



Photo Mitchell Roberts 2026

Monitoring Glossy Black-Cockatoo (*Calyptorhynchus lathami lathami*) feeding and nesting behaviour in the Bunyas to Border Corridor



A collaboration between LUCI, Killarney Bushcare and Leaf-tail Environmental as part of the Bunyas to Border project funded by a partnership between the **Great Eastern Ranges initiative** and **ifaw** as part of a broader effort to create Koala Climate Corridors to support wildlife adaptation and build resilience. The project also received financial support from BirdLife Australia. Thanks to Friends of the Forest for loan of camera equipment.

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A. Bunyas to Borders Glossy Black-Cockatoo Nest Site Monitoring Project

As an obligate hollow nester, a shortage of available nest sites for the Glossy Black Cockatoo (GBC) through scarcity or competition can constrain breeding behaviour, breeding density and, potentially, the persistence of the bird population in our local landscape (Cameron, 2006; Newton, 1994). Further, identifying threats (e.g. predation) to breeding behaviour and breeding success at existing nest sites is important to designing interventions to supplement habitat resources (Garnett, Pedler and Crowley, 1999).

Recognizing that breeding success is a key limiting factor in GBC survival, the project will address current knowledge gaps in GBC conservation by:

- a) Locating and monitoring current GBC nesting sites at strategic locations in the B2B corridor
- b) Monitoring the use of various GBC supplementary nest hollow designs installed at strategic locations in the B2B corridor.

Project sites

The project will be implemented as a citizen science project involving three sites (Ravensbourne, Mount Whitestone and Killarney) within the B2B regional corridor. The sites were chosen based on localities with (a) a known natural nesting site and/or records of GBC presence (sighting or feeding evidence) on public databases (e.g. WildNet and Birdata) and (b) a community group willing to undertake the project and include:

- The **Killarney site** was chosen for this project as the only known GBC natural nesting sight recorded, to date, in the project area and has landholders willing to participate in the project. Killarney Bushcare, a community group and member of Condamine Headwaters Landcare, is active in the southern section of the B2B corridor.
- The **Mount Whitestone site** has high suitability due to persistent Glossy Black presence and evidence of feeding and watering and land holders willing to participate in the project. Lockyer Uplands Catchments Inc, a landholder group are active in the mid-section of the B2B corridor.
- The **Ravensbourne site** has high suitability due to persistent Glossy Black presence and evidence of feeding and landholders willing to participate in the project. Leaftail Environmental, a local group of ecologists based in the northern section of the B2B corridor and who partner with a range of community environment projects.

Method

1. Locating and monitoring natural nest sites

See **Appendix 1** for guidance on locating natural nest sites.

- ☞ Once a natural nest site is located, observers complete a field data sheet and monitoring begins. Time of day is critical for observing activity as breeding pairs will return in the late hours of the day around sunset to dusk. Volunteers need to be located within site of the nest tree roughly 20-50m away and in position well ahead of time.
- ☞ Where a natural nest site is found, an audio recorder will be placed on or near the nest tree and will be set to record 1 hour before, and 30 minutes after dusk to monitor activity throughout the stages of the breeding and nesting cycle and investigate nesting success.
- ☞ Observers visit audio recorder **on a two-monthly basis** to change sd card and batteries.
- ☞ Observers provide the B2B Coordinator with sound files for uploading to WildNet and Birdata.
- ☞ Attend a post-survey summary workshop with project ecologist (August 2026).

2. Locating and monitoring supplemental nesting hollows

Placement of the nest boxes is determined as follows:

- As a top priority, within 100m radius of an existing GBC natural nest site; or
- As a second priority, within 100m radius of a known GBC roosting site; or
- As a third priority, within 100m radius of a known GBC feeding and/or watering site.

Nest boxes are installed just prior to, or at the beginning of, the breeding season (February). Each nest box is installed on a Eucalypt tree at a height of 8-15m from the ground and a wildlife camera is positioned to capture images of entries and exits from the nest box. Each nest box tree is fitted with tree collars for protection from predators.

Observers will be required to:

- ☞ Complete a field data sheet recording survey details, GBC behaviour, etc
- ☞ Visit nest boxes **on a monthly basis** and download camera data
- ☞ Observers provide the B2B Coordinator with sound files for uploading to WildNet and Birdata.
- ☞ Attend a post-survey summary workshop with project ecologist (August 2026).

Three types of GBC nest boxes to be monitored at each of three project sites



Drainage Pipe Hollow

Repurposed corrugated drainage pipe with side entrance modification.

Internal ladder and timber chew block with small holes and / or mesh on the bottom end of hollows allows for drainage.

