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What's news?

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'Stepping Stones'

for Gliders

Roads pose a significant barrier to wildlife globally causing severe fragmentation to habitats. A recent research paper by Brendan Taylor and Ross Goldingay has important implications for the survival of gliding mammals affected by these barriers. The paper, entitled 'Restoring connectivity in landscapes fragmented by major roads: a case study using wooden poles as "stepping stones" for gliding mammals', provides solid evidence for the usefulness of wooden 'glide poles' as a means of re-connecting forests severed by road gaps.

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'Stepping stones' for gliders *continued...*

Taylor and Goldingay state that although road crossing structures have been installed to re-establish habitat connectivity for wildlife, little attention has been given to arboreal mammals particularly gliding mammals. This paper focuses on petaurid gliders, notably the squirrel glider and sugar glider, though its findings may be applied to gliding mammals worldwide.

The research involved the comparison of two wildlife land bridges with glide poles (these consisted of wooden poles spaced 5-12 metres apart along the land-bridge) and two older wildlife land-bridges lacking glide poles but containing established vegetation. All four land-bridges were monitored for the presence of gliders and whether or not they utilized the glide poles or vegetation where poles were absent. All the land-bridges were across major roads consisting of multiple lanes. The authors established that the roads were beyond the gliding capabilities of both the squirrel and sugar glider. All sites were known to contain either squirrel gliders or sugar gliders or both. By using hair traps, automated infra-red cameras and radio collars Taylor and Goldingay were able to gather compelling data regarding the use of the land-bridges in the study by petaurid gliders.

The findings of this study are really quite revealing; Taylor and Goldingay found that the land-bridges containing glide poles did indeed facilitate glider crossings. Squirrel gliders were found to use both land-bridges with glide poles (Fig. 1). At the land-bridge sites containing no glide poles there were no recorded crossings by gliders though glider hair was detected within 30 metres of the land-bridges and on shrubs at either end of the bridges but not in the middle, which is suggestive of no



crossings. In addition, radio-tracking at one land-bridge site with glide poles revealed a male squirrel glider used both sides of the bridge as part of his home range, having dens on either side of the bridge. Interestingly, half-way through the study ropes were put up to connect each glide pole at one location to enable other arboreal mammals to use the bridge. This introduction of ropes coincided with the decline of glider hair being detected on the poles. Monitoring with cameras revealed squirrel gliders using the ropes rather than gliding between poles.

This study has shown the importance of glide poles to facilitate the crossing of a land-bridge by petaurid gliders, and that the presence of immature vegetation alone may not be enough to enable gliders to cross a land-bridge. In light of these results, the authors propose that glide poles may be useful along roadsides lacking wildlife land-bridges and along median strips to bridge roadside canopy gaps.

Image: A squirrel glider is photographed climbing a 'glide pole' in the middle of the land bridge across Hamilton Road, Brisbane. courtesy Brendan Taylor & Ross Goldingay

They also recommend that further investigation is required to establish whether gliders show a preference for rope bridges rather than glide poles, use of glide poles by other gliding species and whether pole distance impacts on their use by other species. Ultimately this study provides compelling evidence to support incorporating glide poles into future wildlife land-bridge designs to enable connectivity for gliding mammals through our fragmented landscapes..

Taylor, B. D. and Goldingay, R. L. (2012), Restoring Connectivity in Landscapes Fragmented by Major Roads: A Case Study Using Wooden Poles as "Stepping Stones" for Gliding Mammals. Restoration Ecology. in press.

Article written by Natalie McHugh, edited by Brendan Taylor and Ross Goldingay

Backyard conservation

Backyard conservation is the implementation of environmentally friendly practices at home or the work place. It can include planting native vegetation instead of exotic, revegetating disturbed areas, removing weeds, using alternative energy sources and so on. Whilst these practices are often simple and inexpensive, the initial stages of putting them in place can seem overwhelming.

Young couple, Troy and Lani Baxter, are an extraordinary example of how everyday people can effectively implement conservation practices to have a positive influence on the natural environment. Andrea Stanley interviewed the couple to uncover their passion and gain insight into how backyard conservation can ultimately be achieved, and this is the story they told.

The property is located in Stanmore, situated in the southern foothills of the Conondale Ranges, nestled between the Bellthorpe National Park and the Running Creek State Forest Reserve.

