

## Federal Senate Inquiry into Australia's Faunal Extinction Crisis – Submission

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Dear Federal Senate Committee

The membership of Melbourne's *Friends of Bats and Bushcare Inc.* (a Parks Victoria 'Friends Of' group) have requested I write briefly to you to express our concern regarding the plight of Australian flying foxes (megabats) and the habitats they, and many other species, rely on to exist. On the final page we will make several practical recommendations to reduce death and injury to flying foxes in urban and rural Australia and to enhance their chances of surviving the challenges of the 21<sup>st</sup> century.

Each of Australia's four principal, mainland, species of flying fox is deserving of many pages of detailed representation however to ease the burden on the Senate Enquiry members I will give the most concise overview I am able. Specifically, the problems flying foxes face and some practical ways of ameliorating them.

### **Australian Flying foxes: Overview:**

The Australian mainland has four principal species of flying fox or megabat (big bat) – Black flying fox (*Pteropus alecto*), Little Red flying fox (*Pteropus scapulatus*), Grey-headed (*Pteropus poliocephalus*), and Spectacled (*Pteropus conspicillatus*). One or more of these species is found across Australia excluding the Central and South West of Western Australia and Tasmania.

### **Ecological Roles**

Collectively they are major pollinators and seed dispersal agents of native forest and bushland carrying more viable pollen a greater distance than any other vertebrate species (e.g. birds).<sup>1</sup>

Because of their annual migrations following the flowering and fruiting of native trees they play an important role in forest regeneration and out-cross pollination thereby ensuring good gene-flow between isolated forest and bush – put simply they prevent tree species inbreeding and promote resilience. Flying foxes are colloquially known as “umbrella” species because so many other animal species live under their work. They create vast numbers of trees each year and so, in addition to biodiversity, their role in carbon sequestration should not be underestimated.

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<sup>1</sup> Dr Les Hall and Dr Greg Richards: “...more [viable] pollen is moved a greater distance by bats [flying foxes and blossom bats] than other vertebrate flower visitors” (Flying Foxes, Fruit and Blossom bats of Australia, UNSW Press, 2000 pp.78-80).

## Decline and Threats

All four species of native flying foxes face similar threats to a greater or lesser degree. Deforestation (logging and land-clearing) causing starvation, Climate Change manifesting as increased frequency and severity of heat-waves and extreme weather events, entanglement death in “backyard” fruit tree netting<sup>2</sup>, legal<sup>3</sup> and illegal shooting on orchards and camp/colony disruption and dispersal by humans.

Having only one pup per year flying foxes have a low capacity for increase.<sup>4</sup>

### Little Red Flying foxes and Black Flying foxes – Unlisted

These two species have the widest range roughly from Broome across the top of Australia, inland several hundred kilometres and south to Sydney. Little Reds are also found as far south as Victoria in small numbers. Because of the size of their range it is hard to estimate their decline and each species is thought to still number in the several millions. Nevertheless severe land clearing in Queensland and NSW caused the starvation of millions of Little Red flying foxes and Black flying foxes from the 1980s – 2000s and it is unlikely their numbers have recovered from these losses. Many starving flying foxes were shot on orchards as they attempted to survive using commercial fruit crops.<sup>5</sup> Many, several thousand per annum, Black flying foxes continue to die in urban wildlife unsafe backyard fruit tree netting. Some Little Red flying foxes die in netting but fewer than Black flying foxes as they generally prefer the nectar in native flowers rather than fruit.

### Spectacled Flying foxes – EPBC Listed ‘*Endangered*’ in 2019

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<sup>2</sup> Dr Megan Davidson, CEO Wildlife Victoria: “Wildlife unsafe Backyard fruit tree netting causes more rescues and kills more flying foxes than any other urban cause...Wildlife Victoria alone undertakes up to 300 netting rescues each year in Melbourne with around a third of animals being either already dead or not surviving their injuries” August 3, 2019 (Interview with Lawrence Pope).

<sup>3</sup> Queensland Department of Environment & Science, “Summary of Damage Mitigation Permits (DMPs) Issued for 2018/19 growing season: Lethal Take [Kill] **3500** Black ffs, **4000** LRed ffs, **1280** Grey-headed ffs (5.7.2019) Lawrence comment: [NB. A significant number of endangered Spectacled Flying foxes will be shot in “error” while visiting orchards at night. Safe netting, not killing, is the answer.]

