IN THE PLANNING AND ENVIRONMENT COURT
AT BRISBANE No. BD of 2006

BETWEEN: **CAROL JEANETTE BOOTH**
Applicant

AND: **RICHARD GEORGE YARDLEY**
First Respondent

ANTJE GESINA YARDLEY
Second Respondent

AFFIDAVIT OF CAROL JEANETTE BOOTH

Filed on: 22 September 2006

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I, **Dr Carol Jeanette Booth**, student, of 6 Henry St, Chapel Hill, in the State of Queensland, being under affirmation, say:

Reasons for bringing this application

1. In making this application I act in the public interest to promote the objects of the *Nature Conservation Act 1992* and seek to prevent illegal electrocution of flying-foxes by the respondents. I have no financial interest in the outcome of the proceedings.

2. The first respondent has stated publicly that he has electrocuted flying-foxes for crop protection without a damage mitigation permit under the *Nature Conservation Act 1992* and he implies that he intends to continue to do so as he does not consider it illegal. For this reason I consider it necessary to apply under section 173D of the Act to ask the Planning and Environment Court to restrain further offences by the respondents against the Act.

Personal details and relevant qualifications

3. I was born 14 March 1963 in Chinchilla, Queensland. I hold a PhD in biological science, a graduate diploma in journalism, and a graduate diploma and honours degree in philosophy. I am currently completing a PhD in environmental philosophy at the University of Queensland.

4. I have been actively involved with the conservation movement in Queensland for many years. Since 1996 I have held a variety of positions in conservation, including as Chair of the Queensland Conservation Council Inc and Coordinator (i.e. chief executive officer) of the North Queensland Conservation Council Inc, which are the leading non-government conservation organisations in Queensland and North Queensland respectively. I currently do voluntary conservation work for the Queensland Conservation Council Inc with a focus on biodiversity conservation. Exhibit "**CJB-1**" to this affidavit is a true and correct copy of my resume.

5. Since 1999, I have been active as an advocate for conservation of flying-foxes, on behalf of the North Queensland Conservation Council and the Queensland Conservation Council. Advocacy work by myself and colleagues resulted in a decision by the Queensland Government to no longer issue permits for the use of electric grids to kill flying-foxes under the *Nature Conservation Act 1992*.

6. Since 2000, I have investigated illegal killing of flying-foxes in commercial fruit orchards, particularly in orchards with electric grids as they have the potential to injure and kill very large numbers of flying-foxes and cause suffering. I note two of these investigations involving court proceedings in particular:

   (a) In November and December 2000 I investigated the electrocution of thousands of flying-foxes on a property near Kennedy in North Queensland. That investigation resulted in the Federal Court of Australia granting an injunction under the *Environment Protection and Biodiversity Conservation Act* 1999, restraining the fruit grower from electrocuting Spectacled Flying-foxes (reported as *Booth v Bosworth* (2001) 114 FCR 39).

   (b) In 2005 I sought an enforcement order under section 173D of the *Nature Conservation Act 1992* against the electrocution of Black Flying-foxes on a property near Ingham, in North Queensland (*Booth v Frippery Pty Ltd* [2005] QPEC 095). The application was initially dismissed but an appeal against the primary judgment in 2006 was successful (*Booth v Frippery Pty Ltd* [2006] QCA 74) and the case is to be reheard in the Planning and Environment Court on 10-12 October 2006.

7. In my investigations I have discovered other breaches of the *Nature Conservation Act 1992* on other orchards, and I remain concerned about the extent of illegal killing of flying-foxes on orchards. In all investigations I have reported any

evidence of illegal activity to the Environmental Protection Agency and have sought to promote and cooperate fully with law enforcement efforts by the government.

Description of respondents' property, Hosking Road, Miriwinni

8. The 14 hectare property owned by the respondents is located on Hosking Road, Miriwinni, close to the Bruce Highway, approximately 30 km north of Innisfail. I visited the respondents' property in 21 November 2005 and on 20 August 2006 and observed the property from Hosking Road and its boundaries. I did not trespass on the property. The orchard and grids are observable from Hosking Road and both times I drove slowly past and used binoculars.

