

Bunyas to Border Corridor Project



This progress report forms part of Koala Climate Corridors - a project by the Great Eastern Ranges and the International Fund for Animal Welfare (IFAW) to create wildlife corridors to help native animals adapt to climate change and build the resilience of our communities and land.

NEST BOX PLAN & REPORT 31 OCTOBER 2023

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Introduction

The "Provision of supplementary habitat" activity is a crucial component of the Bunyas to Border (B2B) project, the first in a series of corridors established as part of the Great Eastern Ranges (GER) and International Fund for Animal Welfare's (IFAW) Koala Climate Corridors project. GER and IFAW have partnered with Lockyer Uplands Catchments Inc. (LUCI), a dedicated local organisation, to enhance the critical koala habitat corridor in the western 'horn' of the Greater Border Ranges, spanning the landscape from Main Range-Helidon Hills to the Bunyas.

This biodiversity corridor is state-recognised and serves as an essential movement pathway for wildlife, supporting many unique and threatened native animals and plants. The project received seed funding for 12 months to carry out activities including strategic tree planting, supplementary habitat efforts like nest box and watering station installations, citizen science initiatives, riparian area enhancement, and community education.

In this context, the Nest Boxes for Greater Gliders activity involved collaboration with Crows Nest Environmental Ltd for nest box installation and monitoring at Dingo Mountain Parklands, Crows Nest. The initiative involved the purchase and installation of nest boxes specifically designed for Greater Gliders and aims to provide supplementary habitat for the threatened species whom dependent upon large, old-growth tree hollows.

