



Little red flying-foxes (*Pteropus scapulatus*) are a nomadic species that can be found across most of Australia's semi-arid and tropical regions. This small reddish-brown species is characterised by its semi-transparent wings when flying during the day. Camps can reach up to 1 million individuals in early summer, the mating season. Due to their large numbers, they can cause severe damage to camp sites from their combined weight on tree limbs. They feed predominantly on blossom and travel large distances to following flowering trees. Little red flying-foxes are protected under Queensland and New South Wales legislation.

Size: 300-600 grams

Grey-headed flying-foxes (*Pteropus poliocephalus*) have grey fur on their head with an orange collar around its neck. The rest of the body is a dark grey to brown. This species can form large camps, historically in the hundreds of thousands. Their diet consists of the pollen, nectar, fruit and flowers of over 100 native plant species and many non-native species. The species is listed as nationally 'vulnerable' to extinction under the Environment Protection and Biodiversity Conservation Act 1999. Grey-headed flying-foxes are also protected under Queensland and New South Wales legislation.

Size: 600-1000 grams

Black flying-foxes (*Pteropus alecto*) are common across northern Australia and along the east coast. They are generally black all over, often with a reddish brown mantle around the back of the neck. This species lives and feeds mainly in tropical and subtropical forests and woodlands. Females use mangroves and floodplain forests for maternity roosts. Their preferred food is fleshy fruits and blossoms from eucalypts, melaleucas and a variety of other native and introduced species. Black flying-foxes are protected under Queensland and New South Wales legislation.

Size: 600-1000 grams

Little red flying-fox

Grey-headed flying-fox

Black flying-fox

Seed dispersal and pollination

Flying-foxes play a vital role in the regeneration of native forests due to their nocturnal feeding habits and extensive feeding ranges. Flying-foxes are able to pollinate tree species that produce most of their nectar at night and are less likely to be pollinated by day-feeding birds and bees. Flying-foxes usually feed within 50 km of their camp site, however commutes of over 400 km have been recorded.

Pollen is collected on the fur of flying-foxes whilst they feed on the nectar of flowers. It attaches mainly to the head and neck region and is distributed between different feeding sites. This may lead to cross-pollination between flowers of the same tree or between flowers of different trees of the same species in separate forest patches, often many kilometers apart.

The dispersal of seeds by flying-foxes may happen in one of three ways:

- fruit may be taken from a tree and consumed elsewhere, with large seeds spat out or small seeds excreted some distance from their origin;
- fruit may be taken away and dropped during transport;
- fruit may be eaten on-site, with large seeds dropped and small seeds excreted elsewhere.



Quick Fact

The seeds of many species of rainforest trees will only germinate if moved some distance from the parent tree. Due to their ability to carry large fruit over long distances, flying-foxes are responsible for maintaining genetic diversity amongst remnant patches of rainforest.



Photos contributed by Nick Edards, Les Hall, Kelly Coleman
Prepared by PeekKdesigns www.peakdesigns.com.au

FLYING-FOXES OF SE QUEENSLAND

The *Improving Landscape Resilience to Climate Change in SEQ: the flying-fox roost & forage conservation pilot project* was funded through the Australian Government's Caring for our Country program and supported by Brisbane, Logan and Redland City Councils, Moreton Bay Regional Council, Noah's Ark Wildlife Coalition, Bat Conservation and Rescue Queensland, The Hut Environment and Community Association, the Queensland Department of Environment and Resource Management and Burnett-Mary Regional Group.



CARING FOR OUR COUNTRY



For more information

Contact Healthy Land & Water
Phone: (07) 3177 9100
Email: info@hlw.org.au
www.hlw.org.au

The All About Bats of Southern Queensland website is a portal for everything batty.
www.allaboutbats.org.au

South east Queensland is home to three species of flying-fox that rely on forests for their survival.





Action in the camp

Autumn and/or spring are the two main periods of the year when flying-fox camps may become the focus of human attention due to increased noise and smell. Which season will depend on the dominant species residing within the camp, as grey-headed flying-foxes and black flying-foxes follow the same reproductive cycle, while the little red flying-foxes are, on average, six months out of pattern.



During the lead up to the mating season (autumn for grey-headed and black flying-foxes and spring for little red flying-foxes) males secrete a strong odour to attract females to their branch. They will often be seen wafting this scent around themselves. This time can also be very noisy as males defend their branches from competing males.

Mating will occur in the coming weeks after this territorial display has begun.

Female grey-headed and black flying-foxes gestate for around six months and give birth in spring. Little red flying-fox females have a shorter gestation period of five months and young are usually born in autumn. This timing can depend on the seasonal abundance of food in the landscape and the climatic weather patterns occurring.



If the noise or smell of a flying-fox camp is driving you crazy, have a look at the living with flying-foxes information at www.derm.qld.gov.au for practical ideas on reducing the impact.