Photo Mitchell Roberts



PVC Pipe Hollow

Repurposed construction pvc pipe with cap on top with side entrance modification.

Internal ladder and timber chew block with small holes and / or mesh on the bottom end of hollows allows for drainage.

Photo Mitchell Roberts



Salvaged Hollow

Large hollow limbs or trunk salvaged from native fallen trees and repurposed to suit GBC nesting requirements.

Small holes and/or mesh on the bottom end of hollows allows for drainage.

Photo Kym Sparshott

APPENDIX 1

Summary of the Glossy's breeding and nesting cycles

Courtship	Males sexually mature around 2-3 years old and courtship involves males flashing their red tail feathers to attract females
Prospecting	The female with male in tow investigates tree hollow availability, a process that can take weeks
Incubation	the female lays a single egg, and over a four week period, she only leaves the nest briefly to be fed by male. The male provides her with food, does not enter the nest and spends his nights in a nearby roost tree. Indicators of this part of the cycle include the female's distinctive begging call and the regular sight of a lone male flying in one direction in the morning and returning in the opposite direction in the evening.
Brooding	1-2 weeks duration, where the female remains with the hatched chick but comes out of the nest to take food from the male, which she then feeds to the nestling
Post-brooding	10-11 weeks, where the nestling is left alone while both parents leave early in the day to forage and return in evening to feed the nestling.
Fledging	At around 12 weeks, the fledgling comes to the hollow entrance and the female parent entices the bird to her
Post-nesting	The fledged bird is totally dependent on the parents and for several months, incessantly begging and with both parents feeding it while it learns how to feed itself.

Locating natural nest sites

Best done as a group of volunteers, minimum 4 people but, if possible, ideally 6 or 8.

<p>1. During breeding season (Feb- August) identify an area with high GBC breeding behaviour (such as regular visits to a drinking site, courtship behaviour, begging adult females, lone adult males with regular daily flight pattern).</p>
<p>2. Locate birds (usually at a dam/water source) usually around sunset to dusk when the birds are finished feeding for the day and seek fresh water for a drink before returning to nests or roost sites.</p>
<p>3. Depending on location (e.g. site access, terrain, topography, etc), position groups of two radiating out from the dam in all directions. Depending on the site each group should be only a few kms away from each other to be able to triangulate where the birds are between groups. <i>Increase the number of groups in steep or thick vegetation to increase detectability of the birds.</i></p>

<p>4. Have one person stationed at the dam and record how many GBC are present and photograph and/or video them for later photo identification of the females. Take a photo of the sky to signal that a different female is being photographed. When the birds fly off, the person at the dam radios or messages the direction that they fly to the other members of the team. This person should also record compass bearings of the direction of flight of birds leaving the dam or drinking site and times of departures.</p>
<p>5. The GBCs are tracked by the groups of people until they have settled. The general 'settled' location is recorded.</p>
<p>6. The next day, a survey will be conducted in the 'settled' area recorded the night before looking for potential nesting habitat.</p>
<p>7. The surveyed area will have more people stationed there the second evening and will track the GBC following audible cues and visual direction to the nest tree.</p>
<p>8. Volunteers are encouraged to take video of the birds (camera or phone camera) to record the behaviours / calls they are observing.</p>
<p>9. The stage of nesting (egg or nestling) can be determined by the behaviours of the adult pair as they arrive to the nest tree. During incubation stage (30 days) and chick brooding (7-10 days post-hatching), the male will arrive calling loudly in flight as he approaches the nesting area. The female will hear him coming and exit the nest to join him in a nearby tree.</p>
<p>10. During nestling stage, after brooding and up to fledging (~12 weeks post-hatching) adult pairs will leave the nestling alone in the hollow during the day while they are out feeding. They will drink at the end of the day before returning to the nest and perform a food exchange before the female enters the hollow to feed the growing nestling and spend the night with it inside the hollow.</p>
<p>11. Observers here should focus on the adult females as only females will enter a nest hollow. She may give a repetitive begging call to elicit a food exchange from the male. This may occur in the area of the nest tree but not necessarily at the nest and can occur at drinking sites. Once she has been fed by the male she will make her way to the nest hollow and give a loud, croaky "nest entry call" as she approaches and enters the hollow.</p>
<p>12. Once the nest tree has been located, observers should take photos of the nest tree and hollow (using the panoramic mode vertically can help get a full view of taller trees) and get a GPS point of its location once the female has settled into the hollow out of view.</p>



B2B Glossy Black-Cockatoo Nest Activity monitoring – Field Data Sheet

Field site name		Start time:	End time:
Date	___/___/___	Observer(s)	

Location details

GPS coordinates	_____ (E) / _____ (N)		
Location description/access notes (Area - specific location):			
Land tenure Public / Private		Reserve name or Lot/DP/address or Landholder Name	

GBC sighting information: (video and/or photos of behaviour observations is encouraged)

Numbers of: male, female, juvenile	Time	Notes: Behaviours including feeding, drinking, flying, begging female or juvenile, displaying males, food exchanges (m to f, adults to juv); female entering or at hollow entrance.
Eg. 1m, 1f, 1juv	1830	Birds flew in from west to small dam; took turns drinking; juv begged and was fed by f first then by m. All three flew off to NW towards large eucalypts in gully.

