

Port Stephens Drive Koala Vehicle Strike Mitigation Project

Monitoring Report 2023-2025

Project funded by the NSW Koala Strategy



The Port Stephens Koala population plays an important role in Port Stephens' identity, biodiversity and economy. A 2019 study however, identified Port Stephens Drive in the east of the LGA as **one of the worst Koala vehicle strike hotspots in NSW**. In partnership with the NSW Koala Strategy, Council committed to the design, construction and installation of a number of specialised Koala structures to reduce Koala deaths by both removing Koalas from the roadway and funneling them toward safer crossing locations. The project generated high community interest and utilized a number of innovative solutions such as the AI monitored "Koala Cam", site specific design adaptions and recycled habitat features. The project was quick to demonstrate success with the "Koala Cam" recording Koala activity in the underpass just weeks after project completion. Since then, the camera has recorded up to seven different occasions of Koalas using the structure to date. The project's most significant result, however, was the successful collaboration achieved between Council's key stakeholders such as the Port Stephens Koala Hospital, Koala Koalition and the NSW Koala Strategy Team.

Whilst considering the range of constraints, limitations and site requirements, Council's Project Team remained focused on delivering the desired outcome of the project which was to: **reduce Koala fatalities at an identified hotspot, whilst maintaining connectivity in a key habitat corridor location.**

Council installed a number of high-quality environmental structures to both remove Koalas from the threat and also funnel them towards safe crossing locations. Significant consultation and collaboration was undertaken with experienced Councils, specialists from Transport for NSW, and Koala management experts to design the most practical and effective structures which, supported by data, were known to maximize the likelihood of successful Koala usage. By implementing this project, Port Stephens Council became one of the first Councils in NSW to deliver on-ground works that reduced vehicle strikes under the 2022 NSW Koala Strategy.

Infrastructure

Stakeholder consultation and a detailed feasibility assessment confirmed Koala fatalities could be reduced, and connectivity also maintained by installing high quality structures which both removed the threat (vehicles), and funneled Koalas toward safer crossing locations, such as a constructed underpass.

On ground **works commenced in late 2022** with the installation of a dedicated Koala-friendly underpass under Port Stephens Drive. **During June 2023—October 2023 all on-ground project works including vegetation clearing, fencing, Koala grid installations, signage and all Koala fencing structures were completed.**

Construction works were carefully staged to be completed prior to the Koala breeding season, when Koala activity and risk of vehicle-strike is at its highest. Council identified opportunities for **promoting reuse** through the installation of salvaged trees as refuge posts, reuse of excess spoil resources generated by other Council projects and utilization of local suppliers and installers wherever possible. Our on-ground teams **embraced change**, undertaking project activities outside of their normal scope and delivering high quality works, such as the installation of Koala grids and suspended footpaths.

Environmental infrastructure installed as part of the Project included:

- 4km of TfNSW compliant Koala proof fencing
- Koala escape fence structures



- 3 x TfNSW compliant Koala grids



- A 20m long fauna underpass



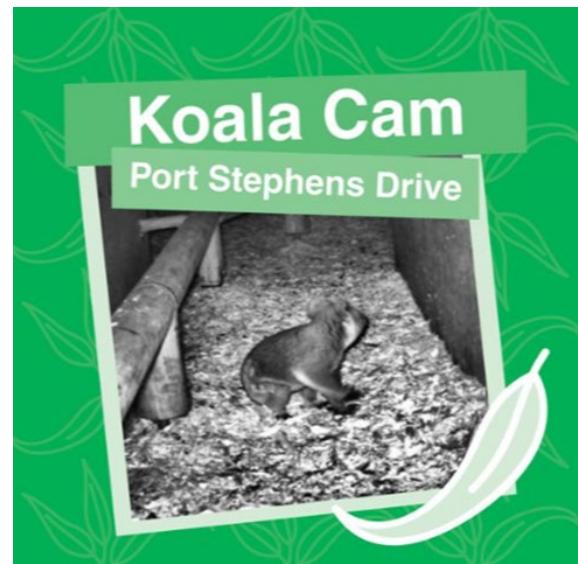
These specialised structures were made possible through Council's partnership with the NSW Koala Strategy, which provided **over \$1.5m in State Government funding**.



