

**Land Protection Legislation  
(Flying-fox Control)  
Amendment Bill 2012**

**Report No. 14**

**Agriculture, Resources and Environment Committee**

**December 2012**

## **Agriculture, Resources and Environment Committee**

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## Abbreviations and definitions

ABLV	<i>Australian bat lyssavirus</i>
AWAC	Animal Welfare Advisory Committee
CASA	Civil Aviation Safety Authority
CRC	Rainforest Cooperative Research Centre
CSIRO	Commonwealth Scientific, Industrial and Research Organisation
Cwlth	Commonwealth
DAFF	Department of Agriculture, Fisheries and Forestry (Qld)
DEHP	Department of Environment and Heritage Protection (Qld)
DMP	damage mitigation permit
DPIF	Department of Primary Industries and Fisheries (Qld) (former)
DSE	Department of Sustainability and Environment (Vic)
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities (Cwlth)
EDONQ	Environmental Defenders Office of North Qld
enHealth	Environmental Health Committee (enHealth) of the Australian Health Protection Committee
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwlth)
LGAQ	Local Government Association of Queensland
LNP	Liberal National Party (Qld)
LPPSRM Act	<i>Land Protection (Pest and Stock Route Management) Act 2002</i>
MP	Member of Parliament
NC Act	<i>Nature Conservation Act 1992</i>
NCW Regulation	Nature Conservation (Wildlife) Regulation 2006
NQ	north Queensland
NSWFFCC	New South Wales Flying Fox Consultative Committee
QFFCC	Queensland Flying Fox Consultative Committee
QH	Queensland Health
Qld	Queensland
SEQ	south-east Queensland
Vic	Victoria

## Chair's foreword

This report presents the findings from the committee's inquiry into the Land Protection Legislation (Flying-fox Control) Amendment Bill 2012 introduced on 21 June 2012 by the Member for Dalrymple, Shane Knuth MP.

There is a diverse range of views in relation to flying-fox populations and colonies across Queensland, and the recommendations that have been made go some way to try to provide some perspective to the issues, and a balanced approach to addressing these issues.

On behalf of the committee I thank those individuals and organisations that made submissions to this inquiry.

I commend the report to the House.

A handwritten signature in blue ink, appearing to read 'I. Rickuss'.

Ian Rickuss MP  
**Chair**

December 2012



## Conclusions

### Flying-foxes in Queensland

Flying-foxes play a crucial role in our ecosystem as pollinators for native forests and commercial crops.

Flying-foxes are nomadic, opportunistic feeders, travelling up to 100 kilometres from their roosts in search of food. If their natural food sources such as blossoms and nectar are in short supply, they will target orchard crops to survive. All four flying-fox species known to cause crop damage in Queensland are 'protected' under the *Nature Conservation Act 1992*.

There is no current data on flying-fox numbers. The most recent data from 2000 and 2005 suggest that flying-fox species were in trouble with numbers falling at the time. This remains the basis for their protected species status. Flying-fox populations are currently being resurveyed.

Flying-fox colonies develop strong affinities with roosting sites. Research into roosts in south-east Queensland suggests that a patch of woodland at least a hectare in size with food in the area and a water source in close proximity (within 200 metres) are key criteria for flying foxes. Roost sites that meet these criteria in south-east Queensland tend to be in urban areas, though the reasons are not definitive.

Further research is needed to gain a better understanding of the behaviour of flying-foxes in urban and farming areas to inform policies aimed at reducing current and future conflicts with human settlements.

### Health and other implications for people living in close proximity to flying-fox colonies and roosts

The arrival of a colony of flying-foxes in close proximity to homes, and the smell and noise they bring, causes residents a great deal of stress and anguish.

According to the advice provided by Queensland Health, the health risk for people living in close proximity to flying-fox colonies and roosts is low. That advice also confirms that risks to vulnerable population groups are low and manageable. In Charters Towers where health concerns about flying-foxes have been raised, few people have presented to the Charters Towers Hospital for treatment of medical conditions related to flying-foxes. Queensland Health is unaware of any 'inpatient' admissions to the hospital that have been verified as having been caused by exposure to flying-foxes.

Queensland Health's advice, however, confirms the risk that people who handle flying-foxes may contract *Australian bat lyssavirus* through bites and scratches.

Since 1996, there have been 13 potential exposures to *Australian bat lyssavirus* from contact with flying-foxes in the Charters Towers area, and none have been fatal.

### Legislation, damage mitigation permits and other control measures

A range of interventions has been used in Queensland and other jurisdictions with varying success to mitigate the damage and nuisance caused by flying-foxes. These include netting, shooting, the use of loud noise, and the establishment of reserves. The committee notes the effectiveness of netting, though, at a prohibitive cost for many orchardists.

The committee is encouraged by work in Charters Towers and Mount Isa to establish fauna reserves for flying-foxes as a long-term strategy to minimise conflicts between flying-foxes and people while ensuring the survival of the threatened species.

The committee notes the potential for individuals and interest groups to make political mileage out of the problems caused by flying-foxes in urban areas at the expense of residents, rather than seeking to find real, workable solutions.

### **Examination of the Bill**

The provisions in the Bill seek to remove important protections for flying-foxes and flying-fox roosts from the *Nature Conservation Act 1992*, and to introduce new measures under the *Land Protection (Pest and Stock Route Management) Act 2002* for the management of flying-foxes as a pest species.

The Bill also proposes to insert new provisions for the management of flying-foxes as a pest species under the *Land Protection (Pest and Stock Route Management) Act 2002*, an Act for the management of stock routes and declared pests and weeds.

Further, the Bill would allow for action by a local government or an individual if they 'reasonably believe' the removal or destruction of a flying-fox will reduce the risk of disease or harm. The submissions received by the committee suggest that landowners and local governments do not have the requisite skills to decide this issue. Local governments also expressed concern that the Bill would, if passed, place greater cost burdens upon them.

The committee notes that there has been little to no consultation with the Commonwealth Government, local governments, other stakeholders or the public about the provisions contained in the Bill.

The committee also notes that while the provisions of the Bill would allow persons to be authorised to take action against one species, they may inadvertently harm another species roosting in the same colony, and are protected under the *Environmental Protection Biodiversity Conservation Act 1999* (Cwlth). This could lead to civil or criminal penalties pursuant to the Act for the persons involved.

The committee has considered the form and policy intent of the Bill and concludes that the Bill should not be passed. The committee is not convinced that it reflects an appropriate policy or legislative response to the issues the Bill seeks to address.

The committee encourages councils to work closely with the state and commonwealth governments to find practical solutions to flying-foxes in their areas.

### **Fundamental legislative principles**

The committee notes that Mr Knuth's advice that the proposed changes contained in the Bill are intended to work in conjunction with the *Environmental Protection Biodiversity Conservation Act 1999* (Cwlth).

However, the committee also notes that there is potential for inconsistency between provisions contained in the Bill and the *Environmental Protection Biodiversity Conservation Act 1999* (Cwlth), which may enliven s109 of the Constitution in relation to Commonwealth law prevailing over State law.



## Recommendations

### **Recommendation 1** **2**

The committee recommends that the Land Protection Legislation (Flying-fox Control) Amendment Bill 2012 not be passed due to its potential inconsistency with the federal Environment Protection and Biodiversity Conservation Act 1999 (Cwlth), and the lack of support from any level of government.

### **Recommendation 2** **8**

The committee recommends that the Minister for Environment and Heritage Protection review the current status of flying-foxes as 'protected' under the Nature Conservation Act 1992, in view of the findings of 2012 population surveys.

### **Recommendation 3** **8**

The committee recommends that the Minister for Environment and Heritage Protection commission research into flying-foxes to better understand:

- the reasons flying-foxes are moving into urban areas
- the key factors that determine the selection of roost sites by flying-fox colonies, and
- guidelines for councils and residents on species of trees and plants that provide food sources for flying-foxes, and suggesting that councils and residents not plant those species.

### **Recommendation 4** **25**

The committee recommends that the Government support further research into methods to disperse flying-fox colonies from roosts where required, in consultation with local councils. This includes researching alternative methods to contain flying-fox colonies, and the dispersal and relocation of flying-fox colonies in areas where contact with urban communities is having a detrimental effect.

### **Recommendation 5** **25**

The committee recommends that the Government monitor the progress of, and where required offer support to, the proposed fauna centres to be established in Mount Isa and Charters Towers, as a long term approach to relocate flying-fox colonies from urban areas in other areas of the state.

### **Recommendation 6** **25**

The committee recommends that research continue to be undertaken to find more cost-effective netting and other procedures to protect the fruit crop industry from flying-fox damage.



## 1. Introduction

### Role of the committee

The Agriculture, Resources and Environment Committee (the committee) is a portfolio committee established by a resolution of the Legislative Assembly on 18 May 2012. The committee's primary areas of responsibility are agriculture, fisheries and forestry, environment and heritage protection, and natural resources and mines.<sup>1</sup>

In its work on Bills referred to it by the Legislative Assembly, the committee is responsible for considering the policy to be given effect and the application of the fundamental legislative principles.<sup>2</sup>

In relation to the policy aspects of Bills, the committee considers the policy intent of the Bill, approaches taken by departments to consult with stakeholders and the effectiveness of this consultation. The committee may also examine how departments propose to implement provisions in Bills that are enacted.

Fundamental legislative principles are defined in Section 4 of the [Legislative Standards Act 1992](#) as the 'principles relating to legislation that underlie a parliamentary democracy based on the rule of law'. The principles include that legislation has sufficient regard to the rights and liberties of individuals, and the institution of Parliament.

### The referral

On 21 June, Shane Knuth MP, Member for Dalrymple, introduced the [Land Protection Legislation \(Flying-fox Control\) Amendment Bill 2012](#) (the Bill). The Legislative Assembly referred the Bill to the Agriculture, Resources and Environment Committee for examination, with the committee's report due, in accordance with SO 136(1), by 21 December 2012.

### The committee's processes

In its examination of the Bill, the committee:

- identified and consulted with likely stakeholders on the Bill
- sought advice from the Department of Environment and Heritage Protection (DEHP) regarding damage mitigation permits issued under the [Nature Conservation Act 1992](#) (NC Act)
- sought advice from other departments on their responsibilities in relation to the management of flying-foxes
- sought expert advice on public health implications for people living in close proximity to flying-fox colonies and roosts, and presentations at the Charters Towers Hospital for medical conditions related to flying-foxes
- examined research on the behaviour of flying-foxes and the efficacy of dispersal methods
- invited public submissions on the Bill
- convened a public briefing and hearing in the Parliamentary Annexe on Wednesday 31 October 2012 to clarify points raised by submitters, and
- sought expert advice on possible fundamental legislative principle issues with the Bill.

