

GRIFFITH CITY COUNCIL
MAYORAL MINUTE

MM01

SUBJECT: FLYING-FOX CAMP MANAGEMENT POLICY 2014: CONSULTATION DRAFT
FROM: John Dal Broi, Mayor

SUMMARY

Environment Minister Rob Stokes has launched a draft strategy to minimise the impacts of flying-fox camps surrounding populated areas.

The draft policy has the prime purpose of minimising health impacts of flying-fox camps on people. Given the difficulties experienced with flying foxes in Griffith earlier this year, the strategy potentially empowers land managers, primarily councils, to work with their communities to sustainably manage flying-fox camps.

The strategy strongly encourages councils and other land managers to prepare camp management plans for sites where the local community is affected. The State Government is taking a pragmatic approach to addressing the frustration that the community has felt and this policy will deliver better outcomes for people and for the species.

Flying-foxes remain protected and under the new policy land managers will be able to get a five year license to:

- * Create buffer zones by removing vegetation to create a separation from populated areas and to disturb animals at the boundary of the camp to encourage roosting away from human settlement;
- * Carry out camp disturbance or dispersal by clearing of vegetation or dispersal of animals by noise, water, smoke or light; and
- * Undertake camp management such as removal of trees that pose a health and safety risk, weed removal (including removal of noxious weeds), trimming of understorey vegetation and the planting of vegetation.

The Flying-fox Management Policy is now on public exhibition and can be viewed at:
<http://www.environment.nsw.gov.au/threatenedspecies/flyingfoxcamppol.htm>
(Attachment a)

Public exhibition for this draft policy is open until 1 December 2014. During this period members of the public are invited to comment on the new approach to managing the impacts of Flying-fox camps on communities.

An online form to comment on the plan is available at:
<https://engage.environment.nsw.gov.au/flyingfoxpolicy>

Submissions can be emailed to: flyingfox.policyreview@environment.nsw.gov.au

Written submissions can be posted to:
Flying-fox Camp management Policy Review
PO Box A290
Sydney South NSW 1232

RECOMMENDATION

Council write to the Environment Minister, the Hon Rob Stokes, to commend the formulation of the draft Flying-Fox Camp Management Policy 2014.

BACKGROUND

Flying-foxes play an important role in long-range pollination and seed dispersal of many plants. Loss of foraging and roosting habitat has meant that flying-foxes increasingly occur in camps in urban centres. The Flying Fox Camp Management Plan aims to minimise impacts on people who are in close proximity to camps.

There is ongoing concern that the very real impacts of flying fox camps such as noise; odour; sleep interruption; and droppings on private property, are not being adequately dealt with through the current approach. Although there has been concern expressed about exposure to viruses carried by flying-foxes, the risk is low.

Comments on the policy (closing 1 December 2014) will be considered in a final policy release.

The Policy strongly encourages land managers, particularly local councils, to prepare camp management plans for sites where the local community is affected. A Camp Management Plan explores a range of management options and encourages ongoing engagement with communities to achieve acceptable solutions.

Flying-foxes are still protected under legislation. This new policy provides greater flexibility to land managers and allows them to take a longer term approach to camp management through streamlining of licensing. Completing a Camp Management Plan template will allow land managers to be granted a five- year licence for most actions.

The Flying-fox Camp Management Policy 2014 differs from the 2007 policy in its focus on minimising the impacts of camps on people; its longer-term approach to camp management and streamlining of licensing; and its acknowledgement that camp dispersal may be a successful way of removing impacts on local communities.

OPTIONS

Other resolution as determined by Council.

STATUTORY IMPLICATIONS

a) Policy Implications

Not Applicable

b) Financial Implications

Any proposed Local Management Plan may require funding to carry out actions. For example lopping of trees. Funding would be built in to future budgets.

c) Legal/Statutory Implications

Not Applicable

CONSULTATION

Senior Management Team

STRATEGIC LINKS

a) Growth Strategy Plan

Not Applicable

b) Corporate/Business Plan

Not Applicable

ATTACHMENTS

(a) Flying-fox Camp Management Policy 2014: Consultation draft

Flying-fox Camp Management Policy 2014: Consultation draft

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Executive summary

Three species of flying-fox occur in New South Wales: the Grey-headed, Black and Little-red. NSW Health advises that the public should avoid direct contact with flying-foxes as there is always the possibility of being scratched or bitten and it leading to infection.

