

Action Statement No. 253

Glossy Black-Cockatoo *Calyptorhynchus lathami*
Flora and Fauna Guarantee Act 1988



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Cover photo: Glossy Black-Cockatoo pair (Jill Dark)

Glossy Black-Cockatoo *Calyptorhynchus lathami*

Description

The Glossy Black-Cockatoo (*Calyptorhynchus lathami* (Christidis and Boles 2008)) is the smallest of the black-cockatoos, reaching 48 cm in length. Plumages of the adult males and females are markedly different. Males are predominantly sooty brown around the head and underparts, and the tail feathers have a broad, bright red lateral band. Females can largely be recognised by yellow flecks around the head and neck (although yellow head feathers may be absent in some adult females), while the red band in the tail has narrow bands of black, and is often edged with yellow. The back and wings of both sexes are black. The crest is small, reclined and inconspicuous. The bill is described by Forshaw (1981) as protruding and bulbous with an exceptionally broad lower mandible. Juvenile birds exhibit small yellow or orange dots on the head, and small yellow or orange dots on the breast, belly, underwing and shoulder, and have more distinctive yellow in the tail along with bold yellow blotches on the under-tail coverts. A detailed description of the Glossy Black-Cockatoo can be found in Higgins (1999).

The call of the Glossy Black-Cockatoo is distinct and described in Higgins (1999) as consisting of a “repeated soft, wheezy and prolonged ‘tarr-red’ or ‘kaa-er’”.

The taxonomic name of the Glossy Black-Cockatoo listed under the *Flora and Fauna Guarantee Act 1998* in May 1995 was *Calyptorhynchus lathami lathami* (eastern subspecies). Since that time the species name in scientific use in Victoria has changed: the Glossy Black-Cockatoo is now referred to simply as *Calyptorhynchus lathami* (Christidis and Boles 2008).



Glossy Black-Cockatoo (Tony Palliser)

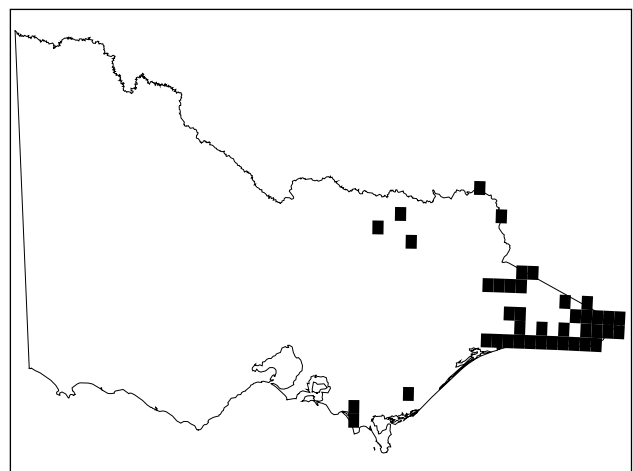
Distribution

The Glossy Black-Cockatoo is endemic to mainland Australia (Higgins 1999). Schodde *et al.* (1993) and Higgins (1999) recognised three subspecies: *C. lathami halmaturinus* occurs only on Kangaroo Island (South Australia), *C. lathami erebus* occurs along the central Queensland coast, while the nominate subspecies *C. lathami lathami* has the broadest distribution, occurring from south-eastern Queensland through eastern New South Wales to far eastern Victoria. The bill and lower mandible dimensions can be used to distinguish the subspecies from one another (Schodde *et al.* 1993).

The Victorian Biodiversity Atlas¹ has approximately 250 records of the Glossy Black-Cockatoo. Over 95% of these are from the East Gippsland Forest Management Area, mostly in the areas east of the Wingan River and surrounding Mallacoota and Genoa. Scattered records occur mostly south of the Princes Highway between Cann River and Lake Tyers. A number of sightings were also recorded further north in the Snowy River National Park.

There is a single 1993 record of the Glossy Black-Cockatoo from South Gippsland near Won Wron, more than 120 km from the nearest eastern Victorian records. The Victorian Biodiversity Atlas also contains two records from north-eastern Victoria: one from near Wangaratta in 1921, while the other (2005) is from near Walwa east of Lake Hume on the New South Wales/Victoria border. The paucity of records in this area supports the suggestion by Baird (1986) that the Glossy Black-Cockatoo is only a vagrant to north-eastern Victoria.

The Victorian Biodiversity Atlas¹ has only three breeding records of the species: from Royd Creek, Mallacoota (1978 and 1981) and near Cann River (March 1995).