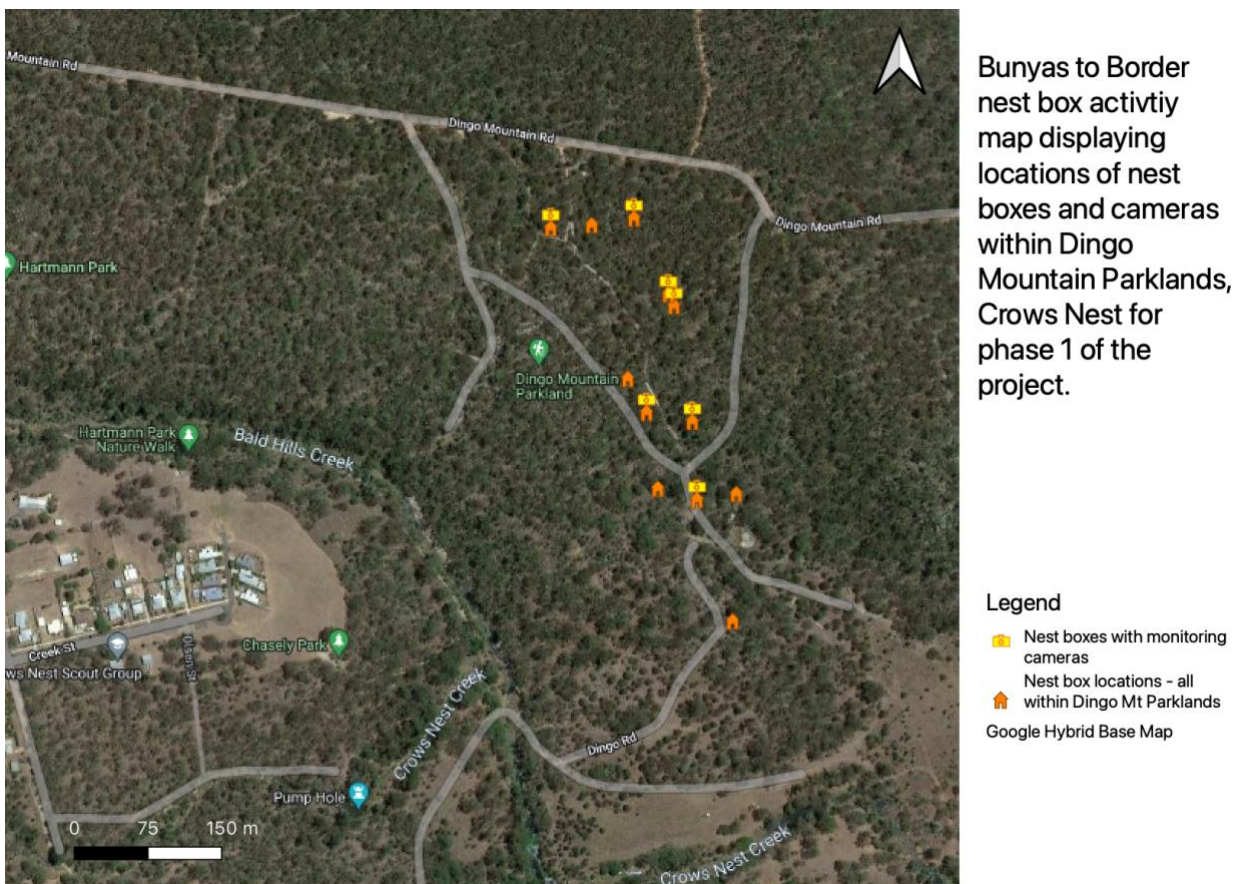


Fig. 1 Locations of nest boxes within Dingo Mountain Parkland, Crows Nest

Cost Summary

Table 1. Summary of costs

Item	Quantity	Unit price	Amount incl. GST
3-unit GG nest box	6	365.2	2191.2
2-unit GG nest box	6	245.3	1471.8
Cameras w/ Bluetooth & solar panels	1	581.43	4070
Ecologist installation cost (3 days)	1	9900	9900
		Total cost	17633

Methodology

1. Target fauna species

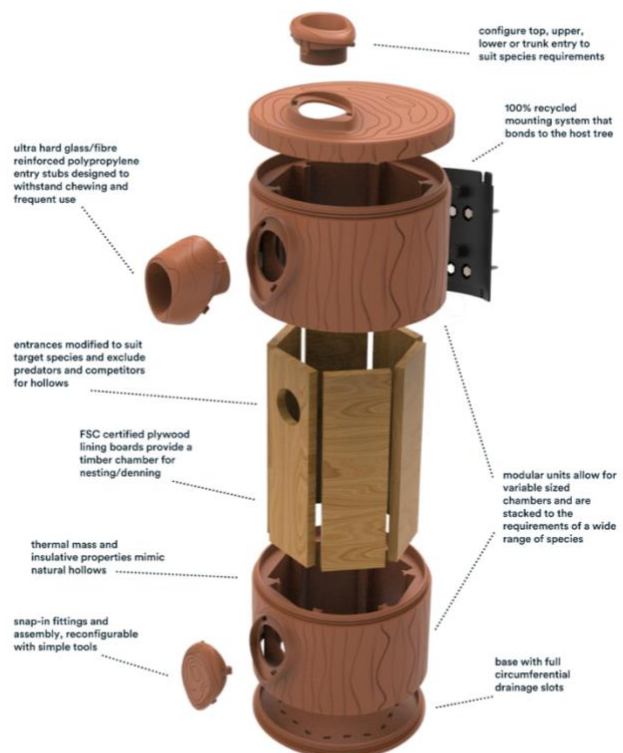
The Greater Glider (*Petauroides Volans*) is listed as Vulnerable on a national level (*Environmental Protection and Biodiversity Conservation Act 1999*, (Cmlth)) and Endangered in Queensland (*Nature Conservation (Animals) Regulation 202,0* (Qld)). It is the largest gliding possum in eastern Australia, primarily found in eucalypt forests and woodlands (Australian Government, 2022). It prefers tall, montane, moist forests with old, hollow-bearing trees but also inhabits drier areas in southeast Queensland (Australian Government, 2022). Greater gliders are nocturnal and solitary, using large tree hollows (diameter >10 cm) for shelter during the day (Australian Government, 2022). They utilise both live and standing dead trees, with a preference for live trees when available (Australian Government, 2022).

Greater Glider was selected as the priority species for this activity because it is one of the project's eight target species and one of the two that are hollow-dependent. Its conservation is particularly critical due to its threatened status and its specific requirement for large tree hollows in old-growth forests. Additionally, Greater Gliders have shown a reduced uptake of nest boxes compared to other species, making targeted efforts essential for their support

2. Nest box selection

Habitat Innovation Nest Boxes were chosen for their unique features:

- **Like Nature:** Unlike traditional timber nest boxes, our patented Habitat nest boxes are built for the natural world with organic shapes, textures and structures that mimic the physical and thermal properties of the natural hollows that they supplement.
- **Modular:** Habitat nest boxes are completely modular with customisable entrances able to be installed via the top, upper side or lower side to support the needs and habits of a wide range of species. The modular system allows for multiple body sections to be joined to create different size chambers that can cater to small species such as microbats through to medium-large sized parrots.
- **Durable:** Novel forms and materials ensure long service life far exceeding traditional nest boxes. Moulded UV-stabilised polypropylene sections are extremely durable and have stable thermal properties. They are double walled for temperature and humidity control, have FSC certified timber panels in the nesting/denning chamber, are recyclable and consist of full circumferential drainage slots. Habitat nest boxes come with a revolutionary new mounting bracket system from 100% recycled material that bonds to the host tree.



