

Flying-fox Camps

What are Flying-foxes?

The name 'Flying-fox' (or Fruit-bat) refers to a number of bat species within the group (suborder) known as megabats.

There are three species of Flying-foxes found in NSW. These species differ from the much larger group of microbats, (small mostly insectivorous bats that use echolocation for locating food in the dark), by being much bigger in size (wingspan up to about 1 metre), having larger well developed eyes for night vision and a strong sense of smell for location of food.

Flying-foxes travel over hundreds of kilometres in response to food availability (mainly nectar from Eucalypts, Melaleucas and Banksias and fruits of rainforest plants and vines). This results in large fluctuations of bat numbers in roost camps during different times of the year to as low as 20% of peak numbers.

Flying-foxes breed annually giving birth to only one young which is heavily dependent on the mother for at least 6 months.

Because Flying-foxes forage on plant blossoms and rainforest fruits, and are nomadic, they play a vital role in plant pollination, genetic gene flow and seed dispersal to sustain forest ecosystems.

What are Flying-fox camps?

Flying-foxes roost in communal camps often in large numbers totalling many thousands of animals. Within these camps, Flying-foxes hang exposed from tree branches with little protection from the elements and predators such as eagles.

Individual Flying-foxes often have a strong affinity to one camp and return to the same camp and trees annually. Camp

sizes (numbers of individual animals) vary from season to season in response to local food availability.

Camps play an extremely important role in the ecology of Flying-foxes. Camps provide a secure daytime roosting area where social interaction of individuals occurs and many also act as maternity camps where annual breeding and rearing of young takes place.

Over the last two centuries many of the areas historically used as camps by Flying-foxes have been cleared or heavily disturbed. In particular, this clearing has greatly reduced the areas once used as maternity camps where breeding and rearing of young takes place.

Additionally, widespread clearing of eucalypt forest, swamp forests and rainforest for agriculture and urban settlement has greatly diminished the natural food available for Flying-foxes. These factors, coupled with historic culling of animals, has significantly reduced Flying-fox numbers to a point where both the Grey-headed Flying-fox and the Black Flying-fox have been listed as Vulnerable on Schedule 2 of the NSW *Threatened Species Conservation Act 1995* (TSC Act). The Grey-headed Flying-fox is also listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.



Flying-fox Camp

John Turbill





Flying-foxes Occurring in New South Wales

Flying-fox	Description	Roosting habitat	Food resource
Grey-headed Flying-fox Conservation Status: Threatened	Large, grizzled-grey with a wide orange-yellow collar. Fully furred upper legs. Large, grizzled-grey with a wide orange-yellow collar. Fully furred upper legs.	Roost in conspicuous often large camps in lowland rainforest, swamp forest and gullies often in remnants or on islands in rivers. May share camps with Little-red and Black Flying-foxes.	Feed on the fruit, nectar and blossom of more than 80 species of eucalypts and rainforest plants. May eat cultivated fruit in times of natural food shortage.
Black Flying-fox Conservation Status: Threatened	Black with an incomplete rusty-red collar and silvery-grey on belly.	Roost in communal camps in remnants of coastal subtropical rainforest or swamp forest, often in camps with Grey-headed and/or Little-red Flying-foxes.	Preferred food is blossom from flowering eucalypts, paperbarks and banksias but also eat rainforest fruits. May eat cultivated fruit in times of natural food shortage.
Little-red Flying-fox Conservation status: Protected	Smaller Flying-fox with reddish-brown to light-brown fur and sometimes with grey patch on head. Legs sparsely furred or naked.	Nomadic species moving in relation to food supply. Roost in social camps of up to hundreds of thousands, often in association with Grey-headed Flying-foxes.	Feed primarily on blossom, but may forage on fruit, sap and insects when blossom is unavailable. May eat cultivated fruit in times of natural food shortage.

Management of Flying-foxes camps

Flying-foxes and their camps are protected under NSW legislation.

Flying-foxes camps can be identified by the presence of hundreds, to many thousands, of Flying-foxes hanging within the tree canopy, often in swamp forests, rainforest patches or riparian vegetation.

Timber harvesting and any associated activities must be excluded within a Flying-fox camp, and within a 50 metre exclusion zone around any camp which contains Grey-headed and/or Black Flying-foxes.

Should you be considering undertaking an activity near a Flying-fox camp it is recommended that you contact the Department of Environment and Climate Change (DECC) to discuss your proposal.



Grey-headed Flying-foxes

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Range of the Grey-headed Flying-fox, the Black Flying-fox and the Little Red Flying-fox within Australia



Grey-headed Flying-fox



Black Flying-fox



Little Red Flying-fox



John Turbill

Grey-headed Flying Fox



DECC

Little Red Flying-fox

Source: Eby, P (1995), *The Biology and Management of Flying Foxes in NSW*, Species Management Report Number 18, NSW NPWS, Sydney.





What can you do?

Managing the key threats to Flying-foxes can reduce their decline and help recover populations. Management actions may include the following:

- Forestry activities must be excluded within a Flying-fox camp including a 50 metre exclusion zone around the camp.
- Protecting habitat resources including, in particular, protection and enhancement of critical winter foraging habitats such as coastal eucalypt forests, swamp forests, coastal banksia woodlands and rainforests.
- Protecting and rehabilitating (revegetation and weed removal) Flying-fox camps, particularly known maternity camps.
- Minimising disturbance in and adjacent to Flying-fox camps, in particular during breeding times when animals are in late pregnancy, may be giving birth or are feeding young. These times vary for the three different species. Grey-headed Flying-foxes give birth to young in September to October and rear young for 3 – 6 months. Black Flying-foxes breed slightly later giving birth generally in October to November and Little-red Flying-foxes some 5 – 6 months earlier with birth of young in April to May.
- Encouraging awareness and education of the vital roles that Flying-foxes play in pollination and seed dispersal within forests and rainforests.



DECC

Little Red Flying-fox

References and Further Reading

- Churchill, S (1998), Australian Bats, New Holland Publishers (Australia).
- Eby, P and Lunney, L (Ed.) (2002), Managing the Grey-headed Flying-fox as a Threatened Species in NSW, Royal Zoological Society of NSW.
- Lunney, D and Moon, C (1997), Flying-foxes and their camps in the remnant rainforests of north-eastern NSW. In Australia's Ever-changing Forests III. Ed. by Dargavel, Centre for Resources and Environmental Studies.
- Hall, L and Richards, G (2000), Flying-foxes, Fruit and Blossom Bats of Australia, UNSW Press.
- DECC: www.environment.nsw.gov.au/flyingfoxes



Shane Ranning

Flying-foxes in flight

The DECC maintains a database of Flying-fox camp locations in NSW. For information on the database contact the DECC.