Distribution in Victoria (Victorian Biodiversity Atlas DEPI 2013)

1 'VBA_FAUNA25', August 2013 © The State of Victoria, Department of Environment and Primary Industries

Habitat

In Victoria the Glossy Black-Cockatoo is typically found in eucalypt forests and woodlands containing a high density of their main food source, the Black She-oak (*Allocasuarina littoralis*) (Higgins 1999). The species is rarely observed away from *Allocasuarina* stands (Clout 1989); remnants of chewed cones and debris on the forest floor beneath these trees are an indication that cockatoos have been present. Glossy Black-Cockatoos prefer to feed in mature, sparsely-distributed trees that are between 2 m and 10 m tall (Higgins 1999).

In addition to the strong association with Black She-oak, Glossy Black-Cockatoos also require hollow-bearing trees for breeding. Such hollows are usually in eucalypts (Higgins 1999) and a number of studies suggest nest sites are commonly clustered or grouped in the landscape (Garnett *et al.* 1999; Cameron 2006).

Life history and ecology

Although Glossy Black-Cockatoos are generally considered to breed between March and August, the few breeding records in Victoria have been from December and January (Emison *et al.* 1987). A detailed study by Cameron (2006) found that nest hollows were typically vertical or near-vertical spouts in senescent or dead, but still-standing trees. Trees that have suitably-sized hollows for nesting are typically large and old. A single egg is laid in the hollow where only the female incubates until hatching occurs about 29 days later. During incubation and the first week of brooding, the female rarely leaves the nest to forage for food and is fed by the male (Sindel and Lynn 1989). Young birds fledge about three months after hatching, but remain with the parents for several months until independence (Sindel and Lynn 1989). Glossy Black-Cockatoos are most commonly observed in threes, comprising a pair and the previous season's young (Forshaw 1981), although observations of more birds together are not uncommon. Pairs are monogamous and the bond between them appears to remain all year, with evidence of males guarding the female outside the breeding season (Arnett and Pepper 1997). The Glossy Black-Cockatoo's lifespan is unknown, although cockatoos generally are regarded as being long-lived birds.

Although the Glossy Black-Cockatoo is known to perch and forage in a variety of woody-fruited plants, it appears to depend for food on *Allocasuarina* species (Higgins 1999). A study by Clout (1989) around Eden in New South Wales found the Glossy Black-Cockatoo apparently raised their young entirely on Black she-oak seeds, spending 88% of the day foraging for food. A number of studies have investigated the factors influencing the species' selection

of trees for feeding; it seems birds show some preference for individual trees (Pepper *et al.* 2000) and select trees on the basis of cone abundance, with a preference for young cones produced in the previous year (Cameron and Cunningham 2006). When feeding, they are generally quiet and can often be closely approached. The species is not believed to be territorial although Clout (1989) observed an apparent defence of favoured feeding trees.

Allocasuarina species are medium to long lived perennials that are vulnerable to high-intensity or too-frequent fires. They re-establish immediately following a fire event, either from seed or, after a low-intensity fire, by resprouting (Morrison and Renwick 2000). Time to reproductive maturity is approximately 5–20 years and senescence occurs after around 50–100 years.

Pepper (1997) found that a 1991 fire burned 14% of the Glossy Black's foraging habitat on Kangaroo Island, and no cockatoos were found in the burned areas. Lunt (1998) studied changes in vegetation structure in a long-unburnt *Allocasuarina littoralis* (> 115 years) woodland at Ocean Grove, Victoria. Over a 25 year period a dramatic increase in the density of *Allocasuarina littoralis* and a continued decline in the once-dominant eucalypts, especially *Eucalyptus ovata*, was observed. He concluded that in the continued absence of fire and other disturbances *A. littoralis* would eventually dominate the reserve, leading to further declines in eucalypts. It seems unlikely that a single fire will prevent *A. littoralis* dominance: frequent burning at short intervals may be required to reinstate an open woodland structure. It has been suggested that dense stands of Black She-oak are less susceptible to fires than the surrounding sclerophyll forests because their compacted litter reduces ground fuel aeration locally and leads either to lower intensity fires or no fires at all (Keith 1996). Frequent fires open up dense stands and assist invasion by potentially more flammable sclerophyll shrubs. Too-frequent fires may prevent regeneration of Black She-oak and seed set and increase the likelihood of individual trees being killed. Trees that may have been of sufficient size to survive an initial fire may be killed if burnt during a subsequent fire (Morrison and Renwick 2000).

Conservation status

Victorian conservation status

The Glossy Black-Cockatoo has been listed as 'threatened' under the *Flora and Fauna Guarantee Act 1988* (SAC 1994).

The Glossy Black-Cockatoo is considered 'vulnerable' in Victoria according to DEPI's *Advisory List of Threatened Vertebrate Fauna in Victoria – 2013* (DSE 2013).

