



## **AUSTRALASIAN BAT SOCIETY, INC.**

ABN 75 120 155 626

<http://ausbats.org.au>

ABS President: Dr Kyle Armstrong

Email: [president@ausbats.org.au](mailto:president@ausbats.org.au)

# **ABS Position Statement**

## **Flying-fox camp dispersal**

---

### **Background to flying-fox dispersal**

Flying-fox camps provide bats with places to rest, court, breed, raise young and exchange information. They also provide night refuge for flightless young. Some of these sites have been used by flying-foxes for more than a century<sup>1,2</sup>. Since the 1990s there has been a noticeable increase in the number of camps near human settlements<sup>3,4,5,6</sup>. This has led to the misconception that flying-foxes have increased in numbers in recent times. However, in fact, previously larger historical camps are being replaced by a greater number of smaller camps, often located in urban areas<sup>7</sup>.

The increase in number of camps near human settlements is due to the encroachment of human development on historical camps<sup>3,4</sup> and to a shift of flying-fox populations into built environments, possibly because they provide protection from lethal control and harassment, or because they provide access to feeding and roosting habitat<sup>3,4,8,9,10</sup>. 'Urban' camps are important to flying-foxes as they are part of an extensive network of roost sites linking different parts of each species' range. However, urban camps often generate conflict with people who are concerned about loss of amenity, noise and smell<sup>7,2</sup>. In recent years, additional concerns have been raised over disease transmission from bats to livestock and to humans, although government health authorities have been consistent in their message that public health risks associated with flying-fox camps are low



([www.health.nsw.gov.au/factsheets/environmental/flying\\_foxes.html](http://www.health.nsw.gov.au/factsheets/environmental/flying_foxes.html);  
[www.health.qld.gov.au/communicablediseases/hendra.asp](http://www.health.qld.gov.au/communicablediseases/hendra.asp)).

In Australia, the typical response to unwelcome flying-fox camps is dispersal. Techniques used to harass flying-foxes to encourage them to move elsewhere have included continuous loud noise, bird-scare guns, helicopters and light aircraft, spraying with water, smoke and camp destruction<sup>11,12,13</sup>. However, few dispersal activities have been systematically monitored and the 'success' of such projects continues to be debated<sup>4,12,13</sup>.

The results of 17 recent camp dispersal attempts are summarised in Table 1. Sources of information are provided. In summary, the information in this table demonstrate that:

1. Although dispersals sometimes caused animals to move from the original camp, in all cases, **dispersed animals did not abandon the local area**<sup>1</sup>.
2. In 16 of the 17 cases (94%), **dispersals did not reduce the number of flying-foxes in the local area**.
3. **Dispersed animals generally formed new camps located close to the original site** (64% within 600 m; 91% within 2 km) and the close proximity of new camps typically resulted in ongoing conflict within the local community.
4. It was **not possible to predict or pre-determine where new replacement camps would form**. Often new sites proved to be as - or more - controversial than the initial location.
5. **Conflict was usually not resolved**. In 12 of the 17 cases (71%), conflict persisted either at the original site or at replacement camps within the local area after the initial dispersal actions.
6. **Repeat actions were required to keep animals from returning to the original site**. Often dispersal actions were repeated over months or years to keep animals from returning.

---

<sup>1</sup> Local area is defined as the area within a 20 km radius of the original site = typical feeding area of a flying-fox.



7. The **financial costs of dispersal attempts were high**, ranging from tens of thousands of dollars for vegetation removal to hundreds of thousands for active dispersals (e.g. using noise, smoke etc).

The few exceptions to these patterns, occurred when (1) abundant financial and human resources allowed ongoing, daily actions to take place over months to years (e.g. Melbourne and Sydney Royal Botanic Gardens), (2) when the animals moved to favourable habitat nearby (e.g. Batchelor, NT) and/or (3) when habitat links allowed animals to be directed to an acceptable location (e.g. RBG Melbourne).

