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Australia's Flying Foxes at a Crossroad. Richards

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**Grey-headed flying foxes are facing a crossroad between legal protection and continued wanton destruction . . .**

*by Greg Richards and Leslie S. Hall*

Every scientist who has studied flying foxes in Australia has reported declining numbers, dating back to 1932. That was when Dr. Francis Ratcliffe, a distinguished British biologist, estimated that the grey-headed flying fox (*Pteropus poliocephalus*) already had declined by 50 percent since European settlement 140 years earlier. In Ratcliffe's time, millions of these bats were still present, and as recently as 1989, Dr. Peggy Eby of Australia's University of New England still counted 400,000 in just two large colonies in New South Wales. Alarming, by 1999, however, she and her associates found fewer than 400,000 remaining in all of Australia! With the entire national population now smaller than that of just two colonies only 10 years earlier, we must now ask: how could this have happened, what are the consequences, and what can be done?

Grey-headed flying foxes face two obvious problems: habitat loss and conflicts with orchardists. The lowland native forests are shrinking rapidly, as many are replaced by housing developments and orchards. For example, more than 70 percent of the Melaleuca swamps, a critical food source for flying foxes in coastal southeastern Queensland, has disappeared in just the last 20 years. Furthermore, habitat disruption by humans appears to have given black flying foxes (*Pteropus alecto*) a competitive advantage that has further displaced grey-headed flying foxes, forcing them southward into areas of even greater conflict with humans.

Today, conflicts with orchardists are causing a rapid decline that threatens this species' very existence. The clash between flying foxes and orchardists has a long history with no winners. As early as 1863, there were reports of flying foxes committing "the most fearful havoc" in orchards. In the 1920s, the governments of Queensland and New South Wales hired the aforementioned biologist, Francis Ratcliffe, to spend two years studying the flying fox problem to "discover some wholesale method of destruction which would once and for all relieve the growers of the onus of dealing with the pest."

Interestingly, after thoroughly researching problems reported by growers and fruit inspectors themselves, Ratcliffe reached an astonishing conclusion: "The assumption that the flying fox is a menace to the commercial fruit industry of Australia is quite definitely false, and cannot be cited as a valid reason for expenditure of public money on its control." He attributed widespread hatred of flying foxes to the same longstanding problems faced by bats in general—prejudice and misunderstanding. He found "a great deal of exaggeration," with orchardists citing the damage from exceptionally problematic years as being typical.

Although exaggeration of losses continues to this day, it is true that during periods of drought, when already scarce forest resources become almost nonexistent, exceptionally hungry flying foxes do increasingly invade orchards, and at such times they do cause serious losses. Both the bats and orchardists need help.

Unfortunately, the government's response in recent decades has been to allow the cheapest, easiest, and most expedient solution to the problem: shooting bats. Serious problems have arisen, since periods of few problems

alternate with brief episodes of serious damage, and government agencies are simply not staffed to handle such unpredictable crises. As a result, a survey by biologist Doug Wahl showed that only half of growers even bother to obtain culling permits, and those who do typically exceed their allocations, meaning management authorities have no control. Furthermore, culling occurs at times when starving bats are rearing young, greatly increasing the losses.

In New South Wales alone, there are about 1,500 orchards growing fruits attractive to flying foxes, and a similar number also exists in Queensland. Survey results indicate an average of 30 flying foxes shot per night in many of these orchards during problem periods, which can last for several weeks. Exact numbers of bats destroyed are unknown, but estimates run as high as 100,000 annually over the bats' range, not counting young who die orphaned.

Additionally, since flying foxes require extra-large trees for roosting, and since few such trees remain outside of towns and botanical gardens, the bats increasingly attempt to form camps in areas where they are not wanted. Currently, 8,000 grey-headed flying foxes—approximately two percent of Australia's remaining population—are being captured and euthanized in the Melbourne Botanic Gardens. It is not an easy problem to solve, and several large trees have been damaged by the crowded bats. However, if flying foxes were loved as koalas are, the extermination of even one, let alone 8,000 would be unthinkable. Other remedies would be sought, and if not found, there would be a national outcry.

Quite aside from concern about the possible extinction of the grey-headed flying fox, if the massive killing is not stopped, we must consider the probable impact on regeneration of Australia's hardwood forests. A large proportion of the country's most ecologically and economically important trees rely heavily on flying foxes for pollination or seed dispersal. Without the large populations required to propagate forests, whole ecosystems could suffer with potentially serious consequences for other wildlife, as well as humans.

Recognizing these issues, Australia's government has nationally listed the grey-headed flying fox as "Vulnerable," a status that prohibits killing, as recommended in its 1999 Action Plan for Australian Bats. However, the killing will not stop until individual states bring local legislation into compliance with federal recommendations.

