



## SAVING OUR SPECIES

# Flying-foxes in Kareela

## Camp management case study

### Summary

The grey-headed flying-fox (*Pteropus poliocephalus*) is vulnerable to extinction in New South Wales. The Kareela flying-fox camp is an example of a roost site within a Sydney council reserve surrounded by residential homes and schools. When flying-fox numbers are at their highest, there are community concerns about droppings on property, vehicles and play equipment, as well as noise, odour and fears of disease. Sutherland Shire Council has attempted to manage impacts indirectly through community subsidies and directly through creating cleared buffers and camp dispersal.



**Flying-foxes visible from an adjacent school.** Photo: Matthew Mo

Grey-headed flying-foxes were first noticed at this location around February 2008. When occupied, the camp typically contains around 2400 flying-foxes. However, at times, there have been up to 20,000 flying-foxes present.

## Actions to reduce flying-fox impacts

Council cleared vegetation at the boundary of the reserve to create a buffer between the camp and nearby houses and schools. The 10-metre buffer was later expanded to 20 metres. This action did not resolve community concerns. Council engaged affected residents and schools, informing them about flying-foxes and management options. This resulted in a reduction in concerns about disease transmission from flying-foxes. Many residents and schools also shifted their support from dispersal to *in-situ* camp management. Despite this, some support for dispersal remained and councillors approved the action, which took place in August 2015 using noise, light and smoke. Dispersal actions were initially undertaken six days per week over five months to deter flying-foxes from the camp.

## A new flying-fox camp

In July 2016, a new flying-fox camp formed in Camellia Gardens, 3.5 kilometres southeast of Kareela. Its formation coincided with a flying-fox food shortage in the eastern states. It is unclear whether this camp also formed in response to the Kareela dispersal.

Council considered Camellia Gardens an inappropriate site for a flying-fox camp. Concerns included close human-bat contact and damage to significant specimen trees. Within one month, the numbers of flying-foxes at the site reached 150. Council dispersed the camp, which initially caused flying-foxes to vacate the site. However, when Council stopped dispersal activities due to a food shortage across the east coast, flying-foxes returned to both Kareela and Camellia Gardens in November 2016.

The cost of the dispersal actions at Kareela and Camellia Gardens was more than \$380,000. The dispersals were not effective, with flying-foxes persisting at both sites. The actions at Kareela may also have contributed to the formation of the camp at Camellia Gardens, an undesirable location.

## Extending buffer area at Kareela

In August 2017 when the camp was empty of flying-foxes, Council cleared more vegetation from the boundary of the camp, increasing the size of the buffer to 50 metres. There was a significant reduction in community complaints following this action.

Council also offered subsidies for equipment to reduce camp impacts on affected residents and schools. Most eligible residents took up subsidies. High-pressure water cleaners and air conditioners were popular.



**L: The 50 m buffer separating the camp from neighbouring residents and schools;**  
**R: Revegetation of the buffer area with mid-storey and understorey plants.**

Photos: Sutherland Shire Council

## Lessons learnt

- It was important to convey messages to affected residents about the risks and uncertainties associated with camp dispersal.
- Social, political and environmental considerations were all factors in the council decision to disperse the camp.
- Camp dispersals in the Sutherland Shire were unsuccessful in relocating flying-foxes in the long term. This highlights the limitation of camp dispersal as a sustainably effective management action.
- Wide buffers cleared of vegetation appeared to be more successful in reducing community complaints than narrow buffers.

## Further information

This case study has been prepared by the Department of Planning, Industry and Environment in collaboration with Sutherland Shire Council.

A more detailed account of this case study is published in the *Australian Zoologist*: [From cleared buffers to camp dispersal: mitigating impacts of the Kareela flying-fox camp on adjacent residents and schools.](#)



**Grey-headed flying fox (*Pteropus poliocephalus*) in flight.** Photo: Shane Ruming/DPIE

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