9. Exhibit "**CJB-2**" to this affidavit provides two maps, a regional map and a local area map, showing the location of the respondents' property at Miriwinni, approximately 70 km south of Cairns. The regional map also shows the location of the Tolga Bat Hospital, approximately 50 km west of the respondents' farm.

10. Exhibit "**CJB-3**" to this affidavit provides two satellite images showing the local area and a close-up of the respondents' farm. Hoskings Road runs along the southern boundary of the respondents' farm.

11. Exhibit "**CJB-4**" to this affidavit is a property map obtained from the Department of Natural Resources in July 2006 showing the property's location in relation to the Bruce Highway and surrounding properties.

12. Exhibit "**CJB-5**" to this affidavit is a Property Details Report obtained from the Department of Natural Resources in July 2006. This report shows that the property is owned by the respondents as joint tenants.

13. Exhibit "**CJB-6**" to this affidavit provides copies of photographs I took of the respondents' property on 20 August 2006 from Hosking Road, showing fruit trees and one of the electric grids.

14. On the respondents' property is a fruit orchard, containing mostly lychee trees, with three aerial electric grids. The orchards are visible in the close-up satellite image provided in Exhibit CJB-3. I estimate the extent of fruit trees to be no more than 10 hectares. Hosking Road runs along one side of the property. One electric grid running parallel to Hosking Road is approximately 300 metres long. From Hosking Road, it appears there are two other grids on the property, not as long as the first grid, one at right angles and the other parallel to the first grid. I estimate the grids would, in total, extend 600 to 800 metres. The electric grids consist of metal poles with approximately 15 wires strung between them above the lychee trees. The lowest wire on each grid is positioned just above top of the fruit trees, about 3 meters above the ground. The wires are strung about 20 cm apart in a vertical array extending to a height of about 6 meters above the ground.

Admissions made by the first respondent

15. On 9 January 2006 I learnt that there was to be a radio interview on the ABC Far North Queensland Rural Report the following day of Richard Yardley, the first respondent, in which he would admit to electrocuting flying-foxes. I contacted the ABC reporter, Richard Hudson, and requested an opportunity to respond to Mr Yardley's admissions. On the following day, 10 January 2006, the ABC aired the interview with Mr Yardley as well as an interview with Mike Devery, of the Environmental Protection Agency ("**EPA**"), and an interview with me, speaking on behalf of the Queensland Conservation Council. Exhibit "**CJB-7**" to this affidavit is a recording of the ABC interviews with the first respondent, Mr Devery, and myself, as well as a transcript of the interview with the first respondent (which I have made).

16. During the interview on ABC Radio, the first respondent said he had electrocuted a total of 1,100 flying-foxes on his electric grids since 2001 for the purpose of crop protection and that he did not hold a Damage Mitigation Permit at the relevant times. The pertinent section of the transcript is:

> "Not this last year but the year before we used our electric grids. We took out 700, we killed 700 bats in the electric grids. Another year before that by the time we got a damage mitigation permit which we now know we don't have to get, the bats had eaten our crop right out because they took too long to give us that. The year before that we took out 400 in our electric grids."

17. In July 2001, the Minister administering the *Nature Conservation Act 1992*, the Minister for Environment, adopted a policy that the Queensland Parks and Wildlife Service ("**QPWS**") would not issue any more Damage Mitigation Permits for the lethal use of electric grids under the *Nature Conservation Regulation 1994*. The QPWS is part of the EPA and administers the *Nature Conservation Act 1992.* This decision was made on the basis that the use of grids was cruel. Exhibit "**CJB-8**" to this affidavit is a copy of a letter from the Senior Policy Advisor to the Minister informing me of this decision.

18. Exhibit "**CJB-9**" to this affidavit is a copy of a QPWS document "Attachment 1 – Humaneness of electric grids", which discusses the grounds on which the QPWS decided that use of electric grids was not humane.

19. The decision to not issue permits for lethal electric grids remains government policy, as stated in the QPWS Guideline *Damage Mitigation Permits for Flying Foxes*. Exhibit "**CJB-10**" to this affidavit is a copy of this document.

