



Glossy Black Cockatoo Conservation and Bioacoustic Monitoring Project

Noosa Biosphere Reserve

Interim Report

1-1-2022 – 31-8-2022



Calyptorhynchus lathami lathami in a feed tree in Noosa

Introduction

Bushland Conservation Management (BCM) is engaged by Noosa Biosphere Reserve Foundation (NBRF) for Glossy Black Cockatoo Conservation and Bioacoustic Monitoring Project across the Noosa region and surrounding area for the 2022 breeding season.

The goal of this project for the 2022 breeding season was to identify potential nesting sites, install bioacoustic sound recorders and utilise Dr. Daniella Teixeira's 'Call Recogniser' and gain data across the region giving an insight into the bird's movements, requirements and help guide future conservation efforts in key areas.

Bushland Conservation Management is committed to environmental sustainability, and strives to achieve best practice in conservation management. BCM adhere to a comprehensive Workplace Health and Safety Policy and Procedures Manual and work under a Safe Work Method statement, which is read and checked by all staff before any works are undertaken. BCM also work under strict guidelines in place through our Environmental Management System.

BCM aims to continue the Glossy Black Cockatoo Conservation and Bioacoustic Monitoring Project across coming years to better represent the movement of the birds creating a longer term picture with further field data.

Permissions

Bushland Conservation Management has gained all relevant permits and permissions to conduct scientific research study across the local council areas as well as the Scientific Research Permit through Queensland Parks and Wildlife Service for the relevant sections, including vehicle permits for access to these locations.



Figure 1 Scientific research signage in the field.

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Joel Morris
Director
Bushland Conservation Management

Date: 30-6-2022

Methodology/ Works undertaken

This first year's bioacoustic monitoring effort of the Glossy Black Cockatoo *Calyptorhynchus lathami lathami* (*C. Lathami*) was focused on the installation of bioacoustic sound recorders in reference sites across areas of high suitability, which fits within the Glossy Black Cockatoo required habitat for likely nesting sites throughout the Noosa region and locally surrounding areas. These areas were based upon similar requirements that have been noted, down on Kangaroo Islands successful Glossy Black Cockatoo Recovery Project.

- Nesting sites are approximately 1.5km to a water source

- Feed sites are within a 12km distance

The female relies on her mate to allofeed and water her during the egg incubation process.

The female also takes her evening drink for herself as well as her nestling making the watering hole proximity an important link.

The nesting season in eastern Australia lasts from around March to September and a key challenge in the *C. lathami* recovery is breeding success, and this challenge has become ever more difficult locally, with feeding habitat and nest sites destroyed through development, bushfire and storms.

During the lead into the project, consultation was undertaken with key stakeholders in *C. Lathami* including Noosa Shire Council, Sunshine Coast Council, Gympie Shire Council, Birdlife, Birdlife Toowoomba, Dr. Danielle Teixeira - Wildlife Conservation Biologist, Dr. Gabriel Conroy and The Glossy Black Cockatoo Society.

Information was sent out to private landholders via the Land for Wildlife newsletter for information relating to sightings of the Glossy Black Cockatoos in varying areas. Articles were placed in local print media and interviews undertaken with local radio networks. Letter box drops were carried out in known areas with key information regarding the GBC. Any information supplied by the general public was followed up with visual inspection of site, photos and information supplied. A large portion came back as likely Yellow Tailed Black Cockatoo.

