

# **Ku-ring-gai Council - Submission to the inquiry into flying-fox management in the eastern states**

The House of Representatives Standing Committee on the Environment and Energy has advised of its intention to conduct a short inquiry into and report on the impact of nationally protected flying-foxes on communities in the eastern states of Australia.

Ku-ring-gai Council make the following submission as a Sydney based local council with one of the largest and most significant Grey-headed flying-fox (GHFF) which is located in the Ku-ring-gai Flying Fox Reserve (KFFR).

## **Introduction**

Ku-ring-gai Council is aware of the impacts that GHFF can have on residents living in close proximity to camps. Ku-ring-gai Council's 2013 Ku-ring-gai Flying-fox Reserve Management Plan attempts to strike a balance between management actions to conserve the threatened species and ecological communities within the KFFR and management actions to reduce the impacts of the Grey-headed Flying-fox colony on residents, particularly those adjacent to the KFFR. Striking this balance has been an extremely challenging and complex management issue for Council and it is understood that many other Council's have experienced similar issues.

In dealing with these complex issues Scott et al., (2014) noted evidence suggesting that:

- Interfering with habitats or attempts to modify the natural behaviour of the Flying fox inevitably exacerbates the problem through unintended consequences;
- Modification of the built environment is a far more practical, effective and efficient management measure. Strengthening the resilience of homes, properties and lifestyles to the impact of wildlife;
- The response to the problems created by urban development encroaching on conservation areas must prioritise minimal disruption to the service and functions of the natural systems for any successful resolution to emerge.

## **Ku-ring-gai Council submission against the terms of reference of the inquiry**

- 1. the circumstances and process by which flying-foxes are listed and delisted as threatened species at both the state and Commonwealth levels;**

The original listing under the EPBC Act was based on population declines estimated at 30% from 1998-2001 levels. Since this time, much work has been done on the population of flying fox in Australia.

Ku-ring-gai Council encourage a review of all information collected from the national census. Records from the Kuringai Camp, provided as appendix A to this submission, indicate a continued downward trend and Council are concerned about the ability of flying-fox to

survive into the future with existing and increasing pressures from land clearing and urban development.

## **2. the interaction between the state and Commonwealth regulatory frameworks;**

Ku-ring-gai Council has and will continue to deal very successfully with the Office of Environment and Heritage on issues related to the management of the camp. To date a referral under the EBPC Act has not been required.

## **3. strategic approaches to managing species at a regional scale;**

Extensive evidence suggests that dispersal of GHFF from roosting sites is at best a temporary, expensive, and localized solution. GHFF are highly mobile and unpredictable species, and dispersal at any particular camp is highly likely to increase the issues faced by other residents either locally to the dispersed camp or residents within close proximity to other camps.

To further understand the use of dispersals as a management tool, the outcomes of 17 recent flying-fox dispersal attempts were systematically reviewed by Billie Roberts (PhD, School of Environment, Griffith University) and Dr Peggy Eby (behavioural ecologist and leading Australian flying-fox researcher) in June 2013, and a set of common outcomes were identified which should guide their use. This review identified that:

- in all 17 cases, dispersed flying-foxes did not abandon the local area;
- in 16 of the 17 cases, dispersals did not reduce the number of flying-foxes in a local area;
- dispersed flying-foxes did not move far (in approximately 63% of cases the flying-foxes only moved < 600 metres from the original site, contingent on the distribution of available vegetation. In 85% of cases, new camps were established nearby);
- in all cases, it was not possible to predict where replacement camps would form;
- conflict was often not resolved. In 71% of cases conflict was still being reported either at the original site or within the local area years after the initial dispersal actions;
- repeat dispersal actions were generally required (in all cases except extensive vegetation removal); and
- the financial costs of all dispersal attempts were high, ranging from tens of thousands to millions of dollars, for active dispersals (for example, using noise, smoke etc).

Dispersal is not a sustainable option. Dispersals intensify the impact on other communities or residents and increase the pressure on flying-fox. More long term, sustainable solutions must be prioritized and dispersal must only be considered in the most extreme circumstances.

## **4. opportunities to streamline the regulation of flying-fox management; and**

The appropriate management of flying-fox requires a regional or national perspective. Currently actions within camps require assessment under TSC Act and/or EPBC Act. Removal of this requirement has the potential to lead to camps being managed without a regional strategy which would have negative consequences for both the flying fox and communities.