20. On 14 January 2006 there was a story in the *Cairns Post* newspaper, in which Mr Yardley was quoted as similarly admitting to electrocuting flying-foxes. Exhibit "**CJB-11**" to this affidavit is a copy of this story. The pertinent quote is:

> "We took out 700 bats not this last year but the year before using our electric grids," Mr Yardley said.

21. On 1 July 2006, there was a letter to the editor printed in *The Weekend Post* (a Cairns newspaper) by a "Dick Yardley, PO Box, Miriwinni", also containing admissions of electrocution of flying-foxes. This letter was published after officers from the federal Department of Environment and Heritage, and the EPA had visited Mr Yardley's property to investigate his admissions. Exhibit "**CJB-12**" to this affidavit is a copy of the letter to the editor. The pertinent section states:

> To protect my crops from the flying fox vermin, I use a lawful humane electric grid system.

22. Prior to these admissions, on 21 November 2005 I had observed the respondents' orchard from Hosking Road. I saw that the grids were still in place. However, there was no fruit on the lychee trees observable from the road, so I assumed the grids were not in use. This accords with the first respondent not stating that there were deaths on the grids in 2005. There was a widespread failure of lychee crops on the coast in 2005.

Likelihood of illegal killing by the respondents in the future

23. Of great concern to me is that the first respondent stated that he believed the lethal use of electric grids is legal. I infer from this and the fact that he sought to make these claims and make admissions on public radio about electrocuting flying-foxes that he intends to continue to electrocute flying-foxes. The pertinent statement made by the first respondent in the ABC radio interview is:

> "There's no law that says we can't use electric grids. EPA is only an agency and they have policies that say we can't do it, but that doesn't mean it's law. We can still use our electric grids."

24. The story in the *Cairns Post* on 14 January 2006 also cites the first respondent as stating that the use of his electric grids was legal. The pertinent statements in the newspaper are:

> But Mr Yardley said other methods of control did not work as well or cost too much and he was prepared to go to court to defend his use of the high-voltage zapper.
>
> "The EPA is only an agency," he said. "They have got plenty of policies but no law."

25. Furthermore, the letter to the editor, which was presumably written by the first respondent, also claims that use of the grids is lawful and his statement about using the grids is written in the present tense.

Investigation of the first respondent's admissions by government agencies

26. In response to the public admissions by the first respondent on ABC Radio, on the day of the interview of 10 January 2006, I emailed the compliance and enforcement section of the federal Department of Environment and Heritage and the Director-General of the EPA requesting enforcement action against the first respondent. Exhibit "**CJB-13**" to this affidavit is copy of the emails that I sent. I was informed by both government departments that the admissions by the first respondent would be jointly investigated.

27. In late July 2006, in response to my request for information about the investigations I was informed that there had been a joint investigation and that because corroborating evidence had not been obtained there would be no legal action taken against the respondents.

Scientific classification and morphology of North Queensland flying-foxes

28. Flying-foxes are large bats (Class Mammalia, Order Chiroptera, Suborder Megachiroptera, Family Pteropodidae, Genus *Pteropus*) well recognised as vital for maintaining ecological processes in tropical to temperate forests through their role in pollination and seed dispersal of many species of flowering plants.

29. The three species of flying-foxes found in North Queensland, and the obvious morphological characteristics used to distinguish each species, are as follows:

    (a) Black Flying-foxes (*Pteropus alecto*) are relatively large with black or dark brown fur covering their bodies and often a reddish ruff on the back of their neck;

    (b) Little Red Flying-foxes (*Pteropus scapulatus*) are relatively small with reddish-brown coloured fur and wings; and

    (c) Spectacled Flying-foxes (*Pteropus conspicillatus*) are relatively large but are easily distinguishable from other species by a ruff of golden fur on the back of their neck and a golden ring of fur around their eyes (hence their common name, "Spectacled Flying-foxes").

30. These three species of flying-foxes are mammals indigenous to Australia.

31. Although in his public statements the first respondent did not specify which species of flying-fox he had electrocuted, I believed that it was most likely to have been Spectacled Flying-foxes as they are the dominant flying-fox species in the Wet Tropics region surrounding the respondents' farm and the most likely species to be in fruit orchards.

