

Friends of Bats

newsletter

Issue 102, September 2011



Culling bats isn't the way to control Hendra virus

*Jon Luly, Senior Lecturer in Physical Geography and
Lee Skerratt, Senior Research Fellow, Tropical Infectious Diseases Research Centre -
James Cook University*

This year has had the lot. First came the tempest, then the floods. Fires are on their way as the landscape dries out.

Now we have pestilence, in the form of Hendra virus. Calls for bat culls have ensued, but killing or relocating bats could make things worse for everyone.

Vital pollinators: bats carry more than diseases

Hendra virus is one of a number of recently-emerged viruses which has spilled over from its usual wild-animal-hosts to domestic animals, and then to us.

Hendra's repeated appearance this year has caught public attention. Sadly much of that attention has not focused on the rarity of the disease or that transmission to humans occurs from exposure to sick horses. Instead, it has focused strongly on control of the reservoir host of the virus: flying-foxes.

Flying-foxes are important pollinators, and disperse the seed of native trees and shrubs. In many environments, they are better at these tasks than birds, insects or the wind. In the wet tropics of northern Queensland, flying-foxes help maintain the world heritage values of the tropical rainforest.

Cute, furry, useful and hated

Despite their ecological value, flying-foxes are roundly disliked, especially by the citizens of towns which share space with a flying-fox colony.

A recent paper by Dominique Thiriet analyses the effect of unpopularity on

species management and concludes it is hard to "sell" the value of creatures people dislike and even harder to implement science-based management regimes that conflict with the wisdom of public opinion.

Each time a disease crosses from bats to humans, there are immediate and sustained demands for bats to be culled or relocated from their roost sites.

There is a growing body of research that suggests relocation or culling will not reduce bat-associated disease and may even make matters worse.

The basis for this argument lies in the wider domain of One Health, an idea which links human health and welfare to the health of the natural world.

Bat illness can lead us to the bigger picture

Overseas, spillover of viral diseases from bats has contributed to outbreaks of Nipah virus, SARS and Ebola virus. In each instance, the spillover has occurred in places with close associations between humans, their animals and bats in landscapes experiencing severe environmental stress.

In Australia, the excretion of Hendra virus by bats varies by space and time. Outbreaks of disease are most likely at times of nutritional stress and when there has been severe environmental disturbance. This has certainly been the case in northern and southern Queensland this year.

One Health suggests the solutions lie in dealing with the underlying drivers



Culling won't cure Hendra

KBCS 2011 Annual General Meeting

Nancy Pallin

Twenty members attended our AGM; nine apologies were received. It's great to have two new faces on the committee.

If you were unable to attend and would like to receive the annual report which includes the audited financial statements, use our webmail: web@sydneybats.org.au

"Bats have always been in my thoughts. No matter where I am in the world, whenever I see a bat I feel safe, as they are the same as I am: a mammal, but one better, with the ability to fly. Man, I wish to fly like a bat."

Maaliq Mitchell, Cairo, Egypt

Visit The Year of the Bat web site
www.yearofthebat.org

Habitat restoration in Ku-ring-gai Flying-Fox reserve

Nancy Pallin

Ku-ring-gai Bat Conservation Society continually needs to re-evaluate how to manage Ku-ring-gai Flying-Fox Reserve (KFFR).

It is mostly, but not all, about the flying-foxes.

Threat of trad re-infestation

The South American succulent groundcover, known as Trad or Wandering Jew, has the ability to smother all understorey vegetation. This invasive weed originally escaped from gardens. Huge amounts of Trad were removed in the western parts of the reserve after the flying-fox camp moved east. In this area, while the canopy is recovering well, constant monitoring, spot-spraying and hand weeding of Trad is needed. It still spreads from private property into the reserve. Wallabies drop fragments along their tracks from one part of the

Surrounding property owners could be of great help if they could make more effort to remove Trad from their land.

And of course there is more. . .

This year, we found a large infestation of Madeira vine, another South American horror capable of destroying the tree canopy.

Ginger lily has invaded the reserve over many decades. Its massive network of rhizomes excludes native plants. It has spectacular flowers but its red seeds are carried by birds into bushland. Each flowering head can produce 150 seeds. Again, if gardeners could only cut the flowers off after they wilt, then no seeds would be spread. But ideally, the plants should be removed.

Wallaby exclusion fencing - a different approach

Swamp wallabies are often seen or the thump of their feet heard. We have seen a mother with a young one in her pouch. A mother and a juvenile browsed on privet prunings as we stopped for morning break. It is one of the joys of Bushcare.