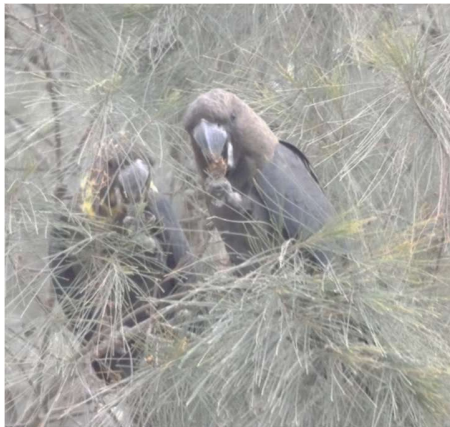
Are there large suitable hollows present (including artificial hollows)? (Y/N): _____ How many?: _____

Notes on tree species, shape, height, location: _____

Mud map diagram of sighting area: Include: landmarks that will help locate plot (e.g. roads, trails, dams, creeks, powerlines), location of feed trees and drinking sites, GBC directions of flight with arrows and compass bearings.

B. Bunyas to Borders Glossy Black-Cockatoo Feeding Behaviour Project

The GBC feeds exclusively on the seeds of she-oak trees (*Allocasuarina* and *Casuarina* species). Cones are chewed by the bird to extract the seeds after which the chewed up cone (the ort) falls to the ground. While the presence of she-oaks indicates potential habitat, orts are evidence of



GBC presence in the landscape and, importantly, use of local habitat.

Ort records not only indicate presence of the GBC but collecting additional information at a feeding site can also inform habitat restoration planning. For example, knowing what species of she-oak GBCs prefer to feed on in a locality and at what time of year can inform what tree species should be planted. Collecting ort records on a regular basis (e.g. bi-monthly) across different species of she-oaks over a period of time (e.g. at least 1-2 years) can

add further knowledge as to year round GBC food sources and usage.

Collecting ort records can help answer questions such as the following:



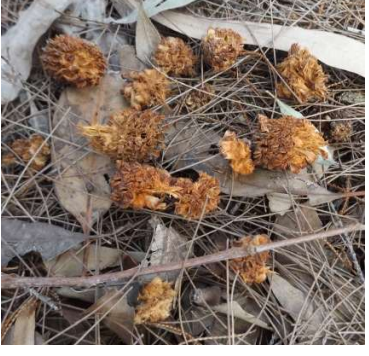




- Does my property provide GBC feed trees?
- What species are used as feed trees?
- Are GBCs using feed trees more than once?
- How many of the same species are used as feed trees?
- Are the trees being fed on at different times of the year?

Ort records can be registered on public databases such as WildNet. If you are registering orts, always record GPS coordinates and it is a good idea to photograph the evidence. Recording GPS coordinates also helps with repeat surveying of feed tree fidelity, although a more precise method is to visibly tag a feed tree for easier and accurate identification.

For GBC habitat conservation planning, it is useful to collect additional information in the vicinity of a feed tree. For example, recording natural tree hollows or water sources nearby, or if the feed tree is situated in a dense thicket of the same species or different species or isolated, or if there is recruitment or die-off of the species in the vicinity are some of the details that can inform habitat restoration decisions.

<https://glossyblack.org.au/resources/>

Ort Category

<p>Fresh (white to pale yellow)</p>		
<p>Recently chewed (reddish, rusty)</p>		
<p>Older (brown)</p>		
<p>Very old (faded, weathered, grey)</p>		<p>Some ort sightings may include a mixture of ort category indicating repeated feeding visits. <u>Record all ort categories present.</u></p>



Glossy Black presence and feeding behaviour

Field data sheet

Date		Name of recorder	
Location details (e.g. address, area)			
Bird	Male	Female	Don't know
	Behaviour		
Orts	Colour	She-oak species if known	
GPS	Lat	Long	
	Precision		
Please take a photo(s) of your sighting/findings and send with this form.			
Optional	Time of day		
	Nearby water source		
	Trees in vicinity		
	Other fauna present		
	Weeds in location		
	Other...		