over the lifetime of a Habitat Modular Nest Box save

\$1650



\$250 1 box \$900 5 boxes
\$250 1 installation \$1250 5 installations
\$ 500 \$ 2150



last longer in the field by
500%

5-10 years vs 50 years

6+°
cooler than maximum
ambient temperature



3. Site selection

Site selection was based on a spatial analysis report by Paul Revie from Wildlife Queensland ([view report](#)), which identified Dingo Mountain Parklands at Crows Nest as having the highest records of Greater Gliders along the corridor (Fig. 2) and within four primary project locations: Bunya Mountains, Crows Nest (Fig. 3), Toowoomba, and Lockyer Valley.

Consultations with Habitat Innovation ecologists helped determine the best installation strategy: focusing on the site with the highest records and suitability to ensure the greatest likelihood of nest box uptake. This site will serve as a 'proof of concept' for the project.

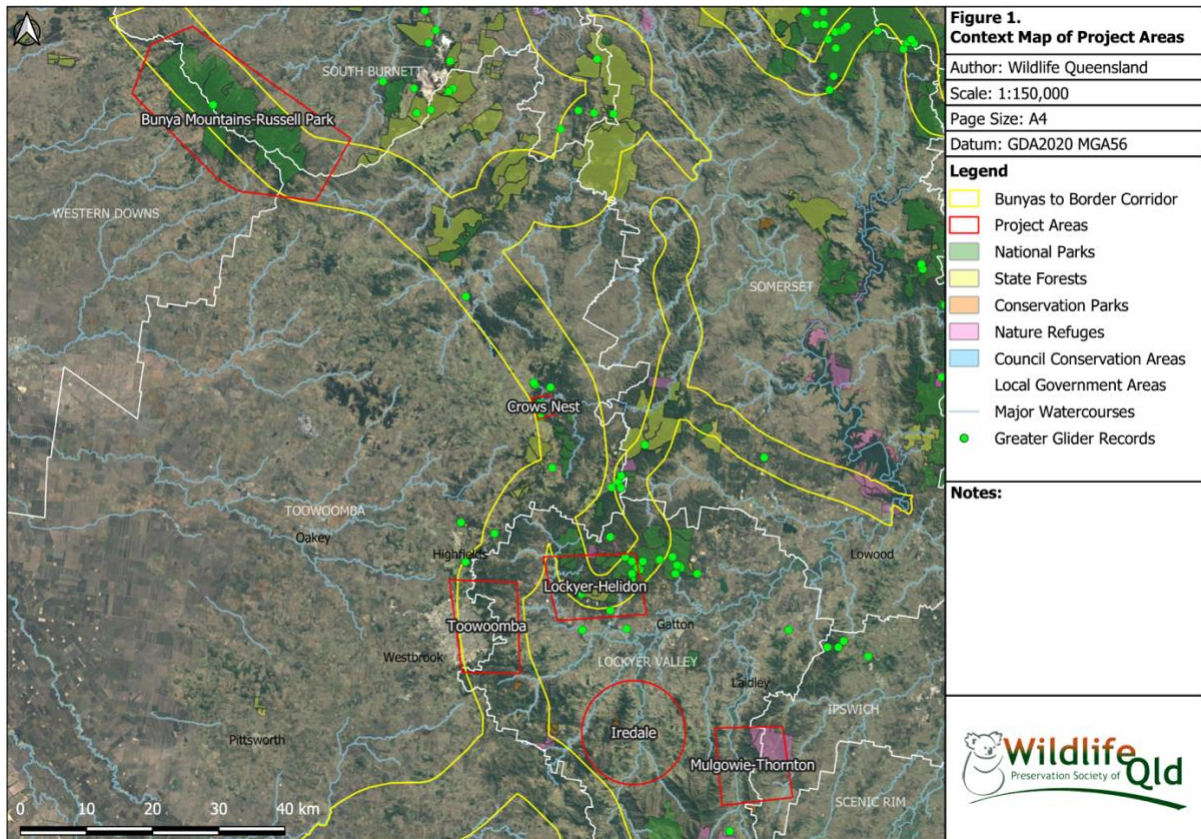


Fig. 2 context map of B2B corridor displaying Greater Glider records and areas of closer investigation (red polygons). While Lockyer-Helidon showed a high volume of records, this area was modified to not be included in the B2B corridor during phase 1 to avoid overlapping with ongoing work of non-collaborating groups.