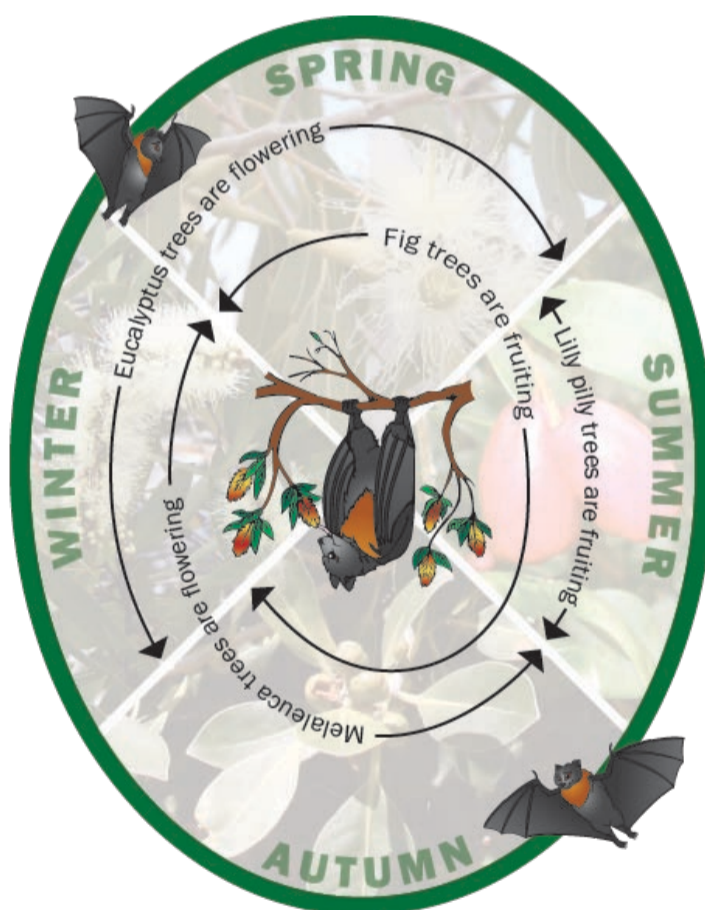
Taking action to try to get flying-foxes to move on is illegal in Queensland unless under a permit issued by the Department of Environment and Resource Management. Disturbing flying-foxes at a camp can lead to their dispersal into neighbouring properties and elsewhere and can cause significant stress on individual animals.

Following the food

Flying-foxes feed on over 100 different species of native trees and shrubs. They will travel great distances to follow natural flowering or fruiting patterns.



Climatic changes, such as drought and floods, can disrupt usual flowering or fruiting and affect movements of flying-foxes around the landscape. Evidence of this includes occasions when camps have dramatically increased from previously experienced numbers, new camps have formed, or previously temporary camps have become more permanent in colder regions (increased temperatures allowing them to travel further and stay longer).



The introduction of non-native species like Cocos or Queen palms and fruit trees into the landscape also means that flying-foxes have the ability to stay longer in an area rather than migrating and following the flowering and fruiting of native species. However, this feeding relationship is a lose/lose situation: flying-foxes can often be killed in the course of finding food, pest plant seeds are spread and orchards crops can be severely damaged if not protected.

Native forests in the landscape must be protected and enhanced to provide long-term feeding solutions for not only flying-foxes, but other native wildlife as well, like koalas. The more opportunities there are for flying-foxes to feed on native blossoms and fruits, the happier and healthier we will all be.

Stressed out!

When we get stressed we get sick, tired and our emotional well-being is changed. This can be caused by changes at work or at home. We can easily identify the signs of stress in our lives and treat the symptoms and causes.

When the natural world gets stressed, the causes, signs and symptoms are much different. In a flying-fox camp the impact of stress can be seen through the following:



- Long term declines in numbers can indicate lack of food sources, often due to human pressures on the environment (e.g. vegetation clearing for urban development, mining or agriculture).
- Mass deaths, particularly of young animals, caused by heat stress during increasingly hotter summers.
- Outbreaks of diseases in a region, like Australian Bat Lyssavirus or Hendra Virus. The latter is still being investigated to identify how and when flying-foxes are more likely to “shed” these diseases, but it is thought to occur during times of stress. For the latest information on Lyssavirus and Hendra go to www.dpi.qld.gov.au.

We can all play our part to reduce these stressors by conserving existing forests, being more sustainable to help reduce our contribution to climate change, and learning more about the importance of species like flying-foxes to our environment.



Public health

From a public health perspective, there is in almost all circumstances no reason to be alarmed if a flying-fox colony moves in nearby.

Simply, don't touch!

Do not handle sick or injured flying-foxes but do contact experts. Get in touch with people who are trained to handle flying-foxes, call the RSPCA (1300 ANIMAL) or your local wildlife care group.

If you are bitten or scratched by a flying-fox, wash the wound immediately with soap and running water for about five minutes. Do not scrub the wound. Seek immediate medical attention. If bat saliva contacts your eyes, nose or mouth, flush the area thoroughly with water and seek immediate medical attention.