

FLYING FOX COLONY MANAGEMENT

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1. “State of Play”

1.1 What do we know?

- ❖ Flying foxes are of critical importance to survival of forests and remnant habitat in southeast Queensland.
- ❖ Their significance may be of increased importance in settled areas due to fragmentation of habitat - their ability to fly large distances when foraging.
- ❖ Urban colonies can cause conflict in local communities.
- ❖ Dispersal of urban flying fox camps has been attempted in some areas, with little success or positive environmental outcome. Dispersals are extremely expensive, with costs being borne by the local authority. The long-term ecological implications of such activities are as yet unknown.
- ❖ There are many urban colonies that live in relative harmony with local communities. Holistic management of colonies with a strong community engagement element have been successful in providing for conservation of flying foxes through on ground works, educational efforts and vegetation management.
- ❖ Some flying foxes can carry Australian Bat Lyssavirus, a potentially fatal disease in humans, transmitted only through deep bites or scratches.
- ❖ Colonies typically consist of a combination of three species: black flying fox (*Pteropus alecto*), grey-headed flying fox (*Pteropus poliocephalus*) and little red flying fox (*Pteropus scapulatus*).
- ❖ The grey-headed flying fox is classified as ‘vulnerable’ under the *Environment Protection and Biodiversity Conservation Act 1999*, and thus has management implications under this legislation. Its status is currently being reviewed under the *Queensland Nature Conservation Act 1992*.
- ❖ The little red flying fox is a nomadic species that follows the flowering of native blossom. With a widespread distribution in Australia, it is a temporary occupant of camps, and often the cause for complaint upon arrival as they generally move in extremely large groups.
- ❖ Threats to flying foxes in settled areas include habitat destruction, weed invasion of colonies, power lines, barbed wire & culling.
- ❖ In the past, crop growers have been issued with permits to cull limited numbers of flying foxes. This is becoming less frequent, especially with the banning of electric grids as a control measure in recent years and as it becomes apparent that numbers of animals are declining.
- ❖ Relocations of urban camps are commonly suggested as management solutions by community members. Through revision of relocation attempts throughout Australia, it is evident that they are largely unsuccessful, exceptionally costly and have animal welfare concerns. Singleton Shire and Melbourne City are examples.

1.2 Current Issues/Knowledge Gaps

- ❖ Environmental Protection Agency/Queensland Parks and Wildlife Service is currently drafting a conservation plan for flying foxes in Queensland. This will be subordinate legislation under the *Nature Conservation Act 1992*.
- ❖ Increasing inhabitancy of little red flying foxes in coastal areas has been observed in recent years. This presents the issue of increasing the human wildlife interface and notable rises in complaints from members of the public. The reason for this ecological change is unknown,

but it is assumed it is because of land clearing throughout the traditional range of the species.

- ❖ Inconsistent management approaches to flying fox colonies, and inappropriate community engagement elements in active management of flying fox habitats and conflicts. The best outcomes have been achieved when all affected stakeholders are engaged, not just the aggrieved. Such approaches have resulted in increased support of management actions, and general acceptance of outcomes.
- ❖ Role of flying foxes in surrounding vegetation should be considered when managing urban colonies. Given the species ability to fly large distances, the implications of management actions can be further a field from the colony proper. In urban areas, colonies can occur in isolated remnants of low quality, but significant habitats are within the flying foxes range. For example, Tooan Tooan Creek at Hervey Bay occurs on the main, highly populated esplanade, yet Fraser Island is a feeding ground for the camp occupants.
- ❖ Balancing the views of the broader community in management of urban camps, particularly through government policy.
- ❖ Adequate protection of both roosting and feeding sites. Roosting sites can be temporary, maternal or non-maternal, depending on the species, and this is also dynamic.
- ❖ General public perception is poor, and understanding of flying foxes is limited.
- ❖ There is potential for tourism in and around colonies. Wildlife Preservation Society of Queensland regularly run boat cruises as fund raisers. Most urban colonies have large visitations, despite lack of interpretive facilities or promotion.