10 Reference sites with bioacoustic sound recorders have been installed across the region with GPS locations recorded. ArcPad geographical mapping software has been utilised through personal data digital assistant (PDA) and compiled through Arc GIS. BCM utilized 10 sound records during the term of the project. This included 9 x AudioMoth and one Song Meter Mini. All ten bioacoustic sound recorders were installed by BCM on the nesting tree or adjacent vegetation. The sites have all been selected in known GBC habitat that complements the important link between feed trees, watering sites

A key challenge in Glossy Black Cockatoo recovery is breeding success, by utilising bioacoustic sound recorders with software analysing the calls, BCM were able to decipher whether the potential nest site had activity with the assistance of Dr Danielle Teixeira. A successful nest site is classed if the fledgling successfully leaves the nest site. The *C. Lathami* is listed a rare and threatened species and listed as vulnerable in Queensland with up to one third of the entire known population thought to

frequent the Noosa Biosphere region, which is considered a significant habitat. Utilizing bioacoustic sound recorder technology, allows for high precision results and less human impact on possible nesting locations.

The sound recorders were set to record for 3.5 hours over the later afternoon period daily with some areas adding in an extra hour throughout the day to pick up on fly overs. This would give insight as to whether the birds were in fact in the area at all. Due to no known nesting sites being known of or recorded it was decided to install the recorders across areas that had been chosen to install GBC nesting boxes as well as a couple of natural hollow sites. Five of these are boxes BCM have designed and had installed as well as supply GBC boxes to Noosa Landcare for their bush fire recovery grant project along with other species nest boxes were supplied from different local nest box manufacturers from around the Sunshine Coast locality.

It is recommended for more than one nest box, installation should occur on different trees, more than 100m apart.

On installation of sound recorders it was observed multiple species and GBC boxes had been installed on the same trees.

Equipment was regularly inspected during the project duration. The prolonged wet weather heavily impacted on the quality of sound recording. At the half way point the SD cards were removed and information downloaded. A new SD card was installed for the second period of the project. The downloaded files were sent to Dr Danielle Teixeira and to run through the larger computer to assist with time management.



Figure 2 multiple nest boxes installed



Figure 3 Inspecting Green pipe nest box at Weyba Nature Refuge



Figure 4 AudioMoth bio acoustic sound recorders installed in Weyba Section Noosa National Park



Figure 5 visually inspecting nest box locations near Cambroon.



Figure 6 installation onsite.

Results

Completion of the Glossy Black Cockatoo Conservation and Bioacoustic Monitoring Project, is still underway and likely to finish at the end of August should there be no successful nest sites recorded to follow fledgling behavior.

To date, nil nesting locations have been observed during this period of reporting. Observations of some excellent natural hollows in potential habitat locations have been recorded. The call recogniser pick up on no GBC calls on bioacoustic monitors or visually been observed. This includes nil feeding activity across areas that have previously been heavy feeding sites. There are still a small number of birds feeding across the Sunrise Beach locale.

According to our previous records the birds are likely to continue to return now to the Noosa region as feed trees are ripe. The research across these sites will continue past August should activity start to increase and the project will complete only upon nil activity.

A large development at Sunrise Beach has cleared a large plot of a feeding site and it is yet to be understood the implications that will arise from the loss of this habitat locally.

All collected data is valuable information in providing a greater understanding of the GBC. There appeared to be a dramatic decrease in the population during this period. This will be monitored over the next five years of the project. BCM is in regular contact with project partners in known areas of Gympie, Gold Coast, Brisbane and Toowoomba. Previous fires, heavy rainfall and development could be factors in the findings. There was one recorded death of a Glossy Black Cockatoo, by car strike during the project in Noosa. Visual inspections of both artificial and natural hollows will continue to be observed during the project. With little to no historic data and current information, natural hollows were observed on regular intervals and Bio-acoustic recorders installed in these locations.

During the nesting period there were long stretches of rain and periods of heavy rain including flooding events, which affected the quality of the sound recordings during this period. Road noise, Crickets and Cicada also made for very noisy recordings.

Roosting sites have been observed in three locations in the lead up and into the project at Sunrise Beach, Noosaville and Kenilworth. The same areas also contained drinking sites and feed sites.



Figure 7 Three *C.lathami* roosting in Noosaville September 2021

Location: Johns Landing Bushland Reserve	Date: 2022
Position: Cooroibah	Species: <i>Eucalyptus tereticornis</i>
Comment: Storm water drain pipe (Men's shed) artificial nest box install at Johns Landing.	