Additional health and amenity impacts also exist for people who are in close proximity to camps, including loss of sleep and noise impacts. Appropriate management of flying-fox camps to mitigate disease and health risk is necessary.

The overriding purpose of this policy is to minimise health impacts of flying-fox camps on people. The policy will empower land managers, primarily local councils, to work with their communities to manage flying-fox camps effectively.

This policy provides the framework within which the Office of Environment and Heritage (OEH) will make regulatory decisions. In particular, the policy will strongly encourage local councils and other land managers to prepare camp management plans for sites where the local community is affected.

Management of flying-foxes also requires recognition that, as native fauna, they are protected in NSW under the *National Parks and Wildlife Act 1974* (NPW Act) and, in the case of the Grey-headed Flying-fox, under the *Threatened Species Conservation Act 1995* (TSC Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth).

Flying-foxes are highly intelligent animals that are part of a complex and interdependent natural system. As long-range pollinators, they are critical for the survival of valuable forests. However, loss of foraging and roosting habitat has meant that flying-foxes increasingly occur in camps in urban centres.

Camp management plans will outline a set of camp management actions from low-impact activities- such as tree lopping to the creation and maintenance of buffers. Camp dispersal can be a successful way to remove impacts on local communities. Camp dispersal will be allowed in accordance with this policy and as part of an approved camp management plan.

Outside of urban camp management, shooting to scare or kill animals may be authorised for orchardists in rural and peri-urban NSW.

OEH will provide support for land managers to expedite the development of plans at priority sites.

The objectives of the Flying-fox Camp Management Policy 2014 are to:

- address the potential impacts of flying fox camps on human health
- minimise the impact of camps on local communities
- provide a balance between conservation of flying-foxes and their impacts on human settlements
- clarify roles and responsibilities for OEH, local councils and other land managers such as managers of Crown Lands
- provide options for land managers to obtain upfront five year licensing to improve flexibility in the management of flying-foxes
- enable land managers and other stakeholders to use a range of suitable management responses to sustainably manage flying-foxes
- require land managers to consider the behaviours, habitat and food requirements of flying-foxes when developing and implementing camp management plans

- enable long term conservation of flying-foxes in appropriate locations by encouraging land managers to establish and protect sufficient food supplies and roosting habitat.

This policy incorporates:

- policy objectives
- information on managing flying-foxes
- guidance on how to write a camp management plan to enable a longer-term approach to management
- how OEH will regulate flying-fox management
- respective roles and responsibilities.

This policy is supported by additional resources addressing management options including disturbance, licensing and flying-fox ecology. Case studies of camp management and information on health issues are also on the OEH website – visit

www.environment.nsw.gov.au.

1. Introduction

This document sets out the framework for managing flying-fox populations in NSW. It is intended to provide clear and concise information about the conservation status of flying-foxes, set out the legislative and licensing rules that apply, and provide advice and guidance to assist the community, land managers and government to work together to manage flying-fox camps.

Three species of flying-fox occur in NSW: the Grey-headed, Black and Little-red. All three species can co-roost with each other, and flying-fox camps can contain any one or a combination of the three species.

All three species are protected in NSW, as are all native animals, under the *National Parks and Wildlife Act 1974* (NPW Act). The Grey-headed Flying-fox is also listed as vulnerable to extinction under the *Threatened Species Conservation Act 1995* (TSC Act). This means licences may be needed to harm all three species or to undertake actions in or near camps that are likely to harm Grey-headed Flying-foxes (see Section 7 on streamlining legislative requirements).



Grey-headed Flying-fox

Protected under the National Parks and Wildlife Act 1974 in NSW Listed

as 'vulnerable' under the Threatened Species Conservation Act 1995 in NSW

Listed as 'vulnerable' under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999



Black Flying-fox

Protected under the National Parks and Wildlife Act 1974 in NSW



Little-red Flying-fox

Protected under the National Parks and Wildlife Act 1974 in NSW

Flying-foxes play an important role in pollination and seed dispersal for many plants. Each species is considered a single population across its range.

Flying-foxes can be unpredictable and exhibit complex behaviour. They often travel at night, and congregate during the day in flying-fox 'camps' where they rest and socialise, and in which they may give birth and care for their young. Each flying-fox camp is unique in its location, characteristics and community, and therefore requires a site-specific response to management.

As at September 2014, there are some 262 Grey-headed Flying-fox camps in NSW that vary in size from a handful of individuals to approximately 35,000 individual animals. The size of the day time population will change throughout the year, depending on food sources. Individual animals may return to the same roost site seasonally. In times of food scarcity,

flying-foxes will adapt their diets. This means that they can congregate very close to homes and generate health risks, nuisance and damage to significant vegetation.