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<sup>1</sup> Schedule 6 of the [Standing Rules and Orders of the Legislative Assembly of Queensland](#) as at 14 September 2012.

<sup>2</sup> Section 93 of the [Parliament of Queensland Act 2001](#).

### **Examination of the Bill – should the Bill be passed?**

Standing Order 132(1) requires the committee to recommend whether the Bill should be passed. The committee considered the form and policy intent of the Bill. The committee notes that the Bill seeks to extend the circumstances in which a land owner or local government may destroy a flying-fox, disturb or drive away a flying-fox, or disturb or destroy a flying-fox roost.

After examining the Bill, the committee determined that the Bill should not be passed.

#### **Recommendation 1**

The committee recommends that the Land Protection Legislation (Flying-fox Control) Amendment Bill 2012 not be passed due to its potential inconsistency with the federal *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth), and the lack of support from any level of government.

## 2. Flying-foxes in Queensland

'Flying-foxes' are large bats (*Megachiroptera* [megabats]) that are native to Australia and include the species commonly referred to as fruit bats or blossom bats. They are mammals, have wingspans up to 1.6 metres, live on a diet of fruit, blossoms and nectar, and use their well-developed senses of smell and sight to find food.<sup>3</sup>

Flying-foxes are intelligent creatures with communal habits. The breeding cycle is annual, with only one young born per year. Females bear young from two years of age.<sup>4</sup> Estimates of the usual lifespan in the wild range from five years or less, with 10 years being exceptional,<sup>5</sup> to up to fifteen years.<sup>6</sup>

Flying-foxes have adapted to take advantage of introduced [plant] species found in urban areas and commercial orchards that—combined with native species—gives a year-round food supply.<sup>7</sup> They are good food foragers and range 60–100 km per night from their roost site. These characteristics make flying-foxes hard to predict and control.<sup>8</sup>

According to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC), flying-foxes:

*...generally congregate in camps made up of large numbers of individuals, but some also roost singly or in small groups. Camps can be found in a range of vegetation types, usually close to water in an area with a dense understorey, and*

*...move up to hundreds of kilometres to follow the flowering and fruiting of their food sources.<sup>9</sup>*

A Queensland study noted, as flying-foxes are nomadic, live their lives across a large geographical area and individual animals can fly huge distances:

*This means that management cannot be considered locally and in isolation of the rest of the flying-fox population. It also means impact in agricultural areas will be difficult to predict. The attractiveness of crops in one area will be a function of the attractiveness of food resources for the animals over a much broader area.<sup>10</sup>*

### Flying-foxes and the eco-system

Flying-foxes are important to maintaining healthy ecosystems as pollinators and seed dispersers given their high mobility. According to the Victorian Department of Sustainability and Environment (DSE), a single flying-fox can disperse approximately 60,000 seeds in one night.<sup>11</sup>

DEHP advises that by contributing to the ecosystem, flying-foxes have a positive effect on a number of industries and the wider economy:

<sup>3</sup> Department of Primary Industries and Fisheries (DPIF) 2008, *To Net or Not to Net*, 3<sup>rd</sup> edn, p.vii, <[http://www.daff.qld.gov.au/documents/BusinessAndTrade\\_BusinessDevelopment/Orchard-Netting-Report.pdf](http://www.daff.qld.gov.au/documents/BusinessAndTrade_BusinessDevelopment/Orchard-Netting-Report.pdf)>.

<sup>4</sup> DPIF 2008, p.3.

<sup>5</sup> DPIF 2008, p.3.

<sup>6</sup> Roberts, B, Kanowski, J and Catterall, C 2006, *Ecology and management of flying-fox camps in an urbanising region*, Issues in Tropical Forest Landscapes Series Issue 5, p.3, <[http://www.rainforest-crc.jcu.edu.au/issues/ITFL\\_flyingfox.pdf](http://www.rainforest-crc.jcu.edu.au/issues/ITFL_flyingfox.pdf)>.

<sup>7</sup> Hall, L 1994, 'Predicting flying-fox movements in South East Queensland: when, why and where', *Bird and Bat Control for Horticulture and Aquaculture Seminar Proceedings*, pp. 30-7.

<sup>8</sup> DPIF 2008, p.vii.

<sup>9</sup> Department of Sustainability, Environment, Water, Population and Communities 2012, *Flying-foxes and national environmental law*, accessed 20 August, <<http://www.environment.gov.au/biodiversity/threatened/species/flying-foxes.html>>.

<sup>10</sup> Department of Environment and Heritage Protection (DEHP) 2012a, *Correspondence*, 30 November 2012.

<sup>11</sup> Department of Sustainability and Environment 2012, *About flying-foxes*, accessed 30 November, <<http://www.dse.vic.gov.au/plants-and-animals/flying-foxes-home-page/flying-foxes-about-flying-foxes>>.

...native forests provide valuable timber, act as carbon sinks, stabilise our river systems and water catchments, and promote recreation and tourism opportunities returning millions of dollars to our economy each year.<sup>12</sup>

Many of Australia's commercial hardwoods rely on flying-foxes to transfer their pollen and thus avoid self-fertilisation and genetic inbreeding.<sup>13</sup>

The important role of flying-foxes in the environment was also noted by DEHP at the committee's public hearing:

*Flying-foxes are recognised as a major forest pollinator. They are basically a pretty big butterfly. They feed on flowers, they pick up pollen and their general foraging area is up to 50 kilometres and they are going, obviously, from tree to tree. They are considered quite vital to the health of our forests. Regardless of whether you just take the animal and its relationship to the ecosystem, it is a vital element of that.*<sup>14</sup>

The following sections provide brief information, based on advice provided by DEHP, about four species of flying-foxes found in Queensland that are known to have caused crop damage - the little red flying-fox, black flying-fox, grey headed flying-fox, and the spectacled flying-fox.<sup>15</sup>

## Identification, distribution and conservation status of Queensland flying-foxes

### The little red flying-fox (*Pteropus scapulatus*)

Little red flying-foxes are nomadic and their movements depend on food resources. They occur from Shark Bay in Western Australia round the north coast to Queensland and south to northern Victoria. There have been some recorded sightings in South Australia.

- Conservation status: least concern (NC Act)
- Reddish brown to dark brown
- Fur on neck, shoulders, around the eyes and under the wing varies from brown to yellow. The top of the head tends to be grey
- Distinguishable from other common flying-foxes  
By its small size; forearm length 125–156 mm and head and body length 195–235 mm
- There is little to no fur on the legs, and
- The ears are prominent.



Figure 1. Little red flying-fox Source: DEHP 2012f<sup>16</sup>

Little red flying-foxes feed predominantly on nectar. They are seasonally nomadic, following the mass flowering of native hardwoods, and their unpredictable movements depend on the flowering of these trees. They live in large camps—often near water—to which they return each year. The camps usually last 4–6 weeks while native trees in the area blossom. Unlike Australia's other flying-fox species, little red flying-foxes cluster together on branches when roosting.

<sup>12</sup> DEHP 2012b, *Importance of flying-foxes*, accessed 30 November, <<http://www.ehp.qld.gov.au/wildlife/livingwith/flyingfoxes/importance.html>>.

<sup>13</sup> Richards, G & Hall, L 2012, *A Natural History of Australian Bats: working the night shift*, CSIRO Publishing: Collingwood, p.141.

<sup>14</sup> Devery, M 2012, *Proof Hearing Transcript*, 16 November, p.8.

<sup>15</sup> DEHP 2012c, *Correspondence*, 29 November.

<sup>16</sup> DEHP 2012f, *Code of Practice – Ecologically sustainable lethal take of flying foxes for crop protection*, Nature Conservation Act 2012, p.10, <http://www.ehp.qld.gov.au/wildlife/livingwith/flyingfoxes/pdf/cp-wl-dmp-lethal-flying-fox.pdf>.

This species is migratory and is not regarded as a persistent orchard pest; however, when native blossoms fail, little red flying-foxes can cause severe damage to orchard crops.<sup>17</sup>

### The black flying-fox (*Pteropus alecto* subsp. *gouldii*)

The black flying-fox is the largest of the four mainland species in terms of body size in Australia. Black flying-foxes are found around the northern coast of Australia and inland wherever permanent water is found in rivers.

- Conservation status: Least concern (NC Act)
- Short black fur with a slight silver frosting in older individuals
- Brown rings around the eyes are found on some individuals which usually have dark grey-brown hind neck and shoulder fur
- There is no fur on the lower leg of this species, and
- Largest of the Australian flying-foxes with a forearm length of 150–191 mm and a head and body length of 240–280 mm.

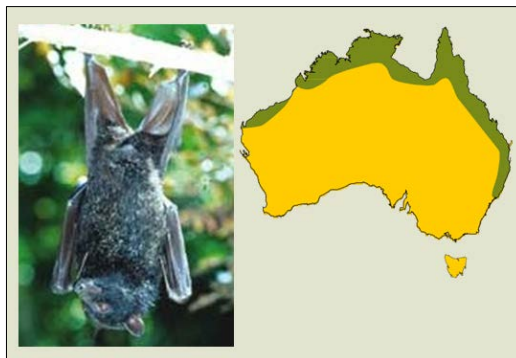


Figure 2. Black flying-fox Source: DEHP 2012f<sup>18</sup>

Black flying-foxes prefer to feed on the nectar and blossoms of eucalypts, paperbarks and other native trees.<sup>19</sup>

### The grey-headed flying-fox (*Pteropus poliocephalus*)

The grey-headed flying-fox occurs in rainforest, mangroves, paperbark swamps, wet and dry sclerophyll forests and cultivated areas. It occurs along the east coast of Australia from Rockhampton to western Victoria and inland to the western slopes.

- Conservation status: least concern (NC Act) (also classified as 'vulnerable' under the Commonwealth [Environment Protection and Biodiversity Conservation Act 1999](#)) (EPBC Act)
- Head and body covered in thick grey fur, with a reddish-yellow collar encircling the neck
- Fur extends to the ankle, and
- Large species with a forearm length of 138–180mm and a head and body length of 230–289mm.