The Completed Koala Underpass-2023

Koala Cam

A wildlife monitoring camera aptly named "**Koala Cam**" was installed within the underpass to enable Council and the Koala Strategy Team to monitor Koala and animal activity in the underpass. We trialed an **Artificial Intelligence Program** to monitor and process the camera images. This new system, already proving to be successful; offers Council and other land managers significant cost savings, whilst also providing accessible and valuable information to our community. This monitoring tool ensured that the success of the works could be monitored and modifications could be made if necessary.



Results

The project was **quick to demonstrate success**; with a **Koala recorded using the underpass just three weeks after project completion**. A review of Port Stephens Koala Hospital Rescue Data collected during the monitoring reporting period (October 2023-October 2025) identified **zero Koala vehicle-strikes or incidents in the project area since completion**, and a total of 24 fauna species recorded by "Koala Cam" using the underpass. During the reporting period there was only one reported Koala fatality along Port Stephens Drive, which took place just south of the fenced area. **Overall, 24 different fauna species have been identified using the underpass since its completion.**

From the total 2,054 images captured on the Koala Cam, there were **seven instances of the underpass being used by local Koalas**. **Table 1** below summarises the number of times each species was recorded using the underpass during the reporting period and **Figure 1** provides a graphical representation of the native species' underpass usage.

Table 1 – Species recorded using underpass during reporting period Oct. 2023- Oct.2025

Common Name	Scientific Name	Frequency
Land Mullet	<i>Bellatorias major</i>	1
Dog	<i>Canis</i>	23
Kookaburra	<i>Dacelo novaeguineae</i>	2
Cat	<i>Felis catus</i>	2
Eastern Grey Kangaroo	<i>Macropus giganteus</i>	37
Koala	<i>Phascolarctos cinereus</i>	7
Short-Beaked Echidna	<i>Tachyglossus aculeatus</i>	9
Brushtail Possum	<i>Trichosurus vulpecula</i>	11
Ringtail Possum	<i>Pseudocheirus peregrinus</i>	1
Lace Monitor	<i>Varanus varius</i>	15
Red Fox	<i>Vulpes vulpes</i>	587
Swamp Wallaby	<i>Wallabia bicolor</i>	6
Butterflies and Moths	<i>Lepidoptera</i>	1
Wood Duck	<i>Aix sponsa</i>	8
Rats and Mice	<i>Rodentia</i>	283

As seen in the results, a high number of fox and dog activity was recorded in the underpass. This data is vital for Council and has allowed for action plans to be put in place to manage the animals and better protect our native fauna. Thanks to the monitoring within the underpass, Council can track the whereabouts of invasive predators and better predict where they will be at any given time, this is critical for effective pest control.

