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Boxed In ... ?

Authored by Matthew McInerney

Nestboxes may not be the best way to assist gliders immediately following extreme events, but they can still play a vital role in their survival...

A report by Dr John Winter into the effect of Cyclone Yasi on mahogany gliders says that none of the artificial hollows were occupied immediately following the event. Sixty five nestboxes were installed in response to the cyclone, which saw winds of up to 285km/h wreck havoc in Far North Queensland earlier this year.

It was initially believed that most of the natural dens were damaged in the event. As mahogany gliders are known to use nestboxes, their installation was seen as an effective means of helping the gliders recover.

Christine Zelenka from James Cook University studied the effectiveness of nestboxes as a post-cyclone recovery effort. She found that no sign of occupation by any vertebrate was found, but new potential habitable dens have been created as a result of broken tree limbs and trunks.

Dr Winter concluded that the nestboxes were not in place long enough for gliders to become accustomed to them. Insufficient knowledge of glider distribution and habitat use may have skewed the results, resulting in nestboxes installed in areas that have relatively smaller populations.

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Boxed In

continued...

Artificial elements include nestboxes, gliding poles and overhead walkways, a prime of example of which can be found on Compton Rd, Karawatha. In that instance, it links Karawatha Forest to another green area, ensuring that the populations of existing fauna do not become isolated and easy prey.

It is suggested similar structures be incorporated in Far Northern Queensland, where habitat fragmentation is becoming an ever increasing issue. Gliding poles can be placed on each side of roads, or even in the median strip, which would allow easier movement between habitats.

The reduction of habitat degradation is the final step in enhancing glider habitat. Artificial structures such as roads increase the chances of predation by decreasing the habitat range due to linear clearing. Modifying fences to include a plain top strand or 'polypipe' is just one action that can eliminate the risk of gliders becoming entangled and unable to defend themselves from predators.

Existing habitat needs to be protected and increased, corridors need to be expanded with appropriate flora, and artificial elements, such as nestboxes may need to be introduced.

Winter also advised that there needs to be an investment in improving the knowledge of gliders. These include comprehensively mapping their distribution, understanding their ability to access food sources, and the readiness of gliders to use nestboxes.

The lack of knowledge in the above key areas hindered the effective implementation and assessment of recovery actions. It is believed that with more research, future recovery teams will be better prepared and better equipped to help wildlife after severe weather events.

All information sourced from: Winter, J. (2011). 'Recovery Strategy for a Threatened Species Following an Extreme Environmental Event'. Queensland Department of Environment and Resource Management.

NB: Much of the nestbox data was compiled eight weeks following the event. Further monitoring may indicate whether nestbox usage increases over time. Article written by Matthew McInerney QGN member.

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Squirrel vs. Sugar: The Identity Showdown

Authored by Carol Nouwens

Distinguishing the differences between gliders can be very difficult! Especially when they are only seen for fleeting moments, or when pictures are taken at angles that hide tell-tale features. The small size of the feathertail glider as well as the progressively larger sizes of the mahogany, yellow-bellied and greater gliders, can give a few clues about which species they belong to. However, sugar and squirrel gliders can be especially difficult to identify due to their similarities in size and colour. On top of this, both squirrel and sugar gliders can display different physical traits within their own species depending on their location and age, making their identification even more challenging. For example sugar gliders found in Victoria are larger than those found in Queensland¹.



The image that started it all. Photo by Jeremy Ringma

Identifying types of gliders based on geographic location can also be difficult as these 'locations' may change as the animals adapt to natural conditions and human related pressures. The altitudes gliders prefer also change depending on where they are found. For example squirrel gliders in northern Australia can be found at higher altitudes than those in southern Australia. A study conducted in 1999 predicted that the future distribution of squirrel gliders is likely to be well outside of its current known distribution². Squirrel gliders are generally found in areas with dry forests and woodlands, while sugar gliders can be found in both wet and dry forests as well as woodlands¹. Movement patterns can be a giveaway as to which species the glider is. Sugar gliders have jittery, nervous movement patterns³. Squirrel gliders have more fluid and direct movements, and while they pace back and forth on branches, they don't 'bounce around' like sugar gliders³.