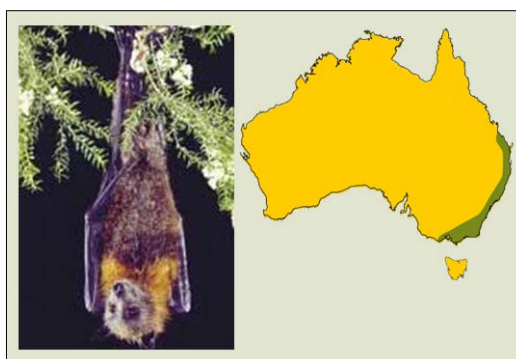


Figure 3. Grey-headed flying-fox Source: DEHP 2012f<sup>20</sup>

The grey-headed flying-fox is primarily a nectar feeder and is the largest flying-fox species in Australia – a fully grown male can weigh up to one kilogram and has a wingspan more than one metre. They can range long distances in search of food and are unpredictable in their movements. They are not regarded as migratory, moving only in response to food availability (and not on a seasonal basis).

The grey-headed flying-fox is regarded as an orchard pest over its entire distribution area particularly in northern New South Wales and south-east Queensland (SEQ).<sup>21</sup>

<sup>17</sup> DPIF 2008, p.1.

<sup>18</sup> DEHP 2012f, p.10.

<sup>19</sup> DPIF 2008, p.2.

<sup>20</sup> DEHP 2012f, p.11.

<sup>21</sup> DPIF 2008, p.2.

### The spectacled flying-fox (*Pteropus conspicillatus* subsp. *conspicillatus*)

The spectacled flying-fox occurs in the major rainforest areas of northern Australia and the Torres Strait. It is the only flying-fox species that inhabits one state – Queensland. It also has the smallest known population of the four Australian mainland flying-foxes.<sup>22</sup>

- Conservation status (in Queensland): least concern (NC Act) (also classified as ‘vulnerable’ under the EPBC Act)
- Almost Black with prominent yellow neck ruff and prominent straw-coloured fur surrounding the eyes and along the muzzle. The ruff and head is silver-blond in some individuals
- Yellow rings (spectacles) around the eyes
- There is no fur on the lower leg of this species, and
- Size of forearm is 160–189 mm and head and body length is 220–240 mm.

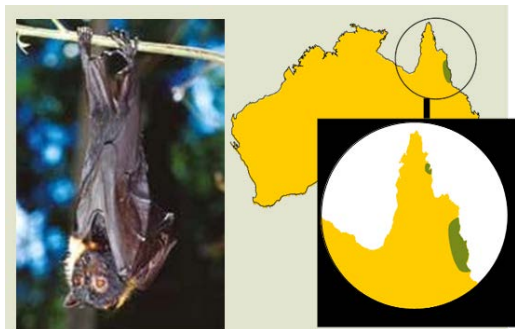


Figure 4. Spectacled flying-fox Source: DEHP 2012f<sup>23</sup>

The spectacled flying-fox is a more versatile feeder than other flying-fox species. Among its natural food sources are the fruits of north Queensland’s (NQ) rainforest trees.<sup>24</sup>

### Flying-fox numbers

DEHP advised that, in 2000, the estimated national population of the spectacled flying-fox was 80,000, and in 2005 the estimated national population for the grey headed flying-fox was 674,000.<sup>25</sup> There has been no extensive survey of the four species in Queensland since 2005. At the committee’s public hearing, DEHP advised of a national survey of grey flying-foxes and spectacled flying-foxes held in November 2012, though it would be three to five years before conclusive figures from the survey would be available.

Officers from DEHP also commented on the increasing urbanisation of flying-foxes and the perception that flying-fox numbers are increasing:

*I cannot comment directly about population size, but what we do see is a change in the occurrence of flying-foxes over the past 15 perhaps to 20 years, with increasing urbanisation of flying-foxes. It is generally agreed that that is because the broader food resource has been impacted and fragmented as a result of what people do and that, increasingly, urban and peri-urban areas are little oases of food resource for flying-foxes. That means that there has been a shift in where flying-foxes have been to where they are now.*

*This gives the perception of an increase in population. If people have not had flying-foxes in their area or as many or as frequently and then for the past number of years they have, it is a natural assumption that there must be more of them. I think that is probably the comment that I would make about broader ecological issues. Certainly the ecological changes at a habitat level have had some impact on where flying-foxes are now and that is why we are*

<sup>22</sup> CSIRO 2012, *Spectacled Flying Fox*, accessed 30 November 2012, <<http://www.csiro.au/en/Outcomes/Environment/Biodiversity/Spectacled-Flying-Fox/Bat-facts.aspx>>.

<sup>23</sup> DEHP 2012f, p.11.

<sup>24</sup> DPIF 2008, p.2.

<sup>25</sup> Clare, G 2012, *Proof Hearing Transcript*, 16 November, p.8.



*here, because of these increasing urbanisation issues and then those challenges of juxtaposing people with large numbers of animals.*<sup>26</sup>

## **Flying-fox roosts**

Flying-foxes roost in large communal camps, often within patches of dense vegetation (for example, rainforest, paperbark, swamps or mangroves). These roost sites provide shelter, focal points for social interaction and secure places to rear young.<sup>27</sup> At the committee's public hearing DEHP advised that there are over 300 known flying-fox roosts in Queensland.<sup>28</sup> Maps showing the locations of known flying-fox roosts are available from the DEHP.<sup>29</sup>

In relation to roosts, DEHP commented on why flying-foxes choose a particular location to roost:

*The primary driver of flying-fox movements is food. If there is food in an area where they are not getting harassed, they will go there. If there is no food in an area where they are not getting harassed but there is food in an area where they will get harassed, they will go there rather than starve. I think we need to appreciate that the primary driver of flying-fox movements is food availability.*<sup>30</sup>

Numbers of flying-foxes in camps vary greatly. Researchers from the Rainforest Cooperative Research Centre (CRC) recorded fluctuations in colonies of grey-headed flying-foxes in SEQ ranging from 20 to 18,000 individuals.<sup>31</sup>

Flying-foxes like to camp near water which often brings them into contact with people. They have a strong affinity with their roosts and if moved, may eventually return. According to the CRC, research of flying-fox camps compared to random sites in SEQ suggests that flying-fox camps were preferentially located:

- in coastal lowland areas (eighty per cent of campsites in SEQ were less than 60 metres above sea level)
- in close proximity to a river, creek or other drainage line (all within 200 metres), and
- in a patch of woody vegetation at least one hectare in size.<sup>32</sup>

Further research found that flying-fox camps tend to be surrounded by land in which:

- urban development was common e.g. two thirds of camps, but less than ten per cent of random sites, were surrounded by more than three square kilometres of urban land within a two kilometre radius, and
- woody vegetation was uncommon, e.g. 70 per cent of random sites, but only 40 per cent of camps, were situated in areas which had more than four square kilometres of woody vegetation within a two kilometre radius.

Camps used regularly by flying-foxes were surrounded, on average, by twice the amount of urban land when compared to the less regularly used camps.<sup>33</sup> Whether this is linked to the availability of food-source trees and plants in urban areas remains unknown. The CRC also noted that further research into the factors influencing the establishment and persistence of flying-fox camps is

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<sup>26</sup> Field, H 2012, *Proof Hearing Transcript*, 16 November, pp.8-9.

<sup>27</sup> Roberts, B, Kanowski, J and Catterall, C 2006, p.2.

<sup>28</sup> Devery 2012, p.5.

<sup>29</sup> Maps showing roost locations are available from the DEHP website at:  
<<http://www.ehp.qld.gov.au/wildlife/livingwith/flyingfoxes/roost-locations.html>>.

<sup>30</sup> Field 2012, p.9.

<sup>31</sup> Roberts, Kanowski and Catterall 2006, p.4.

<sup>32</sup> Roberts, Kanowski and Catterall 2006, p.4.

<sup>33</sup> Roberts, Kanowski and Catterall 2006, p.5.

required to help solve conflicts between flying-foxes and humans in urban areas.<sup>34</sup> The committee is not aware of further Queensland research in this area conducted since this work.

## Conclusions

Flying-foxes play a crucial role in our ecosystem as pollinators for native forests and commercial crops.

Flying-foxes are nomadic, opportunistic feeders, travelling up to 100 kilometres from their roosts in search of food. If their natural food sources such as blossoms and nectar are in short supply, they will target orchard crops to survive. All four flying-fox species known to cause crop damage in Queensland are 'protected' under the NC Act.

There is no current data on flying-fox numbers. The most recent data from 2000 and 2005 suggest that flying-fox species were in trouble with numbers falling at the time. This remains the basis for their protected species status. Flying-fox populations are currently being resurveyed.

Flying-fox colonies develop strong affinities with roosting sites. Research into roosts in SEQ suggests that a patch of woodland at least a hectare in size with food in the area and a water source in close proximity (within 200 metres) are key criteria for flying foxes. Roost sites that meet these criteria in SEQ tend to be in urban areas, though the reasons are not definitive.

Further research is needed to gain a better understanding of the behaviour of flying-foxes in urban and farming areas to inform policies aimed at reducing current and future conflicts with human settlements.

### Recommendation 2

The committee recommends that the Minister for Environment and Heritage Protection review the current status of flying-foxes as 'protected' under the *Nature Conservation Act 1992*, in view of the findings of 2012 population surveys.

### Recommendation 3

The committee recommends that the Minister for Environment and Heritage Protection commission research into flying-foxes to better understand:

- the reasons flying-foxes are moving into urban areas
- the key factors that determine the selection of roost sites by flying-fox colonies, and
- guidelines for councils and residents on species of trees and plants that provide food sources for flying-foxes, and suggesting that councils and residents not plant those species.

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<sup>34</sup> Roberts, Kanowski and Catterall 2006, p.6.

### 3. Health and other implications for people living in close proximity to flying-fox colonies and roosts

#### Effects of flying-foxes on urban communities

In the submissions received by the committee, and at its public hearing, the committee heard of the negative impact caused by large colonies of flying-foxes in close proximity to urban areas. At the public hearing, Mr Alan Henderson of the Charters Towers Action Group provided the committee with a personal insight into the problems experienced by residents of Charters Towers in relation to the flying-fox colony roosting in the town's Lissner Park.