However, these beautiful animals have a great liking for the trees and shrubs we plant to provide roosting habitat for the flying-foxes. For some years, we have enclosed each plant in its own cage to protect them from wallaby browsing.

Our first experimental 'enclosure' was only 5 x 4 metres in size. This winter, Bushcare volunteers with the help of a contract bush regeneration team, carried steel rods and plastic garden trellis 500m into the reserve. Some of the lantana was cut back and a larger enclosure constructed. To prevent wallabies jumping into the enclosure, trellis 500mm wide was tied above trellis 900mm wide to make a fence 1.4m high.

Flying-fox numbers were low this

winter (about 4,000, so few were disturbed by this activity).

So far, no wallaby has disturbed the fence or got into the fenced area but there is plenty of food outside. A third enclosure has now been built and we are preparing to do another.

Member's donations to the Gift Fund have paid for the materials and the contract labour, which took the pressure off the dedicated volunteer team. Many thanks for your generous support.



Ken and Jill working on one of the new KFFR Wallaby supersized 'enclosures'.



Hand-weeding Trad. Ken, Katherine & Laura

reserve to another.

While Council funds a maintenance contract, it is only sufficient to maintain part of the western section. Bushcare volunteers attempt to fill this funding gap. Certainly we enjoy visiting different parts of the reserve on our search and destroy missions to interrupt the trad reinvasion. KBCS is considering engaging professional bush regenerators to assist over the coming year, until additional Council funds become available through Ku-ring-gai's Environmental Levy.

Flying-fox Netting Subsidy Program

On 25 June 2011, the NSW Minister for the Environment announced the establishment of the Flying-fox Netting Subsidy Program, to implement the government's election commitment. The program is funded by the Environmental Trust and will be delivered by the NSW Rural Assistance Authority (RAA) over three years, commencing 2011/12. The \$5million program is funded through the Waste and Environment Levy, a government levy placed on all landfill.

As constructing netting structures will be staged over two or three years, orchardists will still be able to apply for shooting licences for un-netted areas of their properties up to 30 June 2014. It is expected however that the number of licences issued would proportionally decrease, along with culling numbers as the nets are installed.

from p. 1
of disease emergence.
By focusing on the bats we are missing the big picture and another warning that our environment is under duress.

Avoiding Hendra is easier than killing bats.

Pending release of a vaccine against Hendra virus, managing the immediate risk to horses and humans is simple – follow simple hygiene and feed-management practices that reduce horse and horse-feed exposure to bats and their excretions.

This is the approach recommended by Biosecurity Queensland and the Queensland Horse Council. This is because Hendra virus crosses to humans from infected horses, not from flying-foxes, and the infection of horses takes place in the

rural foraging range of the bats.

There is no incontrovertible evidence that harassing bats so colonies relocate increases rates of viral excretion. But the precautionary principle suggests the banging of drums, rattling of tins or roaring of engines is not a good idea.

Even if bat colonies do relocate, it is not clear how this will lower the exposure of horses in paddocks to flying-foxes carrying Hendra virus.

Harassment and colony relocation has other limitations. Re-locating a bat colony is not easy: re-located bats often end up in places they are wanted even less. It is even less easy to be sure that when bats depart they do so as a result of the

dispersal and not simply to follow the flowering of food trees.

Culling flying-foxes is equally dubious. It is practically impossible to cull enough to reduce flying-fox populations to a level acceptable to communities. If pursued, the risk of increased virus secretion as a result of stress is real and the public health benefit minimal.

Ignoring science won't cure disease.

Culling is cruel. Studies of bats shot under permit in NSW orchards show that most died slowly. Many of those shot received debilitating wounds which resulted in death by starvation. This is not consonant with

contemporary standards of humane treatment of animals. And finally, removing animals

that play key roles in the functioning of healthy ecosystems is certain to have wide-ranging but unquantifiable long-term effects on our agro-ecological support systems.

Some sections of the community are increasingly sceptical about scientific approaches to significant and contentious issues. Wilfully dumbing-down complex problems is a hallmark of this scepticism.

This attitude will continue to be a challenge to developing best practice biosecurity regimes in response to Hendra virus. More importantly, it may undermine our best efforts to deal with major drivers of disease emergence such as habitat loss.

From <http://theconversation.edu.au/culling-bats-isnt-the-way-to-control-hendra-virus-3253>

What Else is Down There?

Ken Holland

From the ticket office on Gordon station to the nearest point in Ku-ring-gai Flying-fox Reserve is just 600m as the bat flies. The reserve is 15ha in area, yet many of the commuters braving the daily ebb and flow by rail or road through Gordon would be unaware of its existence.