## **ABS position on dispersing flying-fox camps**

***The Australasian Bat Society understands that flying-fox camps in urban areas can compromise the amenity of some members of the community. However, the ABS does not generally support the dispersal of flying-fox camps because, in most cases, regardless of the methods used dispersals have not proven successful in resolving conflict in local communities and the impacts of dispersals on the animals are unknown.***

***The ABS also recognises the migratory behaviour and other long distance movements of flying-fox species, and supports legislation and management actions that maintain population connectedness and consistent protection across state boundaries.***

### ***If relocations are considered, the ABS recommends the following:***

- Where conflict arises, the local authority undertakes a community education program which enables all residents and landowners to understand the environmental significance of flying-foxes, the actual level of risk they pose and discussion of alternative management options, risks and costs.
- All dispersal actions should be preceded by the development of a management plan that explores all management options, risks and costs.
- A steering committee with representatives of all stakeholder interests, including a person with adequate specialist experience with bats, should be established to oversee the proposed dispersal. Members of the steering committee should

have long-term involvement with the site, including a post-dispersal monitoring period.

- There is transparency in decision-making. All documentation relating to dispersals should be made publicly available. Applications for dispersals should be exposed to a public comment period.
- With guidance from bat experts, the steering committee should develop and undertake an adequate monitoring program, to record the actions taken, their costs, and short- and long-term outcomes.
  - Each dispersal requires a clear definition of success. The definition of successful dispersals should include the following: (1) that conflict is reduced within the broader community (not just around the original site); and (2) there is minimal impact on the flying-foxes, in terms of injury, survival and reproduction of individuals.
  - The success or otherwise, both in terms of achieving reduced human-bat conflict at the original *and* alternative camp sites and appropriate management of animal welfare considerations, should be reported and made publicly available.
- Dispersal actions should not be conducted during times that are likely to impact on the welfare of flying-foxes. This includes periods of detrimental environmental conditions (including food shortages, extended periods of rain and extreme temperatures), during the day when animals are resting and during mating, late pregnancy and when young are nutritionally dependent on their mothers (i.e., Grey-headed, Black and Spectacled Flying-foxes, August – April; Little Red Flying-foxes February - September). It is important to note that young flying-foxes remain dependent on their mothers for a period up to 6 months.
- The ABS strongly opposes the use of techniques lethal or harmful to flying-foxes such as bird-scare guns and other projectiles. Habitat removal or alteration sufficient to reduce the number of animals using a camp site is also opposed.
- A research program examining the impacts of dispersal on flying-foxes should be undertaken by suitably qualified scientists.



## **Background Information:**

- Flying-foxes are mobile, but show a high degree of fidelity to camps sites. This helps explain why attempts to destroy or relocate roosts often have only temporary effects.
- Food is an important driver for flying-fox movements and camp locations. Flying-foxes are unlikely to leave a local area when a camp is dispersed as long as food remains available. This helps explain why camp dispersals do not alter the presence or number of flying foxes in a local area.
- Flying-fox movements vary considerably between seasons and between years, hence the outcomes of camp dispersals are often not known for several months or sometimes years after the actions cease. In addition, the social and economic costs to communities are high when camps are shifted from one 'backyard' to another.
- Camp dispersals can result in mortality, particularly if conducted during the breeding season when dependent juveniles are affected<sup>14</sup>.
- Management strategies for urban camps need to be developed at a range of spatial scales including local, state, range-wide and national as individual flying-foxes visit a number of roosts sites which may come under the jurisdiction and responsibility of various governments, conservation agencies and landholders.

## **Flying-foxes and the Australian Environment**

The ecosystem values that flying-foxes provide to the Australian environment are an important consideration in the public debate on flying-fox management. Flying-foxes play a keystone role in maintaining biodiversity and structure in natural vegetation communities across Australia. Many vegetation communities rely on their blossom and fruit feeding behaviours to assist with pollination and seed dispersal.