32. Exhibit "**CJB-14**" to this affidavit is a copy of a photograph of a young Spectacled Flying-fox, showing characteristic 'spectacle' markings. I retrieved

this flying-fox as a baby from its electrocuted mother in a fruit orchard and cared for until it was released back into the wild.

Ecology, reproduction and conservation status of flying-foxes

33. Flying-foxes are considered very important ecologically for their role in seed dispersal of fruits of native rainforest trees and pollination of native trees. Flying-fox scientists Dr Les Hall and Dr Greg Richards in their book *Flying Foxes: Fruit and Blossom Bats of Australia* (published by UNSW Press, 2000) say the following about the ecological role of flying-foxes:

> "Overall, there is a great deal of evidence that megachiropterans, and particularly flying-foxes, play a vital pollination role in forest ecosystems in Australia" (p. 80).
>
> "In Australia, flying-foxes and tube-nosed fruit bats may be the only seed dispersal agent for many rainforest trees, and therefore play an important role in the long-term survival of some tree species" (p. 80).
>
> "Myrtacaea appear to be highly dependent upon flying-foxes in Australia for outcrossed pollination, and a large suite of rainforest tree species are dependent upon them for pollination and seed dispersal…" (p. 84)

34. Flying-fox populations are sensitive to imposed mortality such as culling on fruit orchards. Biologists Dr Allen McIlwee and Dr Len Martin have carried out population modeling for flying-foxes to determine the likely impacts of culling. In their paper "On the intrinsic capacity for increase of Australian flying-foxes (*Pteropus spp., Megachiroptera*)" published in *Australian Zoologist* in 2002, Exhibit "**CJB-15**" to this affidavit, they state the following in the paper's abstract:

> "Flying-foxes are long-lived, seasonal breeders, with a rigid, well-defined breeding season that is largely or wholly genetically determined. Unlike opportunistic, highly reproductive species, such as rabbits or mice, female flying-foxes are unable to produce viable young before their second or third year of life, and are then capable of producing just one young per year. Such a breeding strategy will be successful only if flying-foxes are long-lived and suffer naturally low morality rates…Our models show explicitly that flying-fox populations have a very low capacity for increase, even under the most ideal conditions."

35. As the species most likely to have been killed by the respondents I will provide more detail about Spectacled Flying-foxes. This species is found in north Queensland, mostly in the Wet Tropics region. They roost in colony camps by day, with camps typically consisting of a few dozen to many thousands of individuals. They usually forage at night, eating blossoms, fruits, and leaves. Because of their role in seed dispersal and pollination, Spectacled Flying-foxes have been recognized as contributing to the values of the Wet Tropics World Heritage Area.

36. Spectacled Flying-foxes give birth to young generally from September to November. For about the first 3 weeks of life, the young flying-fox is carried by its mother when she forages. After that, the young is left at the flying-fox camp

with other young while the mother goes out to feed. Young flying-foxes are fed by their mothers for about 6 months. Any killing of a lactating female from September till February will most likely also result in the death of a young flying-fox from starvation.

Options for control of flying-foxes on orchards

37. Flying-foxes are regarded by some fruit growers as a pest because they eat and damage some commercial fruits, including lychees. That flying-foxes would target orchards is to be expected as many commercial fruit trees are the descendants of wild fruit trees which would rely on flying-foxes eating their fruit for seed dispersal. Flying-foxes have eaten fruits in orchards since early European settlement and all fruit growers who establish orchards in flying-fox habitats would be aware of their vulnerability to flying-fox damage. In North Queensland, flying-foxes are attracted to lychee orchards when the fruit is ripe or ripening until it is harvested from about November to January. The time during which lychee orchards are vulnerable to damage by flying-foxes may last from 6-8 weeks.

38. Fruit growers may apply for a Damage Mitigation Permit under the *Nature Conservation Regulation 1994* to kill flying-foxes to protect commercial fruit crops. Up until mid-2001, fruit growers in Queensland could apply for a permit to kill flying-foxes by electrocution on an aerial electric grid.