Even the locals whose backyards fringe the boundary find it hard to get much of a peep inside. Their views are typically limited by nearby trees. Stoney Creek flows far below, out of sight from above, en route to join Rocky Creek, then the upper reaches of Middle Harbour Creek at St. Ives.

Down below there is thick forest of native trees, interspersed in far too many areas by exotic plants (lantana, privet, Cocos palms) and garden

weeds (Madeira vine, ginger lily, ehrharta grass, trad etc.). Most of the mature native trees (blackbutts, turpentines, coachwoods, Sydney red gums) are tall and healthy, but some show wear and tear caused by roosting flying-foxes.

The vegetation provides accommodation for a variety of bird life, ranging from whipbirds, white-browed scrub wrens, eastern yellow robins, rufous and grey fantails, bowerbirds flitting through the understorey to the family of powerful owls that have been observed dining on ring-tailed possum and flying-fox. Lyre birds and brush turkeys fuss about on the forest floor while sulphur-crested cockatoos (the louts of the bird world) screech raucously and deafeningly overhead.

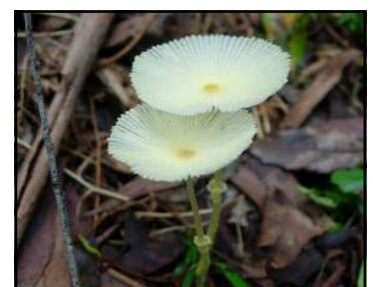
Bandicoots are seldom seen, but

one can see where they've been. Swamp wallabies graze around, appearing not overly concerned by the occasional wandering human going about ripping up (but, strangely, not eating) some species of vegetation whilst planting others. Incomprehensibly, the tasty titbits on the plantings are rendered inaccessible by cages of plastic mesh supported by steel reinforcing rods. But that doesn't much concern other citizens of the forest floor, the occasional echidna, a water-dragon or two, a dung beetle that eats little dung, red triangle slugs, jumping ants, leeches and ticks.

All of these free-loaders share the digs with the star boarders, the grey-headed flying-foxes (*Pteropus poliocephalus*). Their numbers range from zero (rarely and briefly) to 40,000 or so. Why do they get such favoured treatment? Well, they are, after

all, the major pollinators and seed dispersers of many of our native trees (turpentines, blackbutts, blue gums, red bloodwoods, figs, lilly pilli); and they really are appealing little creatures once you get to know them. They are gazetted as a vulnerable species by the NSW and Commonwealth Governments on the recommendations of their independent Scientific Committees, and, due to continued loss of habitat are liable to become extinct within the 21st century.

That's progress.



Delicate fungi - Stoney Creek

Flying-foxes in Adelaide

One of the results of the eviction of grey-headed flying-foxes from the Botanic Gardens in Melbourne was a camp forming at Geelong. Flying-foxes have been reported feeding in western Victoria around Warnambool and Mount Gambier and a few in Adelaide.



In April 2010 a resident of the Adelaide suburb of Fullarton reported flying-

foxes in a cypress pine tree in her garden. The colony grew from about 30 to more than 300. Surprisingly they roosted within the branches of the tree. The authorities disturbed the animals which relocated to a nearby park.

Grey-headed flying-foxes also began roosting in the Adelaide Botanic Gardens. They were camped at Site A in the aerial view of the gardens but the management wanted them gone. As the flying-foxes were not habituated to any site it was decided to 'relocate' them. It was better to move them before numbers increased further and not a lot of effort was required to achieve this.