Threats

The main threats to the Glossy Black-Cockatoo in Victoria appear to be reductions in food availability and nesting sites. The table below describes these threats in more detail.

Standard threat	Source of Threat	Explanation
Habitat damage or loss	Timber harvesting	Incidental damage to, or loss of, stands of Black She-oak, and loss of large hollow-bearing trees from harvesting operations will reduce the food source and breeding sites of the Glossy Black-Cockatoo. Glossy Black-Cockatoos require large hollows in eucalypts for breeding. Hollow development varies between plant species, and large hollows are unlikely in eucalypts less than 100–200 years of age unless disturbance has exacerbated the hollow development. A range of harvesting operations can affect this, including seed tree retention, thinning and post-harvesting silvicultural treatments such as burning.
Inappropriate fire regimes	Fire – frequency	Frequent fires that either kill or reduce the fruiting of <i>Allocasuarina</i> trees will adversely affect the food supply of Glossy Black-Cockatoos. Conversely, infrequent fire may promote <i>Allocasuarina</i> dominance at a site. It takes approximately 5–20 years for Black She-oak to reach reproductive maturity and longer for significant cone production.
	Fire – intensity	High-intensity fire has the potential to kill stands of Black She-oak (Keith 1996). Mature Black She-oaks have some tolerance to fire, but a low-intensity fire can kill relatively small-stemmed trees (median circumference 14 cm) (Morrison and Renwick 2000). Intense fires may also destroy hollow bearing trees which the species requires for breeding.
	Fire – season or time	Fire during the breeding season that directly impacts adult birds sitting on eggs or young birds still in the nest is likely to be the greatest seasonal risk from fire to the Glossy Black-Cockatoo.
	Fire – extent	Because food supply is a critical factor in the life history of this and other threatened cockatoo species (e.g. Red-tailed Black Cockatoo), any fire regime that limits food, particularly the abundance of <i>Allocasuarina</i> , will affect the species. Bushfires and any planned burning that affects dense stands of <i>Allocasuarina littoralis</i> are likely to be a threat to the Glossy Black-Cockatoo's main food resource.
Weather	Weather – climate change	Reproductive success in the Glossy Black-Cockatoo has been linked to rainfall in the previous year that influences the abundance of young cones produced by <i>Allocasuarina</i> species (Cameron 2009). An environment with lower rainfall and a greater prevalence or duration of drought may reduce breeding success in the cockatoo.

Important populations

Location name	Land manager	Catchment	Bioregion
East Gippsland Forest Management Area (FMA)	DEPI Land and Fire – East Gippsland Area (LF – EG) Parks Victoria	East Gippsland	East Gippsland Lowlands East Gippsland Uplands

Past management actions

Action	Result explanation
Apply ecological burning	In 2007 'Landscape Mosaic Burning' was introduced to parts of far east Gippsland within the known distribution of the Glossy Black-Cockatoo (DSE 2010). Its primary objective was to provide an irregular mosaic of unburnt areas and areas burnt at different intensities across time and space. This type of prescribed burning was aimed, in part, at having less of an impact on Glossy Black-Cockatoo food and breeding resources than higher intensity prescribed burning practices. The effects of these burning practices, including any on associated fauna, are being monitored with the aim of modifying them in the light of their outcomes.
Develop/revise management prescriptions and/or zoning for State forest	The East Gippsland Forest Management Area Plan (DCNR 1995) has an interim Conservation Guideline for the Glossy Black-Cockatoo. This guideline states: 'All substantial stands of She-oak will be excluded from harvesting, and nests will be protected as for diurnal raptors'.
Ensure records of species, communities and locations are documented on the relevant databases	Records of the Glossy Black-Cockatoos have been submitted to the Victorian Biodiversity Atlas (formerly the Atlas of Victorian Wildlife).
Provide input into regional fire management and operations plans	Input has been provided to Fire Operations Plans, Timber Release Plans and Wood Utilisation Plans through biodiversity values checking including identifying ways to: <ul style="list-style-type: none"> • minimise the impact of fire on Black She-oak stands in proposed burn areas where the Glossy Black-Cockatoo has been recorded, to ensure burning is undertaken in a manner that produces a low-intensity burn with a mosaic of burnt and unburnt vegetation; • ensure harvesting activities are excluded from Black She-oak stands in proposed coupes where the Glossy Black-Cockatoo has been recorded.

Conservation objectives

Long term objective

To ensure the Glossy Black-Cockatoo can survive, flourish and retain its potential for evolutionary development in the wild.

Objectives of this Action Statement

- To secure populations or habitat from potentially incompatible land use or catastrophic loss
- To maintain or improve condition of habitat
- To increase knowledge of biology, ecology or management requirements

Intended management actions

To assist the conservation of the Glossy Black-Cockatoo, DEPI will consider the following actions when developing regulation, investment strategies and ecological, fire and land management policies.