The NSW Government is collaborating with the Australian, Queensland, Victorian, South Australian and ACT governments and the CSIRO to assess Grey-headed Flying-fox population numbers and distribution. In 2013, the National Flying-fox Monitoring Program (NFFMP) commenced. It establishes a reliable benchmark on the size of flying-fox populations and will monitor population trends in subsequent years as well as population dynamics. It involves quarterly counts at all known daytime roost sites of Grey-headed Flying-foxes across the species' national range, over at least four years.

The primary focus of the census is on Grey-headed Flying-foxes, with counts also taking into account numbers of Black and Little-red Flying-foxes where they occur with or near Grey-headed Flying-fox camps.

National results from the census are available on the Australian Government's Environment website. These results will also inform future decisions on the continued listing of Grey-headed Flying-foxes under the TSC Act.

This work will enable governments to better understand the conservation status of these species and enhance management options.

2. Policy objectives for flying-fox camp management

The objectives of the 2014 Flying-fox Camp Management Policy are to:

- address the potential impacts of flying fox camps on human health
- minimise the impact of camps on local communities
- provide a balance between conservation of flying-foxes and their impacts on human settlements
- clarify roles and responsibilities for OEH, local councils and other land managers such as managers of Crown Lands
- provide options for land managers to obtain upfront 5 year licensing to improve flexibility in the management of flying-foxes
- enable land managers and other stakeholders to use a range of suitable management responses to sustainably manage flying-foxes
- require land managers to consider the behaviours, habitat and food requirements of flying-foxes when developing and implementing camp management plans
- enable long term conservation of flying-foxes in appropriate locations by encouraging land managers to establish and protect sufficient food supplies and roosting habitat.

3. Managing flying-foxes

Flying-foxes are part of a complex and interdependent natural system, and their behaviours are complex and hard to predict. This presents difficulties for communities and land managers. For example, flying-foxes will roost in non-native trees, including invasive weeds. Their response to management intervention can be unpredictable. In particular, while our level of knowledge is improving all the time, there may be undesirable impacts arising from the dispersal of a camp.

Where flying-fox camps are in close proximity to urban settlements and are causing issues through noise, odour, prevalence of flying-fox droppings, or health impacts (including mental health), proactive management of camps is recommended.

In recognition of these impacts, and to streamline regulatory approaches that are permissible within the current legislative framework, OEH has developed a management approach on which a hierarchy of options is based on a principle of using the lowest form of intervention required. This approach should be incorporated into a camp management plan, as outlined in Section 4.

This approach requires:

- routine camp management actions (Level 1 actions)
- creation of buffers (Level 2 actions)
- camp disturbance or dispersal (Level 3 actions).

Routine camp management actions (Level 1 actions)

Routine camp management actions should be clearly identified as Level 1 camp management actions in the camp management plan.

These include:

- removal of tree limbs or whole trees that pose a genuine health and safety risk, as determined by a qualified arborist
- weed removal, including removal of noxious weeds under the *Noxious Weeds Act 1993* or species listed as undesirable in any relevant Tree Preservation Order
- trimming of understorey vegetation or the planting of vegetation
- minor habitat augmentation for the benefit of the roosting animals
- mowing of grass and similar grounds-keeping actions
- application of mulch or removal of leaf litter or other material on the ground.

Creation of buffers (Level 2 actions)

Creation of buffers can be effective as management actions to nudge flying-fox populations away from urban settlements. The intention is to create a physical or visual separation from the camp and actively manage vegetation structure and composition to discourage flying-foxes from roosting close to built areas.

Actions include:

- clearing or trimming canopy trees at the camp boundary to create a buffer
- disturbing animals at the boundary of the camp to encourage roosting away from human settlement.

Camp disturbance or dispersal (Level 3 actions)

Camp dispersal is an action that aims to intentionally move entire camps from one location to another by clearing vegetation or dispersing animals through disturbance by noise, water, smoke or light.

Camp dispersal can be a successful way to remove impacts on local communities and is supported by this policy. However, camp dispersal is challenging for a number of reasons:

- it can be expensive and can have uncertain outcomes.
- dispersal may result in relocating the animals rather than resolving the issue. Past disturbances in Australia have sometimes failed to remove flying-foxes from the area or have resulted in flying-foxes relocating to other nearby areas where similar community impacts have occurred.
- attempts to disperse camps are often contentious.
- disturbing flying-foxes may have an adverse impact on animal health.
- the cumulative impacts of flying-fox camp dispersals may negatively impact on the conservation of the species and the ecosystem services flying-foxes provide.

