Flying Foxes on the Fraser Coast

The Fraser Coast is home to three species of flying fox which play a vital role in the conservation of native forests in the area. They are a unique and highly intelligent species of native fauna, whose presence adds significance to the already internationally recognised region.

The species and their habitats include:

Little Red flying fox (Pteropus scapulatus)

The Little Red is a nomadic species feeding preferentially on nectar. They move seasonally in response to the patterns of flowering eucalypts and paperbarks and are said to form only temporary camps. While they share the camps of Black and Greyheaded flying foxes during their breeding season, Little Reds breed six months out of cycle with the other three species and the locations of their breeding camps are largely unknown.

For more information on Little Red flying foxes on the Fraser Coast download our flyer here.

Black flying fox (Pteropus alecto)

The Black flying fox mainly roosts in wet and dry eucalypt forests, mangroves, melaleuca swamps and casuarinas. Black flying foxes form permanent camps, often with Grey-headed flying foxes, and feed on nectar, flowers and fruits of native trees and on cultivated fruit (bananas, paws paws, mangoes, lychees) when native food is scarce.

Grey-headed flying fox (Pteropus poliocephalus)

The Grey-headed flying fox occupies similar habitat to Black flying foxes (see above) but over a smaller range that extends south into Victoria. Populations that once extended north to Rockhampton are now contracting southward of Maryborough in response to diminishing forest resources. The species was listed as nationally "vulnerable to extinction" under the Environmental Protection and Biodiversity Conservation Act 1999 in December 2001.

The Flying Fox Lifestyle

With well-developed sensory systems, flying foxes rely on eyesight, sound and smell to interact with their environment. Unlike smaller, micro bat cousins, they do not echolate or use ultrasound. Flying foxes weigh between 300 - 1000g and have a wing-span of up to one metre. The wings of flying foxes have the same structure as human hands with bones elongated to accommodate the wing membrane and support the body in flight.

Flying foxes are social mammals which spend the day hanging in the canopy of trees at their camp. They fly out at dusk to feed and can travel up to 50km from their camp-site in search of nectar, blossoms and fruit.

Female flying foxes become sexually mature at 2-3 years and give birth to one young per year. Young are cared for during a period of three to four months after which they become independent. Flying fox hazards include predators such as goannas, snakes, powerful owls, eagles, foxes, dogs and cats as well as man-made items such as powerlines and barbed-wire fences. Provided these can be avoided successfully, a flying fox may reach 8-10 years of age.

Flying Fox role in Seed Dispersal and Pollination

Flying foxes have 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 which produce most of their nectar at night and are thus less easily serviced by day-feeding birds and bees. The dispersal of seeds by flying foxes may happen in one of three ways:

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

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 and move it over considerable distances, flying foxes are responsible for maintaining genetic diversity amongst remnant patches of forests.

Pollen is collected on the fur of flying foxes while feeding on the nectar of flowers. It attaches mainly to the head and neck region and is thus 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. Native eucalypts depend on cross-pollination for maximum fruit-set and seed viability.

Flying Fox Noise

Flying foxes use sound as a means of communication. Their hearing is similar to humans, making their calls clearly audible to our ears. Vocalisations between individuals are necessary for social communication, eg during the defence of territories.

Periods of noise occur mainly at dawn and dusk when the bats arrive at or prepare to leave the camp. Calls during the day occur mainly during the mating season in March/April or as a response to disturbances. These may include roaming dogs, birds of prey, planes, machinery noise (chain-saws, lawn-mowers, loud bangs) in or near the camp or people walking among the roosting bats.

Flying fox noise can be minimised by preventing disturbances at the camp sites.

Away from camps, flying foxes can sometimes be heard feeding in trees at night. Flying foxes are loyal to feeding sites; noise indicates the defence of feeding territory and will cease as soon as the trees in which they are feeding finish flowering or fruiting.

Flying Fox Odour / Droppings / Guano

Amongst flying foxes, odours are used for identification and as attractants during the mating season. The scent is stronger in males, who secrete it from scapular glands and use it to mark their territory and to attract females during the mating season. Scents emitted by young who are left behind in camps at night allow mothers to locate their infants in the colony.

Flying foxes defecate primarily at their feed-sites, not at their camps. Smell is therefore not generally caused by a build-up of faeces underneath the colony, but by the bats themselves. As in other mammals, this may be intensified by very hot or humid weather when bats sweat and fan themselves to keep cool.

Flying foxes can defecate in flight, splattering objects beneath their flight path with excrement or guano.

Management of Flying foxes

In recent decades, the increasing modification of our natural environment has had a detrimental impact on most species of flora and fauna, including flying foxes. Extensive clearing of native forests for agriculture and urbanisation has diminished the habitat of much of our native wildlife to small, isolated patches. The loss of this forest resource and its function as food-provider and roosting habitat has led to an increased confrontation between flying foxes and people.

Small forest remnants in urban areas are often over-crowded with bats, and seasons of poor fruiting and flowering in nature force hungry flying foxes to turn to cultivated fruit as an alternative.