Underpass Use by Native Species

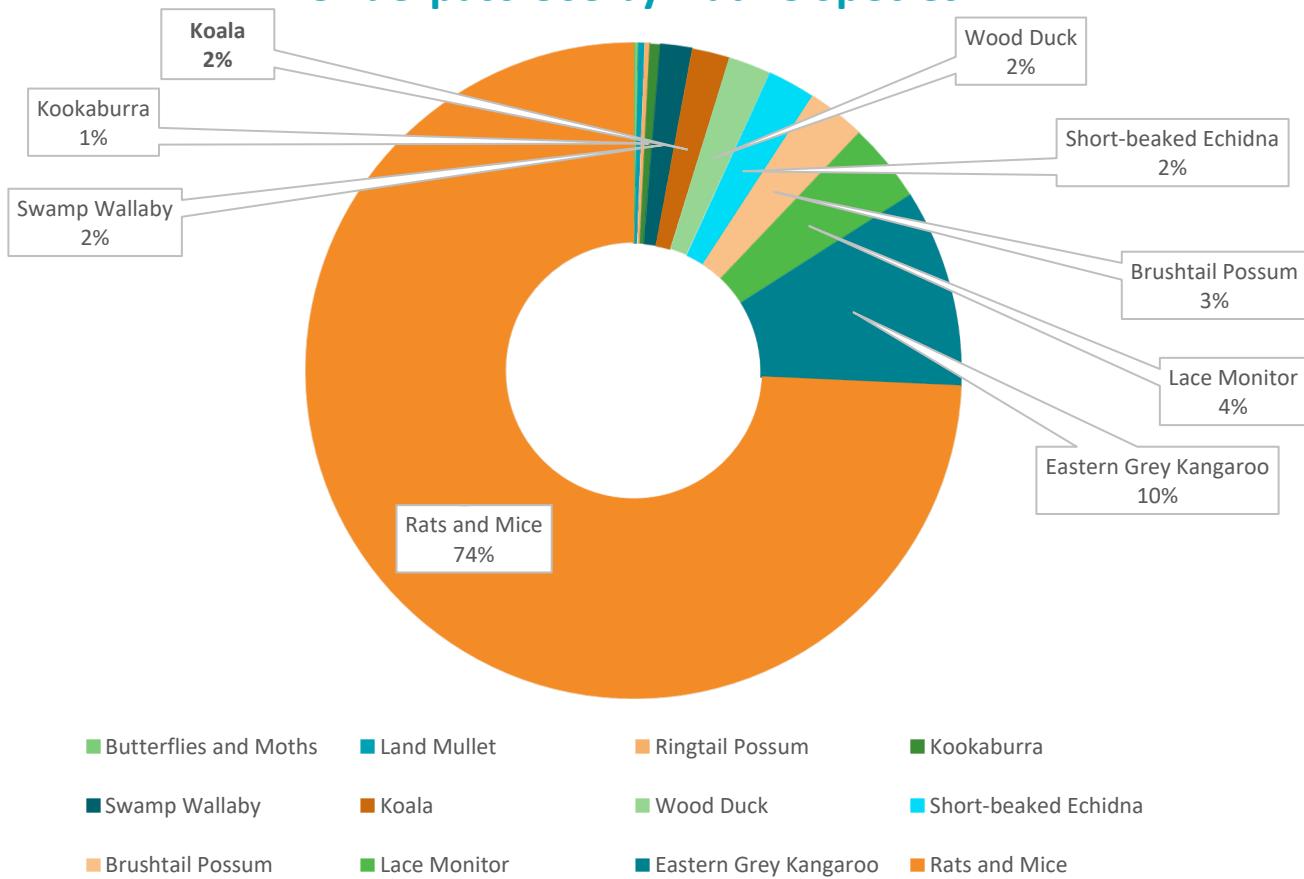


Figure 1 Native species use of the underpass between October 2023- October 2025



Echidna - *Tachyglossus aculeatus*



Swamp Wallaby - *Wallabia bicolor*



Brushtail Possum - *Trichosurus vulpecula*



Lace Monitor - *Varanus varius*

Wildlife Rescue

In the two-year period from October 2023 to October 2025, the Koala Hospital reported only one vehicle related Koala fatality/incident along Port Stephens Drive (which took place beyond the project's fenced area). This shows a vast improvement to the 2019 study by TfNSW which reported 89 vehicle-related incidents between 2010 and 2020, an average of 8 Koala incidents per year. The last recorded Koala fatality/incident within the now-fenced portion of Port Stephens Drive took place in early 2022, prior to project construction. Since commencement of the project, there have been zero Koala- vehicle fatalities/incidents reported within the fenced area of Port Stephens Drive. This decrease in vehicle-related Koala incidents highlights the effectiveness and importance of the underpass for the local Koala population at a critical crossing location.



Koala recorded in underpass 4 March 2024.



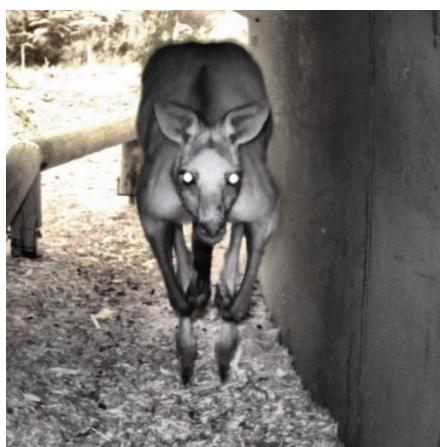
Koala recorded in underpass 4 February 2024

Conclusion

The Port Stephens Drive Koala Vehicle Strike Mitigation Project has successfully resulted in:

- Reduced Koala vehicle-strike incidents, whilst also maintaining connectivity at a known road-kill hotspot and key crossing location for the Port Stephens Koala population.
- Improved safety for a number of other native and non-native species crossing Port Stephens Drive.
- Community-wide awareness and education on Koala road safety.
- Improved pedestrian safety at nearby intersections and bus stops.

This project represents Port Stephens Council's highest-ever value project for on-ground environmental works. **Port Stephens Council was awarded a Local Government NSW Environmental Excellence Award awarded to in 2024, in recognition of the project's significant success.**



Eastern Grey Kangaroo - *Macropus giganteus*



Laughing Kookaburra - *Dacelo novaeguineae*