Considering all these factors, it becomes obvious why distinguishing between squirrel and sugar gliders can be such a tricky task. The following table demonstrates the main identifying features of sugar and squirrel gliders that can be used in a process of elimination¹.

If you get a close look at a glider you are trying to identify, determining if it is a juvenile or an

	Coat	Underbelly	Head shape	Tail shape	Tail colour
Sugar glider	Variable colouring; black dorsal stripe	Patchy grey (juveniles may be white)	Rounded muzzle	Less fur	Sometimes tipped white
Squirrel glider	Variable colouring; black dorsal stripe; Longer fur	White/cream (Vic); yellow/mustard with age in QLD & NSW	Longer, pointed muzzle	Fluffy, especially at the base	Dark tipped tail (never white tipped)

adult can give some more clues about which species it is. Things to look for to identify if it is a juvenile are if it has a white underbelly (squirrel gliders underbellies turn a creamy yellow to dark mustard colour with age) or has rounded, wear-free upper incisors³. After the gliders age has been established, its species can more easily be decided upon by size. As a very rough indication, if it is an adult and fits in a coffee cup, it will be a sugar glider. If it is an adult and fits in a milkshake cup, it will be a squirrel³.

If you have any tips about identifying gliders or would like to comment on the information in this article head to our [Facebook](#) page and post a comment!

References:

- 1 Lindenmayer, D. 2002. *Gliders of Australia: A natural history*. University of New South Wales Press Ltd, Sydney
- 2 Jackson, S.M., and Claridge, A.W. 1999. Climatic modelling of the distribution of the mahogany glider (*Petaurus gracilis*), and the squirrel glider (*P. norfolcensis*). *Australian Journal of Zoology* 47:47-57
- 3 Tina Ball. 2011. Email. 28 September 2011.

QGN Member Report:

Nestbox Use in Brisbane City

Authored by Jess Gorring & edited by Andrea Stanley

Brisbane City Council (BCC) has recorded the presence of five (5) of the six (6) species of gliders that occur within Australia. Unfortunately glider populations in the area are under continuing threat from the various impacts of urbanisation. BCC has developed a list of species significant to the BCC Local Government Area given that none of them are currently listed as Endangered, Vulnerable or Near Threatened on either the *Nature Conservation Act 1992* (NCA) or the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC). Various mitigation methods have been employed to assist in conserving glider populations such as the conservation of parks, ecological corridors, rehabilitation of habitat and the installation of nest boxes. With the engagement of these mitigation measures there is the requirement to ensure that the effectiveness of such measures are monitored.

Nest boxes present an excellent opportunity to not only monitor glider populations, but also other species within the area that may be utilising these boxes. As a result, the Queensland Glider Network (QGN) has been monitoring various locations across Brisbane's south with the co-operation of various companies.

On 6 August 2011, the QGN - with the much appreciated permission and assistance from Holcim - proceeded to monitor a number of nest boxes that had been installed on the site at Paradise Road, Pallara.

METHODOLOGY

The method used to monitor the nest boxes was designed to be relatively non-intrusive. The method involved extending a small purpose built camera and light onto an extendable pole. The camera was then manoeuvred into the entrance (or in the cases of rear entry boxes carefully used to lift the lid of the nest box). The illuminating light processed a red filter to minimise the impact of light on the animals which are commonly nocturnal species. The camera relayed images from within the box to a hand held monitor from which all observations and identification were obtained. This method did not require the removal or handling of animals from within the nest box.

RESULTS

A total of 28 nest boxes were monitored onsite, 95% of the nest boxes were of rear orientation. In total 11 animals were found to be utilising the nest boxes, of the 11 animals, nine (9) were squirrel gliders (*Petaurus norfolcensis*) and the remaining two (2) were brush-tailed possums (*Trichosurus vulpecula*). Observations of the squirrel gliders included two family groups, one of three (3) individuals and the other consisting of four (4) individuals. The remaining two gliders were both found to be the sole occupants of their nest box. The overall vegetation on site is classified as dry sclerophyll forests with various eucalypt species with a grass understorey. Where mid-stratum was observed, it was found to be largely dominated by various



Image: QGN

Acacia species. The main trees used to support the nest boxes were Pink Bloodwood (*Corymbia intermedia*), Narrow-leaf red gum (*Eucalyptus seeana*), Scribbly Gum (*Eucalyptus racemosa*) and other *Eucalyptus* species.