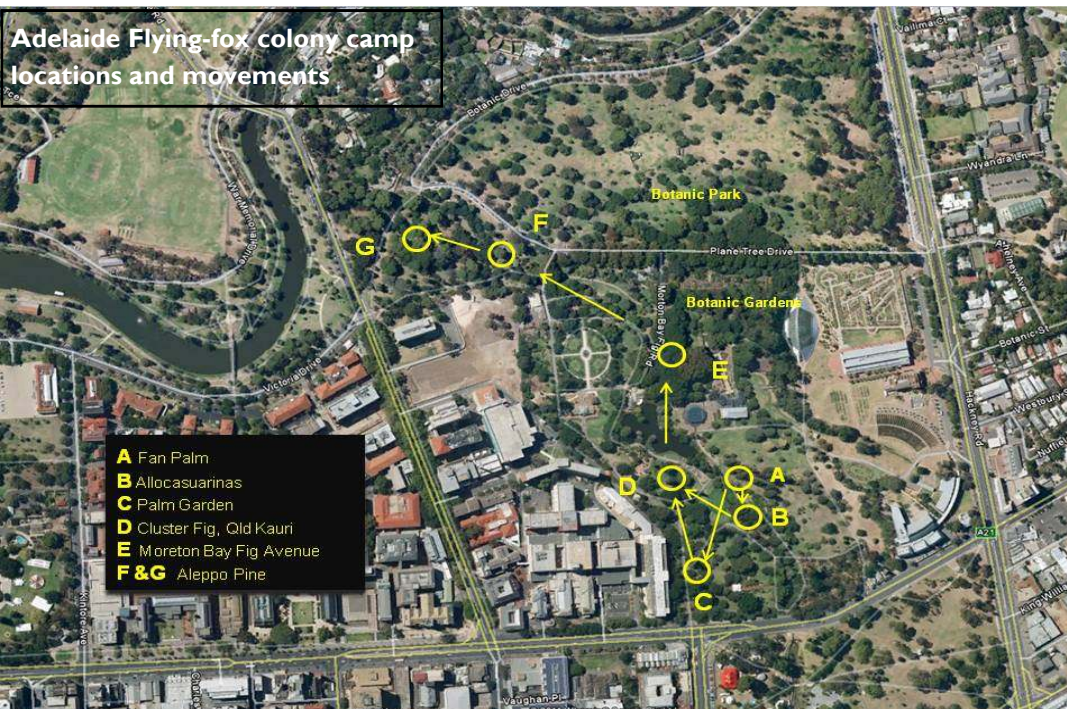
The method was to disturb the flying-foxes at dawn,

beginning with low tapping on metal rising to loud banging for 10 minutes until the bats took flight. The same procedure was used the second day but it only took five minutes until the bats took flight. They returned to the start site each day. The third day they took flight after one minute and only a few came back to site A. Gradually over four days they moved from site A to B or C and eventually D and then to the Aleppo pines. This is outside the Botanic Gardens proper, an area known as the Botanic Park marked as F and G.

If the authorities can be persuaded to leave them at the Aleppo Pine Site (F and G) this will be a reasonable

outcome. Adelaide experiences periods of extremely hot and dry weather which is likely to kill flying-foxes. They have been observed to roost under the hanging leaves of palms and within pines, rather than on exposed branches of trees as they do in Sydney and Melbourne. Such an adaptation may enable them to stay. In June 2011 about 400 grey-headed flying-foxes were in the camp. Growing buffer vegetation on the western side and understorey vegetation would also help.

This is a summary of a talk by Terry Reardon from the South Australian Museum presented at the Australasian Bat Society forum on flying-fox camps in July 2011.



Mystery donor

On July 28 an amount of \$20.00 was paid into our Gift Fund Account, but I am unable to trace the donor. There was no name attached, just an online banking number. I would be delighted to hear from the donor so I can acknowledge and issue a receipt. You can contact me at: web@sydneybats.org.au

Jocelyn Chenu, Treasurer

Bat Conservation Gift Fund News

Donations received July to September 2011 from: C Austin, M Beck, E Burgess, J Burke, J Chenu, G Cohen, L Desmond, B Dowsett, H Dunne, M Eade, V Farrer, C Feilen, H Gardner, J Gye, M Hargreaves, M Hazelton, K Holland, J Hutchinson, V Insall, E Jones, N Jones, M Kerr, J Krone, C Kuiper, B Law, R Leigh, G Limburg, J Madden, J McCluskey, N Myers, B Nilsson, C Nolder, R Noone, E Oakley, Oatley Flora & Fauna Conservation Society Inc., D Ondinea, V & P Palangas, K Parkhouse, S Payne, J Pollock, J Pringle, G Richards, K Russell, C Sheard, S Shuetrim, J Snell, J Southgate, T Spurling, J Stockard, W Suters, B Taylor, L Toby, E Wade, J Walker, C Wheatley, J White, A & V Wiggers de Vries, M Wood, M Woof, M Worley. Total: \$2745

Thank you all for your generosity!

Donations over \$2 are tax deductible - receipts are sent with the next newsletter unless otherwise requested.

Friends of Bats
is published quarterly by
**Ku-ring-gai
Bat Conservation Society
Inc.**

PO Box 607, Gordon,
NSW, 2072 Australia.

Website: www.sydneybats.org.au
Email: web@sydneybats.org.au

Chairperson:
Nancy Pallin (02) 9416 7334
Subscription enquiries:
Penny Diakiw (02) 9449-3539
Newsletter editor:
Valérie Insall