Dispersal actions need to be carefully planned and consider climatic and seasonal conditions. Land managers should consider appointing a coordinator and working with other flying-fox experts. Dispersal is not recommended:

- from the time when the resident female flying-foxes are heavily pregnant until the young can fly independently (generally between August and May)
- when uncharacteristic seasonal climatic conditions have resulted in a large proportion of the NSW flying-fox population temporarily occurring in one or a few local camps
- when daytime temperatures are extremely high or expected to be extremely high (over 38 degrees Celsius)
- when it is likely that, due to proximity, flying-foxes disturbed from a camp will join camps in nearby towns or form 'satellite' camps.

Camp management plans will generally also include other camp-specific triggers for when dispersal activities must be suspended or terminated. These triggers will relate to effectiveness and animal welfare.

Is shooting of flying-foxes allowed?

Shooting is not appropriate for managing flying-fox camps in towns and urban areas. Discharge of firearms for the purpose of animal control in public urban areas would present significant public safety risks and would be unlikely to be permitted pursuant to the *Firearms Act 1996* or section 96G of the *Crimes Act 1900*. In addition, the potential for injured flying-foxes or abandoned juveniles to be dispersed in urban areas as a result of urban culling presents an unacceptable public health risk.

Shooting may however be approved in rural and peri-urban areas in some circumstances for use by orchardists to scare or kill animals. The 2009 report of the NSW Flying-fox Licensing Review Panel (DECC 2009), an independent review panel, found shooting to be effective in reducing levels of crop damage in certain circumstances. However, when larger numbers of flying-foxes visit orchards, shooting may prove ineffective. The most cost-effective long-term crop protection strategies were found to require netting.

From July 2015, shooting licenses will only be issued in special circumstances. Regulation of shooting in such circumstances is guided by the NSW Government's *Policy and Procedural Guidelines for the Mitigation of Commercial Crop Damage by Flying-Foxes* (2014).

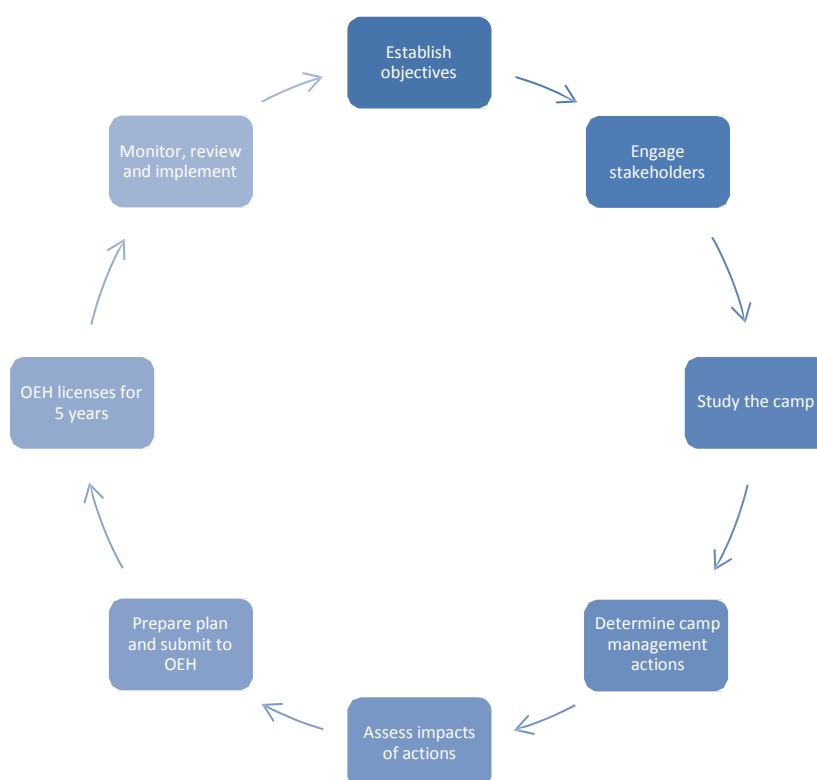
4. How to write a camp management plan

Camp management plans are the essential tool for managing flying-foxes. They provide the means of delivering the objectives of this policy. Together with upfront assessment of licence applications, this proactive approach will streamline the current cumbersome regulatory approach which requires OEH to determine licence applications from a land manager when a management issue has already arisen.

