

Friends of Bats

newsletter



Issue 113 June 2014

Ku-ring-gai Flying-fox Reserve Juvenile Release Program

Tim Pearson

Every year in the breeding season, many baby flying-foxes are orphaned - from electrocution, entanglement, entrapment, or sometimes just abandoned. And every year, wildlife care groups such as Sydney Wildlife and WIRES spend huge amounts of time and effort hand-raising pups so they can be released back into the wild.

Since 1987, Ku-ring-gai Flying-fox Reserve has been used as a soft release site for hand-raised juveniles going through the final

stages of rehabilitation to allow re-integration into the wild population.

This year the release cage was relocated as a result of consultation between local residents, Ku-ring-gai Council and KBCS. Relocation proved to be a complex task; the cage needed to be on Council land, out of the way of the public, not near residences, yet as close as possible to the camp, and accessible for building, maintenance, and support of the bats. In the end a new site was chosen

about 600m from the centre of the camp as the bat flies, but under one of the fly-out paths. KBCS, along with Sydney Wildlife & WIRES, funded a new release cage, and this was designed, fabricated and installed (just!) in time for this season's release.

The new release facility is in many ways a big improvement - being designed with the benefit of much experience. It incorporates features such as full double meshing, inbuilt awnings and lockers.

(continued P2.)



Juvenile flying-foxes, having been hand-reared by wildlife carers, take the final step in preparation to re-join the wild population, spending a few days in the former release cage. Photo: C. Kuiper (2013 release)

Notice of Annual General Meeting

KBCS Inc. will hold its AGM,
& election of committee -
Tuesday 26 August, 2014
@ 8.00 pm

4 Taylor St, Gordon (cnr Waugoola St)

Join us at 7.00 for a light meal, after which our special guest, Dr. Leroy Gonsalves, will talk about the microbats of North Sydney. More information about our guest speaker on page 4.

Please RSVP for catering purposes by 19 Aug: chenu@bigpond.net.au or call 9498 1420

Message from our out-going Chair - Nancy Pallin

I will not be seeking re-election for the role of chairperson of Ku-ring-gai Bat Conservation Society, at this year's Annual General Meeting. I am willing to remain on the committee and continue with Bushcare in Ku-ring-gai Flying-fox Reserve.

It is time for a change in leadership. Tim Pearson has indicated his willingness to stand as Chair. I encourage all KBCS members to support him and the rest of the committee as you have been doing.

Do come to the party and AGM to get to know members of the committee and participate in the election. It is

always a relaxed, sociable and very enjoyable event.

Bats need friends more than ever!

For KBCS to be more effective in responding to threats to them, the committee needs more assistance. Could you give a few hours a month or take on one-off jobs, always with support of experienced members? Help is needed to: draft submissions, check website content, summarise stories for the newsletter and more. To have a chat, contact me on 02 9416 7334.

I do encourage you to continue your membership of KBCS so that we can remain a community voice for bats.

Camp happenings in KFFR

Tim Pearson

In Ku-ring-gai Flying-fox Reserve, the mating season is over for the year, so noise levels in the camp have gone back to normal. However, there's still a lot of bats present with the bat count for May reaching 32,000, quite high for this time of year - although not unknown as the graph opposite shows.

The bats are currently still located on the north side of the valley, behind Taylor and Waugoola Streets. The sheer number of animals does mean that the camp is still fairly noisy at fly-out and fly-in.

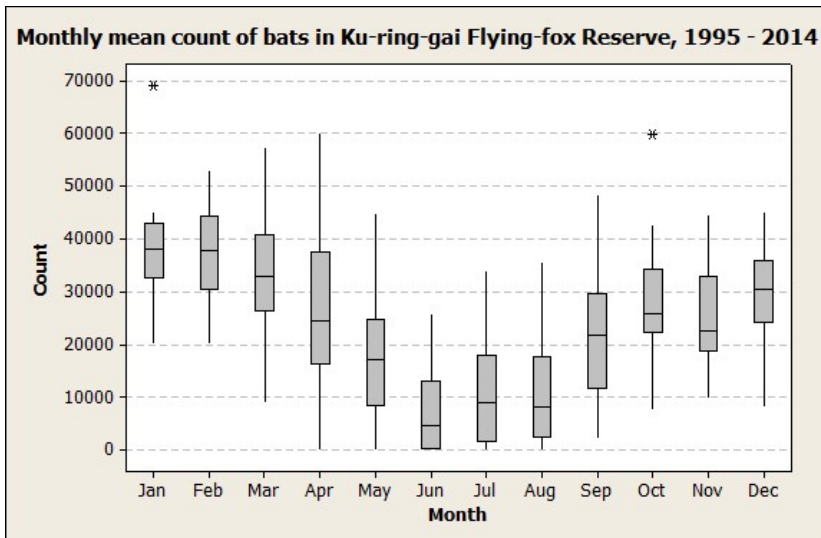
The Swamp Mahogany *Corymbia robusta* has flowered well and for a long time and is now followed by the Lemon-scented Gum, *Corymbia citriodora*. Outside Sydney there doesn't seem to be anything specific to attract the bats away from the Sydney camps. Looking at the animals in the camps, they certainly appear to be well

