

Powerlink Queensland Management of Linear Corridor Wildlife Barrier Impacts in a High Voltage Electricity Transmission Context

Sculpted easement clearing

To allow for greatly improved fauna crossing opportunities at tower sites, low growing species can be retained around transmission structures where conductor height is at a maximum. A greater cleared area will be required in the mid-span to maintain electrical clearances in high wind conductor blow-out conditions. This technique is called scalloping.

Vegetation maintenance techniques can also allow vegetation to encroach onto the easement edge between major treatment cycles creating a sculpted easement cross-section, which greatly reduces cleared easement widths while maintaining electrical safety clearances.



Powerline easement showing sculpted easement clearing

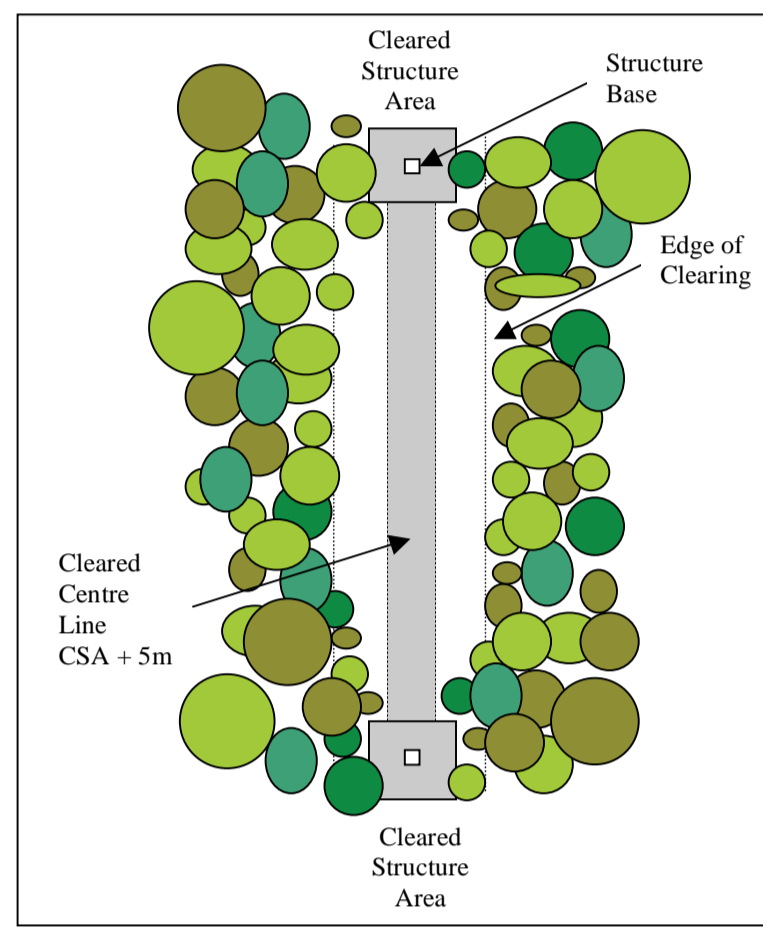


Diagram showing scalloped easement clearing principle

Selective clearing practices to retain compatible species on easements

Where electrical safety clearances allow, selective easement clearing and maintenance practices over time achieve a transition from undesirable species (such as high growing Eucalypts) to lower growing, more desirable species. This acts to provide low growing connectivity across easement corridors for fauna.



Low growing vegetation species retained on easement

Installation of Glider poles in Minnippi Parklands Brisbane

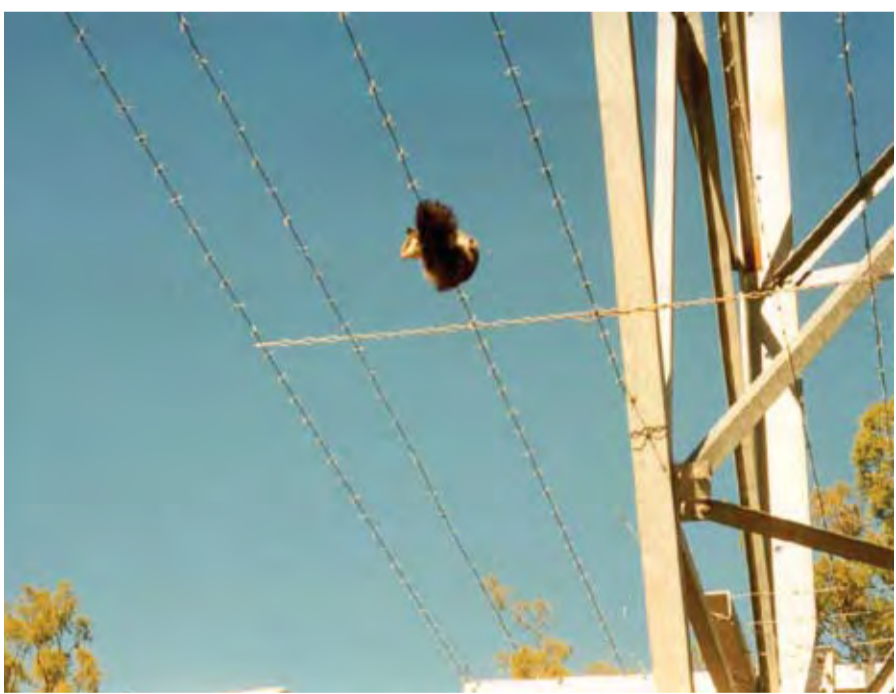
In 2005 during construction of an additional transmission line along an existing corridor in south Brisbane, glider pole crossing structures were installed to allow crossing of this approximately 120m clearing by arboreal species. The structures link two areas of remnant habitat of the Squirrel Glider (*Petaurus norfolcensis*) and were found in a survey undertaken in 2006 to have signs of Squirrel Glider activity. A large number of nest boxes were also installed at this site.



Powerlink environmental staff inspecting glider poles and nest boxes at Minnippi Parklands

Development of fauna friendly Tower anti-climbing device

It was identified by Powerlink that glider species were becoming entangled on barbed wire anti-climbing devices during attempted crossing events. A fauna friendly anti-climbing device was designed, trialled, and installed on over 300 transmission structures in identified high risk glider habitat areas in western Queensland.



Glider tangled on barbed wire anti-climbing barrier



Fauna friendly anti-climbing barrier installed on transmission structure

Research into linear infrastructure impacts on the Mahogany Glider

Powerlink is currently undertaking research into the movement patterns of the critically endangered Mahogany Glider (*Petaurus gracilis*) in order to assess potential impacts of linear infrastructure corridors which bisect areas of this species' highly restricted range. Radio telemetry has been used to track the movements of seven gliders within a habitat area fragmented by rail, highway and powerline cleared corridors.



Radio collared Mahogany Glider being released for tracking study

Over Canopy Tower Design

In areas of high ecological value, tower design can be modified to allow an elevation of conductors above the existing forest canopy to reduce necessary clearing. This technique can almost eliminate fragmenting impacts of the easement corridor by necessitating only small cleared areas for access to and construction of transmission towers. The use of helicopter conductor stringing during construction of new transmission lines also allows minimal impact of mid-span areas.



Over canopy tower used in a wet tropics area



Helicopter stringing of conductor over forest canopy

Retained vegetation in high clearance watercourse easement crossings

In areas where electrical safety clearances allow, vegetation can be retained in watercourses creating continuous easement corridor fauna crossing passageways. This also has added benefits of reducing erosion and other impacts on watercourses.



Powerline easement with connection corridors maintained in high clearance watercourses

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