- **the success or otherwise of management actions, such as dispersal of problematic flying-fox camps.**

Ku-ring-gai Council is concerned that GHFF dispersed from other camps will increase the numbers within the Gordon Camp, exacerbating the issues experienced by residents in Ku-ring-gai and at other camps. It is understood that the dispersal from the Royal Botanic Gardens did lead to increased numbers at camps across Sydney and it must be assumed that other dispersals will also contribute to issues at other camps.

Management options for camps should extend to legislative protection for reserves, such as voluntary conservation agreements and BioBanking. Councils should be required to indicate the proximity to camps, specifically nationally important camps in Local Environment Plans and section 149 certificates.

Below for the committee's consideration is an options paper which was prepared for the Ku-ring-gai camp. It provides some of the necessary considerations in dealing with communities impacted by bats.

I appreciate the opportunity to provide this submission and am free to discuss any details related to the submission or Ku-ring-gai Council's experience.

Regards,

**Jacob Sife**

Natural Areas Officer

Ku-ring-gai Council

**Table 1: Management options to nudge or disperse flying-foxes from properties adjacent to the Ku-ring-gai Flying-fox Reserve (KFFR), Gordon**

<b>Approach</b>	<b>Details</b>	<b>Social considerations</b>	<b>Environmental considerations</b>	<b>Financial considerations*</b>	<b>Potential for impact at other sites (known roosts and unknown locations)</b>	<b>Legal / management requirements^</b>	<b>Recommended</b>
<b>1</b>	Improving roost habitat in KFFR core, away from residents	Longer term (20 years+) strategy to reduce impacts (faecal, noise and smell) on residents living adjacent to the KFFR.  Will not reduce current impacts.	Longer term (20 years+) strategy to augment viable roost structure and to attract the flying-foxes to the core of the KFFR. Historical camp preference, prior to extensive defoliation.	Currently being implemented through Environmental Trust grant funding (\$76,000 over 3 years) and Environmental Levy funding (\$40,000 per annum).	Low	Not required	Yes
<b>2</b>	Private property tree removal	Reduced impacts of faecal drop, but other amenity impacts (noise and smell) only marginally mitigated.	Minimal loss of native vegetation.	Approximately \$800-\$3,000 (based on 1-5 trees removed)  Cost borne by private property owners	Low	Private property owners are required to abide by relevant legislation. Additional consideration will be given to the impact of the flying-foxes adjacent to the KFFR when assessing Tree Preservation Order (TPO) applications	Yes
<b>3a</b>	Selective roost tree removal / pruning within 10	Reduced impacts of faecal drop and smell, but other amenity	Minimal loss of native vegetation.	Unfunded and unresourced	Low	Section 91 (TSC Act 1995) licence application	Yes

	<p>metres of a dwelling wall, pool, deck or other living space in most affected areas (Taylor and Waugoola Streets)</p> <p>Up to 8 trees are marked for removal / pruning under this management scenario</p>	<p>impacts (noise) only marginally mitigated.</p> <p>Considered to reduce the most direct impacts of flying-foxes by creating a physical barrier of 10 metres between living spaces and flying-foxes.</p> <p>Creates precedence for selective roost tree removal / pruning should the flying-foxes move to other undesirable locations within the KFFR or LGA</p>		<p>Estimated at: - \$65,200 (initial costs) - \$6,000 per annum (maintenance costs)</p> <p>Excludes staff resource costs (licence application, planning and implementation)</p> <p>Expense of works attributed to night works and steep terrain.</p>		<p>Potential to require a variation to Conservation Agreement</p> <p>Consultation will need to be undertaken with all residents owning a property adjacent to the areas marked for tree removal to ensure concurrence (during previous strategic tree removal efforts some residents opposed tree removal adjacent to their property)</p>	
<b>3b</b>	<p>Selective roost tree removal / pruning within 10 metres from the KFFR boundary in most affected areas (Taylor and Waugoola Streets)</p> <p>Attachment A3 shows up to 22 trees are marked for removal / pruning under this management</p>	<p>Reduced impacts of faecal drop and smell, but other amenity impacts (noise, smell) only marginally mitigated.</p> <p>Considered to reduce the most direct impacts of flying-foxes by creating a physical barrier of 10m between living spaces and flying-foxes.</p> <p>Potential for flying-foxes</p>	Moderate loss of native vegetation.	<p>Unfunded and unresourced</p> <p>Estimated at: - \$162,000 (initial works) - \$15,000 per annum (maintenance costs)</p> <p>Expense of works attributed to night works and steep terrain.</p>	Medium	<p>Section 91 (TSC Act 1995) licence application Likely to require a variation to Conservation Agreement Consultation will need to be undertaken with all residents owning a property adjacent to the areas marked for strategic tree removal to ensure concurrence (during previous strategic tree</p>	Yes

