QGN News #9

September 2009

Photo sugar glider: Chris Pollitt

Welcome to Queensland Glider Network News

Thanks to everyone for supporting the Queensland Glider Network and a special welcome to our newest members. In this issue of Network News we discuss wildlife crossing structures, their monitoring and effectiveness — it's a subject that interests engineers and conservationists alike. We also bring you the Secret Life of the Squirrel Glider — with interesting observations from Sarah Bell as part of her PhD looking at the viability of squirrel glider populations on islands.

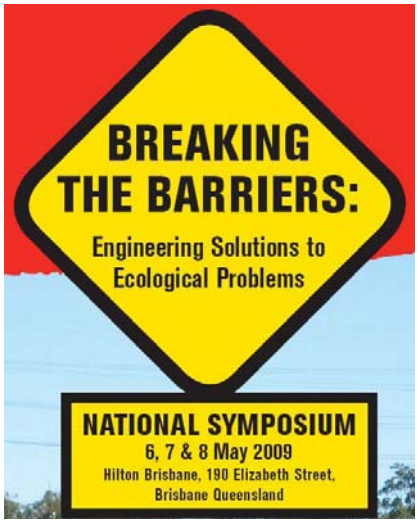
We'd like to hear from QGN members — send us your contributions, photos, ideas and let us know what you'd like to read about in future issues of QGN News. Just email glider@wildlife.org.au

Many thanks to Rachael Attard for compiling this newsletter.

Kind regards
Ewa Meyer
WPSQ Projects Manager

Fauna-friendly crossing structures — do they work?

In May this year, the 'Breaking the Barriers: Engineering Solutions to Ecology Problems' National Symposium was held in Brisbane. The conference was conducted to discuss the impact of transport infrastructure on surrounding wildlife and to gain a better understanding of strategies that may be useful in reducing road kill and habitat fragmentation.



Conference participants were treated to presentations from expert guest speakers from all over the world. Professor Daryl Jones from Griffith University, Queensland, spoke about the importance of long-term monitoring to determine the success of fauna-friendly crossing structures. When monitoring of fauna is carried out, it is usually only for a short period of time and it is not always clear what 'success' means. Most studies have defined success by the effectiveness of reducing road kill, enhancing connectivity, maintaining genetic interchange and enabling dispersal and re-colonisation. Results that were compiled from 123 studies of road crossing structures have found that most studies are limited by inadequate monitoring and most structures were not monitored at all. The Compton Road project is unique, having had such extensive monitoring carried out. Monitoring is important for giving credibility, advancing our knowledge, allowing comparisons and evaluating success.

Ross Goldingay from Southern Cross University, New South Wales discussed the challenges of monitoring gliders and other arboreal species. He classified arboreal (tree-dwelling) marsupials into two categories: ground-moving and ground-avoiding and recognised that the two groups require different road crossing structures. Gliders are ground-avoiding species and can only use glider poles and canopy bridges. If the

Fauna-friendly crossing structures — do they work?

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road-tree-gap is too wide to glide or jump across, then the glider will not be able to cross the road. Therefore, the size of canopy gaps and gliding ability must be taken into account when building such structures. Ross also enforced the importance of monitoring to evaluate effectiveness.

In general, studies have found that animals do use fauna-friendly crossing structures, but there is still a lack of regular monitoring. Currently there is no precedent study on which to base this work, so hopefully the continued monitoring of the Compton Road project can provide further information on the success of fauna-friendly crossing structures to assist other similar projects.

The conference participants took part in two field trips, visiting road infrastructure projects in Brisbane. This included a visit to Compton Road (Kuraby) in the south of the City, which was upgraded from two to four lanes in 2004. Fauna-friendly crossing structures including exclusion fencing, culvert underpasses, land-bridge, overpasses, glider poles and canopy bridges were built to help animals cross the road safely.

The other field trip was to Hamilton Road (McDowall) in north Brisbane which has involved a road extension within a significant regional ecological corridor. Wildlife mitigation measures have also been installed at this site.

Prior to the Compton Road upgrade, road kill surveys were conducted with 13 individuals being recorded as road kill. Monitoring continued for a further two years after construction, and only five individuals were recorded as road kill. More recently, infrared and movement-detection cameras have been installed, hair funnels have been placed on the glider poles to determine the abundance of gliders by the presence of hair, and glider capture-release experiments have been conducted to assess the ability of gliders to use these structures. Although the studies are still underway, preliminary findings have found that squirrel gliders are using the glider poles and ring-tail possums are crossing via the canopy rope bridge.

Written by Rachael Attard, University of Queensland.
Photos: Brendan Taylor, Griffith University.