39. I am aware that the respondents were issued with at least one permit for electrocution of flying-foxes, in 2000. Exhibit "**CJB-16**" to this affidavit is a copy of a Damage Mitigation Permit issued to the respondents, which I obtained through a Freedom of Information request from the EPA.

40. As stated earlier, in July 2001 the Minister administering the *Nature Conservation Act 1992* determined to adopt a policy that the QPWS would not issue any more Damage Mitigation Permits for the lethal use of electric grids on the basis that the use of grids was inhumane. Fruit growers can currently obtain Damage Mitigation Permits to shoot Spectacled flying-foxes for crop protection. As stated in the Guideline *Damage Mitigation Permits for flying foxes*, Exhibit CJB-10, the maximum number of Spectacled Flying-foxes that can be shot on any one orchard is "15 for each month the permit is in force." The maximum number of Spectacled Flying-foxes that is permitted to be taken in Queensland during the 2005-06 season is 1,800.

41. There are alternative and non-lethal methods available to fruit growers to protect their crops from damage by flying-foxes, in particular, netting. Exhibit "**CJB-17**" to this affidavit is a copy of a document entitled *To Net or Not to Net*, published by the Queensland Department of Primary Industries, which outlines netting options for fruit farmers.

Preventing future electrocutions by the respondents

42. It is impossible to estimate how many flying-foxes will be killed on the respondents' electric grids if they are used in the future. The theoretical maximum number is limited by the electrical parameters of the grid and the numbers of flying-foxes which make contact with the grids. There is inherent potential for the grids to kill extremely large numbers of flying-foxes.

43. During my investigation of an orchard near Kennedy with 6.4 km of electric grid, based on the numbers of dead flying-foxes counted on 4 different occasions over 4 weeks, I estimated deaths of 300-500 Spectacled Flying-foxes per night. This equates to about 60 flying-foxes killed per kilometer of grid per night. If a rate of death similar to this occurred on the respondents' 600-800 meters of grids it would be possible for the respondents to kill hundreds or even thousands of flying-foxes during the lychee season in November and December each year, which is consistent with the deaths admitted by the first respondent in previous years.

44. The total number of flying-fox deaths resulting from the use of electric grids is higher than the number of dead on or under the grids. There are also likely to be flying-foxes which are injured and later die. In addition, the electrocution of lactating females results in the death of dependent young.

45. I am concerned that the respondents will continue to electrocute flying-foxes on their property and therefore seek an order for the dismantlement of the grids. Monitoring orchards for illegal use of electric grids is difficult as the killing is carried out on private property at night. Dead bodies can be cleared from grids before daylight.

46. In response to a complaint I made, the Queensland Ombudsman has recently recommended that the Queensland Government consider requiring the removal of electric grids because of the potential for illegal use and the costliness of monitoring. Exhibit "**CJB-18**" to this affidavit is a copy of a letter from the Deputy Queensland Ombudsman, dated 13 April 2006, in which he states it has been recommended that:

> EPA investigate options to prohibit the use of electric grids and require the removal of existing grids, including the option of pursuing appropriate amendments to the NCA (or other relevant legislation) (p. 11).

47. It would not be necessary to require the removal of the entire grid infrastructure to render grids inoperative in a way that can be easily observed. It would be sufficient only to require the removal of wires between poles. This could be accomplished simply and cheaply by cutting the wires where they are attached. The poles could be used for netting.

Remedying the killing of flying-foxes on the respondents' property

48. One way of remedying, as close as practicable, the killing of flying-foxes admitted by the first respondent would be a donation for the care and rehabilitation of injured flying-foxes.

49. The Tolga Bat Hospital operated by the Tolga Bat Rescue & Research Inc at 134 Carrington Road, Atherton, Queensland, is a non-profit facility for the care, rehabilitation and research into injured flying-foxes. Exhibit CJB-2 shows its location approximately 50 km west of the respondents' farm.

50. All the facts affirmed in this affidavit are true to my knowledge and belief.

Affirmed by Carol Jeanette Booth)
at Brisbane this)
22nd day of September 2006)
Before me:)

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Deponent

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Justice of the Peace / Solicitor

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