Camp management plans are generally prepared by local government or public authorities who manage land, and set out the short-term, medium-term and long-term strategy for the management of specific flying-fox camps. They provide strategic guidance on managing flying-fox camps that is consistent with relevant policy and legislative provisions. Camp management plans should consider the full range of available options, following the hierarchy of options outlined in Section 3, and seek to balance community concerns with environmental outcomes and neighbourhood amenity. The camp management plan should be aligned with the community engagement strategy, and be publicly exhibited.

The suggested process or approach for developing a camp management plan is outlined in Figure 1.

Figure 1: Key steps for developing a camp management plan



A camp management plan template is available on www.environment.nsw.gov.au/threatenedspecies/flyingfoxcampopol.htm. This template has been designed to enable camp management plans to provide for a longer term approach to management of flying-fox camps through integrating management and licensing considerations.

The template requires the following sections to be included as part of the camp management plan:

- **overview** – includes establishing objectives and the purpose and intention of the plan
- **context** – provides information on the camp area, history of the camp, classification of land, management responses to date and key stakeholders
- **community considerations** – identifies issues that have led to the plan being developed, including specific impacts of the camp on the local community which may include health, amenity and safety concerns relating to the camp
- **ecological considerations** – provides information on flying-fox ecology
- **identifying camp management actions** - identifies available camp management actions and categorises them as Level 1 (routine camp management actions), 2 (creation of buffers) or 3 (camp disturbance or dispersal)
- **assessment of impacts** – considers licensing requirements and matters to be considered when assessing a five-year licence application
- **implementation** – outlines how the camp management plan will be implemented including roles and responsibilities, planning for actions, timing, costs, monitoring and adaptive management and the plan review period.

To allow for a streamlined approach to licensing, the camp management plan template also contains an application form for any necessary statutory approvals that may be required (see Section 7).

5. Engaging the community

OEH encourages community engagement and education as an integral part of a land manager's response to flying-fox conflicts.

Early and effective community engagement and education have benefits for both communities and land managers. These benefits include improving understanding of the behaviour of flying-foxes, the ecological role they play and what needs to be considered when managing a population. Effective engagement and education are necessary to ensure that a solution acceptable to the community is developed. Without community engagement and support it will be difficult for a land manager to effectively manage this environmental issue.

Engagement encompasses a wide variety of interactions, both formal and informal, and can be as varied as information sharing or encouraging collaboration in decision making processes.

Engagement with stakeholders and communities should be tailored to the particular circumstances. OEH can advise on the preparation and implementation of a community engagement and education strategy in partnership with other agencies or organisations that share responsibility for addressing community needs and concerns.

See www.environment.nsw.gov.au for additional resources on community engagement and references for case studies.

6. Other issues to consider

Recognise historic usage of sites in land use planning

Most flying-fox camps are not occupied continuously. The location of camp sites can also change from year to year. It is recommended that land managers consider the location of historically and currently occupied camps or potential flying-fox camps early in strategic planning processes, particularly when planning future residential areas, schools or other sensitive infrastructure.

When planning the development of greenfield areas, the presence of existing flying-fox camps should be recognised through local environmental planning controls (e.g. appropriate land use zoning and development control plans). This should include ensuring that new development proposals have appropriate buffers and that any additional hazard reduction activities that become necessary will be able to occur without being unduly impacted on by existing camp locations.

Sites that have the potential to function as flying-fox maternity camps should be a priority for conservation. Where possible, efforts should be made to revegetate and regenerate these areas.

Adopting a long-term objective to support habitat creation

The long term vision of the policy is to help ensure the conservation of flying-foxes by enabling land managers to establish and protect sufficient and appropriately located food supplies and roosting habitat while avoiding undesirable interactions with the community.

Due to the loss of foraging and roosting habitat, flying-foxes increasingly occur in orchards and camps in urban centres which can lead to conflict with people. Many of these conflicts occur irregularly, with little or no warning, and are often extreme. The irregular and intense nature of these conflicts generates frustration and can result in ineffective short-term and reactionary management approaches.

Longer-term strategies are needed to reduce the dependency of flying-foxes on resources in urban areas and orchards by conserving and establishing flying-fox habitat elsewhere.

Research into appropriate site and species selection to establish alternative habitat for flying-foxes will commence in early 2015 and will include a map to identify priority areas for habitat creation. Increasing habitat in these locations will enhance the conservation of flying-foxes while avoiding undesirable interactions with the community.