1.3 What is accessible?

- ❖ Good general texts, such as “Flying foxes, Fruit and Blossom Bats of Australia” by Leslie Hall & Greg Richards.
- ❖ Websites with general information on flying foxes
- ❖ “Protest” websites, such as those opposed to culling of flying foxes by orchardists.
- ❖ Non-government organisations bat conservation websites, particularly interstate.
- ❖ Recommendations for management from conservation groups.

1.4 What is not so easily accessible?

- ❖ Case studies of successful (or non successful) flying fox management involving community engagement, such as Ku-ring-gai Bat Conservation Society.
- ❖ Local and State Government documentation on flying-fox management practices and processes.
- ❖ Case studies on attempted relocations of bat colonies.
- ❖ Latest research.
- ❖ Information on community attitudes to flying foxes.

1.5 People involved in flying fox colony management research

- ❖ Tolga Bat Rescue & Research - Far North Queensland - Habitats and camp dispersals
- ❖ University of Queensland - Flying foxes & disturbance, flying fox reproduction, Feeding habits/pollination.
- ❖ James Cook University - Genetics
- ❖ EPA & Environment Australia - Conduct annual grey-headed flying fox counts.
- ❖ Cape Tribulation Research Station

1.6 Adaptive management

- ❖ Management planning decisions need to be based on the application of best available information and experience. This should include the current established understanding of the species ecology and interactions with surrounding ecosystems. The precautionary principle should be implemented given the observed decline in numbers.

- ❖ Management options need to be developed that explore the full range of opportunities that current information and experience provide, with a focus on community engagement and identifying opportunities to increase the value of flying foxes to stakeholders. Links to the ecotourism industry could present opportunities for adaptive management.
- ❖ Management actions need to be selected with an emphasis on clear links to management objectives and defined outcomes.
- ❖ Management actions should be designed to also address knowledge gaps and facilitate the testing of existing assumptions on management best practice.
- ❖ Management actions need to be linked to a regular assessment of action performance.
- ❖ Assessment of management success needs to be focussed on triggering an improvement in management actions undertaken and the overall management strategy. This would involve engaging key stakeholders across the wide range of the flying foxes being managed, and as a result could encompass several local government areas or even states.

2. Information Sources

2.1 Documents

- ❖ “Flying Foxes, Fruit and Blossom Bats” by Leslie Hall & Greg Richards, UNSW Press
- ❖ Draft Flying Fox Camp Management Policy (NSW Department of Environment and Conservation) Contact - Dianne Mackey NSW DEC, Locked Bag 914, Coffs Harbour NSW 2450.
- ❖ QCC/WWF Urban Flying Fox Conservation and Management Workshop Outcomes - Contact - Carol Booth & Nikki Marcus - WWF Australia Level 13, 235 Jones Street, Ultimo NSW 2001.
- ❖ Site Management Plan for Grey-Headed Flying Fox Camp Coffs Harbour - New South Wales National Parks & Wildlife Service - Contact Martin Smith martin.smith@npws.nsw.gov.au
- ❖ Project documents - Queensland Parks & Wildlife Service Woodend Flying Fox Habitat Rehabilitation Project - Kate Kraschnefski Kate.Kraschnefski@epa.qld.gov.au
- ❖ Project Documents - Tooan Tooan Creek Flying Fox Management - Hervey Bay City Council - Sharyn French sharynf@herveybay.qld.gov.au

2.2 Websites

Australasian Bat Society - www.batcall.csu.edu.au/batcall/abs/abs1.html

Environmental Protection Agency - www.epa.qld.gov.au

Ku-ring-gai Bat Conservation Society Inc. - www.sydneybats.org.au

Cape Tribulation Research Station - <http://www.austrop.org.au/>

Flying fox group of Cabramatta -

<http://www.fairfieldcity.nsw.gov.au/default.asp?iSubCatID=272&iNavCatID=156>