



Photo: Chris Pollitt

Gliders

in the winds of change

The koala population crash of this flagship species in the Koala Coast in south-east Queensland (SEQ) (EPA 2008; Carrick 2009) and north-east New South Wales has precautionary lessons for glider species survival in coastal Queensland where some species occupy parts of koala habitat.

Loss of habitat trees, food sources and corridors are the translatable issues; however good quality koala habitat (Ebenezer and Western SEQ Councils) and corridors (missing in GHD koala mapping) still remain to be mapped. Western populations of gliders in Queensland, particularly on freehold and leasehold land, appear poorly documented. The different tree losses, different corridors and pinch point parameters, fragmentation and edge effects appear as critical for gliders as for koalas as big infrastructure and development widens their footprints and severs core areas without glider offsets.

THREATENING PROCESSES

Threatening processes affecting the six species of gliders have been well documented by Teresa Eyre in 2004,

including loss of hollow-bearing trees (Lindenmayer), foraging trees and shrubs, and core habitat, together with fragmentation and habitat modification, logging, development, grazing and fire. There are other threats such as barbed wire fences, roads, and feral and other predators. Since that time, poorly documented threats emerge such as climate change, drought events, land clearing trends, permit maps of assessable vegetation (PMAVs), and escalations in coal mining and related tenures between the NSW border and Collinsville, and at Alpha.

Fires have affected the Flinders Peak to Greenbank to Karawatha State Bioregional Corridor south of Brisbane. Some segments no longer have old growth trees or gliders, and some glider species and food shrubs have dropped out in other sections. Areas such as this need action and urgent recovery plans to include food trees, nest boxes and repopulation.

POSITIVE ADVANCES

The positive advances for glider conservation are through the planning of corridors similar to that of Doraghy's

Corridor in north Queensland, the successful glider poles project by Tina Ball (See QGN News 7) at Mackay and new data technology, imagery and information which facilitates mapping corridors, old growth and potential glider habitat. The glider poles project linked two patches of rural bushland, featuring nest boxes, a network of staggered untreated poles, replanting between the poles and an initial capture and release program. The transition to glider pole road crossings has some speculative experiments in SEQ. The subsequent single row pole projects across wide flat roads appear risky and their viability is unknown. The verdict on the glider use of possum bridges in NSW and SEQ is vague and regular monitoring needs to be undertaken. Various groups have had 'glider wins' which need reporting such as the Forestdale Environment Protection Committee and CARE2. First by stopping rail yards, then powerlines and finessing 92 ha of 'Glider Forest' to come across from Queensland Rail (not yet dedicated), restricting a proposed 4 lane road to 8 metres of bitumen. They succeeded in retaining

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canopy cover at Paradise Road in Forestdale and then redesigning an intersection and road widening with design rules and Extended Domain Design (EDD) thereby saving glider launch trees and a hectare of Bushland at Glider Forest (Larapinta).

SOME OPTIONS

To understand the scope and extent of the threats to gliders, maps of koala habitat loss, remnant vegetation loss and old growth must be collated and integrated by Geographic Information Systems (GIS).

The GHD koala habitat mapping for SEQ and existing koala legislation do not appear useful locally because of the wrong scale, omissions, lack of data and non inclusion of higher altitude habitat, lack of corridors and lack of adoption of the rest of the Koala Task Force recommendations.

Other observations, desktop habitat mapping and other work for gliders in similarly threatened areas needs to be more focused and have a resourced committee. High quality aerial imagery and free to air 'nearmap', together with fire history maps, TRACT analysis (SEQ Catchments), Regional Ecosystem Mapping and Protected Regrowth Mapping (DERM) together with Wildnet observations would allow better desktop projections of predictive glider habitat maps, before necessary ground truthing.

SEQ Catchments have undertaken TRACT Analysis for over a decade to map changes and plan how these tracts can be corridor linked and buffered.

A guide for reducing new road widths and glider deaths in Queensland is needed using Extended Domain Design (EDD), lower speed road design, alignment and construction width minimisation, tree avoidance

with guards, multiple stacking of underground services, and demand management. These methods will shorten potential glide path length and minimises the length of fauna underpasses.

A necessary step for field work is a guide for glider species scratches, sap suckings and other food sources. A supplementary folio for possum, rat, quoll and lizard tree markings would be necessary for comparison.