In an effort to reduce mutually disturbing confrontations between bats and humans, a number of different management strategies have been employed with varying degrees of success. These include

- Legal Protection of Flying foxes

  Any unauthorised attempts to disturb flying fox colonies is not only illegal but also ineffective. Queensland's native wildlife, including flying foxes, are protected by the Nature Conservation Act 1992. The issuing of damage mitigation permits to shoot flying foxes ceased in 2008.

- Noise

  The installation of high-frequency emitting bat-repellents has repeatedly been trialled with high hopes of success. Contrary to popular belief, flying foxes do not use echolocation or ultrasound as a means of negotiating their environment. Their hearing range is similar to that of humans, making high-frequency sound inaudible to them and consequently the devices are ineffective.

  Sounds that can potentially detract flying foxes have an equally offensive effect on humans and meet with very limited popularity in the neighbourhood. The banging of metal drums was employed by Sydney City Council to disperse flying foxes from the Botanic Gardens and this strategy was abandoned due to lack of success in 1998.

- Bright or Flashing Lights

  Strobe lights and other bright or flashing light sources installed in trees have been similarly unsuccessful as bat deterrents. While flying foxes may be disturbed initially, hunger and desensitisation to the light causes the effect to be short lived and may eventually serve to attract the bats. Driven by desperation, flying foxes will become accustomed to most novel stimuli in a matter of days or weeks.

- Pungent Odours

  Due to the bats' highly developed sense of smell, strong and unpleasant odours would seem the most likely detractor of flying foxes. Pungent kerosene, creosote, and more recently fish paste and snake faeces, have been placed in fruit trees with limited success. While odour detraction may warrant further investigation, hungry bats are likely to habituate to it if no food alternatives exist.

Flying Foxes and Public Health

Several apparently new viruses capable of causing diseases in animals and humans have been linked to flying foxes in recent years. Of these, Hendra virus (equine Morbillivirus) and Australian bat Lyssavirus are the most notable. Research by the Queensland Department of Primary Industries and Fisheries (DPI&F) and others has shown that some species of bats act as a natural reservoir of infection for these viruses, and so members of the public are strongly advised against handling any bat. Only those few trained individuals who are protected by vaccination and suitable equipment should care for them.

Protection for People

Some types of bacteria (such as Salmonella) which can impact human health are found in bat faeces from time to time, and members of the public occasionally express concern about potential contamination of swimming pools or rainwater tanks.

- Rainwater Tanks

  If the droppings land on your roof, and you collect rainwater for drinking purposes, contaminants could wash into your rainwater tank. In these instances, it is advisable to have a device that allows the first flush of rainwater to be diverted from your tank. It is always good hygiene practice to keep your rainwater tank covered, install an internal water filter, and at regular intervals chlorinate the tank and drain and clean both the tank and the roof area used for rainwater collection.

- Swimming pools

  Normal pool maintenance practices (cleaning, filtration and chlorination) should remove any contamination associated with flying fox droppings. If any concerns still exist contact your local pool contractor.

Protecting Your Horse

Flying foxes often visit properties where native eucalypts, bottlebrushes, lilly-pillies, figs and melaleucas are flowering. Blossoms are their primary source of food. They will also feed on palm seeds and exotic fruits when native food is less abundant.

Horse owners should follow these steps to protect their horses:

- Place feed and water containers under cover if possible.
- Do not place feed and water containers under trees, particularly if flying foxes are attracted to those trees.
- Do not use feed that might be attractive to flying foxes if they are known to be in the area. Fruit and vegetables (e.g. apples, carrots) or anything sweet (e.g. molasses) may attract flying foxes.
- If possible, remove horses from paddocks where flowering or fruiting trees have resulted in a temporary surge in flying fox numbers. Return the horses after the trees have stopped flowering or fruiting.
- If removal of horses from paddocks is not possible, restrict their access to the areas where the flying foxes are active and for the period of time they are present (e.g under trees while flowers and fruit are present).
- People are urged to be extremely vigilant if their horse displays rapid onset of clinical signs, including raised temperature, respiratory distress and/or neurological signs. In this case, horse owners should contact their local veterinarian for further advice.

Encounters with Injured Flying Foxes

Flying foxes may be found on the ground or caught in barbed-wire fencing and it is recommended that you do not attempt to rescue or handle them but seek assistance from a registered wildlife carer.

In case of a bite or scratch injury, wash injury site thoroughly with soap and water and contact your local GP.

Wildlife Rescuers and Carers

To report injured, sick or orphaned wildlife contact RSPCA Qld on 1300 ANIMAL (1300 264 625) or check Council's website for local registered carer groups.

Further Information

- For more information on flying foxes and their protection visit the Department of Environment and Heritage Protection website or call 1300 130 372.
- For more information on the Hendra Virus visit the Department of Primary Industries and Fisheries website or RSPCA website.
- To notify of a suspected Hendra virus case contact Biosecurity Queensland on 13 25 23 (during business hours) or the Emergency Animal Disease Watch Hotline on 1800 675 888 (24-hour hotline).
- Contact the Queensland Health Hotline on 13 Health (1300 432 584) if you have concerns about possible exposure of people to Hendra virus.