

Nature Conservation Council of N.S.W. FLYING-FOXES POLICY

Amended in 2010

The Nature Conservation Council of New South Wales (NCC) recognises that increasing human population, increasing urbanisation and development in rural areas will result in removal of more flying-fox habitat and increased human-bat conflict. These will lead to increased threats of colony dispersals and deliberate killing of bats at orchards thereby further impacting on viability of flying-fox populations and particularly the grey-headed flying-fox a listed threatened species.

NCC believes identification and protection of important flying-fox habitat, better public education, and implementation of stronger legislation (particularly regarding crop protection and camp management) are essential in the recovery of threatened flying-fox species and in the maintenance of the ecological services they provide.

The policy covers:

- 1) The conservation, status, monitoring and recovery of the flying-fox population;
- 2) The conservation of flying-fox camps;
- 3) The interaction of flying-foxes with commercial and private horticulture;
- 4) Education of the community;
- 5) Reducing other causes of flying-fox mortality.

1. CONSERVATION STATUS, MONITORING AND RECOVERY

The Nature Conservation Council of NSW:

- 1.1 supports the listing of the Grey-headed Flying-fox as a vulnerable species in NSW and by the Commonwealth.
- 1.2 urges the NSW and Commonwealth Governments to provide for effective, scientifically valid monitoring of the grey-headed flying-fox population, such as the synchronised evening 'flyout counts'. [This method of assessing population abundance was accepted by both the Commonwealth and NSW Scientific Committees]
- 1.3 urges the Commonwealth Government to adopt the National Recovery Plan for the Grey-headed Flying-fox, first drafted in 2006 and made available in draft form for public comment in late 2009.
- 1.4 encourages funding of research and public reporting of research findings on all three species of flying-fox and their ecological roles by the Commonwealth and NSW Governments and universities.

- 1.5 promotes the conservation on both public and private lands of native vegetation communities which provide foraging habitat (see list of native diet species in Appendix 2) for flying-foxes, especially the grey-headed flying-fox.
- 1.6 supports and encourages the incorporation of locally native flying-fox diet species into regeneration and replanting plans / programs for restoring native vegetation on rural lands especially in the coastal zone and western slopes.
- 1.7 supports the conservation of locally native flying-fox diet species in urban areas in Local Environment Plans (LEPs) and other mechanisms.
- 1.8 will be represented on the NSW Flying-fox Consultative Committee.

2. CONSERVATION OF CAMPS

The Nature Conservation Council of NSW:

- 2.1 supports the conservation of flying-fox camps because of their importance in the survival and recovery of protected and threatened flying-fox species and for the maintenance of ecosystem processes.
- 2.2 recommends that the NSW Government maintain and annually update the database of occupied and historically used flying-fox camps.
- 2.3 recommends that those camps in national parks or nature reserves are:
 - a) identified in management plans;
 - b) protected from disturbance by appropriate management policies and actions;
 - c) monitored for species and abundance; and
 - d) the native vegetation regenerated if necessary to maintain the roosting habitat.
- 2.4 recommends that camps are identified as an environmental asset on Bush Fire Risk Management Plans and are protected from bushfire and smoke effects.
- 2.5 recommends that the area reserved for each flying-fox camp is of a size sufficient to cater for periodic increases in the number of flying-foxes due to local flowering events and for recovery of canopy vegetation
- 2.6 recommends that Local Government Areas (LGAs) record the location of flying-fox camps and give them planning protection in the Local Environment Plans using mechanisms such as 'Environmentally Sensitive Areas'.