The old growth tree fire losses are not sustainable in lowland South Qld and cannot continue under the Fire and Biodiversity Consortium, DERM and Qld Fire Services policies, with some exceptions. Interventions, rake arounds, mop ups and adoption of micro mosaic burning (Sands and Hosking) are paramount to 'glider survival' during increased fire risk.

The dependence on arthropods for most species warrants more research on drought, fire and invertebrates. Little research has been undertaken on soil health.

Other work by Grant Brearley (University of Queensland) on 'Edge Effects' warrants application and extension as well as recommendations as to nestbox placements, revegetation on edges and infrastructure corridor widths (as barriers).

INSTITUTIONAL ARRANGEMENTS

The fragmentation and loss of old growth suggests some regional investigations are needed. Funding for baseline fauna and glider assessments and monitoring has almost disappeared at a time when some major bioregional corridors and a range of tracts need urgent action to counter fire impacts, clearing in remnant vegetation and protected



regrowth across Queensland. The green fauna infrastructure charging for development under the Sustainable Planning Act, State Works and Development Act, and other resuming authorities, have not yet been delivered.

State offsets policy changes for habitat loss and severance are central to this delivery of glider outcomes such as additional monitoring, field work, some research monies and fauna infrastructure as offsets.

While offsetting is arguably wrong when no equivalent habitat exists or is available and has not been delivered by agencies and alliances, offsetting has started for federal, state and local government processes and koala habitat with one of the major tools being bio-condition assessment. However the more numerous and discrete attributes necessary for glider habitats as opposed to koala habitats requires a superior assessment tool for gliders and glider habitats, given the research in press.

The legislative planning and policy protections needed for glider habitat parallel to koala habitat (including clearing permits, fire, ferals, roads and development) are not only precautionary, but necessary and timely before a tipping point is reached for some species in coastal areas and other subregions.

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A slow painful end - wildlife entanglements are avoidable

Each year, thousands of animals including gliders, flying foxes, bats, frogmouths, owls, wetland birds and macropods, suffer a painful death due to entanglement on barbed wire. In most cases, the animal dies on the fence or is taken as prey. The small proportion of animals that are rescued, are usually too badly damaged and must be euthanased. Only about a third can usually be released.

Most entanglements are of nocturnal animals that cannot see the fence at night, cannot gain enough height to clear the fence in windy conditions, or are blown into the fence by the wind. Fences near food trees, ridge lines and water sources are hotspots for entanglements as these are areas frequently visited by susceptible wildlife. On ridge lines, where the fencing is higher than the surrounding vegetation, animals may not see the strands of wire above the vegetation. Fences across flight paths and wildlife corridors, as well as newly erected fences, also pose serious threats.

In 86% of cases, entanglements are on the top strand of barbed wire. While it may be unreasonable to ask landholders to replace all their fences, replacing the top one or two strands

with plain or high tensile wire is more feasible and cost-effective. Another solution is to cover the top one or two strands of barbed wire with tubing or piping (such as polypipe). This is most effective in hotspot areas such as near feed trees. A farmer near Cardwell in North Queensland had a problem with gliders getting caught in his barbed wire fence. He covered the top strand of barbed wire with polypipe and planted trees to shorten the gliding distance for gliders, and has not had any glider entanglements since. Poles have also been used to bridge remnant vegetation (Tina Ball, see QGN News 7).

As most entanglements are of nocturnal animals, improving the visibility of the fence can be a part of the solution. Barbed wire can be made more visible by the use of tape or objects that move or make a noise especially in windy conditions. Be careful that cattle do not eat plastic flags and bunting and remember that most animals are colour blind so keep to light colours. At a Department of Primary Industries facility in Cleveland, no bat deaths have been recorded since metal tags have been used. Plastic bunting has been successful at preventing flying-fox entanglements at Rockhampton's rubbish tip for more than 10 years.

Another important point to note is that animals tend not to get caught on barbed wire when surrounding vegetation reaches fence height, so management of this vegetation may prove effective.

In many cases, barbed wire fences are government-owned – such as fences around national parks and government facilities. It is important to provide information to governments about the dangers of barbed wire and encourage them to set a good example. Promotion and community



Sugar glider caught on barbed wire fence. Photo: Jenny Maclean who later rescued another glider from the same area.