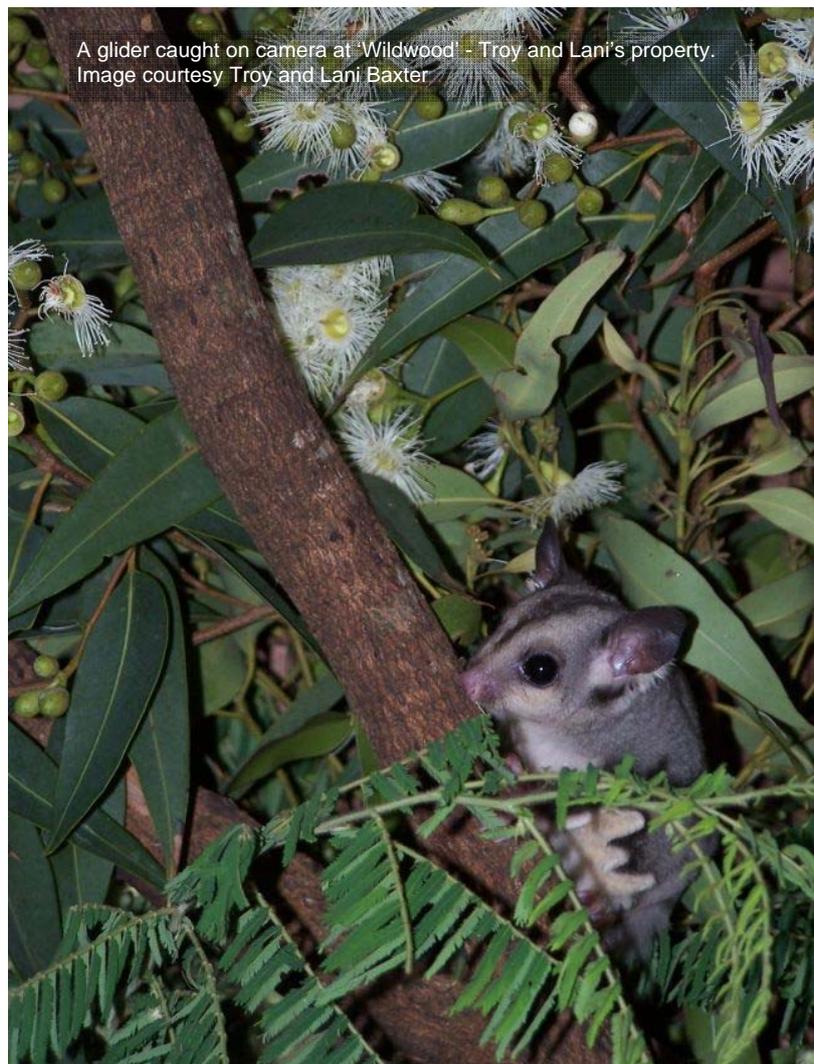
We searched for many years to find a property that ticked all the boxes. Being a young couple we wanted to start a life that reflected our environmental passion. A lifestyle that was not only sustainable in how we interacted with society (off grid solar, composting toilet, tank water) but also let us live alongside the natural world we love so much. Finding the right property was critical, especially finding one that had the habitat requirement to support a wide range of wildlife.

The property was previously owned by a logging family. They managed the property sustainably and never over logged. As a result of the logging style, we do still have many old stag trees, many trees with hollows, and a large amount of hollows on the ground. Due to the topography and location of the property we have three main vegetation types, with the potential to support a large variety of wildlife species.

Our eastern boundary is only narrow but runs along Running Creek, a small spring fed creek that has many frogs. We also have a small dam on the property, which we stocked with silver perch, much to the delight of a cormorant.

I have been conducting an ongoing survey for the previous 5 years and I am still surprised from time to time with the wildlife we find. There are several species of frogs, some vulnerable. Half a dozen snakes from the cute and harmless dwarf crown to the not so harmless eastern brown. The small eye black snake is the most common we see outside and the brown tree snake is the most common seen inside. The lazy carpet snake turns up from time to time. The birds change from time of day to time of year with many migratory species stopping in. Many are only heard as they pass through such as the powerful owl or white throated night jar. More common

visitors like king parrots, grey fan tails and peaceful doves can be seen regularly. Two species of wallaby (red necked and swamp) can be seen in the early mornings and on the rare occasion a koala will be seen. Both the brown and long nosed bandicoots call the property home, and not always in our favour the yellow-footed antechinus call my sock drawer home. We have seen many gliders, and believe we have 4 of the 5 species living with us.



A glider caught on camera at 'Wildwood' - Troy and Lani's property. Image courtesy Troy and Lani Baxter

Backyard conservation

continued...

We have just purchased an infra-red camera to help with the identification and survey of the many wildlife residents who call the property home.

Property management is an ongoing task with many aspects to consider. Weed control is a continual event. We manage a fire break system on the property but choose not to burn in the hope of maintaining excellent ground hollows, and encouraging rainforest regeneration in gullies. Habitat management is ongoing with enrichment plantings for specific species and nest box installation to increase the hollows available.

Weed infestation is a continual battle. The usual suspect aka lantana is hand removed regularly. I constantly survey for new infestations and continually control these as they emerge. Unfortunately due to the size of the property and the time available Glyphosate is used to control many species of weed.

Through our management and conservation of the property we are hoping to maintain a healthy balance for the wildlife and a safe refuge for any who choose to call it home.