- 2.7 strongly urges that land adjacent to flying-fox camps is not sold, subdivided or developed for residential areas or schools or used for active sports, concerts etc.
- 2.8 supports the retention of an adequate buffer zone surrounding each flying-fox camp to avoid the conflict between people and flying-foxes which is detrimental to communities, Local Councils, DECCW and flying-foxes
- 2.9 recommends that a Management Plan for each camp and buffer zone be prepared with full public consultation.
- 2.10 urges the NSW Government to require that camps on privately-owned rural land are not disturbed and, through the Recovery Planning process for the threatened species, such camps are fully protected.
- 2.11 opposes attempts to move flying-fox camps and instead recommends that resources are best used to establish additional roosting habitat on adjoining land to encourage flying-foxes to roost away from sensitive sites such as residential areas.
- 2.12 agrees that flying-foxes must not be disturbed during the breeding season, particularly while females are in the later stages of pregnancy or feeding dependent young. For the grey-headed flying-fox this is generally between August 1 and April 30.
- 2.13 recommends that if a new camp is claimed to have formed, then the history of the site should be fully researched to find out if there was previous occupation.
- 2.14 supports the restoration of habitat at flying-fox camps provided that it is undertaken in accordance with a management plan which minimises disturbance to the flying-foxes, especially during the breeding season and maintains habitat for other fauna and flora.
- 2.15 urges the NSW Government to fully apply the NSW Flying-fox Camp Management Policy especially in relation to applications for dispersal/relocation of flying-fox camps

3. FLYING-FOXES AND HORTICULTURE

The Nature Conservation Council of NSW:

- 3.1 considers, in view of the steep decline in the population of grey-headed flying-foxes, that lethal methods of flying-fox control (shooting, poisons, entanglement in loose netting) in commercial orchards and private

gardens must be quickly replaced by ecologically sustainable horticultural practices.

- 3.2 strongly supports the immediate cessation of shooting and other lethal methods of protecting fruit crops from flying-foxes and urges the NSW Government to cease issuing licences to fruit growers to shoot flying-foxes and provide a negotiated industry readjustment package which:
- (a) would allow fruit growers with uneconomic orchards to leave the industry,
 - (b) enable viable orchards to be protected by netting by means of special industry loans or grants, and
 - (c) reviews the basis of eligibility for fruit growers to obtain loans or grants.
- 3.5 supports the use of appropriate netted structures to protect fruit trees in urban areas as an alternative to single fibre 10mm square nylon throw-over nets in which birds and flying-foxes become entangled with lethal consequences.

4. COMMUNITY EDUCATION

The Nature Conservation Council of NSW:

- 4.1 will continue to make strong representation to governments to adequately fund the preparation and wide distribution of accurate and interesting information on flying-foxes which:
- dispels myths about them,
 - explains their biology, ecology including ecosystem processes,
 - explains the causes of population decline and how it can be reversed, and
- 4.2 encourage the effective delivery of appropriate educational material on flying-foxes to the horticultural industry, local government, schools, parliamentarians, government departments and residents living near camps
- 4.3 will provide information on flying-foxes to NCC representatives on Regional Native Vegetation Committees, Catchment Boards, member groups, Landcare .
- 4.4 will encourage community environmental groups to assist with flying-fox monitoring programs and include flying-foxes in bio-diversity surveys.
- 4.5 will urge Local Government Authorities and NSW DECCW to educate people to live safely near flying-fox camps by advising people:
1. to leave all bats alone (microbats as well as flying-foxes),
 2. to report injured or sick flying-foxes to the local wildlife care organisation
 3. of current NSW Department of Health updates re infectious diseases
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5. REDUCING OTHER CAUSES OF FLYING-FOX MORTALITY

The Nature Conservation Council of NSW:

- 5.1 supports the undergrounding of electricity supply and communication cables because:
 - (a) it will reduce the numbers of flying-foxes electrocuted on electricity cables;
 - (b) it will eliminate the need for severe pruning of trees, many of which are remnants of the native vegetation and are therefore valuable in providing bio-linkages through urban and rural areas.
 - (c) will protect power supplies and communications infrastructure (phone lines) in fire prone areas and will avoid bush fires caused by electrical short circuits
- 5.2 encourages the retail nursery and hardware industries to ban the sale of lethal fine nylon netting and instead provide information on and market materials to correctly net backyard fruit trees to prevent entanglement and consequent injuries and death to flying-foxes and other wildlife.
- 5.3 encourages the use of alternatives to barbed-wire to reduce the numbers (unknown) of flying-foxes which die slowly from being caught on barbed-wire fences in rural areas and in urban areas where barbed and razor wire is used to protect construction sites.