*Lissner Park is located near the city centre and, as the committee knows, we have probably 40,000 to 50,000 flying foxes in Lissner Park. It causes all sorts of problems with the tourist industry because tourists will not sit in the park. The facilities are provided by the council—tables, chairs, barbecues—for those people and the local people but people cannot use them because they are always covered in bat faeces. It is also a health issue to be eating off those tables and chairs.*

*Also residents will not visit our public park with children for fear of catching bat-borne diseases. The bat faeces also cover the playground equipment. All the time the playground equipment is covered in bat faeces. The other thing that I would like to bring up is no council employees—and I work in the park—are inoculated to work under these bats. We are not inoculated with a rabies injection and council staff are saying that they should not have to work under these bats which are up in the trees all day putting bat faeces all over us, ticks and other things. We have to wear a plastic suit if we have to work under these bats, a full plastic suit. I am sure that our state member who is there with you can confirm that those plastic suits that we wear can get up to 40 degrees in temperature of a day. Council employees are suffering while wearing these suits and we do not think we should have to wear suits to work under bat trees. All these fellas who work down here are not injected to work under these trees.<sup>35</sup>*

#### Health risks

The following sections discuss the health implications for people living in close proximity to flying-fox colonies and roosts. The committee heard a range of concerns about the effects of living near colonies from submitters and others during the inquiry, and sought expert advice on the risks. These concerns include: risks from drinking water and food crops contaminated by flying-fox faeces; risks of handling faeces on outdoor surfaces; risks posed by parasitic ticks and flies around roosts; particular health risks faced by the young and the elderly; and the risks caused by stress, anxiety and social isolation.

The health risk information that follows was provided by Queensland Health (QH).<sup>36</sup>

#### Vulnerable population groups

The committee sought advice as to whether infants, the elderly, people who are convalescing or other groups with compromised immune systems are more susceptible to health risks from living in close proximity to flying-fox colonies or roosts.

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<sup>35</sup> Henderson, A 2012, *Proof Hearing Transcript*, 16 November, pp.18-19.

<sup>36</sup> QH 2012a, *Correspondence*, 9 November.

### **Queensland Health advice**

*The disease risks from living in close proximity to flying-fox colonies or roosts are generally low and simple measures such as those outlined above, and not handling bats, particularly sick or injured bats, will reduce the risk further. In terms of population groups that may be more susceptible to disease risks, people with compromised immune systems should take particular care with washing fruit or vegetables and only drinking effectively treated water, as they may be more likely to develop gastroenteritis from consuming food or water contaminated with bacteria. Young children or adults with cognitive impairment may need supervision to ensure they don't handle injured bats, as with other environmental hazards.*

*Public health advice applicable to flying-foxes closely resembles advice about snakes i.e. people should leave them alone and not touch them. Only people with appropriate training (and in the case of flying-foxes, who are vaccinated against rabies) should handle snakes or flying-foxes.*

### **Parasitic ticks**

The committee understands that ticks are prevalent on flying-foxes, particularly spectacled flying-foxes in NQ. The committee further understands that people living in proximity to flying-fox colonies and roosts may have a greater risk of being bitten and affected by ticks carried by flying-foxes.

The committee sought advice on the significance of these risks in NQ communities and other areas of the state, and on risks generally of contracting diseases carried by ticks.

### **Queensland Health advice**

*The main tick of public health significance in Australia is the paralysis tick (*Ixodes holocyclus*). Bandicoots are the main host of paralysis ticks, but they can also attach to a range of other animals including possums, kangaroos, wallabies, scrub turkeys, dogs, humans and flying-foxes. Animal health experts advise that flying-foxes are usually only sporadically affected as they generally roost and feed at higher levels while ticks are usually found close to ground level. However food shortages or changes in eating behaviour may increase the exposure of flying-foxes to ticks. For example spectacled flying-fox colonies on the southern Atherton tablelands have been affected by paralysis ticks on an annual basis from September to January since the early 1990s. This is thought to be linked to their foraging on wild tobacco bushes. Animal health experts advise that paralysis ticks only sporadically affect other species of flying-foxes on the Atherton Tablelands, and flying-foxes in other parts of Queensland.*

*As paralysis ticks are widespread in bushland on the eastern seaboard of Australia, and flying-foxes are not the principal host, flying-fox colonies or roosts anywhere in Queensland are unlikely to make a significant contribution to the overall likelihood of humans being bitten by ticks.*

*Most tick bites do not cause any health problems in humans. Some people develop allergic reactions, which are usually relatively mild but in rare cases can be severe. Tick paralysis in humans is rare but occasionally occurs in young children. Due to improvements in medical treatment and availability of a tick antitoxin there have not been any documented cases of death of humans due to tick paralysis for many years.*

*Ticks can also transmit infectious diseases. Queensland tick typhus is the main tick-borne disease that is relevant in Queensland. It can be readily treated with a common antibiotic and serious illness is rare. If untreated symptoms will resolve on their own within weeks to months. While Queensland tick typhus is thought to be uncommon, accurate data are not available as it is not notifiable.*

*Lyme disease is the most common tick-borne illness worldwide. However the bacterium that causes it has never been isolated from a tick in Australia, or in a human who has not travelled outside Australia.*

*Ticks do not transmit Hendra virus or Australian bat lyssavirus, the two viruses specifically associated with flying-foxes.*

### **Contamination of drinking water**

QH has advised residents living in proximity to flying-fox colonies and roosts not to drink rainwater collected from roofs and, in some cases, may recommend water collected from reservoirs and other open water sources in proximity to flying-fox colonies and roosts is further treated prior to use.

The committee sought advice on the health risks from consumption of drinking water contaminated by flying-fox faeces or flying-fox carcasses.

### **Queensland Health Advice**

#### Urban water supplies

*The consumption of water contaminated with animal faeces can lead to gastroenteritis caused by bacteria such as E. coli, Campylobacter and Salmonella. For this and other reasons, water from surface waters such as dams and rivers is typically treated at water treatment plants before being supplied as drinking water. It is not uncommon for surface waters to be contaminated by animal faeces and/or carcasses, however well operated drinking water treatment systems will successfully mitigate any potential increased risk. No incidents of microbial contamination in treated drinking water have been reported in Queensland that have been attributed to the contamination of surface waters by flying-fox faeces or flying-fox carcasses.*

#### Rainwater tanks

*Faeces deposited on roofs and gutters by flying-foxes and other animals (including possums, birds, lizards, frogs and other bats) can contain bacteria including E. coli, Campylobacter and Salmonella, which can be washed into rainwater tanks during rainfall events. Given the potential for faecal contamination from a range of animals, Queensland Health recommends that people with access to a reticulated town water supply should use that supply for drinking, personal hygiene and food preparation purposes in preference to water from a rainwater tank. If a rainwater tank is the only supply available, the health risks can be reduced by appropriate management of the collection and storage system and effective treatment of the water. Advice on treatment options may be obtained from local rainwater tank suppliers or the enHealth 'Guidance on use of rainwater tanks'.<sup>37</sup>*

#### Swimming and other recreational water use

*Recreational waters, swimming pools and outdoor spas can become contaminated with bacteria if animals (including flying-foxes) defecate or urinate over or near them. However, humans are the most significant source of potentially disease causing bacteria in waters used by people for recreational purposes. In Australia, the risk of getting sick from swimming is significantly greater than from treated drinking water supplies. Risk from recreational water activities can be reduced by avoiding swimming in natural water bodies known to be subject to contamination by animal faeces, and by maintaining effective treatment of swimming pools, outdoor spas and water parks. If a property is under a flying-*

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<sup>37</sup> Environmental Health Committee (enHealth) of the Australian Health Protection Committee 2010, *Guidance on use of rainwater tanks*, Commonwealth of Australia: Canberra, <[http://www.health.gov.au/internet/main/publishing.nsf/Content/DD676FA1241CDD0DCA25787000076BCD/\\$File/enhealth-raintank.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/DD676FA1241CDD0DCA25787000076BCD/$File/enhealth-raintank.pdf)>.

*fox flight path it may be beneficial to keep pools and outdoor spas covered when not in use. The most important safeguard for outdoor pools and spas is to maintain effective disinfection.*

*Flying-foxes may also be infected with viruses such as Australian bat lyssavirus or Hendra virus, however these do not pose a risk through consumption of water (either reticulated town water supplies or rainwater) or swimming or other recreational water use. There is no evidence of direct bat to human transmission of Hendra virus – all seven human cases of Hendra virus infection to date had extensive exposures to the body fluids of infected horses. There is no evidence of transmission of Australian bat lyssavirus, or similar viruses such as rabies virus, through drinking water or recreational water use – transmission of these viruses occurs mainly through animal bites. Neither virus is able to survive for a significant time in the environment.*

### **Contamination of food crops**

Residents living near colonies/roosts have been discouraged from eating fruit and vegetables grown in their gardens because of the risk of faecal contamination from flying-foxes. The committee sought advice on these contamination risks.

#### **Queensland Health advice**

*Any fruit or vegetable could potentially be contaminated with bacteria, either from the soil or from animal or bird faeces. Flying-fox faeces pose no different contamination risk to faeces from birds or other animals. Fruit and vegetables should be washed before use to minimise health risks, and should be discarded if they appear to have been damaged or partially eaten by animals.*

### **Risks from handling surfaces contaminated with flying-fox faeces**

The committee heard at its public hearing of concerns among residents in Charters Towers that flying-fox faeces on playground equipment may pose health risks to children.

The committee sought advice on these risks, particularly to small children, and how these risks can be ameliorated.

#### **Queensland Health advice**

*Surfaces contaminated with flying-fox faeces pose no different risk to surfaces contaminated with bird faeces. Flying-fox and bird faeces may contain bacteria that could cause gastroenteritis; the risk is mainly when the faeces are fresh and moist – when fully dried out the risk will be negligible. Queensland Health recommends that parents not allow their children to play on playground equipment that is visibly contaminated by animal or bird faeces. The local council or other owner should be contacted and asked to clean up such equipment. Cleaning with water to remove visible contamination is usually all that is necessary. If children have played on or touched a contaminated surface before it became apparent that the surface was contaminated, their hands should be washed, with soap and water or alcoholic hand rub where available.*

### **Flies from decaying flying-fox carcasses**

The committee understands from submitters that flies quickly feed on flying-fox carcasses that are not promptly removed from around flying-fox roosts, and that these flies spread quickly to neighbouring dwellings.

The committee sought advice on the health risks associated with the presence of decaying flying-fox carcasses, and the flies that are attracted to them.