In the future we hope to use the property to help others to see the benefits of sharing the planet with its many and varied occupants, including the eastern brown if he chooses to live there.

And when I asked what they would tell others who wish to conserve native wildlife in their backyards and properties, their advice was:

Firstly you don't need 40 acres to conserve wildlife. Secondly a good balance needs to be maintained. With good management and understanding of the wildlife living in our area, a happy and balanced relationship can be achieved where you get the wildlife encounters that touch our hearts and the animals get to live in peace and happiness without fear or conflict.

Article written by Andrea Stanley, thanks to Troy and Lani for their time and willingness to share their learnings.



Images of wildlife on 'Wildwood' courtesy Troy and Lani Baxter

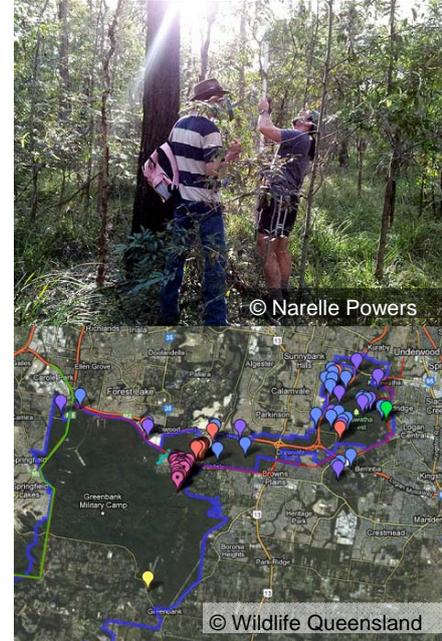
Glider Habitat

enhancement and connectivity

Our glider habitat enhancement and connectivity project within the Flinders Karawatha Corridor is progressing well - we have now established a pilot site on Oxley Creek. The pilot program includes:

- a briefing for landholders covering glider identification, habitat requirements, threats and mitigation measures
- identification of threats from the area and removal where possible
- establishment of feed trees, den trees and in the absence of existing hollows nest boxes
- landholder inclusion in local nest box monitoring of the glider populations being assisted by the enhancement

Following the pilot, we are continuing to identify the connectivity choke points within the corridor and enhance these links.



Project Milestones

1. Mapping of existing nest boxes within the Flinders Karawatha Corridor **Done**
2. Ongoing nest box monitoring to establish glider occupancy and population dynamics **Done**
3. Mapping of glider data from Wildlife Queensland, researchers, councils, state government, community groups and private landholders. In Progress
4. Consultation with advisors, researchers and consultants for conservation, corridors and gliders In Progress
5. Pilot project on glider habitat connectivity and enhancement In Progress
6. Pilot evaluation—December 2012
7. Identification of target areas and priority orders for future sites—February 2013
8. Rollout of program across identified sites in priority order—From April 2013

- Karen Brock, Senior Projects Officer



Spotlight on gliders

The spotlight shone in Bundaberg when QGN organised an evening for Wildlife Queensland members and local enthusiasts to survey for gliders with Dr Kevin Wormington, CQ University. The group found greater gliders, a squirrel glider, a common brushtail possum, evidence of yellow-bellied gliders and heard a southern Boobook owl and flying foxes on Kylie Male's property 30 minutes west of the town.

Also this month, Tyrone Lavery and Jesse Rowland took two groups of QGN members through spotlighting techniques at Mt Coot-tha. Wildlife spotted included common brushtail possums, a common ringtail possum, a cane toad, a sugar glider, a black-headed flying-fox and a grey-headed flying-fox, while tussock frogs, a southern boobook, and an owlet nightjar were heard.

Many thanks to the leaders and hosts of the evenings!

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:

95 William St Brisbane
Qld 4000 Australia

wpsq@wildlife.org.au
ph 07 3221 0194

www.wildlife.org.au



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.

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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

Andrea Stanley has had the opportunity to appreciate the Australia's diversity having lived in the Northern Territory, Tasmania and Queensland. She graduated with a Bachelor of Applied Science majoring in Environmental Science from the Queensland University of Technology. Her passion is to conserve Australia's biodiversity with community engagement.



Natalie McHugh graduated as a Veterinary Nurse from the Royal College of Veterinary Surgeons in the UK in 2000, then graduated with a Bachelor of Science (Honours) majoring in Zoology at the University of Nottingham U.K in 2004. She worked in conservation in the UK before migrating to Australia 6 years ago, now working in Lone Pine Koala Sanctuary as a veterinary nurse.



Karen Brock is a Senior Projects Office for Wildlife Queensland and contracts as a Tourism Analyst and Event Director for Tony Charters and Associates. She holds a Bachelor of Science in the fields of Ecology and Zoology with a background in fieldwork and research in Australian Ecology, as well as Interpretation and Education Programs.

