Koala Management Plan
Woolgoolga to Ballina Pacific Highway upgrade
Richmond River to Coolgardie Road
Progress update – January 2019

Mother and young spotted near Broadwater
The Australian and NSW governments are jointly funding the $4.9 billion Woolgoolga to Ballina Pacific Highway upgrade. The project was approved by the NSW Minister for Planning in June 2014 and the Federal Minister for the Environment in August 2014. The approvals come with strict conditions about managing the project’s impact on the environment, including the koala and other threatened species.

**Background**

The Koala Management Plan and Ballina Koala Plan were approved in 2016. Preparation of the plans for the area between Richmond River and Coolgardie Road near Wardell was guided by the Koala Expert Advisory Committee and advice from 15 independent scientific experts.

The plans set out Roads and Maritime Services’ mitigation and monitoring actions for the upgrade.

This update informs the community and stakeholders about our progress on our koala protection initiatives.

**Progress snapshot**

- Wardell Road fauna culvert completed
- Old Bagotville Road signage installed
- Fauna fence installed on existing highway
- Planted 110 hectares of koala habitat and food trees
- Since the project started, about 8900 workers have been trained in koala zero harm strategies
- No koalas have been confirmed injured or killed as a result of the project
- Trapped 7 wild dogs and 15 foxes found in koala habitat
**Progress report**

**Koala exclusion fencing and grids reducing road strike**

All permanent fauna fencing on Wardell Road and the existing Pacific Highway is complete. No road strike deaths have been reported since the fencing was installed. Eight koalas were killed by road strikes in this area in the previous 12 months.

Koala grid speed limit signs have been installed along Old Bagotville Road and a signposted advisory speed of 10km/h between the grids. “Slow down wildlife crossing” signage has also been installed at the eastern end of the temporary fauna crossing.

A further 23 kilometres of fauna fencing has been installed in sections between Richmond River and Ballina bypass on the main alignment. This is about 63 per cent of the total fauna fencing to be installed.

**Phased resource reduction**

Phased resource reduction involves the gradual reduction of food resources by ring-barking and collaring trees. This has been done to encourage koalas to move into habitat areas away from construction.

The phased resource reduction process and extensive monitoring has resulted in the removal of vegetation with no injuries to koalas.


**Koala Health Assessment**

The final stage of the phased resource reduction program identified a possible change in koala distribution. Sandpiper Ecological (2018) recommended a targeted survey to assess the distribution and health of koalas at key locations adjoining the Woolgoolga to Ballina upgrade. Friends of the Koala (FOK) also suggested that targeted surveys be carried out following clearing to gather additional information on koala distribution and health in the vicinity of the upgrade.

The aim of the surveys was to supplement the phased resource reduction koala population surveys, with a specific emphasis on the health of koalas adjoining the alignment. Key outcomes of the study are:

- Of the nine koalas detected within the study area as part of this assessment, four koalas have previously been recorded (as part of phased resource reduction surveys) and five additional koalas that had not previously been spotted have been recorded.
- The results of the Koala Health Assessment reveal positive signs for the local koala population. In general, all koalas recorded were observed to be relatively healthy, with most individuals showing no confirmed visible signs of disease or poor condition.

**Next steps:**

- Ongoing monitoring and maintenance to assess effectiveness of fauna fencing
- Continue to work with Rural Fire Service to ensure fauna is kept safe in a fire event.
Koala Cortisol Stress Study

University of Sydney in partnership with Roads and Maritime Services carried out analysis of koala scats to detect changes in cortisol levels over time. Scats were collected across the five stages of phased resource reduction including the early stages of clearing. The study compares impact sites (adjacent/within alignment at Laws Point) against control sites located approximately nine kilometres from the alignment but within the same koala population. Key outcomes of the study are:

• No statistically significant difference in the change of cortisol concentrations between control and impact sites for each phase was observed
• An upward trend in cortisol concentrations was evident across both impact and control sites.
• Ongoing monitoring of the koala populations at both the impact and control sites will ascertain if any change occurs as a result of the construction phase.

Old Bagotville Road connectivity review

The approval to the Koala Management Plan (2016) required “The provision of temporary fencing along Old Bagotville Road through Wardell Heath to the east of the alignment, should project related construction vehicle movements increase existing traffic volumes on Old Bagotville Road to more than 100 vehicles per day”. Condition 12 of the approval of the Jali and Gibson Borrow site management plan required the connectivity measures for the long-nosed potoroo on Old Bagotville Road shall be reviewed by the secretary six months after the start of hauling material. The aim of this review is to assess connectivity measures for long-nosed potoroo and impacts on koala of retaining the temporary fence for longer than six months.