### **Queensland Health Advice**

*Flies crawling on food may contaminate it with bacteria that could cause gastroenteritis. While the risk is generally low, food should be protected from flies where possible. Flies that have fed on a flying-fox carcass would not pose any significantly different risk to flies that had fed on the faeces of other wild animals, pets or livestock.*

### **Contact with domestic animals and livestock**

The committee sought advice on the risks of contracting illnesses from flying-foxes via contact with domestic pets and livestock that may be exposed to flying-foxes.

### **Queensland Health Advice**

#### Australian bat lyssavirus

*There is currently no evidence that domestic animals in Australia (or any wild animals other than bats) have ever naturally contracted Australian bat lyssavirus (ABLV) infection, and no evidence that ABLV has ever been passed from a domestic animal to a human.*

#### Hendra virus

*All seven cases of human infection have been acquired through high level exposure to the body fluids (especially respiratory secretions and blood) of Hendra virus infected horses. It is thought that horses contract Hendra virus infection by eating material contaminated by infected flying-fox body fluids and excretions.*

*There are a number of measures that horse owners can take to reduce the risk of horses becoming infected with Hendra virus. These include placing feed bins and water troughs under cover, avoiding planting trees that attract flying-foxes in or near horse paddocks, removing horses from paddocks if flying-foxes are feeding on trees or roosting in that paddock, and isolating sick horses. A vaccine for horses has also recently become available.*

*Measures that horse owners, veterinarians and others should take to reduce the risk of human infection include avoiding contact with sick horses where possible, using appropriate personal protective equipment, and showering/washing hands and clothes if contaminated by body fluids.*

*There has not been a case of human Hendra virus infection in Australia since 2009, despite more than 20 incidents involving infected horses in 2011 and 2012. This is thought to indicate that preventive measures are becoming more frequently practised by horse owners and veterinarians.*

*A single dog developed antibodies to Hendra virus, without illness, on a property where three horses developed Hendra virus infection in July 2011. Although the source of exposure for the dog cannot be definitively ascertained, horse-to-dog transmission is the most plausible scenario given the dog had opportunity for exposure to infected horses. There is no evidence to date that bat-to-dog or dog-to-person or dog-to-horse transmission occurs.*

*While cats, guinea pigs, ferrets and pigs have also been infected with Hendra virus experimentally, the virus has not been known to occur naturally in these animals.*

### **Stress, anxiety and mental illness**

The committee sought advice on the health risks to residents due to stress, anxiety or other psychological illnesses or conditioning they experience as a result of living in close proximity to flying-fox colonies and roosts.

### **Queensland Health advice**

*Health, mental health and wellbeing depends on the quality of our environment – natural, built, social and cultural, so far as we are able to walk and interact safely, breathe easily or realise our potential physically, intellectually and emotionally.*

*Mental health is a very complex construct; mental distress and mental disorders are multifactorial in their aetiology; a multitude of risk factors influence the onset, course and restitution of disorders and these factors interact differently at the individual, social and cultural levels.*

*In addition to a wide range of factors, research has identified three central social and environmental determinants of mental health as including:*

- *social inclusion (supportive relationships, involvement in community and group activities, civic engagement),*
- *freedom from discrimination and violence (personal safety and security), and*
- *access to economic resources (work, education, housing, money).*

*The built and proximal physical environments in which we live and interact can thus affect directly and indirectly the key determinants of mental health. From a stress response or risk factor perspective, close and persistent exposure to flying-fox colonies, can result in a range of adverse living experiences and conditions. These include increased noise, fear of contamination including from the cited carcasses and flies; restricted use of physical space as well as affecting land values and resale potential. Such adverse conditions can disrupt among other things the important processes of social inclusion and economic participation; sense of community, personal control, safety and mastery. This in turn can be detrimental to mental health; result in adverse short term psychological and physical responses; and potentially lead to longer term negative outcomes including depression, anxiety and other mental disorders.*

*The impact of environmental factors on a person's mental health and wellbeing is variable between individuals and therefore any adverse impact must be assessed on a case by case basis.*

### **Flying-fox related presentations to the Charters Towers Hospital**

The committee sought advice on the number of presentations to the Charters Towers Hospital for treatment of illnesses or other conditions linked to exposure or proximity to flying-foxes, including where possible, statistics on presentations over a number of years, by year.

### **Queensland Health advice**

*Bat bites and scratches are notifiable to QH under the [Public Health Act 2005](#). Public health units follow up all these notifications to ensure that the people bitten or scratched are promptly offered a course of post-exposure immunisation to prevent Australian bat lyssavirus (ABLV) infection (unless the bat has been euthanased and tested negative for ABLV). Post-exposure vaccination occurs either through General Practitioners or at local hospital emergency departments on an 'outpatient' basis. Since 1996, 21 potential exposures (bat bites or scratches) have been reported in residents of Charters Towers, 13 of which were identified as related to flying-foxes, one to a microbat,<sup>38</sup> and seven where the type of bat was not known. Numbers of exposures by year are shown in the table below.*

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<sup>38</sup> Microbats (*Microchiroptera*) are generally small bats with wingspans up to 30 cm. Microbats are different to flying-foxes (macro bats), and use echolocation (biological sonar) to hunt their prey, and most eat insects.



Queensland Health is not aware of any 'inpatient' admissions to Charters Towers Hospital that have been verified as having been caused by exposure to flying-foxes.

**Table 1: Number of potential ABLV exposures and type of bat involved, Charters Towers, 1996–2012\***

Year	Flying Fox	Microbat	Unknown Type	Total Exposures
1996			2	2
1997				0
1998			1	1
1999	1		1	2
2000	2			2
2001	2	1	2	5
2002	1			1
2003	1			1
2004			1	1
2005				0
2006				0
2007				0
2008	1			1
2009				0
2010	4			4
2011				0
*2012	1			1
<b>Totals</b>	<b>13</b>	<b>1</b>	<b>7</b>	<b>21</b>

\* Year to date

## Public health information

QH has produced a publication designed to educate about flying-foxes: *Living with flying-foxes – Health and Conservation Issues for People Living near Flying Fox Communities*.<sup>39</sup> The committee is aware of other initiatives by government to raise awareness of health risks. The effectiveness of these initiatives is not known.

## Conclusions

The arrival of a colony of flying-foxes in close proximity to homes, and the smell and noise they bring, causes residents a great deal of stress and anguish.

According to the advice provided by QH, the health risk for people living in close proximity to flying-fox colonies and roosts is low. That advice also confirms that risks to vulnerable population groups are low and manageable. In Charters Towers where health concerns about flying-foxes have been raised, few people have presented to the Charters Towers Hospital for treatment of medical conditions related to flying-foxes. QH is unaware of any 'inpatient' admissions to the hospital that have been verified as having been caused by exposure to flying-foxes.

QH's advice, however, confirms the risk that people who handle flying-foxes may contract *Australian bat lyssavirus* through bites and scratches.

Since 1996, there have been 13 potential exposures to *Australian bat lyssavirus* from contact with flying-foxes in the Charters Towers area, and none have been fatal.

<sup>39</sup> QH 2012b, *Living with Flying-Foxes – Health and Conservation issues for people living near flying-fox communities*, accessed 23 November 2012, <<http://www.health.qld.gov.au/ph/documents/cdb/livingwithflyingfoxes.pdf>>.



## 4. Legislation, damage mitigation permits and other control measures

The following section provides information sourced from DEHP on damage mitigation permits and other measures for the control of flying-foxes.

### Legislation protecting flying-foxes

Flying-foxes in Queensland are protected under federal and state legislation:

- *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
- *Nature Conservation Act 1992* (Qld), and
- Nature Conservation (Wildlife) Regulation 2006.

#### ***Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)***

The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) provides that the grey-headed flying-fox and the spectacled flying-fox are 'vulnerable' species. If a species is listed under the EPBC Act, they are considered to be a 'Matter of National Environmental Significance'.

It is an offence to undertake an action that is likely to have a significant impact on a matter of National Environmental Significance without approval from the Commonwealth Government Minister.<sup>40</sup> For vulnerable species, an action is likely to have a significant impact if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of an important population of a species
- reduce the area of occupancy of an important population
- fragment an existing important population into two or more populations
- adversely affect habitat critical to the survival of a species
- disrupt the breeding cycle of an important population
- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
- result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat
- introduce disease that may cause the species to decline, or
- interfere substantially with the recovery of the species.

Section 18 of the EPBC Act provides for civil and criminal penalties for actions without approval in relation to listed or threatened species such as the grey-headed and spectacled flying-foxes.

A person who takes an action that is likely to have a significant impact on a Matter of National Environmental Significance, without first obtaining approval, can be liable for a civil penalty of up to \$550,000 for an individual and \$5.5 million for a body corporate, or for a criminal penalty of seven years imprisonment and/or a penalty of \$46,200.<sup>41</sup>

#### ***Nature Conservation Act 1992 (Qld)***

All flying-fox species and their roosts in Queensland are protected under section 88(c) of the NC Act. Section 88(c) provides that it is an offence if a person destroys a flying-fox roost or disturbs, drives

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<sup>40</sup> Department of the Environment and Heritage 2003, *EPBC Act Administrative Guidelines on Significance - Supplement for the Grey-headed Flying-fox*, <<http://www.environment.gov.au/epbc/publications/grey-headed-flying-fox.html>>.

<sup>41</sup> DSEWPC 2011, *Compliance and enforcement mechanisms*, <<http://www.environment.gov.au/epbc/compliance/compliance-mechanisms.html#penalties>>.

away or attempts to drive away a flying-fox in or from a roost, if unauthorised.<sup>42</sup> Significant penalties up to 1000 penalty points or imprisonment apply. Section 88(c) is copied below:

**88C Restrictions relating to flying-foxes and flying-fox roosts**

- (1) A person must not destroy a flying-fox roost unless the person is an authorised person or the destruction is authorised under this Act.  
Maximum penalty—1000 penalty units or 1 year's imprisonment.
- (2) A person must not drive away, or attempt to drive away, a flying-fox from a flying-fox roost unless the person is an authorised person or the driving away is authorised under this Act.  
Maximum penalty—1000 penalty units or 1 year's imprisonment.
- (3) A person must not disturb a flying fox in a flying-fox roost unless the person is an authorised person or the disturbance is authorised under this Act.  
Maximum penalty—100 penalty units.
- (4) This section does not apply if the flying-fox roost is in a protected area. *Note—*  
For interfering with natural resources in protected areas, see section 62 (Restriction on taking etc. of cultural and natural resources of protected areas).
- (5) Also, this section does not apply for an Aborigine or Torres Strait Islander taking, using or keeping a flying-fox under section 93.
- (6) In this section—  
**breeding** includes gestating.  
**drive away**, a flying-fox from a flying-fox roost, means—
  - (a) cause the flying-fox to move away from the roost; or
  - (b) if the flying-fox has moved away from the roost, deter the flying-fox from returning to the roost.*Examples of ways of driving away a flying-fox—* using sound, light, smoke, electric current or chemicals  
**flying-fox** means a protected animal of the genus *Pteropus*.  
**flying-fox roost** means a tree or other place where flying-foxes congregate from time to time for breeding or rearing their young.