DISCUSSION

From the nine (9) individual squirrel gliders encountered, it was suspected that the two gliders that were found alone were males (one very large) and the two groups were family groups.

The breeding season for squirrel gliders occurs between June to January, and it is indeed possible that those particular males were on the hunt for females.

All the nest boxes that gliders were using or had previously used were approximately 10 metres high and greater than 5 metres apart from their nearest neighbour. Gliders appear to prefer these open woodlands as there were no gliders observed in the denser areas.

The presence of *Acacia* species in the area is an important factor. Squirrel gliders feed on flowers of *Acacia* during winter months when most other species are not flowering.

CONCLUSIONS AND RECOMMENDATIONS

The data collected indicates that the nest boxes are being used and are successful in providing adequate protection for gliders within the site. It is evident that as a mitigation measure for the destruction of habitat, nest boxes can be an acceptable alternative. However, from the data collected it is unclear to what extent the nest boxes have mitigated the impact on the glider populations of the area. The information provided from this monitoring activity will prove to be a valued resource and where possible it is recommended that the monitoring is continued. Above ground height may be a contributing factor in the nest box selection by gliders so it is recommended that in future the height of the entrance to the nest box be recorded.

Carenet Update: Calling All Volunteers!!

At present, records of gliders taken into care in south east Queensland are not strictly monitored, especially when the animal dies in care. QGN believes this information is critical to future conservation activities. The Care Net project will provide us with a better understanding of the threats facing south east Queensland's gliders and to act accordingly.

As a volunteer you will be contributing to glider conservation while working in an educational environment and meeting others with similar interests.

This project will involve half a day of your time each month (approx. 3 hours) at our office at 95 William Street Brisbane. The task will include phone calls and data recording. If you would like to be part of this project please email glider@wildlife.org.au

We look forward to hearing from you soon!

Girringun Rangers Mahogany Monitors

In association with DERM and WPSQ, Girringun Rangers were involved in wildlife recovery actions following the devastating events of summer 2011.

And now they are being equipped with the skills to continue their hard work long into the future.

The four-day program aimed at familiarising the rangers with remote sensor cameras and nest boxes, helping to set up a data management system to record the collected information, and assisting their selection of suitable sites for future placement.

Under the tutelage of Dr John Winter and Helen Myles, the local indigenous rangers are now ready to successfully continue the program, and hopefully report on how the populations are thriving!

Introducing Adopt a Glider!! Home is where the Hollow is

Join our Adopt a Glider program and you will be supporting our work for the survival of gliders and their habitat.

For a donation of \$60 or more you can symbolically 'Adopt a Glider' for one year. The 'Adoption' also makes a great gift for Christmas or birthdays – so your valuable contribution gives not just once but twice.

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We will keep you up to date with how our glider projects are progressing by sending you regular project e-newsletters plus Wildlife Queensland's regular monthly my.Wildlife ebulletin.

To adopt a glider, call the office on 07 3221 0194 or go to our website www.wildlife.org.au/adoptaglider



Image courtesy of Daryl Dickson

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

Wildlife Queensland is a community conservation organisation that 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 us.

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

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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.

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 is currently studying a Bachelor of Applied Science majoring in Environmental Science at the Queensland University of Technology. Her passion is to conserve Australia's biodiversity with community engagement.



Carol Nouwens has grown up in Brisbane and Rockhampton and has always enjoyed spending time in the outdoors, appreciating the diverse wildlife present throughout Queensland. She is currently studying a Masters of Environmental Management at the University of Queensland. She has developed an interest in environmental conservation, as well as community education and participation, to enhance people's understanding and involvement in environmental issues.

Matthew McInerney moved to Queensland from New South Wales in 2009 to study Conservation and Land Management, completing his Diploma in 2010, and is now studying a Bachelor of Journalism/Bachelor of Science at the University of Queensland. During this time, he has developed a keen interest in the conservation of our environment, and has become passionate about the protection of our native wildlife.