Appendices

1. Brief summary of flying-fox species
2. References and Websites

Appendix 1.

Flying-foxes in NSW - brief summary

Three species of flying-fox, large vegetarian bats, occur in New South Wales.

- Grey-headed Flying-fox *Pteropus poliocephalus*
- Black Flying-fox *Pteropus alecto*
- Little Red Flying-fox *Pteropus scapulatus*.

Ecological significance

Flying-foxes are recognised by scientists in Australia and overseas as being important for ecosystem function as pollinators and dispersers of seeds. Unlike other pollinators such as birds and insects, flying-foxes play an important role in long distance pollination.

Diet lists for Grey-headed Flying-foxes include over 100 species of flowering trees and fleshy-fruited trees and lianas.

The draft National Recovery Plan for the grey-headed flying-fox states: "Recovery of the grey-headed flying-fox will benefit 6 flora species, 57 vegetation communities 26 bird species and 19 mammal species or populations listed as threatened (critically endangered, endangered, vulnerable or rare) under the threatened species legislation of the Commonwealth or the three States in the range of the grey-headed flying-fox. Also to benefit would be three of Australia's World Heritage Areas – Fraser Island, the Central Eastern Rainforest Reserves and the Greater Blue Mountains."

Grey-headed Flying-fox

This species was listed as **vulnerable** on the list of Threatened Species under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) on 6/12/01. It was listed as a **vulnerable** species on Schedule 2 of the NSW Threatened Species Conservation Act 1995 (TSCA) on 4/5/01. The species is recognised as vulnerable under Commonwealth and NSW legislation because of a decline in abundance since 1989 in the order of 30%. Estimates of population abundance were undertaken in 1989 (minimum estimate 566,000) and from 1998 to 2001 (maximum estimate 400,000) based on evening fly-out counts at camps averaged over two consecutive nights. It has also been estimated that the population will continue to decrease by at least 20% in the next three generations given the continuation of the current rate of habitat loss and culling (Martin 2000).

The Grey-headed Flying-fox is endemic to Australia with a distribution ranging from Bundaberg in Queensland to southern Victoria and from the coast to the western slopes of NSW. In 2010 following extreme and prolonged rainfall in Queensland and northern NSW grey-headed flying-foxes formed temporary camps in Adelaide and several crossed Bas Strait.

Mating commences in January, conception occurs in April/May, gestation lasts for six months and a single pup is born in spring, October/November. A female successfully raises her first young at 3 years of age. The species has a low reproductive rate, making it impossible for the size of the population to increase rapidly and therefore it can only recover slowly from reductions in population size.

Grey-headed flying-foxes are highly nomadic. For example in July 1998, 21% of the national population was in NSW while in April 1999, 85% was in NSW. Individuals have been fitted with radio or satellite transmitters and tracked over distances of 800 kilometres to abundant flowering of eucalypts. They have been tracked moving between Sydney and Melbourne. Solar powered satellite tracking showed they can move about 150-200 km a night for about a week. They have also been tracked while foraging up to 100 km in a single night, returning to the same camp. They spend the day in camps (or roosts or colonies) numbering many thousands. Each camp provides suitable resting habitat in close proximity to feeding areas, most within a 20 km radius. The network of camps also provides stepping-stones, or stopover sites, for migrating animals. The population of a camp fluctuates in size coinciding with

the amount of food available in the local area. Large aggregations are associated with intensive flowering of eucalypts.

Loss of native vegetation, especially on the relatively higher nutrient soils of the coastal zone and western slopes has reduced food resource options for flying-foxes. Grey-headed flying-foxes are especially threatened by further losses of winter and spring flowering species, mainly eucalypts, melaleuca and banksia, due to land clearing in particular in north-east NSW where a 25% increase in human population is predicted in the next decade.

In NSW less than 15% of potentially suitable forest for the Grey-headed Flying-fox occurs in conservation reserves; only 5% of roost sites are similarly reserved (Hall and Richards 2000).