**Nature Conservation (Wildlife) Regulation 2006 (Qld)**

Schedule 6, section 4 of the Nature Conservation (Wildlife) Regulation 2006 (Qld) (NCW Regulation) provides a general protection for all Queensland flying-fox species as a 'mammal' of 'least concern wildlife'. The provision provides that a mammal that is indigenous to Australia, with some exceptions, are least concern wildlife. Schedule 6 section 4 is copied below:

**4 Mammals**

- (1) A mammal that is indigenous to Australia, other than the following, is least concern wildlife—
  - (a) a mammal that is extinct in the wild, endangered, vulnerable or near threatened wildlife;
  - (b) a dingo (*Canis familiaris dingo*).
- (2) The following mammals are included in least concern wildlife—
  - (a) echidna (*Tachyglossus aculeatus*);
  - (b) koala (*Phascolarctos cinereus*), for an area other than the south-east Queensland bioregion;  
*Note—*  
Under schedule 3, section 10, a koala (*Phascolarctos cinereus*) is vulnerable wildlife for the south-east Queensland bioregion.
  - (c) platypus (*Ornithorynchus anatinus*).

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<sup>42</sup> *Nature Conservation Act 1992*, s88(c)

## The reintroduction of damage mitigation permits

The Department of Environment and Heritage protection provided advice on the reintroduction of damage mitigation permits for the control of flying-foxes.<sup>43</sup> The following sections are based on that advice.

In the 2012 election campaign, the Liberal National Party (LNP) committed to re-introduce damage mitigation permits (DMPs) to shoot flying-foxes to protect crops.

These changes have recently been finalised through the introduction of amendments to the NCW Regulation, and a new code of practice – ecologically sustainable lethal take of flying-foxes for crop protection (code of practice).<sup>44</sup>

If flying-foxes are impacting on the health and wellbeing of the public or causing damage in a community, landowners or councils can apply to DEHP for a DMP to safely manage a roost. DMPs allowing lethal takes of flying-foxes may be issued where non-harmful measures are proving ineffective and the use of shooting has been assessed as being an appropriate option for crop protection. Where approved, shooting will be an additional measure to ongoing non-harmful measures, such as netting, as part of an integrated crop protection strategy.

[Appendix C](#) is a flowchart that outlines the process for assessing whether it is appropriate to move a flying-fox roost, and the stage at which a DMP would be appropriate.

## Background

Under the previous section 185(e) of the wildlife management regulation the chief executive was only able to grant a DMP to take (including shoot) a protected animal if, among other things, the chief executive was satisfied the way the animal was to be taken was humane.

In 2008, the Animal Welfare Advisory Committee (AWAC), established under the [Animal Care and Protection Act 2001](#), found the shooting of flying-foxes for crop protection under a DMP to be inhumane. In accordance with the AWAC's findings, the chief executive ceased granting DMPs to shoot flying-foxes.

Under section 175 of the NC Act, the Governor-in-Council may make regulations under the Act. Under section 174A of the Act, the chief executive may, by gazette notice, approve or make codes of practice.

## Current issues

The amended NCW Regulation established new criteria for the issuing of DMPs specifically for the take of flying-foxes (section 185(2)). The chief executive (or their delegate) needs to be satisfied of these criteria before issuing a DMP for shooting flying-foxes. The criteria do not include the previous wording regarding humaneness (section 185(1)(e)) but instead refer to the new code of practice. The code of practice contains controls and safeguards to ensure that lethal DMPs are only issued in limited circumstances, and that any resultant suffering is minimised.

In particular the code:

- (a) limits the issue of lethal DMPs to crop growers, who have a commercially viable crop in the current growing season
- (b) includes a quota per species per year. This will ensure that any take authorised by the chief executive will remain within the Commonwealth Government quotas for the species protected by its legislation and that take of non-threatened species is sustainable<sup>45</sup>

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<sup>43</sup> DEHP 2012c, *Correspondence*, 29 November.

<sup>44</sup> The code is available from the Department of Environment and Heritage Protection website: <http://www.ehp.qld.gov.au/wildlife/livingwith/flyingfoxes/pdf/cp-wl-dmp-lethal-flying-fox.pdf>.

- (c) includes the list of non-lethal methods that must be attempted prior to applying for a DMP for the lethal take of flying-foxes and used in conjunction with lethal methods
- (d) sets clear standards regarding acceptable shooting practices to ensure any resulting pain or suffering is minimised, and
- (e) provides additional, non-regulatory information regarding the non-lethal methods of crop protection, e.g. netting, sound and light, to better inform growers; and general health and safety precautions with regard to *Hendra virus* and *Australian bat lyssavirus*.

The amendments to the regulation also include specific authorising provisions to allow the killing of adult and dependent young flying-foxes in accordance with the code. These provisions specify that any killing of dependent young flying-foxes would count toward a permit holder's quota.

The Governor-in-Council approved the regulation amendments on 6 September 2012, and the code was gazetted the following day.

### Measures to prevent damage to crops caused by flying-foxes

Despite the positive impact flying-foxes have on the environment, they can have a detrimental impact on orchard crops. A range of methods used by orchardists to prevent this damage, and their costs, were discussed at the committee's hearing. The committee heard that:

*The fruit growers who have issues with flying foxes undertake a range of management practices. Netting is a common one for commercial producers. The range of netting goes, as you are aware, from throwover nets to full canopy nets and all sorts of tailored netting in between. Certainly there is a significant cost in that depending on how full-blown you go.*

*The full canopy netting is quite expensive to do now because the cost of materials has certainly gone up, with posts and wires and netting. I am not up to date with the latest costings, but you are going to be looking at well over \$20,000 a hectare for full canopy netting. The profit margin for a lot of crops makes it quite marginal to invest that sort of money, so people look for cheaper options. So they look for either throwover netting or lights or a combination of management techniques to manage the flying fox. Obviously another potential option, as discussed, is damage mitigation permits, which is another management technique put into the mix.<sup>46</sup>*

In its 2009 report, the Queensland Flying Fox Consultative Committee (QFFCC) in conjunction with the New South Wales Flying Fox Consultative Committee (NSWFFCC), sought to identify potential solutions to dispersing flying-foxes from food crops, although equally, some of these methods could also be applied to removing flying-foxes from urban areas. The table on the next page, from the report of those committees,<sup>47</sup> presents their findings on the efficacy of a range of interventions.

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<sup>45</sup> Further information on quotas, including maximum numbers per permit, is contained in the Operational Policy available from the Department of Environment and Heritage Protection website: <<http://www.ehp.qld.gov.au/wildlife/livingwith/flyingfoxes/pdf/op-wl-dmp-flying-fox.pdf>>.

<sup>46</sup> Macleod, N 2012, *Proof Hearing Transcript*, 16 November, p.6.

<sup>47</sup> DPIF 2009, *Flying fox control methods research findings*, p.3, <[http://www.daff.qld.gov.au/documents/BusinessAndTrade\\_BusinessDevelopment/Flying-fox-control-methods-research.pdf](http://www.daff.qld.gov.au/documents/BusinessAndTrade_BusinessDevelopment/Flying-fox-control-methods-research.pdf)>.

## Flying-fox interventions

**Table 2: Overview of damage mitigation trialled methods**

Technique	Method	Success
Netting – full canopy netting	The net is held permanently by a rigid structure of poles and tensioned cables over the entire orchard.	Success levels are very high. The structure is expensive and prone to damage in regions that experience cyclones, high wind and hail.
Netting – Tunnel Netting	A series of light frames connected by wires are erected at intervals along the row to support the net and hold it away from the tree. The nets are placed over the frame only when fruit has matured.	Fruit touching the net can be damaged by pests on the outside of the net. Nets need to be pegged down to avoid pests getting under the net.
Smell – flying foxes have a highly developed sense of smell.	Carbide	The smell of carbide was successful in deterring flying foxes in 1982 in north Queensland. However, flying foxes will become accustomed to the smell.
Sound	Replaying recorded sounds, such as bangers, clangers, poppers, bombers and sirens	Sound can initially be successful, however long term use is doubtful. Flying foxes become accustomed very quickly to sounds if they are not met with real danger.
Lights	Flashing strobe lights and bright light grids over orchards	Lights can be initially successful, however flying foxes become accustomed to the light and will feed in a fully illuminated orchard. It also has the potential to act as a beacon and guide the flying foxes to the orchard.
Electric wires	Horizontal grid of electrified wires above the trees combined with droppers hanging down the side	Electric wires can be moderately successful, however are now illegal in Queensland (banned in 2001).
Scare guns		Scare guns can be initially successful, however flying foxes will become accustomed if there is no danger.
Bags	Fruit protection bags placed over fruit	Fruit protection bags are an extremely labour intensive and costly mitigation method. Flying foxes can go under the bags.
Chemicals and allied substances	Certain chemicals have been trialled – some make the animals sick or disoriented, others give a bad taste.	Chemicals need to be resprayed after rainfalls, and residues can impact the flavour of the fruit. Methiocarb was used along with others.
Poisons	Various poisons are applied to fruits.	The use of poisons is non-target specific and illegal. It can also bring the fruit industry into disrepute.
*Shooting	Shooting of early arriving flying foxes ('scouts') prior to entire flock coming to feed.	Crop losses are often still extensive with shooting, especially when there is a scarcity of native food. No longer legal in Queensland.

\* Note: this method would now work in conjunction with the Government's Damage Mitigation Permit policy.

Source: DPIF 2009.

