

THE GLOSSY BLACK-COCKATOO IN SOUTH EASTERN QUEENSLAND

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The Glossy Black-Cockatoo *Calyptrorhynchus lathamii* is the rarest and most threatened of Australia's cockatoos. The species is restricted to eastern and south-eastern Australia, throughout which they are uncommon and declining. South-eastern Queensland has three of the most significant populations in Australia, occurring around Moreton Bay, hinterland of the Gold Coast and Noosa.

Unlike other cockatoos, Glossy Blacks are generally secretive and cryptic and are not raucous - they call little and then in subdued notes. When seen, however, Glossy Black-Cockatoos are still commonly mistaken for other species, notably the Red-tailed Black-Cockatoo (*Calyptrorhynchus banksii*) and Yellow-tailed Black-Cockatoo (*C. funereus*). In appearance, Glossy Blacks are most readily distinguished by their broad, bulbous bill; dull, brownish tinge on the head and breast (despite the name!); and low, rounded crest, whereas both Red-tails and Yellow-tails are bigger, 'blacker' birds, the former with a larger, helmet-like crest and the latter with distinctive, large yellow panels in a long tail. Glossy-blacks are also usually seen in groups of no more than 3 (as opposed to Yellow-tails and Red-Tails, which often occur in large flocks) and their call (distant, drawn-out "tarr-red") is softer and more feeble than Red-Tails (far-carrying, drawn out trumpet sound "kree", like a rusty windmill) and Yellow-tails (weird, far-carrying squeal - "wee-lar").

Perhaps the most distinguishing feature of Glossy Blacks is their specialized diet and feeding habits. The bird is an extremely specialised feeder, feeding almost exclusively on the seeds of the cones of she-oaks (Casuarinaceae) via a very flexible wrist and a tough, specially shaped beak. In South-eastern Queensland, they most commonly feed on the seeds of Black She-oaks *Allocasuarina littoralis* and Forest She-oaks *A. torulosa*. Most importantly, Glossy Blacks are also very choosy birds and, despite the commonness of she-oaks throughout the region, they do not feed on all trees available in an area. Rather, for reasons that are still being researched, they select specific trees and show fidelity to those trees over time. As such, the birds are only using a small part of the potential resource, which is often less than 1% of the available trees.

It is not surely known why they select one tree from another and return to that same tree to feed year after year, although certain researchers have argued that the percentage of seeds containing kernels, the ratio of kernel weight / cone weight and/or cone colour may contribute to the selection process. Whatever, to the human eye, it is impossible to notice why a particular tree is preferred to the many, apparently similar, trees nearby. Consequently, to find the feed trees, all the she-oaks in an area have to be checked for the presence of chewed cones. These are dropped while feeding and lay about the feed tree on the ground. These distinctive, chewed cones can be persistent and readily accessible and it is by analysing these - remains that this secretive cockatoo has to be studied most of the time.

Water is seen as another key limiting factor in the birds' distribution. After all, eating nothing but Casuarina seeds all day is thirsty work and the birds will do almost anything for a drink - even use roadside puddles! The birds visit and drink from known water bodies at the end of each day and this presents a great opportunity to witness the birds and their social behaviour, as well as get an idea of the number of birds utilising a given area. Unfortunately, accessible surface water is often scarce during the dry season, which also coincides with the Glossy-Black's breeding season. However, the birds are opportunistic and extensively use waterholes created by humans that are a by-product of other activities (eg. quarrying, road-works, etc) and also purposely built watering points. The other key limiting factor for the species during this time is the presence of large hollows (usually within Eucalypts) in which to breed.

Recommendations for managing the Glossy Black-Cockatoo are not easy to formulate. In addition to their fussy feeding habits, the birds are highly mobile and range over a large area to obtain adequate food resources. Consequently, recommendations for part of the bird's range may be thwarted by what occurs elsewhere in its range. Furthermore, the preferred food tree (Black She-oak) is a pioneer in disturbed areas and becomes less common as other, more permanent, native vegetation is established. Therefore, the protection of food trees in a small area alone is inadequate as the resource will naturally dwindle and, most likely, disappear. There needs to be alertness to the extent and availability of food tree resources over a much larger area and manage these together.

Research

Informed management is imperative and only through further research of the Glossy Black-Cockatoo and its 'selection criteria' for feed trees can confident recommendations eventually be made. Current research on the species in South East Queensland is centred around a collaborative partnership instigated by Biodiversity Assessment and Management (BAAM) Pty Ltd with the Brisbane City Council, Redland Shire Council, Gold Coast City Council, Noosa Shire Council, the Queensland Parks and Wildlife Service Marine Parks and Consolidated Rutile Limited (CRL) within the Enterprise Mine Area on North Stradbroke Island. Research under the partnership includes:

- Mapping of individual feed trees, nesting trees and waterholes known to be utilised by the Glossy Black-Cockatoo. This includes mapping surveys currently underway on North Stradbroke Island with input from CRL and assistance from community volunteers;
- Literature research to pioneer understanding of the species' association with individual food tree selection and apply theories to the association between the bird and *Allocasuarina* and *Casuarina* species; and
- Survey and field observations, including development of easy methods of individual bird identification to fully utilise observations from community, Local Government and commercial enterprise records.

To date, previous studies within the southern Bay Island region have identified that the availability of nesting hollows does not appear to be a limiting factor in the species' recruitment. Instead, it is feeding resources that are most likely to determine the population size of the cockatoo in the region, while fresh water may also be a limiting factor. Furthermore, while a review of available literature has not shed light on the selection of food trees for the birds, there are a range of theories that need to be tested, including the establishment of plots of *Allocasuarina littoralis* under a variety of treatments to monitor the production of food trees. The study is also continuing to conduct GIS trials in predicting potential Glossy Black-Cockatoo feeding areas using spatial data from Macleay Island provided by Redland Shire Council.

Overall, research under the partnership is aimed at increasing current knowledge of the species' use of pioneer vegetation, fidelity to individual feed trees, requirement for nesting hollows and diurnal and seasonal range. This valuable information can then be used to inform the development of a regional management plan for the species, establishment of procedures required to prepare a species conservation action plan, and development of guidelines for local authorities and developers in assessing and planning for feed trees.

Community Involvement

Most new sightings and records of the species in South East Queensland come from community members and it is acknowledged that none can monitor the region as easily and effectively as the residents and community. The birds are even known to feed and breed in urban yards and certain residential areas where there are she-oaks present (e.g. around Noosa and the Southern Moreton Bay Islands). Consequently, the maintenance of resources in urban areas may be crucial to their long-term future in the South East Queensland region and increased community awareness and voluntary monitoring and protection of she-oaks within these areas will contribute to a more secure future for the bird.

In terms of protecting the species, the value of sightings alone is limited – more emphasis is needed on limiting factors for their survival and persistence in an area, such as feed trees, watering points and nesting hollows. Consequently, BAAM Pty Ltd and Redland Shire Council have recently updated recording forms to reflect this need, thereby facilitating the development of a more accurate database of known resources. In addition, targeted surveys are currently being undertaken across North Stradbroke Island and mainland areas throughout South East Queensland to further knowledge of the species and community volunteers are constantly being sought to assist with the studies. For more information about the surveys or to obtain a copy of the updated recording forms, contact **Lisa Bailey** at Indigiscapes (Redland Shire Council) on Ph: **(07) 3824 8611** or Email: **lisab@redland.qld.gov.au**.