and Baudin's cockatoo are poorly understood (particularly for the latter), including the locations of specific breeding sites and the patterns in annual breeding attempts and breeding success. Key feeding and breeding sites in the forested regions of south-west WA are unknown.
    - The extent, intensity and conservation impact of most of the known threatening processes (e.g. illegal shooting of Baudin's cockatoos, mining and habitat fragmentation) are not well understood.
    - The availability of suitable natural hollows for breeding is unknown.
- There is continued loss and fragmentation of all habitat types (breeding, roosting, foraging, movement corridor) important to forest black cockatoo species across all life stages.
    - Long lead times for replanting are required to provide foraging or breeding habitat and the value of this habitat compared with retained habitat has not yet been established.
    - Artificial hollows are only known to be used by forest red-tailed black cockatoos, with artificial hollows not shown to provide the same benefit to forest cockatoo species as for Carnaby's cockatoo in terms of uptake for breeding. There are no records of Baudin's cockatoo using artificial hollows outside of captivity. Artificial hollows are only beneficial to black cockatoos if they are appropriately placed and maintained within known breeding areas.
    - Appropriately managing and retaining existing habitat, improving degraded habitat and creating more habitat is key for forest black cockatoo conservation.
- Conservation efforts have largely relied on short-term, project-specific grant funding provided to multiple different organisations and volunteers. This approach has hampered strategic and cohesive conservation planning across the species' ranges resulting in poorly coordinated conservation action (e.g. revegetation efforts, monitoring) and a lower conservation outcome return on investment.
- An appropriate black cockatoo data sharing and management system is not available to inform conservation planning, implementation and environmental impact assessment processes.
- Monitoring populations consistently is challenging. The Great Cocky Count provides a partial indication of population trends for forest black cockatoos in the south-west of WA. Inconsistencies in collection, coordination and analysis of the limited breeding monitoring data has hampered efforts to use this data to inform conservation management actions.

    - Baudin's cockatoo is difficult to identify in the field as it is commonly mistaken for Carnaby's cockatoo, amplifying monitoring challenges.
    - Breeding locations of forest black cockatoo species are less studied and more difficult to identify than the well-studied Carnaby's cockatoo.
- Environmental offsets that rely on tenure change have not achieved the policy objective of no net loss of forest black cockatoo habitat. It is recognised that ongoing loss of habitat is one of the biggest pressures on black cockatoos.
    - Where an offset or mitigation action is required, there is a preference for a revegetation action to occur to minimise net loss in native vegetation. Consideration must be given to the technical challenges of successfully establishing functional cockatoo habitat on degraded lands and the inherent time lag in the productivity and value of a revegetated area as forest black cockatoo habitat; ongoing protection of offset areas; and funding for long-term monitoring and management of the offset, regardless of offset type.
    - Offsets could also assist in addressing knowledge gaps that would inform conservation management of forest black cockatoos.
- Whilst progress has been made to manage some threatening processes at a local scale in some areas, these pressures remain largely unmanaged at a landscape or species range scale, with management often tied to funding availability.
    - Management of threatening processes, e.g. attacks by Australian ravens on forest red-tailed black cockatoos, competition for breeding hollows with European honeybees, inappropriate fire regimes, and illegal shooting in orchard areas, needs to be ongoing
    - Emerging threats to the species include climate change and associated stochastic weather events (e.g. periods of extreme drought and heat that impact food and water resource availability or the future viability of important breeding sites).
- Guidance documentation that translates scientific learnings and expert technical advice into a format applicable to a non-expert audience is required.

Meeting Recovery Objectives

Criteria for success	Comments
The extent of occurrence of forest black cockatoos in Western Australia remains stable or increases in the next 10 years.	The extent of occurrence of forest black cockatoos is considered unlikely to have declined over the life of the Recovery Plan and, in the case of forest red-tailed black cockatoos, has likely increased due to their range expansion from forested areas facilitated by their use of Cape Lilac as a foraging resource particularly on the coastal plain of the Perth and Peel Regions.
The number of breeding pairs of forest black cockatoos in Western Australia remains stable or increases in the next 10 years.	This criterion cannot be assessed. The number of breeding pairs has not been adequately recorded at breeding sites across the breeding range and therefore trends cannot be quantified. This is due to the technical challenges of locating nesting sites in

	extensive forest habitat and a historic and ongoing focus on Carnaby's cockatoo, which are more easily monitored and their breeding locations better understood.
The number of forest black cockatoos in each roosting flock remains stable or increases in the next 10 years.	The Great Cocky Count estimates a combined 'white-tailed black cockatoo' rate of decline for Carnaby's cockatoo and Baudin's cockatoo in the Northern Darling Scarp of 7 per cent per year, with significant declines in both the fraction of occupied roosts and the average size of roosting flocks.
The proportion of juvenile forest black cockatoos in each roosting flock remains stable or increases in the next 10 years.	This criterion was not met across the species' range. It may have been met in full or in part at some sites at a local scale.

Discussion

The review has highlighted the extent and breadth of activity that has occurred over the last 10 years. There have been advances in technologies to support information gathering, research to inform knowledge gaps, on-ground actions, increased public awareness and community participation, examples of effective collaborations to achieve positive conservation outcomes and an increased awareness of the role offsets could play to support recovery actions, although the level of activity and funding is significantly less than that undertaken for Carnaby's cockatoos.

There is a lack of understanding of Baudin's cockatoo ecology as they are less abundant, difficult to identify, and monitoring is more resource intensive than Carnaby's cockatoo. The lack of understanding of this species has impeded targeted monitoring and application of recovery actions, leading to limited conservation management for this species over the life of the Recovery Plan.

Key actions of habitat protection and management, monitoring, research, management of threats, community engagement and undertaking information and communication activities remain critical for conservation management of these species. Conservation requires collaborative efforts from Landcare and natural resource management groups, volunteer organisations, research institutions and landowners, with leadership from government agencies and Traditional Custodians.