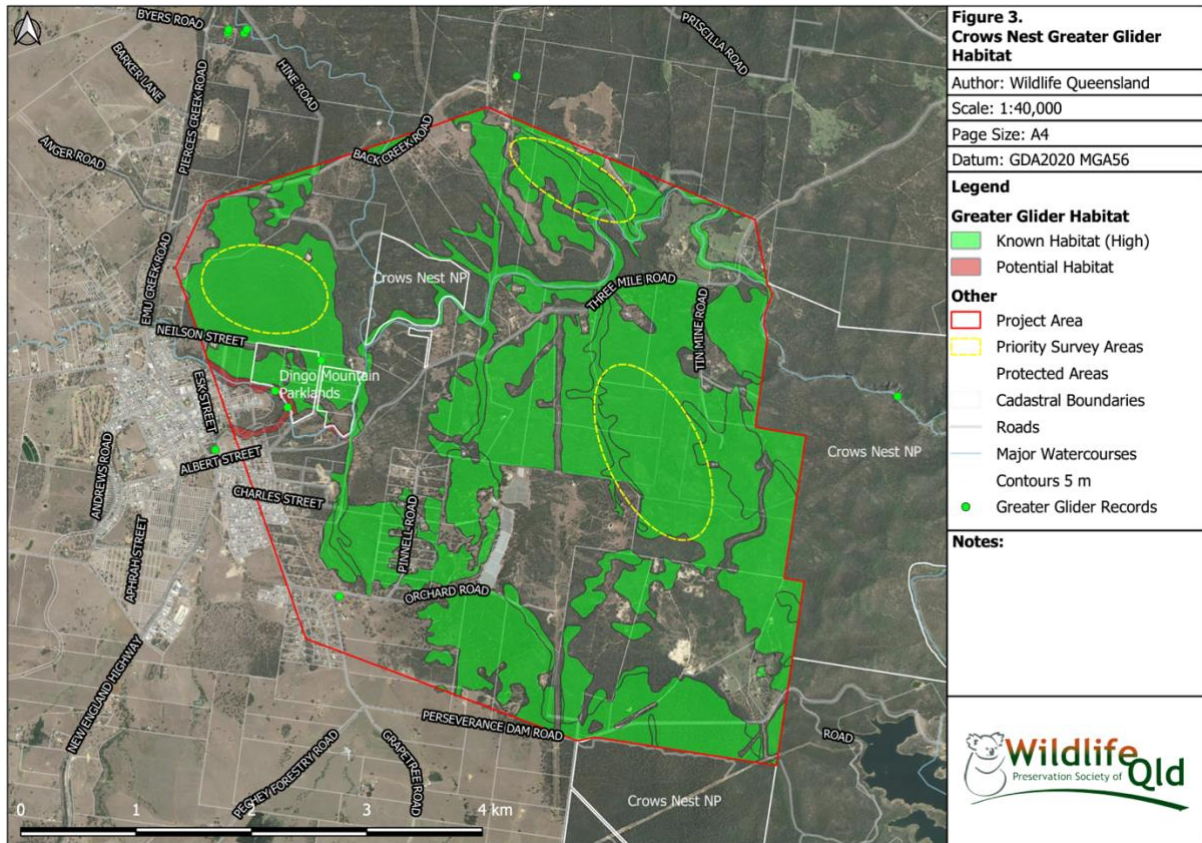


Fig. 3 Mapped Greater Glider habitat suitability and records for Crows Nest area including Dingo Mountain Parklands.

4. Collaboration

Dingo Mountain Parklands is managed by Crows Nest Environmental Ltd (CNE). A collaboration was established with CNE following the formulation of the project work plan in July 2023. Initially considered for tree planting activities, Dingo Mountain Parklands was ultimately chosen as the focal point for the nest box activity due to its high suitability for Greater Glider habitat.

5. Installation

Ecologists from Habitat Innovation carried out the installation of the nest boxes. Their expertise ensured that the boxes were placed on the most suitable trees, at optimal heights, and with the ideal aspects and other characteristics for Greater Glider uptake. Detailed installation data is provided in Table 2. Install images can be viewed [here](#).

6. Monitoring

Monitoring will be conducted by CNE according to the monitoring plan outlined on [page 10](#).

a. Camera selection

Monitoring cameras were selected based on recommendations from Habitat Innovation ecologists. The chosen cameras are solar-powered and equipped with Bluetooth capabilities, meeting our criteria to facilitate data retrieval. Since greater glider nest boxes need to be installed high in the canopy, physically retrieving camera data would be challenging. The Bluetooth functionality allows data collection from the ground, while the solar power ensures the cameras remain charged for extended periods.