The intended management actions listed below are further elaborated in DEPI's Actions for Biodiversity Conservation (ABC) system. Detailed information about the actions and locations, including priorities, is held in that system and will be provided annually to land managers and other authorities.

Standard objective	Targets	
<p>To secure populations or habitat from potentially incompatible land use or catastrophic loss</p>	<ul style="list-style-type: none"> • Damage to large stands of Black She-oak by planned burning activities, timber harvesting and building new roads is minimised. • All sites with records of Glossy Black-Cockatoo have been highlighted during planning processes and advice provided to mitigate potential threats arising from land management practices in these areas. • Take reasonable actions to protect confirmed nest sites from planned burning activities, timber harvesting and new roading. 	
Action	Details	Responsible agents
<p>Establish Management Areas or Special Protection Zones</p>	<p>Where Black She-oak stands are identified timber harvesting (including post harvesting burning) and new roading activities will be conducted in a manner that avoids damage to the stand.</p> <p>The definition of a Black She-oak stand is a group or groups of trees with a basal area equal or greater the 10m² in an area of .25 hectares.</p> <p>Apply a Special Management Zone of 250m radius around all confirmed nest sites. Exclude timber harvesting and new roading within this area during the breeding season (December to May). Search the surrounding forest for other active nest sites (the species is known to nest in clusters).</p> <p>At other times harvesting activities and new road construction can occur to within 100m of confirmed nest sites.</p> <p>Low intensity planned burning will be permitted within the 250m radius of confirmed nest sites, however measures must be taken to exclude burning within this area during the breeding season (December to May) if nest sites are confirmed to be active.</p> <p>At all times, provisions must be made during burn planning, preparation and implementation to protect known nest trees from fire and associated works.</p>	<p>DEPI Land Management Policy Division</p>
<p>Provide input into regional fire management and operations plans</p>	<p>Highlight all proposed burns and forest utilisation works with records of Glossy Black-Cockatoos, and provide advice and mitigation measures to land management agencies and proponents of works in regards to proposed activities at these sites.</p>	<p>DEPI Regional Services (Gippsland)</p>

Standard objective	Targets	
To maintain or improve condition of habitat	<ul style="list-style-type: none"> • Damage to the species food source by planned burning at a landscape scale is minimised. • Loss of potential nest sites by planned burning is minimised. 	
Action	Details	Responsible agents
Apply ecological burning	<p>In accordance with the Strategic Bushfire Management Plan for the Alpine and Greater Gippsland Bushfire Risk Landscape, apply planned burning techniques that minimise the chance of burning stands of <i>Allocasuarina littoralis</i> and large hollow-bearing trees. Pay particular attention to identifying the best conditions and burning techniques to achieve the desired outcomes. This may include (but not be limited to) weather, fuel moisture content and lighting patterns exclusion areas.</p>	DEPI Regional Services (Gippsland)



Glossy Black-Cockatoo (Jill Dark)

Standard objective	Targets	
To increase knowledge of biology, ecology or management requirements	<ul style="list-style-type: none"> • Area surrounding confirmed nest trees are adequately searched to identify additional nest trees. • Submit all records of Glossy Black-Cockatoos to the Victorian Biodiversity Atlas to inform management. • Obtain additional information from knowledgeable community groups and individuals to increase the knowledge base for this species. • As necessary, survey the population status of Glossy Black-Cockatoos in Victoria. 	
Action	Details	Responsible agents
Conduct survey to determine abundance/extent	<p>Encourage research to clarify the distribution, abundance and movement patterns of the species.</p> <p>In the event that nest trees are located, conduct thorough searches in the adjacent area to locate additional nest trees (the species is known to nest in clusters) and monitor nesting events. Assess characteristics of nest trees to improve understanding of the species' nesting requirements.</p>	DEPI Regional Services (Gippsland)
Undertake research into management requirements	<p>Encourage research to improve understanding of critical habitat elements including food availability, breeding success and other aspects of the species' requirements.</p> <p>Assess the effectiveness of planned burn strategies in minimizing the impact of such burns on nest trees and Black She-oak stands, then use this to refine planned burn prescriptions.</p>	DEPI Regional Services (Gippsland)
Ensure records of species, communities and locations are documented on the relevant databases	<p>Submit all records of Glossy Black-Cockatoo to the Victorian Biodiversity Atlas.</p>	DEPI Regional Services (Gippsland)
Involve community groups and volunteers in recovery activities	<p>Engage with the public to draw on additional information on Glossy Black Cockatoo held in private records and in databases maintained by non-government organizations.</p>	DEPI Regional Services (Gippsland)

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