Shooting of flying-foxes to protect fruit crops is believed to be contributing to population decline especially as it coincides with the breeding season and the death of a female causes the death of her dependent young. No data is available Data collected by NSW Government on the numbers killed by shooting relates to shooting that is licensed by Parks and Wildlife (DECCW) but as this is collected by the licensee it is not considered complete, accurate or credible. Unlicensed shooting is not recorded nor have there been any prosecutions.

The NSW Licensing Review Panel concluded (in part) in 2009 that

- The animal welfare issues that result from shooting as a method of mitigating crop damage caused by flying-foxes are unacceptable ethically and legally.
- Shooting is ineffective when larger numbers of flying fox visit orchards. Full exclusion netting provides the most effective protection against damage from flying fox.

Other causes of flying-fox deaths are electrocution on electricity supply cables, entanglement on loose netting over fruit trees or on barbed-wire fences and heat events. Temperatures over 42^oC high numbers of deaths and the prediction of increased global temperatures heat events would be expected to become more frequent.

Shortages of native food resources, during droughts or lengthy wet periods, are natural hazards from which the species can only recover if the unnatural threats are eliminated. Periodic natural food shortages lead to heavy orchard raids. Shooting to protect crops leads to high mortality of females and young. In adverse seasons young may be aborted or die because the female ceases to lactate, however, female is likely to survive to reproduce in future years.

Black Flying-foxes

This species occurs widely in Queensland, Northern Territory and the northern portion of Western Australia. It was listed as **Vulnerable** in NSW under the TSCA until 2008, but has since been delisted due to expansion of the population in NSW. Black flying-foxes have extended their range southwards into NSW since 1930s. In 2010 they reached Melbourne. Black

Flying-foxes have a diet similar to grey-headed flying-foxes. Being forest-dependent mammals they are vulnerable to habitat loss and could decline as a result.

Little Red Flying-foxes

This species is the most widely distributed of the flying-fox species occurring in all mainland states and territories. It feeds predominantly on nectar and is highly nomadic following mass flowering of native hardwoods and forming camps of up to a million individuals. In NSW it mainly feeds along the inland river systems.

Periodically, often during droughts inland, they share camps of grey-headed flying-foxes in the coastal zone of NSW forming camps sometimes exceeding 100,000 flying-foxes. Little red flying-foxes cluster together, hanging onto each other causing branches to break. This behaviour can cause significant damage to roosting vegetation but managers of camps such as Wingham Brush report that the forest recovers provided weeds, especially invasive vines, are controlled.

Unlike black and grey-headed flying-foxes, little red flying-foxes mate from November to January, gestation takes up to five months and females give birth to a single young from April to May.

Appendix 2.

References

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Websites

NSW Department of Environment Climate Change and Water
<http://www.environment.nsw.gov.au/animals/flyingfoxes.htm>
Updated august 2010 - on this site there are many documents relating to flying-foxes and their management

- [Best practice guidelines for the grey-headed flying-fox](#)
- [Flying-fox camp management policy](#)
- [Ranking the feeding habitats of grey-headed flying-foxes for conservation management](#)
- Protecting commercial fruit crops
- Report of the [flying-fox licensing review](#) panel 2009

- Virus information

<http://www.health.nsw.gov.au/factsheets/infectious/rabiesbatinfection.html>

<http://www.dpi.nsw.gov.au/agriculture/livestock/horses/health/general/hendra-virus>

Australasian Bat Society website <http://batcall.csu.edu.au/abs/absmain.htm>

Australian Museum <http://australianmuseum.net.au/Australian-bats>

Humane Society International www.hsi.org.au

Provides following documents:

- *Why NSW Should Ban the Shooting of Flying-foxes* endorsed by 55 conservation, animals welfare and wildlife rescue organisations
- *Report on deaths and injuries to Grey-headed Flying-foxes, Pteropus poliocephalus shot in an orchard near Sydney, NSW* revealing evidence of extreme cruelty to shot flying-foxes
- Statements of support from fruit growers opposed to shooting

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