



Management of Flying Foxes



Photo: Theo Allofs



Background

In recent decades, human development has had a detrimental impact for most species of flora and fauna. Extensive clearing of native forests for agriculture and urbanisation has diminished the habitat of much of our native wildlife to small, isolated patches. These patches provide limited natural food resources and shelter for native animals including flying foxes.

The loss of natural habitat and overcrowding forces the hungry flying foxes to search for cultivated fruit found in orchards and the backyards of human residents. This search for alternative food sources often strains the delicate relationship between humans and flying foxes.

In an effort to reduce mutually disturbing confrontations between flying foxes and humans, a number of different management strategies have been employed with varying degrees of success. It is important to remember that flying foxes only inhabit residential properties when their habitat is gone. Conserving and extending remnant patches is the only way to minimise negative interactions between flying foxes with human development.



Native forests are being cleared for agriculture and urban development.

Photo: Environmental Protection Agency



Culling / Poisoning

Orchards are most affected by bats when native food resources are extremely scarce and cultivated fruit provides the only alternative to starvation. Illegal shooting or poisoning has always been an ineffective means of controlling bat numbers in Australia. While a small number of bats can be removed by shooting, this does not deter bats from returning later. Shooting creates a 'sink-effect' whereby new bats take the positions vacated by the dead bats in the food trees. Apart from briefly, and often illegally, venting the frustration of fruit-growers, culling does not protect orchards.

In Queensland, all flying foxes are protected by the Nature Conservation Act 1992. The grey-headed flying fox is also protected nationally under the Environment Protection and Biodiversity Conservation Act 1999.

Culling can only be undertaken via a permit from the Queensland Parks and Wildlife Service in cases where significant economic loss is proven and other methods have failed.



Noise

Contrary to popular belief, flying foxes do not use echolocation or ultrasound as a means of 'seeing' their environment. The use of high-frequency emitting bat repellents has been trialled on a number of occasions. Their hearing range is similar to that of humans, making high-frequency sound inaudible to them. Therefore the sounds that can be potentially discouraging to flying foxes have an equally offensive effect on humans. The banging of metal drums was used by Sydney City Council to disperse flying foxes from the Botanic Gardens, however this strategy was unsuccessful and abandoned in 1998. The use of noise is an ineffective method of managing flying fox populations.



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 cause 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 adjust to it if no food alternatives exist.



Protecting Your Trees

Backyard Fruit Trees

Small individual fruit trees can be protected from flying foxes using netting stretched over a home-made frame, for example, by inserting lengths of poly-pipe over metal star pickets driven into the ground. Space bars of pipe or wood stabilise the frame at the top. Knitted nylon 40mm mesh or netting is stretched **tightly** over this frame and securely pegged to the ground.

Warning - fine nylon netting loosely hung over fruit trees entangles wildlife often causing fatal injuries.

Bagging individual clumps of fruit with brown paper bags or old fertiliser bags has also proven to be successful.

Orchards

The exclusion of flying foxes from fruit trees via a cover of specially designed netting is currently the most effective protection available. Although netting involves an initial financial outlay by fruit-growers and not all orchards may be suitable, the benefits of installing this type of cover where possible are considerable. In addition to excluding flying foxes, netting also excludes equally invasive birds and fruit-piercing moths and may improve the setting of fruit by limiting bees and other insect pollinators to an enclosed environment.



Netting is the most effective form of flying fox management in fruit orchards.



Planting Native Food Trees

While the number of effective management strategies at this stage is clearly limited, research is continuing into improving flying fox management. Several options already exist which will help to minimise the negative effects of flying foxes and humans on each other.

The most urgent of these is the planting of native food sources to lessen the impact on cultivated fruit. Maintaining and improving native forest resources is the only strategy that will be effective in managing flying fox populations over the long term. By planting native food trees we may also minimise conflict between flying foxes and their human residential neighbours.

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