7. How will OEH regulate flying-foxes?

OEH will streamline licensing of flying-fox camp management actions when a camp management plan is prepared in accordance with the template available on www.environment.nsw.gov.au/threatenedspecies/flyingfoxcampplan.htm. Approvals will be issued for five years. This will avoid land managers having to repeatedly seek approval from the State Government for camp management.

To obtain approval, land managers will submit their completed camp management plan to OEH. OEH will then guide the applicant through the necessary process for licensing. These statutory processes are set out in Appendix A.

Flying-fox camp management will be licensed in one of two ways:

- where only Level 1 and Level 2 camp management actions are proposed in a camp management plan, the actions will normally be able to be certified by OEH under section 95(2) of the *Threatened Species Conservation Act 1995*
- where Level 3 (camp disturbance or dispersal) activities are also proposed, the actions will generally require approval by OEH under section 91 of the *Threatened Species Conservation Act 1995*.

Where Level 1 and Level 2 actions are proposed in a camp management plan, a licensing decision will be made within twenty working days of application. Where Level 3 actions are proposed in a camp management plan, a licensing decision will be made within forty working days of application (excluding statutory public consultation periods).

Note that a land manager may apply for a licence under section 91 of the *Threatened Species Conservation Act 1995* to disturb or disperse a flying fox camp before a camp management plan has been completed if there is an immediate and significant issue.

Note that in NSW generally all three species roost together. Approvals will be prepared to permit management of all three species collectively.

8. Are other approvals required?

Camp management actions undertaken in or near camps of Grey-headed Flying-foxes may also require approval under Australian Government legislation.

The NSW Government is continuing to work closely with the Australian Government to develop a one-stop shop for environmental approvals. For more information on the Commonwealth approval regime visit:

www.environment.gov.au/biodiversity/threatened/species/flying-fox-law.

9. Roles and responsibilities

Governments, land managers and communities all have a role to play in managing flying-fox populations and need to work together to develop management approaches that are acceptable to the community.

The following table outlines the key roles for land managers and local government, OEH, the Commonwealth and the community in working on flying-fox issues.

Public land managers and local councils	<ul style="list-style-type: none">• Prepare a camp management plan using the template provided for any contentious flying-fox camps.• Understand how different parts of the community perceive flying-fox issues and design fit-for-purpose approaches to community engagement.• Comply with regulations and legislation.
OEH	<ul style="list-style-type: none">• Set statewide policy objectives and approach for managing flying-foxes.• Ensure camp management plans are consistent with legislative requirements under NSW threatened species legislation.• Issue a five-year licence for camp management actions under approved camp management plans.• Provide ongoing assistance to implement statewide approach in a consistent way.• Work with Australian Government to streamline regulatory approach.
Australian Government	<ul style="list-style-type: none">• Provide advice and approvals for management interventions impacting on Grey-headed Flying-foxes in accordance with the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>.• Work with NSW to streamline regulatory approach.
Community	<ul style="list-style-type: none">• Contribute to decisions and participate in engagement activities offered by land managers and local government.

Seek assistance from OEH if required

OEH supports local government, public authority land managers and individual land holders to select the appropriate level of intervention for their situation. As outlined in Section 4, activities may be low impact such as adapting to the camp, more active in terms of modifying vegetation and habitat, or targeted at disturbing or dispersing populations in certain circumstances.

When required, OEH will assign a support officer to advise on statutory requirements and assist land managers or local governments in developing flying-fox camp management plans and community engagement plans.

OEH also coordinates NSW's involvement in the National Flying-fox Monitoring Program, which entails coordination of quarterly census counts of flying-fox populations in February, May, August and November each year. The results of the census are used to support research into the ecology of flying-foxes including habitat selection and population dynamics.

Human health and safety has to come first. While risks are very low, OEH strongly recommends that people avoid contact with and handling of any flying-fox. If someone is bitten or scratched they should wash the wound, apply antiseptic and seek medical advice immediately. A post-exposure vaccine can be administered, and is 100% effective if administered early. OEH will identify any emerging issues in relation to health and safety and will consult with management authorities to develop risk reduction strategies.