Photo: Tyrone Lavery

awareness can be established for wildlife groups, natural resource management groups, landholders, farmers, industry, and fencing contractors/suppliers.

You can assist by:

- Making your fencing wildlife friendly
- Monitoring barbed wire fences and encouraging landholders to use wildlife friendly fencing
- Encouraging the promotion and awareness of wildlife friendly fencing
- Sponsoring the printing of the wildlife friendly fencing brochure, email jenny@tolgabathospital.org

See www.wildlifefriendlyfencing.com

By Rachael Attard
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Further reading:

- Booth, Carol, (2006) 'Barbed Wire Action Plan'.
van der Ree, Rodney (1999) 'Barbed Wire Fencing as a Hazard for Wildlife', *The Victorian Naturalist* 116 (6): 210-217.
Allen, G. and Ramirez, P. (1990) 'A review of bird deaths on barbed-wire fences', *Wilson Bulletin* 102(3): 553-558.



Mahogany Glider Update

We lost three mahogany gliders in December... always tragic losses.

One was road kill at Lily Creek on the Bruce Highway just north of Cardwell - *nobody stopped!* By the time Geoff picked the remains up days later there was little left of the poor creature.

The second was another glider caught on barbed wire near the ERGON substation at Five Mile Creek south of Cardwell. It was rescued by Ergon employees (great work) and taken to a carer in Cardwell. The poor little chap died unexpectedly two days later - a stress related death, we think.

This death was very unexpected and troubling. After nearly 11 years of gliders coming into care and no deaths from myopathy (muscle disease/weakness), we have had three in the last year or so.

It could be just an unfortunate run of events but I am a little concerned that maybe something has been happening to make the gliders less able to deal



Mahogany glider 'Pitt'

with the stress in recent times.

The last little female mahogany glider was found once again at Lily Creek under a lychee tree laying moribund in daylight. We managed to keep her alive for three days; however she was terribly anaemic and weak. She just couldn't make it.

Lily Creek in the Kennedy Valley is a real 'hot spot' for mahogany gliders in the Cardwell area. More gliders have come in over the last decade from this area than any other - maybe it is a combination of a good population of mahogany gliders and locals who actually take the time to check fences and call for help when they see something stuck on a fence or in need of assistance.

*Article and photo by
Daryl Dickson*

Gliders in the Spotlight

In the last QGN News, we asked members

'Do you know of any good locations to spot gliders? Please let us know!'

Jesse Rowland sent us these fantastic photos.

Jesse Rowland writes... 'The greater glider photos are from the Greater Glider Conservation Park in Capalaba.

The squirrel glider photos were taken in the bushland around Tingalpa Reservoir.

Both places are very reliable for gliders!



The Wildlife Preservation Society of Queensland (*Wildlife Queensland* or WPSQ) has many programs and projects—the Queensland Glider Network (QGN) is one of them.

We are a community conservation organisation with a diverse membership drawn together by a common interest in wildlife.

Wildlife Queensland has been working to protect Australia's precious and vanishing natural environment since 1962.

If you would like to become a wildlife protector, a subscriber or a volunteer, please contact us:

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Whether you are a conservationist, researcher, carer, or simply interested in gliders, you will find QGN has something to offer you, and in turn, you may have information to share with all of us.

Email us your glider news to glider@wildlife.org.au

To join QGN (it's free) - download the membership form from www.wildlife.org.au/qgn/join

QGN News is only available electronically.



Do you have a story to share about spotting a glider?

Send it to *Glider Tales* along with a picture if you have one and we may publish it on our website. See

www.wildlife.org.au/projects/gliders/tales



www.wildlife-australia.org

About our contributors



Rachael Attard, Brisbane.

Rachael studied ecology and zoology at the University of Queensland, with

Honours. She is pursuing a career in conservation of Australia's native flora and fauna. Rachael is now a key member of the Wildlife Queensland volunteer team, assisting with projects, including this newsletter!

Ted Fensom, Brisbane.

Ted has a Graduate Diploma in Urban and Regional Planning. He is currently the convenor of the SEQ Koala Alliance and the coordinator of the Brisbane Region Environment Council.

Ted was president of Capricorn Conservation Council in 1977, undertook 20 years on QCC's executive and was vice-president of the Wildlife Preservation Society of Queensland for over a decade.



Yes - this really is Ted!