	scenario (assumes all property owners concur with tree removal directly adjacent to their property boundary).	to relocate to other undesirable locations within the KFFR (for example, further down Waugoola Street), across the road or in other areas of the LGA and extend the area of impact and conflict.  Creates precedence for selective roost tree removal / pruning should the flying-foxes move to other undesirable locations within the KFFR or LGA		Excludes staff resource costs (licence application, planning and implementation)		removal efforts some residents opposed tree removal adjacent to their property)  May require Federal government approval	
4	Creation of 10 metre vegetation buffer zone (clearing of all vegetation over 3 metres in height from the KFFR boundary) in most affected areas (Taylor and Waugoola Streets)	Reduced impacts of faecal drop and smell, but other amenity impacts (noise) only marginally mitigated.  Considered to reduce the most direct impacts of flying-foxes by creating a physical barrier of 10 metres between living spaces and flying-foxes.  Not considered more desirable than selective roost tree removal /	Removal will require 4x4 all terrain excavator, which will cause large scale disturbance and ecological impacts on steep and erodible terrain (see further details in comments section of Council report).  Potential microclimate changes.	Unfunded and unresourced  Estimated at: - \$326,000 (initial costs) - \$25,000 per annum (maintenance) -\$120,000 (fencing and revegetation works) -\$20,000 (if SIS required)  Due to significant scale of	High	Section 91 (TSC Act 1995) licence application  Will require a variation to Conservation Agreement  Highly likely to trigger SIS and Federal government approval.	No

		<p>pruning due to the detrimental environmental impacts – the removal / pruning of only roost trees within a 10 metre zone will have the same effect as a vegetation buffer. Vegetation acts as a sound barrier – the reduction in noise by creating a physical barrier between living spaces and the flying-foxes may be counteracted by increases in noise caused by the removal of a vegetative sound barrier.</p> <p>Removal of vegetation can lead to flying-foxes congregating in more confined areas and displaying more aggressive (and noisy) behaviour, counteracting noise reductions through the creation of a buffer zone.</p> <p>Reduced community amenity / aesthetic</p>		<p>disturbance by machinery, area would have to be revegetated with groundcovers and low shrubs and fenced from wallaby predation.</p> <p>Excludes staff resource costs (licence application, planning, and implementation). Some land may be susceptible to erosion or landslip. Removal of trees on slopes greater than 18 degrees must be in accordance with conditions identified in a Geotechnical Engineer Assessment Report (additional cost).</p>				
--	--	--	--	---	--	--	--	--

		<p>value due to 'cleared land'</p> <p>Potential for cleared area to become a fly-out zone for flying-foxes.</p> <p>Potential for flying-foxes to relocate / scatter to (a number of) other undesirable locations within the KFFR (for example, further down Waugoola Street), across the road or in other areas of the LGA and extend the area of impact and conflict.</p> <p>Creates precedence for the creation of additional vegetation buffers should the flying-foxes move to other undesirable locations within the KFFR or LGA.</p>					
<b>5</b>	Creation of a 25 metre or 50 metre vegetation buffer zone (clearing of all vegetation over 3 metres in height from the KFFR boundary) in most	<p>Reduced impacts of faecal drop, smell and noise for most affected residents in Taylor and Waugoola Streets.</p> <p>Vegetation acts as a sound barrier – the</p>	Removal will require 4x4 all terrain excavator, which will cause large scale disturbance and ecological impacts on steep and erodible terrain (see	<p>Unfunded and unresourced</p> <p>At a minimum, the estimated costs for the creation of a 10 metre vegetation buffer can be</p>	High	<p>Section 91 (TSC Act 1995) licence application</p> <p>Will require a variation to Conservation Agreement</p>	No