Additional resources

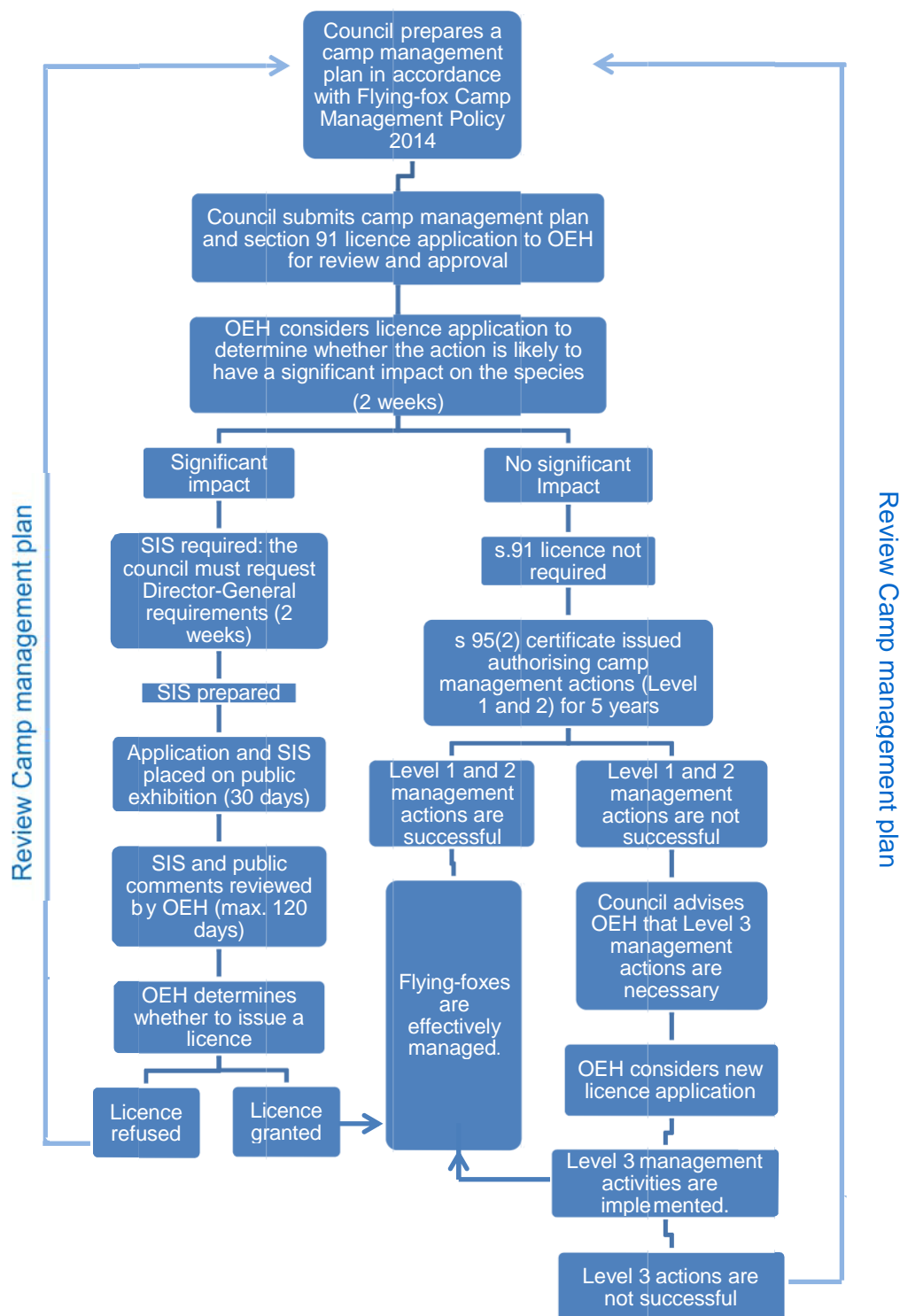
Detailed advice and guidance on preparing a Camp management plan is provided in the camp management plan template.

Should land managers require support in selecting the right approach for their situation, local OEH contact details are provided on www.environment.nsw.gov.au.

This policy is supported also by additional resources addressing management options (including camp disturbance), licensing and flying-fox ecology. There are case studies of camp management and health issues on the OEH website – www.environment.nsw.gov.au.

