



Environment Institute
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New Zealand



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BREAKING THE BARRIERS

INNOVATING TO IMPROVE ECOLOGICAL OUTCOMES
ON TRANSPORT AND OTHER LINEAR INFRASTRUCTURE

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IMAGE CREDIT: ROB APPLEBY, WILDSPY/GRIFFITH UNIVERSITY



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Koala Ecologist

ABSTRACT

Co-Designing with Koalas: Integrating behaviour and design for koala-safe infrastructure

Background and Aims:

Large infrastructure projects often intersect with critical koala habitat, creating complex challenges for conserving a species already threatened by vehicle strike, other human-derived threats and habitat loss and fragmentation. While standard mitigation approaches can be effective, there is strong value in innovating and refining strategies in partnership with construction contractors to achieve both conservation and project delivery objectives, and to create transferable solutions for future projects.

Methods:

Drawing on experience of the monitoring and management of koalas across southeast Queensland, and the construction team's commitment to minimising impacts on wildlife, a key fencing innovation was developed for use on active construction sites. A temporary, koala-specific exclusion fence was designed to prevent koalas and other wildlife from entering active construction zones during vegetation clearing and associated works.

Results and Outcomes:

The exclusion fence effectively controlled the entry of wildlife into the project corridor, reducing injury and death during vegetation clearing and construction operations. The koala fence has been recognised by the Infrastructure Sustainability Council as an 'Australia first' innovation for the state government road project.

KEY TAKEAWAYS

Significance:

1. Innovations demonstrate how an expert understanding of koala ecology can translate into practical engineering and management solutions for infrastructure projects.
2. A behaviour-led design based on an understanding of how koalas move and behave in a high-threat environment has guided the design of a new road mitigation solution to reduce wildlife vehicle collisions.
3. Collaboration between ecologists, engineers and government can lead to innovative solutions that help both construction and conservation objectives and leaves a legacy of best-practice for future infrastructure projects.

SPEAKER BIOGRAPHY

Deidre de Villiers has worked as a koala ecologist for over 28 years in both the public, private and university sectors. She worked for state government for majority of this time investigating the management requirements of the South-east Queensland koala population. This work included surveying koala populations to gather baseline data, monitoring of population trends, undertaking translocation programs, threat mitigation initiatives and investigating koalas impacted by development. This work also included biodiversity planning and assessments and the drafting of legislation and guidelines such as the Koala Conservation Plan and management strategy. During this time, Deidre completed a PhD from The University of Queensland investigating the ecology of urban koalas and regional population dynamics. Deidre is currently working for environmental consultancy, Endeavour Veterinary Ecology and has continued this work to better manage and conserve koala populations in Queensland and interstate. Projects have included koala management on two of the largest koala monitoring projects in the country involving the monitoring of 1000 koalas during the construction of a rail line and a new motorway in core koala habitats. She has continued to work in the Redlands, providing expertise on the management of the Koala Coast urban koala population that started the koala journey in the late 90s. In her 'spare time' she is a volunteer koala rescuer, carer and koala fodder plantation manager, and has raised over 150 koala joeys.