<sup>4</sup> Leslie Hall and Greg Richards, Flying foxes – fruit and blossom bats of Australia, UNSW Press 2000, p.42

<sup>5</sup> ... In northern NSW and QLD land clearing has removed vast amounts of flying-fox food resources. Starving, the bats visit un-netted orchards where they are shot by growers as ‘pests’. The national Grey-headed flying fox population has been reduced to less than what might have been found in three large camps in the early twentieth century. L. Pope: Essay: In Darkness (Unpublished 2003); Cf. Leslie Hall, Greg Richards, Flying Foxes, fruit and blossom bats of Australia, UNSW Press, 2000, pp 91-107

This species of flying fox has a relatively small range confined to Northern Queensland. Its numbers have declined by at least 99% since 1900 and continue to fall. Due to the impact of Climate Change it is no exaggeration to say that this species is only two or three very hot summers from extinction. For example in summer of 2018-2019 heat stroke killed approximately 20% of the remaining population so that perhaps as few as 60,000 remain.<sup>6</sup> CSIRO flying fox expert Dr David Westcott maintains that the Spectacled Flying fox

*“...population has declined dramatically - by an order or around 70 per cent – over the past 14 years”<sup>7</sup>*

Scientists / forecasters indicate that more Climate Change driven frequent and severe weather events are likely to continue into this century. The wet tropics for whom these bats are key seed dispersers and pollinators, that is, forest-regenerators, will suffer greatly from their loss.

**Grey-headed flying foxes** – EPBC Listed Nationally as **Vulnerable** to Extinction and Listed “**Critical Priority**” under Federal Department of Environment and Heritage Protection’s “Back on Track” Species Prioritisation Framework

The Grey-headed flying fox is the species my group, the Friends of Bats & Bushcare Inc works with in a hands-on capacity at the bats’ Yarra Bend Park colony (Kew, Melbourne) and including soft-releasing hand-reared flying fox orphans after re-hab. From rescue to release involves a six- month process.

The species range is, roughly, Brisbane to Adelaide. Their decline is of the order of over 95% since 1900 when their population numbered at least ten millions.<sup>8</sup> Today it numbers somewhere between 300 thousand and 500 thousand bats and, we think, falling. Nearly every summer now I bury hundreds of perfectly formed healthy young Grey-headed flying fox pups that have succumbed to heat stroke. On the worst days we spray and rehydrate-by-hand as many as we can but only manage to save a tiny percentage of those we lose and only in one colony. In January this year over three days we lost 2000 bats at the Bairnsdale camp, 1000 at Maffra in Victoria and 4000 at Adelaide in South Australia all from heat stroke. Across their range we also lose several thousand each year to unsafe backyard fruit tree netting entanglement. Starvation due to de-forestation takes another toll each year. If there are no flowering eucalypts or other native flowering trees there is no food for flying foxes.<sup>9</sup>

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<sup>6</sup> The Age, ‘I’m seeing it disappear before my eyes’: crisis point in Australia’s wet tropics, 28.7.19

<sup>7</sup> Dr David Westcott in The Age, Ibid, July 28, 2019

<sup>8</sup> A 1929 survey by Francis Ratcliffe recorded dozens of interviews from townfolk and growers in NSW and QLD and concluded “There can be no doubt that the Grey headed flying fox population is very much half of its previous strength...” and “the true figures...might show an even greater decrease”, The Flying Fox (Pteropus) in Australia, (Council for Scientific and Industrial Research) F.N. Ratcliffe B.A., Melbourne, 1931 pp.32 -33

In 1900 the number of Grey-headed flying fox camps vastly exceeded in number and size those in 1927 let alone the 150 or so of today. In the 19<sup>th</sup> Century GHFF camps were also found as far North as Cape York (Ibid, p.28) and so pre-European population of the species may have well exceeded twenty-thirty million.

<sup>9</sup> “In Brisbane winter 1990 eucalyptus blossoming failed...starving animals were seen feeding in daylight...blindness, abortions and hydrocephaly (in infants) [were recorded]” Pamela Conder, With Wings on Their Fingers, Angus & Robertson, 1994, p.50.

## Twelve Ways to Reduce (Pteropus) Flying fox Mortality

The suggestions below will help all species of flying fox in addition to many other native mammal and bird species.

1. Prohibit Land Clearing on Public and Private Land
2. Restore Forests Including a Percentage on Private Land – End Old Growth “Logging”
3. Identify and Protect Established Flying fox Camp Sites and Surrounding Bushland
4. Camps with Public Access to Have Contemporary Interpretive Educational Signage
5. Enact `Wildlife Safe Netting Regulations – Only Safe Netting to be installed on Backyard Fruit Trees (holes to be not greater than 5mm x 5mm in area)
6. End `Lethal Take` Permits to Shoot Flying foxes in Orchards in NSW and Queensland (Already in place in Victoria and South Australia)
7. Review “Fuel Reduction” burning in Victorian and NSW Parks and Forests
8. Exclude Victorian State “Special Protection Zones” from burning – entirely
9. Provide forest-based flying fox camps with a special protection buffer – e.g. no fuel-reduction burning or clearing within a 2 kilometre radius of the camp
10. Support Wet Tropics Conservation and Restoration of Wet Tropics
11. Upgraded bat species listings (EG. Vulnerable to Endangered) to be followed by immediate practical conservation action (not just ink on paper as is historically the case)
12. Have Australia do its duty on Climate Change instead of shirking it