Appendices

Appendix A – Process and timeframe for flying-fox camp management actions



Appendix B – Standard conditions for flying-fox management approvals

Some conditions and restrictions will apply as part of licensing. Typical examples of licence conditions that will be applied include:

- For all plans:
 - actions are to be undertaken in accordance with the description provided in the approved camp management plan
 - care should be taken to avoid incidental harm to flying-foxes present whilst camp management actions are undertaken.
- Where creation of buffers is proposed, particular conditions are likely to include:
 - pruning or removing of flying-fox roosting habitat should occur at night or at other times when the flying-fox camp is vacant
 - any tree lopping, trimming or removal of trees is undertaken under the supervision of a suitably qualified arborist.
- Where dispersal is proposed, particular conditions are likely to include:
 - population counts of surrounding flying-fox camps should be undertaken immediately prior to camp dispersal or disturbance being undertaken and continue at least once a week whilst actions are undertaken
 - dispersal activities should not be undertaken when the resident female flying-foxes are heavily pregnant and until the young can fly independently
 - dispersal activities should not be undertaken when daytime temperatures are extremely high or expected to be extremely high (over 38 degrees Celsius).

Appendix C – Case studies

Case study: Creation of buffers at Kareela Reserve, Sutherland

A Grey-headed Flying-fox camp has existed in Kareela Reserve, Sutherland since 2006 with numbers varying between 500 and 20,000. The camp is adjacent to residential areas as well as three schools that cater for students with special needs. In addition to noise and odour concerns, there were serious health concerns regarding the possibility of disabled children coming into contact with dead or injured flying-foxes.

In February 2014, Sutherland Shire Council adopted the Kareela Grey-headed Flying-fox Plan of Management (PoM) that comprised a three-step approach to managing the impacts of the flying-foxes on the surrounding community. The steps were:

1. Taking actions to manage interactions with flying-foxes, including community education (including education about flying-fox contact and health risks); installing bat-safe netting over school play yards; and planting screening and fragrant vegetation that was not suitable for Grey-headed Flying-fox roosting.
2. Clearing roosting and other vegetation to create a buffer between the camp and adjoining properties.
3. If Steps 1 and 2 had failed to sufficiently reduce the impact on the adjoining residents and schools, an application would have been lodged seeking approval to disperse the camp.

OEH worked closely with Sutherland Shire Council in the preparation of the PoM and the subsequent approval of a licence application under the TSC Act to create a 20-metre buffer (Step 2 above) by removing vegetation. The action did not require approval from the Commonwealth Department of the Environment as it was not deemed to be a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999*.

OEH's approval required the work to be completed before the end of August 2014, to avoid unreasonable disturbance to the flying-foxes during the period when the females were heavily pregnant, birthing or have dependent young. The works were completed within two weeks. A Grey-headed Flying-fox expert, WIRES and OEH staff were on site during the clearing to ensure the impact on the animals was minimised. There were no reports of harm to the flying-foxes during the creation of the buffer.

The result of the works was that the Grey-headed Flying-foxes moved further into the middle of the reserve and away from the residents and schools.

Case study: Relocation of Grey-headed Flying-foxes from Albury Botanic Gardens

In November 2013, several hundred Grey-headed Flying-foxes began roosting in Albury Botanic Gardens. It was the first time the animals had roosted at this location on an ongoing basis, though a seasonal camp was known from the nearby Murray River. A smaller number of Little-red flying-foxes later joined the camp. The small size of the camp meant little damage to trees occurred and activities in the gardens were largely unaffected.

Initially, Albury City Council adopted a wait-and-see approach to the camp. OEH provided advice to the council on managing bat/visitor interactions. An increase in the size of the camp resulted in substantial impacts on heritage-listed trees, and closure of parts of the gardens.

Albury City Council decided to relocate the camp and engaged a qualified and experienced consultant to advise them on appropriate strategies. The Grey-headed Flying-foxes roosting in the gardens had pups, which meant relocation could not be attempted until these were independent.

A proposal to relocate flying-foxes from the Albury Botanic Gardens was prepared and a section 91 licence application was lodged with OEH. This was approved on 9 May 2014. OEH considered the availability of suitable alternative roosting sites nearby, including an existing seasonal camp.

The approval permitted the council to undertake actions for a number of years to manage any return of flying-foxes in subsequent seasons. The relocation was overseen by a steering committee consisting of Albury City Council, OEH, a veterinary surgeon and WIRES.

Over two days council staff using recommended relocation techniques moved the flying-foxes out of the gardens into nearby forest adjoining the Murray River. The relocation techniques involved generating noise using, variously, an athletic starter's pistol, footy hand clappers, a megaphone siren, and banging of metal bind lids and other metal objects. The flying-foxes were subsequently nudged along the river to a suitable site for a long-term camp.

This camp is under the care and control of Albury City Council and is currently occupied by Grey-headed Flying-foxes.