Table 2. Nest box installation data provided by Habitat Innovation

Box/Den type	Entrance Type	Height of installation (m)	Aspect of entrance in degrees	Tree species	DBH (cm)	Tree health	GPS Coordinates	Photos	Camera Number	Comments
2 unit trunk entrance	Short	13	162	Eucalyptus helidonica	35	Alive - moderate senescence (some dead limbs)	-27.257839, 152.065480	7f279d75.Photos.000427.jpg	NA	
3 unit trunk entrance	Short	13	35	Eucalyptus helidonica	30	Alive - moderate senescence (some dead limbs)	-27.257777, 152.065914	b6de1cfc.Photos.013718.jpg	1	Cam1
3 unit trunk entrance	Short	13	191	Eucalyptus helidonica	45	Alive - moderate senescence (some dead limbs)	-27.257866, 152.065058	ae9220ac.Photos.023507.jpg	2	Cam2
3 unit trunk entrance	Short	13	279	Eucalyptus helidonica	30	Alive - moderate senescence (some dead limbs)	-27.258579, 152.066326	97f00600.Photos.041436.jpg	3	Cam3
3 unit trunk entrance	Short	14	154	Eucalyptus helidonica	45	Alive - limited or no signs of senescence	-27.258471, 152.066268	da692f0c.Photos.054207.jpg	4	Cam4
2 unit trunk entrance	Short	14	199	Eucalyptus helidonica	30	Alive - moderate senescence (some dead limbs)	-27.259244, 152.065851	ddf0fa1d.Photos.064043.jpg	NA	
3 unit trunk entrance	Short	13	129	Eucalyptus helidonica	45	Alive - moderate senescence (some dead limbs)	-27.259553, 152.066044	760fd147.Photos.215516.jpg	5	Cam5

3 unit trunk entrance	Short	15	107	Angophora spp	65	Alive - moderate senescence (some dead limbs)	-27.259636, 152.066515	ee5a9674.Photos.224146.jpg	6	ID says cam2, but videos will have cam6 on them
2 unit trunk entrance	Short	16	19	Eucalyptus halidonica	65	Alive - moderate senescence (some dead limbs)	-27.260350, 152.066563	/1e39da1e.Photos.234215.jpg	7	Cam7
2 unit trunk entrance	Short	14	111	Eucalyptus helidonica	70	Alive - moderate senescence (some dead limbs)	-27.260296, 152.066967	b98174ef.Photos.003045.jpg	NA	
2 unit trunk entrance	Short	13	79	Eucalyptus helidonica	50	Alive - moderate senescence (some dead limbs)	-27.260248, 152.066160	f2359b1a.Photos.011017.jpg	NA	
2 unit trunk entrance	Short	18	59	Grey gum	70	Alive - moderate senescence (some dead limbs)	-27.261460, 152.066930	a84053b3.Photos.020453.jpg	NA	

Monitoring plan

Overview

The monitoring plan outlines the responsibilities and procedures for the collection and management of data related to the nest box cameras installed as part of the Bunyas to Border (B2B) project. Crows Nest Environmental Ltd (CNE) will be responsible for regular data collection and reporting.

Responsibilities

- CNE will check nest box cameras and record data in the provided data sheet.
- CNE will store all camera data, including images, videos, and data sheets in a designated cloud OneDrive folder.
- CNE will collect data every 8 weeks for the first 6 months (until January 2025) and quarterly thereafter for the life of the project.
- CNE must provide the collected data within 14 days of a request or retrieval.

Data Collection Schedule

- Initial Period (First 6 Months):
 - Frequency: Every 8 weeks
 - Duration: Until January 2025
- Ongoing Period:
 - Frequency: Quarterly
 - Duration: For the life of the project

Data Management

- Storage: All camera data, including images and videos, will be stored in a designated cloud drive folder.
- Reporting: CNE will record data in the provided data sheet and upload it to the cloud drive folder.

Data Access and Sharing

- For detailed terms and conditions regarding data access and sharing, please refer to the [terms and conditions document](#).
- For guidelines on project communication and data sharing, please refer to the [media and communication kit](#).

This monitoring plan ensures consistent data collection, management, and sharing to support the objectives of the B2B project.

References

- Australian Government. (2022). *Conservation Advice for Petauroides volans (greater glider (southern and central))*. Retrieved 25 June from <https://www.environment.gov.au/biodiversity/threatened/species/pubs/254-conservation-advice-05072022.pdf>
- Environmental Protection and Biodiversity Conservation Act 1999. (Cmlth). <https://www.legislation.gov.au/Series/C2004A00485>
- Nature Conservation (Animals) Regulation 2020*. (Qld). <https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2020-0136>