Key outcomes of the review are:

• The fence is situated in an area of high quality habitat and has most likely affected movement by a small number of individuals. Due to their overlapping home ranges the fence is unlikely to have isolated individual potoroos but rather reduced the frequency of road crossings, by breeding and dispersing individuals and individuals trying to recolonise burnt habitat that was result of wild fire in September last year
• The temporary fence is not a total barrier to north-south movement and some breeding and dispersal movement across Old Bagotville Road seems likely. The review indicated that there is a low likelihood that the fence would cause population scale impacts on the local population of long-nosed potoroo
• The installation of a purpose built grid/fauna underpass has some merit, but the effectiveness of such a structure in enabling potoroos to cross the road is unproven
• Recommended a feral animal baiting and/or trapping program in the Ngunya Jargoon Indigenous protection area north and south of Old Bagotville Road prior to the onset of fox breeding and continue annually for the duration that the fence is in place. A trapping program is in place and ongoing
• Recommended signage advising motorists that fauna cross Old Bagotville Road 100m east of the fence end and options to manage speed are also considered. Installation of signage was completed in August 2018
• Continue camera monitoring of the eastern fence end, fence gap, grids, and dedicated potoroo crossing zones. Monitoring should continue for a minimum period of six months. Further monitoring should be reviewed after six months based on results.
Koala feed tree planting
So far, koala habitat and food trees have been planted on 110 hectares of the total 130 hectares to be planted.

This work is part of a revegetation strategy designed to improve habitat connectivity and provide extra koala food trees on land previously cleared for farming.

Next steps:
• Plant a further 20 hectares of trees when construction has finished
• Ongoing weed management to ensure new trees survive.

Koala population monitoring near Wardell
Sandpiper Ecological Surveys was awarded the koala population monitoring program for the project. The population monitoring helps us to measure the effectiveness of our mitigation measures, including the koala exclusion fencing, food tree plantings and connectivity structures. Koala monitoring is planned to continue throughout construction and well after the road opens to traffic. This will help provide an understanding of whether the mitigation measures have had an impact on the projected population decline.

The first annual monitoring report showed that the year 1 population estimate in both the Broadwater and Bagotville populations is very similar to the koala population estimate prior to construction commencing.


Once sufficient data is available, koala population trends will then be compared with the Population Viability Analysis predictions at 5-year intervals.

Predator control
Wild dogs and foxes contribute to the deaths of koalas and other native animals. So far, 22 feral animals have been trapped and removed over an area of 367 square kilometres, which includes 64 landholders as part of the predator control program. A soft claw trapping method is being used so any non-targeted animal can be released without harm.

Next steps:
• Continue predator control on all our biodiversity offset properties and nearby private properties.

Koala zero harm induction training
Since 2015, about 8900 workers have been trained to identify koala habitat, key threats, mitigation strategies and strict protocols to follow when a koala is spotted. There are on average 2900 workers on site each month and zero harm training is included in the induction of all project workers.

Next steps:
• Continue to induct new workers in the zero harm program.

Koala sightings
Between June and January 2019, eight koalas have been sighted in close proximity to the alignment, including one koala regularly spotted adjacent to the project. All koalas appear to be in healthy condition.

Check out our koala videos
A three-part video series has been produced by Roads and Maritime Services. These videos provide an insight into some of the measures being implemented to help protect the koala populations.

The videos can be viewed online www.pacifichighway.nsw.gov.au/environment/wildlife-management/koalas
Predator control program
As part of our ongoing commitment to protecting the natural environment, a predator control program has been implemented between Richmond River and Coolgardie Road. The program is designed to engage all stakeholders to manage and reduce predator populations in the highway upgrade area.

Stage one
Stage one of the program was to establish contact and form a relationship with the landholders in our target area. Initially, 42 landholders were signed to the program. Since then the number of signed participants has grown to 64. This level of participation from the community has allowed us the ability to implement the program across a much larger area.

Stage two
Stage two of the program is to gain intelligence of predator movements and activity. This is done by tracking and looking for animal footprints or scats in areas where predators have been known to travel in the past (information received from landholder engagement). Trail cameras are setup in these areas as well to monitor any activity.

Stage three
As part of stage three of the program, monitoring and tracking is used to determine where to effectively implement trapping efforts. The traps used throughout the program are rubber jaw traps and are checked every 24 hours once they are set as required by NSW legislation. When in use the traps are buried just below the surface of the soil and are anchored by two long pegs. The traps are spring loaded with a pressure plate. When a predator steps on the plate the jaws are trigged and the animal is held in place until the traps are checked. So far, 21 feral animals have been trapped and removed over an area of 367 square kilometres.

By managing and reducing predator populations the native fauna will be able to maintain if not increase their population base in the area. Wild dogs, foxes and cats are the target species of the program. These feral predators kill, maim and injure the native fauna and can have a devastating effect on the biodiversity of natural habitat. These predators are hunters, scavengers and opportunistic feeders and will target any species to sustain their survival. Control activities are designed to coincide with the seasonal movements of the native fauna (Koala migration and mating periods) as these times also coincide with the predator’s reproductive cycles and are most active at the same time.

A soft claw trapping method is being used so any nontargeted animal can be released without harm.

We thank the community for their involvement in the program which has enabled successful outcomes in the program to date.