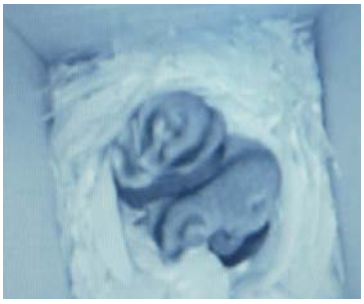
Latest mahogany glider news

The Department of Environment and Resource Management have decided to disperse captive-bred mahogany gliders held at David Fleay Wildlife Park to five zoos in Queensland to help with captive breeding programs. The gliders were not released into the wild because it is believed that the small number of gliders released would have had little conservation benefit, it is known that captive-bred glider survival in the wild is low, and no suitable unoccupied habitat could be found.
Background on this issue can be found in our December 2008 QGN newsletter:
http://www.wildlife.org.au/projects/gliders/image/qgn7.pdf

Secret Life of the Squirrel Glider

The squirrel glider is a nocturnal animal which spends most of its time at the top of tall trees. With a spotlight and some patience you may be lucky enough to see this cryptic species gliding from tree to tree. During day time the squirrel glider will hide away in the hollow of a tree. As part of my PhD research I installed artificial nest boxes on South Stradbroke Island. I placed an infra-red camera in an occupied box to gain an insight into what goes on in a squirrel gliders life behind closed doors.

Before I go on here is some useful information on squirrel gliders. Male squirrel gliders have a bald patch on the top of their head where they have a frontal scent gland. The scent gland is used to mark less dominant males. Therefore dominant males will have a larger scent gland than a subordinate male because they are continually using it. Females do not have this scent gland and this makes it possible to differentiate them from males.



Recordings were collected for nine consecutive days and each day a similar pattern was observed. An adult female (presumably mum) was living in the box with two young who had recently left the pouch. During the day time hours there was a lot of sleeping with intermittent spouts of grooming. Around dusk mum would leave the young in the box and forage for food. At midnight each night she would return and let the young suckle for several minutes before leaving again. She did not return again until dawn.

A few minutes after the adult female left each night a male squirrel glider with a large scent gland would enter the box and cuddle up to the young, possibly to keep them warm. He would stay in the box for hours at a time and then leave the young for several minutes and then return for a couple of hours. This would happen throughout the night and just before dawn he would leave to sleep elsewhere for the day. On one occasion a second adult male also with a large scent gland entered the box and the original male left leaving the second male looking after the young for a couple of hours. I suspect that the whole time it was two adult males taking it in turns of babysitting the young during the night.

This is the first study that has observed interactions within wild nesting squirrel gliders and has resulted in two interesting findings. Two dominant males associate with young during the night however none of these males nest with the young or adult female during the day.
Further research is required before any conclusions can be drawn. Footage has also been collected from a number of other nest box colonies with accompanying genetic samples. Analysis of the genetics will give an indication of the relationship between individuals. Squirrel gliders can have up to two young and genetic studies have shown that they exhibit multiple paternity (a litter of two can have separate fathers). This research was made possible due to the generosity of Couran Cove Island Resort, Community Coastcare and Gold Coast City Council.

Written by Sarah Bell
Photographs by Sarah Bell

HELP!

If you would like to help install new glider nestboxes at Narangba, please contact us on glider@wildlife.org.au or phone Ewa on 3221 0194. Thanks for your support!

Wildlife Preservation Society of Qld

Protecting wildlife
Influencing choices
Engaging communities

Share your knowledge and create your own blog!

Have you visited the QGN interactive forum? Go to my.wildlife.org.au and talk to us, share information about gliders, show us your photos and meet other QGN members.

The Queensland Glider Network is a program run by The Wildlife Preservation Society of Queensland (*Wildlife Queensland* or WPSQ).

We are a community environmental organisation with a diverse membership drawn together by a common interest in wildlife. *Wildlife Queensland* started in 1962 and since then has been working to protect Australia's precious and vanishing natural environment.

If you would like to join WPSQ, subscribe to *Wildlife Australia* Magazine or are interested in volunteering, 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.
We hope that you find this newsletter of interest and that the QGN will provide a valuable meeting place and resource centre for all people with an interest in gliders, their habitat and the issues facing their conservation. **Email us your glider news to glider@wildlife.org.au**

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

New squirrel glider poster $5 each + $5 p&p

You've seen our sugar, greater and mahogany glider posters, we now have a squirrel glider.

About our contributors

Many thanks to the following QGN members who contributed to this newsletter:

Rachael Attard, Brisbane.

Rachael studied ecology and zoology at the University of Queensland, where she is now a post-graduate student.

Her research focuses on koalas and the impact that tooth wear has on their energy consumption.

Rachael is now a key member of the Wildlife Queensland volunteer team, assisting with projects, including this newsletter!

Sarah Bell, Brisbane.

Sarah Bell is a PhD student from the University of Queensland, Brisbane. Her current research provides information on populations of squirrel gliders isolated on islands. The study examines what changes take place in these isolated populations and what effect this has on their long term viability. The results will aid future management strategies for the squirrel glider.

CONGRATULATIONS

Congratulations to all the groups in Tully involved in the 'Connection of wildlife habitat and corridors for mahogany gliders' project which recently won the 2009 award for the most successful campaign at Wildlife Queensland's 'Your Voice for your Wildlife' Awards presentation.
Read QGN News 8 for details of this project.