The loss of natural habitats due to human population expansion and development activities is a key driver of native species decline and can lead to increased contact and conflict between humans and native fauna including flying-foxes.



## What is the ABS?

The Australasian Bat Society (ABS) is a not-for-profit organisation, registered under the NSW Associations Incorporation Act 1984 through the NSW Department of Fair Trading. Our aim is to promote the conservation and study of bats in Australasia. ABS membership is wide-ranging and includes research scientists, natural resource managers, students, wildlife carers and members of the general public. Anyone with an interest in bats or conservation is welcome to join the Society. For more information on the ABS and membership, go to our web site at <http://ausbats.org.au/>.

## References

1. Lunney D. and Moon C. (1997) Flying-foxes and their camps in the rainforest remnants of north-east NSW, pp 247-277 in *Australia's Ever-Changing Forests III*. edited by J. Dargavel. Centre for Resource and Environmental Studies, ANU, Canberra.
2. Roberts B.J., Eby P., Catterall C.C., Kanowski J.K. and Bennett G. (2011) The outcomes and costs of relocating flying-fox camps: insights from the case of Maclean, Australia, pp. 277-287 in *The Biology and Conservation of Australasian Bats*, edited by B. Law, P. Eby, D. Lunney and L. Lumsden. Royal Zoological Society of NSW, Mosman.
3. Birt P., Markus N., Collins L. and Hall L.S. (1998) Urban flying-foxes. *Nature Australia*, **26**: 54–59.
4. Hall L.S. (2002) Management of flying-fox camps: what have we learnt in the last twenty five years? pp. 215–224 in *Managing the Grey-headed Flying-fox as a Threatened Species in NSW*, edited by P. Eby and D. Lunney. Royal Zoological Society of NSW, Mosman.
5. Markus N. and Hall L. (2004) Foraging behaviour of the black flying-fox (*Pteropus alecto*) in the urban landscape of Brisbane, Queensland. *Wildlife Research*, **31**: 345–355.
6. Roberts B.J. (2005) *Habitat characteristics of flying-fox roosts in south-east Queensland*. B.Sc. (Hons) thesis, Griffith University, Brisbane.
7. Hall L.S. and Richards G.C. (2000) *Flying-foxes, fruit and blossom bats of Australia*. University of New South Wales Press, Sydney, 135 pp.
8. Parris K.M. and Hazell D.L. (2005) Biotic effects of climate change in urban environments: the case of the Grey-headed Flying-fox (*Pteropus poliocephalus*) in Melbourne. *Biological Conservation*, **124**: 267–276.
9. van der Ree R., McDonnell M.J., Temby I.D., Nelson J. and Whittingham E. (2006) The establishment and dynamics of a recently established urban camp of *Pteropus poliocephalus* outside their geographic range. *Journal of Zoology*, **268**: 177–185.
10. Williams N.S., McDonnell M.J., Phelan G.K., Keim L.D. and van der Ree R. (2006) Range expansion due to urbanization: Increased food resources attract Grey-headed Flying-foxes (*Pteropus poliocephalus*) to Melbourne. *Austral Ecology*, **31**: 190–198.
11. Vardon M.J., Simpson B.K., Sherwell D. and Tidemann C.R. (1997) Flying-foxes and tourists: a conservation dilemma in the Northern Territory. *Australian Zoologist*, **30**: 310.
12. Tidemann C.R. (2002) Sustainable Management of the Grey-headed Flying-fox *Pteropus poliocephalus*, pp 122–127 in *Managing the Grey-headed Flying-fox as a Threatened Species in NSW*, edited by P. Eby and D. Lunney. Royal Zoological Society of NSW, Mosman.
13. Roberts B.J., Catterall C.C., Eby P. and Kanowski J.K. (2012) Long-distance and frequent movements of the flying-fox *Pteropus poliocephalus*: implications for management. *PLoS ONE*, **7**(8): e42532. doi:10.1371/journal.pone.0042532.