## Dispersal

Once established, flying-foxes are strongly aligned to their roosts and are therefore extremely difficult to displace. The QFFCC has previously undertaken trials using smell and ultra-sonic sound system deterrents which had no effect on dispersing the flying-fox colony.<sup>48</sup> The NSWFFCC had a similar experience in 2001 when it tried a phoenix wailer (as a noise deterrent) and an envirospray repellent and found they had no effect on the colony tested. However, the dispersal of a flying-fox colony from an area like Lissner Park (in Charters Towers) is only one aspect of the equation, moving them to an appropriate location if dispersal is successful is perhaps the most difficult issue to achieve.

<sup>48</sup> DPIF 2009, p.5.

At the committee's hearing, Dr Field remarked:

*...I think one of the challenges with the dispersal of flying foxes is that you do not know where they are going to go. It is not relocation because relocation implies that you are going to put them from here to there. Dispersal just means that you are going to send them away. It may well be that they end up in an equally inappropriate or a more inappropriate place.<sup>49</sup>*

### **Loud noise**

Perhaps the most recent example of a successful dispersal of flying-foxes occurred at Sydney's Royal Botanic Gardens. Computerised recordings of loud industrial noise and banging sounds were played twice daily morning and evening, for approximately 45 minutes to displace the 5000 grey-headed flying-fox colony that had caused significant damage to heritage listed trees.<sup>50</sup> According to the Royal Botanic Gardens and Domain Trust, the use of this noise technique saw the flying-fox colony move to numerous other colonies within the Sydney region. This approach is consistent with the advice from DEHP, namely that for dispersal to work, sustained and managed disturbance, timed to confront flying-foxes as they return to their roost, must occur.<sup>51</sup>

The removal of this colony is noteworthy due to the fact it was not a new or transitory camp but a colony which had been well established for twenty years. However, flying-fox advocacy groups have disputed this success believing that the flying-foxes have simply moved close by to Centennial Park.

The use of loud noise as a deterrent was also supported by Mr John Pollock of Yungaburra who advised the committee at its public hearing that there were approximately 35,000 spectacled flying-foxes in the Yungaburra Park.

*I have observed that the most effective way of moving flying foxes on does not require a lot of loud noise but it requires a combination of visual—that is, they must make contact visually with the flying fox—and some noise to attract their attention, and that could be done as simply as clapping your hands. The reason I am saying that is that this year for the first time over winter the flying fox colony totally vacated the park. We found by doing that—just by clapping hands and making sure they saw you—the colony would disperse.<sup>52</sup>*

### **Other dispersal methods**

DEHP advises that the following techniques have been used successfully in the past to disperse transitory flying-fox camps.

- *Smoke generators (or drums filled with sawdust mixed with drip torch fuel). These should be placed along and/or beneath the roost site at a distance that ensures adequate smoke cover over the entire site.*
- *The dispersal team should be positioned to cover the entire campsite. People should ultimately be positioned directly beneath roost trees and produce a loud noise using metallic objects when the animals return.*
- *Bird Frite® cartridges (or similar product) fired from shotguns can be used to prevent bats from resettling in the target area. Please note: People using firearms and Bird Frite® (or similar product) should be placed at an adequate distance from other team members to allow safe operation of firearms.*
- *Intense light (for example, 2000W spotlights) directed towards the incoming animals.*

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<sup>49</sup> Field 2012, p.4.

<sup>50</sup> North West Star 2012, *Culling, not loud noise, the answer to bat problem: Katter*, June 12, <<http://www.northweststar.com.au/story/140129/culling-not-loud-noise-the-answer-to-bat-problem-katter/>>.

<sup>51</sup> DEHP 2012d, *Procedural guide – management of flying fox roosts in urban areas*, p.5.

<sup>52</sup> Pollock, J 2012, *Proof Hearing Transcript*, 16 November, p.22.



- *Creating a noise disturbance by using aerosol horns and/or using metal objects to create a loud metallic noise.*<sup>53</sup>

## Relocation

DEHP concedes that dispersal and relocation of a colony may not always be successful:

*Various aspects of flying-fox population dynamics dictate that attempts to disperse or move a roost may be difficult. Past attempts at translocation have rarely been successful. This factor should be given strong consideration when assessing an application for dispersal of a roost.*<sup>54</sup>

## Fauna Reserves

To address the issue of relocation, the Charters Towers Council is considering a long term approach by establishing a fauna habitat five kilometres from the centre of Charters Towers to attract the flying-foxes away from Lissner Park. Under this plan, a flying-fox hospital would also be created to nurse sick and injured flying-foxes.<sup>55</sup> The council intends to make flying-fox control methods a permanent part of its budget.<sup>56</sup>

A similar approach is being adopted by the council of Mount Isa where 500,000 flying-foxes migrate in the warmer summer months. The Mount Isa Council and the mining group Xstrata have reached an agreement to establish a nature reserve on the city's western fringe for flying-foxes to roost. Like the Charters Towers Council, the Mount Isa Council advocates a long term strategy and anticipate the fauna reserve being operational in two years.<sup>57</sup>

At the committee's public hearing, the Charters Towers Action Group advised the committee that it does not support the construction of a fauna habitat. Instead, it advocated the use of helicopters:

*Helicopters do move bats. CASA<sup>58</sup> has said no, they will not allow us to use a helicopter over Lissner Park. I think the bats could be moved by helicopter to the Burdekin River. That would be about the only way that you would move these bats.*<sup>59</sup>

This view was challenged at the public hearing by Mr Phil Shaw, Managing Director of Ecosure, a wildlife relocation expert who warned that the use of costly dispersal and relocation methods needed to be carefully considered in light of past experiences.

*The simplistic concept of being able to shift a Lissner Park colony to the Burdekin is flawed. We have seen examples in Melbourne where they actually established restoration sites that were designed for the flying fox camp to be shifted out of the botanic gardens to go to that particular site. They spent hundreds and hundreds of thousands of dollars on doing the restoration works and the flying foxes went somewhere entirely different. We have examples of poor success with other dispersal programs including the Maclean dispersal project which has been going for well over a decade.*

*Yes, northern New South Wales, where we have witnessed through the dispersal techniques using noise and smoke and all sorts of different deterrents that that camp has actually*

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<sup>53</sup> DEHP 2012d, p.5.

<sup>54</sup> DEHP 2012d, p.3.

<sup>55</sup> Galloway, A 2012, 'Charters Towers mayor sticks to bat plan', *Townsville Bulletin*, 1 May, <[http://www.townsvillebulletin.com.au/article/2012/05/01/326741\\_news.html](http://www.townsvillebulletin.com.au/article/2012/05/01/326741_news.html)>.

<sup>56</sup> ABC North Queensland 2012, *Charters Towers seeks long term bat plan*, 1 August, <<http://www.abc.net.au/local/stories/2012/08/01/3558059.htm>>.

<sup>57</sup> Rawlins, J 2012, 'Xstrata strikes deal to help ease bat woes', *ABC News*, 8 November, <<http://www.abc.net.au/news/2012-11-08/xstrata-strikes-deal-to-help-ease-bat-woes/4360750>>.

<sup>58</sup> Civil Aviation Safety Authority.

<sup>59</sup> Henderson 2012, p.19.

*moved to places which are far less desirable than the original position. In fact, the decision is now made to try to get them back to their original spot. So we need to be really careful here that we do not spend an inordinate amount of money shifting camps around and splintering them all over the place, because we are going to end up, in the case of both the previous examples, with maintenance programs that are going to need to be put in place at considerable cost to keep them from coming back. These organisms have a very high fidelity to the sites they breed at, so they will attempt to keep coming back again and again. So you have to have some sort of maintenance program. That is costly.*<sup>60</sup>

### **Alternatives to dispersal and relocation**

Given the difficulty of dispersing and relocating a colony, DEHP advocates that alternative methods should be considered. These could include:

- the creation of buffer zones by habitat modification of roost sites such as tree lopping, clearing of understorey vegetation
- modifying permanent structures such as buildings, to reduce the effects association with noise and odour, and
- town planning schemes that take into account the roost and provide for its protection.<sup>61</sup>

The use of alternative methods such as buffer zones was also suggested by Ecosure as a better and more cost effective way to manage a colony:

*....there are ways in which we can create buffers with tree management, physical shade cloths, netting and different situations where the infrastructure costs are cheaper than the ongoing costs forever to stop those bats from coming back to that same situation.*<sup>62</sup>

At the committee's public hearing, Mr John Pollock stated that there should simply be better co-operation between the community and government agencies in dealing with flying-fox colonies.

*As I said, my submission to this piece of legislation was not so much to support the legislation per se but to support any mechanism that will enable people to work with the agencies to more effectively work together to move on colonies. I do not think shooting per se is the right answer. I can shoot 100 of them but there will still be 35,900 left so that is not going to do a lot for me.*<sup>63</sup>

The QFFCC's research and findings showed that full canopy netting is the most successful intervention for dealing with flying-foxes and providing protection to crops.

This view was supported by Ms Carol Booth at the committee's public hearing:

*You are falsely assuming though that shooting is actually an effective method of crop protection. It is not, and farmers will admit that. The majority of damage in crops occurs when there is a shortage of native food supplies and so that means that more flying foxes will go into orchards, and the only way that you can stop that is through netting. So in fact if you want to maximise production then netting a crop is really the only sensible approach. Shooting actually will not achieve effective crop protection. Most farmers will go out and shoot for a couple of hours and then they have to go to bed. They cannot control an orchard of 10 hectares shooting every single flying fox during the entire night. It is just not practicable, and they are only meant to shoot at most 20 to 30 a month. It just does not add up to an effective crop protection approach.*<sup>64</sup>

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<sup>60</sup> Shaw, P 2012, *Proof Hearing Transcript*, 16 November, p.24.

<sup>61</sup> DEHP 2012d, p.4.

<sup>62</sup> Shaw 2012, p.25.

<sup>63</sup> Pollock 2012, p.22.

<sup>64</sup> Booth, C 2012, *Proof Hearing Transcript*, 16 November, p.6.

**Recommendation 4**

The committee recommends that the Government support further research into methods to disperse flying-fox colonies from roosts where required, in consultation with local councils. This includes researching alternative methods to contain flying-fox colonies, and the dispersal and relocation of flying-fox colonies in areas where contact with urban communities is having a detrimental effect.

**Recommendation 5**

The committee recommends that the Government monitor the progress of, and where required offer support to, the proposed fauna centres to be established in Mount Isa and Charters Towers, as a long term approach to relocate flying-fox colonies from urban areas in other areas of the state.

**Recommendation 6**

The committee recommends that research continue to be undertaken to find more cost-effective netting and other procedures to protect the fruit crop industry from flying-fox damage.