Figure 8

Location: Great Sandy National Park – Cooloola section	Date: 2022
Position: Como	Species: <i>Eucalyptus racemosa</i>
Comment: PVC drain pipe (BCM) artificial nest box install at Como.	



Figure 9

Location: Noosa National Park	Date: 2022
Position: Weyba Downs	Species: <i>Eucalyptus racemosa</i>
Comment: PVC drain pipe (Men's shed) artificial nest box install at Weyba Downs.	



Figure 10

Location: Noosa National Park	Date: 2022
Position: Weyba Downs	Species: <i>Eucalyptus racemosa</i>
Comment: Green pipe recycled plastic (BCM) artificial nest box install at Weyba Downs.	



Figure 11

Location: Great Sandy National Park – Cooloola section	Date: 2022
Position: Como	Species: <i>Eucalyptus racemosa</i>
Comment:	
Numerous large hollow bearing trees were observed adjacent to the access track to the Noosa everglades. Weed trees evident and water source nearby.	



Figure 12

Date	1-1-2021 – 30-6-2022	Contractor Name	BUSHLAND CONSERVATION MANAGEMENT	Client Contact	NOOSA BIOSPHERE		
Weather	VARIABLE						
Site Location	Noosa, Sunshine Coast, Gympie	Management Area	Various	Start Time	5:00am	Finish Time	8:00pm
Job Description	<input type="checkbox"/> Bush Regeneration Planting Activities	<input type="checkbox"/> Weed Control Manual Removal	<input type="checkbox"/> Weed Control Chemical Application	<input type="checkbox"/> Vegetation Maintenance Felling/Pruning	<input checked="" type="checkbox"/> Other		
Identified Hazard	<input checked="" type="checkbox"/>						
Check off those hazards that apply to this site	<input checked="" type="checkbox"/> Working in isolated or remote areas	<input checked="" type="checkbox"/> Mobile phone	<input checked="" type="checkbox"/> Two way radio	<input checked="" type="checkbox"/> Regular check-in	<input checked="" type="checkbox"/> Work in pairs	<input checked="" type="checkbox"/> Emergency plan	
	<input checked="" type="checkbox"/> Outdoor work & work in public spaces	<input checked="" type="checkbox"/> Sun safe clothing	<input checked="" type="checkbox"/> Water and Amenities	<input checked="" type="checkbox"/> Take breaks in the shade	<input checked="" type="checkbox"/> First aid kit	<input type="checkbox"/> Exclude public from site – barriers/cones	
	<input checked="" type="checkbox"/> Driving - water crossings, rough, uneven ground	<input checked="" type="checkbox"/> Drive to the conditions	<input checked="" type="checkbox"/> Do not cross flowing waterways	<input checked="" type="checkbox"/> Walk the water route	<input checked="" type="checkbox"/> Recovery equipment	<input checked="" type="checkbox"/> Work in pairs	
	<input checked="" type="checkbox"/> Work surfaces - risk of slips, trips or falls	<input checked="" type="checkbox"/> Walk the site and identify potential hazards	<input checked="" type="checkbox"/> Discuss hazards with team before work starts	<input checked="" type="checkbox"/> Choose an alternate site access	<input checked="" type="checkbox"/> Clear hazards and obstacles from site	<input checked="" type="checkbox"/> Wear appropriate footwear	
	<input checked="" type="checkbox"/> Manual handling and manual excavation	<input checked="" type="checkbox"/> Move smaller loads/Team lift – two or more lift together	<input checked="" type="checkbox"/> Rotate the task to reduce fatigue – share the heavier work around	<input checked="" type="checkbox"/> Use mechanical aids before manual handling	<input checked="" type="checkbox"/> Use appropriate light weight hand tools	<input type="checkbox"/> Establish exclusion zones around open holes and excavations	
	<input type="checkbox"/> Using powered tools - brush cutters, whippers, blowers, chainsaws etc.	<input type="checkbox"/> Use the most appropriate tool for the task	<input type="checkbox"/> Induction/training for use	<input type="checkbox"/> Rotate the task to reduce fatigue – share the heavier work around	<input type="checkbox"/> Use correct PPE	<input type="checkbox"/> Check maintenance of plant and equipment	
	<input type="checkbox"/> Felling and pruning trees	<input type="checkbox"/> Assess the tree and associated hazards	<input type="checkbox"/> Use trained competent operators	<input type="checkbox"/> Check maintenance of plant and equipment	<input type="checkbox"/> Set up exclusion zones, signs and spotters	<input type="checkbox"/> Clean up and make safe at end of the job	
	<input type="checkbox"/> Working with and around powered mobile plant and vehicles	<input type="checkbox"/> Licensed competent operators	<input type="checkbox"/> Hi visibility work wear when working close to plant	<input type="checkbox"/> Wear hard hat when working close to mobile plant	<input type="checkbox"/> Exclusion zones- set up signs and spotters	<input type="checkbox"/> Use a spotter to maintain safe exclusion zone around moving plant	