Fortunately, there are solutions to the current dilemma. Leading Australian orchardists have demonstrated the feasibility and economic benefits of covering entire orchards with netting. Agricultural contractor Jim Trappel of Dural, near Sydney, grows peaches and nectarines. Over a 30-year period, flying foxes have mostly left him alone. However, on three occasions during droughts, he has lost 30 to 80 percent of his crop. He also used to lose about 10 percent of his crop each year to birds. By covering all his orchards with netting, he solved both problems, suffered less wind and hail damage, and produced earlier crops that brought higher prices. He actually became a netting distributor, anticipating widespread sales. A sonic device is also now available. Although similar approaches have not been effective on smaller bats, they can reduce flying fox problems in orchards by 90 percent. Nevertheless, many farmers live from crop to crop and simply cannot afford to invest in these solutions, despite the benefits over a several-year period.

After long neglect, the issue of saving Australia's flying foxes has now become explosive, with emotions running high on both sides. Legal actions are pending, as well as international threats to boycott fruit grown in Australia and this year's Olympic Games in Sydney. A balanced solution is urgently needed before needless conflict, damaging to all concerned, escalates. (See sidebar.) State governments could provide a final remedy by simply accepting the national government's status listing of grey-headed flying foxes as "Vulnerable," while at the same time providing low-interest loans or subsidies to farmers, encouraging them to invest in readily available, non-lethal solutions. Continued culling is neither ecologically feasible nor economically necessary. At the Melbourne Botanical Garden, one possible solution is a 60-day moratorium on killing, during which time all non-lethal options for protecting the gardens could be considered by a committee on which all concerned parties would be represented. Flying foxes deserve long-overdue protection equal to that already enjoyed by koalas and other Australian wildlife.

Sidebar:



## How You Can Help Australia's Flying Foxes

The states of New South Wales and Queensland are considering their federal government's recommendation to list the grey-headed flying fox as ☐ Vulnerable ☐. This action would end needless killing, which is extremely upsetting for visiting wildlife enthusiasts. Because the economic impact of tourism is of special concern to political leaders, letters from potential international visitors, expressing an interest in preserving large colonies of grey-headed flying foxes, can be very important.

In these states, this is a time for positive reinforcement about the future. The listing is controversial among fruit growers, so the opinions of potential international visitors may help. Please write the following political leaders, letting them know you understand they are working on the problem, and that you hope that, as a result of their actions, you may someday enjoy viewing the spectacular evening flights of these magnificent animals. Address letters to:

The Honorable Robert Carr  
Premier of New South Wales  
Parliament House  
Sydney, Australia, NSW 2000  
e-mail: [bob.carr@www.nsw.gov.au](mailto:bob.carr@www.nsw.gov.au)

The Honorable Peter Beattie  
Premier of Queensland  
Parliament House  
George Street  
Brisbane, Australia, QLD 4000  
e-mail: [premiers@ministerial.qld.gov.au](mailto:premiers@ministerial.qld.gov.au)

In the state of Victoria, an estimated 8,000 grey-headed flying foxes, the state's only large colony, soon will be eradicated at the Melbourne Botanical Gardens unless political leaders follow the federal recommendation to list the species as ☐ Vulnerable ☐ or otherwise intervene. Australia's foremost experts on flying foxes have concluded that this killing is unnecessary and that it will be ineffective in addressing the garden's concerns, which would be better solved through passive methods. Please let the State Minister of Environment and Conservation know that you support efforts to help farmers avoid needless killing and that you rank among those who would greatly enjoy viewing flying foxes as part of a visit. Address letters to:

The Honorable Sherryl Garbutt  
Minister of Environment and Conservation  
Parliament House  
Spring Street  
Melbourne, V 3000  
Australia  
e-mail: [sherryl.garbutt@parliament.vic.gov.au](mailto:sherryl.garbutt@parliament.vic.gov.au)

Dr. Phillip Moors  
Royal Botanic Gardens  
Birdwood Avenue  
South Yarra V 3141  
Australia  
e-mail: [rbg@rbgmelb.org.au](mailto:rbg@rbgmelb.org.au)

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*Greg Richards and Les Hall are BCI Scientific Advisors who have each studied bats for more than 30 years and have worked together on various projects since the 1970s. Most recently, they assisted in the compilation of the Action Plan for Australian Bats and are completing a book on flying foxes, fruit bats, and blossom bats of Australia.*

*Hall is a Senior Lecturer in the School of Veterinary Science at the University of Queensland in Brisbane. In addition to his teaching and research on bats, he offers bat courses and information nights for the public.*

*After years in the government's research organization, Richards is now a consultant to industry, resolving bat conservation issues in mining and other developments. He steered the bat chapter in both national mammal books (1983 and 1995).*



After a meal of Morton Bay figs, this grey-headed flying fox will unwittingly spread thousands of seeds over miles of surrounding land as it defecates in flight.



Grey-headed flying foxes roost in large groups in treetops at well-established sites known as "camps."



This unique group of wildlife rehabilitators, often referred to as "bat mums," live in Sydney, Australia, and care for injured or orphaned flying foxes. They use the non-releasable bats to educate the public. Sarah (inset) is an orphaned six-week old grey-headed flying fox, whose mother was likely shot or accidentally electrocuted while roosting on power lines.





Placing netting over an orchard is one effective way to keep bats and birds from feeding on crops. Agricultural contractor Jim Trappel says that although bats have eaten his peaches and nectarines only during rare drought periods, his netting now not only protects from bats and birds, but also against hail damage; the savings over time exceed the initial costs of installation.

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