fed and in good condition. WIRES and Sydney Wildlife are not reporting bats coming into care in poor condition.

While it's impossible to know exactly why the bats are still hanging around Sydney, we can pretty confidently say that it's due to there being food here, and not a mass flowering anywhere else.

Ku-ring-gai Flying Fox Reserve counts:

16 January 2014	29000
20 February 2014	21015
19 March 2014	35750
15 April 2014	23210
15 May 2014	32115



KFFR Juvenile Release program (cont from P1.)

Still, the cage was used this year with some trepidation - would it actually work as a release cage?

Because of the cage being sited away from the camp, the release protocols used in previous years were re-thought and juvenile bats were released slightly later, a little bigger and fitter.

The first group of 45 juvenile grey-headed flying-foxes were not behaving as expected during the daytime in the new cage - they were clumping together and looking stressed. Luckily, CCTV footage showed that when humans were not

around at night, the bats were acting normally. With around 5,000 bats from the main camp flying over the release cage at night the hatch was opened, and the juveniles rapidly dispersed, to return in dribs and drabs during the ensuing nights to grab a feed.

The second group of 32 juveniles showed none of the anxiety of the first batch. Perhaps the cage and environs now smelt properly of bat and were therefore more familiar? For whatever reason, monitoring the CCTV footage showed the animals more than ready for release, so the

hatch was opened and the second batch joined the first...

Support feeding continued, steadily reducing volume for another 5 weeks, at which stage the CCTV footage showed only the occasional bat dropping in for a quick snack - certainly not depending on the support feeding - so the program was wound up for the season.

Overall, the new cage has worked out well. KBCS is currently working in conjunction with WIRES and Sydney Wildlife to revise crèche and release procedures based on the practicalities of the new cage situation.

Bat Fact

Did you know that the Egyptian fruit bat (*Rousettus aegyptiacus*) is the only megabat to use echolocation and roost in caves?

It is one of the few megachiroptera roosting in caves with group sizes from two to several thousand individuals, and occasionally, when numbers are low, individually. Moreover, within the megachiroptera, only the genus

Rousettus uses echolocation to find food.

This species emits clicks from the side of its mouth using its tongue, which enables it to navigate in complete darkness. As a result, it can roost deep inside caves where no light can penetrate. Its geographical distribution ranges from the Persian Gulf through to Arabia, Turkey, Cyprus, and Africa.

(Right: Egyptian fruit bats roosting in cave)



Featuring urban flying foxes

The following three articles feature research and observations made on the impacts and pressures experienced by flying-foxes inhabiting urban environments.

The 16th Australasian Bat Society Conference was held in Townsville, Queensland from 22-25 April, 2014 and following are summaries of two interesting abstracts presented at the conference.

Stress in the city: food, sex and the grey-headed flying-fox

Kerryn Parry-Jones,
Koa Webster and Anja Divljan

A food shortage can cause chronic stress in free ranging mammals where their levels of stress hormones are chronically elevated. The stress hormone levels and physical condition of captured urban flying-foxes suffering a food shortage were compared with free-living rural flying-foxes with access to supplementary food.

Stress hormone levels were measured in the faeces of individual animals, and from samples collected from under an urban colony. Rural flying-foxes were found to have high Body Condition Indexes and low levels of stress hormones. In comparison, urban flying-foxes had lower Body Condition and elevated levels of stress hormones.

The study concluded that restricted food availability in grey-headed flying-foxes is associated with elevated faecal stress hormones and possible chronic stress. There was no difference in the levels of stress hormones or Body Condition Indexes between urban males and females but while urban males were in relatively better physical condition than urban females, they had higher levels of faecal stress hormones: the reproductive constraints on food-restricted flying-foxes probably explain the differences observed.

Landscape utilisation by black flying-foxes in South-east Queensland suggests a preference for weeds

Deb Melville et al

Researchers from the Queensland centre for Emerging Infectious Disease, Queensland Herbarium and Biosecurity Queensland have been exploring the landscape utilisation of black flying-foxes (*Pteropus alecto*) in Southeast Queensland. Dataloggers were attached to flying-foxes for a period of two weeks to identify foraging areas which were subsequently 'ground-truthed' by a Queensland Herbarium botanist and a flying-fox biologist.