	<input type="checkbox"/> Hazardous chemicals application - spraying, wick wiping, cut and paint etc.	<input type="checkbox"/> Trained licensed operator, supervise any unlicensed operators	<input type="checkbox"/> Follow procedures for Transport, Mixing, Storage of Chemicals	<input type="checkbox"/> Correct distribution method/procedures	<input type="checkbox"/> Use prescribed PPE	<input type="checkbox"/> MSDS on site
	<input checked="" type="checkbox"/> Animals / Insects (attacks/bites/stings) <input checked="" type="checkbox"/> Plants (Scratches/Stings/Punctures)	<input checked="" type="checkbox"/> Walk the site and identify potential hazards- tell others	<input checked="" type="checkbox"/> Long sleeve shirt and trousers/work gloves/boots	<input checked="" type="checkbox"/> Apply insect repellent	<input checked="" type="checkbox"/> First aid kit	<input checked="" type="checkbox"/> Conduct regular body and clothing checks for insects
	<input checked="" type="checkbox"/> Public safety on site	<input checked="" type="checkbox"/> Keep pathways clear of debris and equipment	<input checked="" type="checkbox"/> Be aware of public on site and being Courteous at all times	<input checked="" type="checkbox"/> Stop work on machinery when public approaches and departs work area	<input checked="" type="checkbox"/> Ensure vegetation is not cut down when public approaches	<input type="checkbox"/> Stop spraying activities when public approaches and departs work area
Other hazards and control measures – use this section for hazards not identified above						
Hazard: Novel Coronavirus (COVID-19)		<p>Controls:</p> <p>All staff will remain 1.5 metres apart with other staff members. All staff will remain 1.5 apart from community contact and instruct community members to stay 1.5 metres apart. Frequent hand washing (if you touch something on the vehicle wash your hands afterwards) Avoid contact with others, including through shaking hands, and covering their Mouths while coughing or sneezing, wash hands after coughing, sneezing, eating and touching face etc.</p>				
Hazard: Steep slopes		Controls: Ensure secure footings. Do not walk below other crew members.				
Hazard: Isolation		Controls: Ensure visual contact and communication via two way radio.				

Site Induction Record

IMPORTANT: With my name below on this document I declare the following: I am not impaired by the effects of alcohol or drugs; and I have participated in the risk assessment process and agree to abide by all control measures listed in this document.

SITE SUPERVISOR NAME: Kim Morris

NAME	NAME	NAME	NAME
Joel Morris			



Project Team

Figure 13 Project Team Members - Joel and Kim Morris Bushland Conservation Management



Figure 14 Dr Daniella Teixeira Wildlife Conservation Biologist