	<p>affected areas (Taylor and Waugoola Streets)</p>	<p>reduction in noise by creating a physical barrier between living spaces and the flying-foxes may be counteracted by increases in noise caused by the removal of a vegetative sound barrier.</p> <p>Removal of vegetation can lead to flying-foxes congregating in more confined areas and displaying more aggressive (and noisy) behaviour, counteracting noise reductions through the creation of a buffer zone.</p> <p>Reduced community amenity / aesthetic value due to 'cleared land'</p> <p>Potential for cleared area to become a fly-out zone for flying-foxes.</p> <p>Highly likely that flying-foxes will relocate / scatter to (a number of)</p>	<p>further details in comments section of Council report).</p> <p>Access issues make tree / vegetation removal in most areas of the KFFR unfeasible.</p>	<p>multiplied by 2.5 (for a 25 metre buffer zone) and by 5 (for a 50 metre buffer zone), however costs are likely to well exceed these minimum costs due to the vegetation density and structure as you move further into the KFFR.</p> <p>Due to significant scale of disturbance by machinery, area would have to be revegetated with groundcovers and low shrubs and fenced from wallaby predation.</p> <p>Excludes staff resource costs (licence application, planning, and implementation).</p> <p>Some land may be susceptible to</p>		<p>Will trigger SIS and Federal government approval.</p> <p>Contravenes a range of Council planning documents and policies and NSW legislation.</p>	
--	---	--	--	---	--	---	--

		<p>other undesirable locations within the KFFR (for example, further down Waugoola Street), across the road or in other areas of the LGA and extend the area of impact and conflict.</p> <p>Creates precedence for the creation of additional vegetation buffers should the flying-foxes move to other undesirable locations within the KFFR or LGA.</p>		<p>erosion or landslip. Removal of trees on slopes greater than 18 degrees must be in accordance with conditions identified in a Geotechnical Engineer Assessment Report (additional cost).</p>			
<b>6</b>	<p>Use of noise to disperse and relocate flying-foxes from KFFR (odour, water, smoke and light not considered as noise dispersal deemed most effective)</p>	<p>Will alleviate impacts of faecal drop, smell and noise for most affected residents in Taylor and Waugoola Streets</p> <p>Highly uncertain where flying foxes will establish a new camp. Documented poor success rate.</p> <p>Highly likely that flying-foxes will relocate / scatter to (a number of) other undesirable</p>	<p>Likely to result in poor welfare outcomes for flying-foxes.</p> <p>No vegetation loss in KFFR</p>	<p>Unfunded and unresourced</p> <p>Costs of \$1 million and ongoing and \$3 million for dispersal programs involving a similar number of flying-foxes (Sydney Royal Botanic Gardens and Melbourne Royal Botanic Gardens respectively).</p>	Certain	<p>Section 91 (TSC Act 1995) licence application</p> <p>Will require a variation to Conservation Agreement</p> <p>Will trigger SIS and Federal government approval. Will require a community consultation period As was the case with</p>	No

		<p>locations within the KFFR (for example, further down Waugoola Street), across the road or in other areas of the LGA and extend the area of impact and conflict.</p> <p>Replacement of one source of noise disturbance for another – Royal Botanic Gardens in Sydney and Melbourne used noise for up to 75 minutes per day (at dawn and dusk) for lengthy periods of time (12 months and 6 months respectively) with ongoing monitoring and resources on-hand should the coordination of further dispersal efforts be necessary.</p> <p>Creates precedence for the creation of additional dispersal programs should the flying-foxes move to other undesirable locations within the KFFR or LGA.</p>		<p>High level of uncertainty limits ability to effectively budget.</p>		<p>the dispersal program at the Sydney Royal Botanic Gardens: (i) it is likely to require an expert panel to guide and oversee the dispersal program; (ii) Council may be required to work with other land managers to further re-locate flying-foxes if they relocate to other undesirable locations outside of the Ku-ring-gai LGA.</p>	
--	--	--	--	--	--	---	--

\* Financial costs were estimated at a meeting held on-site with contractor Plateau Tree Services on the 30/10/2014. Estimates provided by experienced company proprietor, Tony Plummer.

^ Legal requirements: advice provided by OEH staff at two site meetings (30/10/2014 and 19/11/2014)

References:

2014 - Nimbyism and Nature - whose backyard is it anyway? - book chapter from Scott, Kikken, Rose and Colyer

Eby and Roberts, 2014, Managing flying fox camps in New South Wales: background and recent experiences