On average, flying-foxes travelled 15km each night and frequented four identified foraging areas. These foraging areas were generally house blocks and small fragmented patches of vegetation which typically included weed species such as climbing asparagus, Brazilian nightshade, wild tobacco and/or Cocos palm. Flying-foxes showed fidelity to foraging areas, returning on several subsequent nights.

Whilst small, this study gave indications that flying-foxes foraged more frequently in weeds rather than native species. Further studies are needed to determine if this propensity for weeds resulted from a lack of native food resources or whether these weeds are now preferred food options. Knowing this is critical to understanding how black flying-foxes utilise our landscape and will assist in its management.

What have flying-foxes been dining on recently in Sydney?

Nancy Pallin



Originally from Queensland, lemon-scented gums, *Corymbia citriodora* have been providing a feast of nectar and pollen in Sydney. These tall trees, up to 50m, have smooth white, pink or sometimes powdery bark.

Lemon-scented gum is a favoured horticultural species, planted in parks and gardens in many Australian cities and towns. It can be an invasive species, spreading seedlings into bushland. It is related to the spotted gum (*Corymbia maculata*) which occurs in NSW.

This is one of the species on which flying-foxes now feed through winter in the Sydney region. Before trees like this were planted, flying-foxes moved in and out of the region following the flowering of local native species.

As flying-fox camps remain occupied throughout the year, there is not the opportunity there once was for the vegetation in the camp areas to regenerate. People have changed the environment and flying-foxes have adapted to that change.



Above: The natural distribution of lemon-scented gum (*Corymbia citriodora*).

Ku-ring-gai Flying-fox Reserve Bushcare Group

meets every Tuesday 8.30am-12.30pm.

New volunteers always welcome!

Like more information?

call Nancy Pallin 9416 7334

or email web@sydneybats.org.au

At our AGM . . .

Our guest speaker, Dr Leroy Gonsalves, completed an Environmental Science (Hons) degree at Australian Catholic University before undertaking his PhD looking at the importance of mosquitoes to insectivorous bat diets on the NSW Central Coast. Leroy now works as a Biodiversity Research Officer at the NSW Department of Primary Industries and lectures in the Environmental Science course at Australian Catholic University.

What's a microbat worth?

Adapted from Bat Conservation International e-Newsletter September 2013, Volume 32, Number 1

Getting the message to the community that bats have a positive economic impact could be important to conservation efforts. In the United States, researchers are quantifying the value of bats as predators of insects, particularly crop pests of walnut crops.

Current estimates of microbat contribution to agricultural pest control is about \$23 billion per year.

The key pest for walnut crops is the codling moth, whose larvae feeds on the developing nuts. Current pest control is spraying of insecticides which have harmful impacts on humans and ecosystems.

To measure the predation rates of the Mexican Free-tailed Bat (*Tadarida braziliensis*) on codling moths, researchers captured the bats in mist nets, held the animals until they had defecated and genetically tested the

poo for moths.

Results show that bats will eat between one and 15 moths per night, protecting a minimum of \$17,280 worth of walnuts per season. For a colony of 2000 microbats, that's \$6 per bat.

In Australia, work is being carried out on macadamia crops and how the distance from natural vegetation patches impacts the effectiveness of bats as protectors of crops. The study is the first of a series that attempts to understand the dynamics of insectivorous birds and microbats in macadamia agro-ecosystems, their associated potential benefits, and the impact that commonly used insecticides may have in such dynamics. An opportunity exists to integrate aerial wildlife in macadamia agro-ecosystems, and to mutually benefit farmers and nature. Providing an economic benefit of bats will encourage farmers to protect and enhance bat activity on their farms.



Visit our website: www.sydneybats.org.au

Membership renewals due now!

Memberships are due for renewal as of 30 June each year. Thank you if you have already renewed yours. Annual membership is \$20.00 (individual or household).

If you receive your newsletter electronically, your membership expiry date will be in the email; if by post then please check the envelope for membership expiry date.

And don't forget that donations to our Gift Fund are tax deductible and always welcome. As Nancy says on page 1 - bats need friends more than ever!

- You can add a donation to your membership fee if paying by cheque;
- you can visit www.sydneybats.org.au and use the "donate" button;
- We accept membership fees and donations electronically – contact web@sydneybats.org.au for account details.

Bat Conservation Gift Fund News

Thank you to all our generous donors, whether anonymous or acknowledged below.

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