**Conclusions**

A range of interventions has been used in Queensland and other jurisdictions with varying success to mitigate the damage and nuisance caused by flying-foxes. These include netting, shooting, the use of loud noise, and the establishment of reserves. The committee notes the effectiveness of netting, though, at a prohibitive cost for many orchardists.

The committee is encouraged by work in Charters Towers and Mount Isa to establish fauna reserves for flying-foxes as a long-term strategy to minimise conflicts between flying-foxes and people while ensuring the survival of the threatened species.

The committee notes the potential for individuals and interest groups to make political mileage out of the problems caused by flying-foxes in urban areas at the expense of residents, rather than seeking to find real, workable solutions.



## 5. Examination of the Bill

This section discusses the provisions of the Bill.

### Policy Objectives

The Bill seeks to amend the *Land Protection (Pest and Stock Route Management) Act 2002* (LPPSRM Act) and the *Nature Conservation Act 1992* (NC Act) to control the health risks posed by flying-foxes.

According to the [Explanatory Notes](#), the policy intent of these amendments is to empower a landowner to destroy, disturb or drive away a flying-fox or to destroy or disturb a flying-fox roost if the landowner 'reasonably believes' that it is necessary to reduce the risk of disease or harm to a resident or stock. The Bill would also empower 'the Minister' to direct a local government to take these actions under certain conditions.

### Proposed amendment to the *Nature Conservation Act 1992*

The Bill seeks to omit section 88C (Restrictions relating to flying-foxes and flying-fox roosts) of the NC Act. This would effectively remove all necessary protections in the Act for flying-foxes and flying-fox roosts. This would mean that Queensland legislation provides no protections for flying-foxes, despite their status as a protected species, despite the existence of protections under Commonwealth legislation.

This would be a significant policy change, and would need to be considered carefully in consultation with local governments, other stakeholders and the public, as well as the Commonwealth Government given the coverage of its legislation, the EPBC Act.

Exactly how the changes would work on the ground is unclear. The committee notes that spectacled flying-foxes or grey-headed flying-foxes are known to roost with other species that are less threatened and, have a lesser protection status. It is conceivable that persons could be authorised to take action against one species in a roost, but may inflict harm on another species that is protected under the EPBC Act in that roost, particularly at night. This would leave individuals liable to prosecution.

### Proposed amendments to the *Land Protection (Pest and Stock Route Management) Act 2002*

The Bill also seeks to amend the *Land Protection (Pest and Stock Route Management) Act 2002*. This Act provides a framework and powers for the management of various classes of weeds and pest animals in Queensland and for the management of the stock route network across the State.

The amendments to the Act proposed in the Bill would insert a new Part 11 (Control of flying-foxes) with new sections 96A, B and C to provide for the management of flying-foxes as declared pests.

Proposed new section 96C would allow for the removal or destruction of a flying-fox or flying-fox roost if a landowner or local government reasonably believes it is necessary to reduce the risk of disease or harm. The Bill also states that approval under the Commonwealth EPBC Act may be required to take this action. The Bill states at the end of new section 96C proposed to be inserted into the Act:

*Note—*

*Taking action under this section may require an approval under the Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*

As noted previously in this report, the health risks for people living in close proximity to flying-fox colonies are low and manageable.

The Bill proposes a significantly increased role for local governments in the removal and dispersal of flying-foxes in order to 'employ direct action to protect residents from flying-fox populations roosting on land administered by local government'.<sup>65</sup>

The additional costs associated with containing flying-fox colonies, as proposed in the Bill, would be borne largely by local governments and landowners. The Explanatory Notes to the Bill explain this further:

*The cost of controlling flying-foxes will be carried by the relevant local government authorities and individual landowners. It is anticipated the cost of a public awareness campaign by both State and Local Government to ensure communities are informed of these changes will be minuscule compared to the current cost of flying-fox management.*<sup>66</sup>

Submissions to the committee expressed a concern that shifting the costs of dealing with flying-foxes from the State Government to local governments would place undue pressure on their resources.

The Charters Towers Regional Council noted the particular costs for councils serving larger areas:

*The proposed Land Protection (Flying-fox Control) Amendment Bill 2012 in its current form has the potential to place a significant burden on Council in terms of costs and resources, especially considering the size of our Council area.*<sup>67</sup>

The Gympie Regional Council submitted that local governments should be reimbursed by the State if directed to take action by the Minister pursuant to clause 96C(4) of the Bill:

*Should the Minister, under proposed section '96C Control of Flying Foxes (4)', direct a local government to take action under subsection 2, who would cover the expenses related to the local government following this direction? It is presumed that the State would reimburse Council for any works on State/Crown land (including roads, reserves, etc.)*<sup>68</sup>

The Ipswich City Council also noted the cost burden to councils for applications in relation to the EPBC Act that would be incurred:

*Where flying-foxes are protected under Commonwealth legislation, such as the grey-headed flying-fox, Council would be required to fund and obtain an approval under the EPBC Act. This would require additional budget considerations for Council to fund the application, cover the cost of meeting the set conditions, and possible offset requirements.*<sup>69</sup>

Submissions from local governments raised other general concerns about their increased role as proposed. As noted by Ipswich City Council:

*Council is strongly of the view that State Government should remain the lead role in flying-fox management as this will ensure a uniform approach to flying-fox management across all local governments. If the responsibility is placed on local governments, then different actions may be undertaken against flying -foxes within each local authority, again creating possible conflict between not only the public but also local governments.*<sup>70</sup>

Proposed new section 96C(3) would require local governments to determine the size of the population of flying-fox colonies in a local government area, how long they have been situated in that area and the level of risk associated with the location flying-foxes. In relation to this proposal, the Local Government Association of Queensland (LGAQ) submitted:

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<sup>65</sup> Explanatory Notes to the Land Protection Legislation (Flying-fox Control) Amendment Bill 2012, p.2.

<sup>66</sup> Explanatory Notes, p.2.

<sup>67</sup> Charters Towers Regional Council 2012, *Submission No.29*, p.2.

<sup>68</sup> Gympie Regional Council 2012, *Submission No.23*, p.1.

<sup>69</sup> Ipswich City Council 2012, *Submission No.27*, p.2.

<sup>70</sup> Ipswich City Council 2012, p.1.

*The LGAQ believes that the determination of such levels will be difficult to achieve in a scientifically rigorous manner. Without clear criteria that can be applied consistently, the cost in establishing levels of risk would be prohibitive to councils.*<sup>71</sup>

At the committee's public hearing the LGAQ further commented on this issue:

*The management of native species is an area requiring high levels of specialist expertise. However, the negative impacts of native species tend to be seasonal or intermittent experiences, making it difficult to justify the retention of such expertise within a local government area or region. This also applies to the commercial viability of experts to act as management consultants and service providers. Such expertise is best retained at a state government level where the expert skills would be utilised regularly on a statewide basis.*<sup>72</sup>

On this provision, the Logan City Council submitted:

*The legislation confers a level of responsibility on the landowner to determine if they 'reasonably believe' the flying fox is carrying a disease or not. How can it be clear that a landowner has the knowledge to make such a decision?*<sup>73</sup>

Proposed section 96C(4) of the Act would provide for a minister to direct a local government to take action where a local government has decided not to take action. In its submission, the LGAQ commented:

*The LGAQ does not support overruling by a Minister of local government elected representatives that have considered the matter and made a determination not to act. It is considered unreasonable to direct a local government to expend significant resources to undertake actions that cannot be supported by scientific evidence as being effective.*<sup>74</sup>

The Logan City Council also expressed concern in relation to proposed new section 96C(4):

*There are concerns with the Minister having authority to direct local governments on land management including dispersal techniques. The specialist techniques themselves, necessary for any dispersal of flying fox colonies, involve considerable resources and effort. An onerous level of responsibility and liability would be placed on Council to undertake such work.*<sup>75</sup>

Others commented on potential constitutional problems with the Bill. In their submission to the committee, the Environmental Defenders Office of Northern Queensland (EDONQ) submitted that the Bill conflicts with the EPBC Act:

*The Bill is clearly repugnant to the intent, objectives and provisions of the Commonwealth's EPBC Act, which is the overarching piece of Commonwealth legislation for environmental protection in Australia and was enacted to fulfil Australia's international obligations under the Biodiversity Convention, signed by Australia in 1993. As such, Mr. Knuth's Bill appears to seek to elevate State law over Federal, in direct conflict with section 109 of the Commonwealth of Australia Constitution Act ("Constitution").*<sup>76</sup>

Section 109 of the Constitution states:

*When a law of a State is inconsistent with a law of the Commonwealth, the latter shall prevail, and the former shall, to the extent of the inconsistency, be invalid.*

EDONQ further noted:

*The Bill seeks to broadly authorise Queensland landowners to broadly engage in actions that likely will expose those landowners to strict liability for violating the provisions of the EBPC Act.*<sup>77</sup>

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<sup>71</sup> LGAQ 2012, *Submission No.36*, p.3.

<sup>72</sup> Erhart, D 2012, *Proof Hearing Transcript*, 16 November, p.10.

<sup>73</sup> Logan City Council 2012, *Submission No.22*, p.1.

<sup>74</sup> LGAQ 2012, p.3.

<sup>75</sup> Logan City Council 2012, p.2.

<sup>76</sup> EDONQ 2012, *Submission No.13*, p.3.

<sup>77</sup> EDONQ 2012, pp.3-4.

The Bill also proposes amending the definition of ‘animal’ in schedule 3 (Dictionary) of the Act. This amendment appears to seek to provide that a flying-fox is an ‘animal’ for the purposes of pest management, despite being a protected species under the NC Act.

The Bill does not propose consequential amendments to the Land Protection (Pest and Stock Route Management) Regulation 2003. The schedules to the regulations declare pest species for the purposes of the Act (s.36). If the Bill is passed, the Regulation will, therefore, be inconsistent with the amended Act. Problems with the provisions in Clause 3 of the Bill are discussed later in this report in relation to Fundamental Legislative Principles.

## Consultation on the Bill

According to the Explanatory Notes to the Bill:

*Extensive consultation and research has been conducted on the impact of flying-foxes in urban areas as well as the impact of large colonies to crop production in agricultural areas.*<sup>78</sup>

The committee noted there has been limited consultation with key stakeholders, including the Commonwealth Government, or the public about the provisions contained in the Bill.

The committee invited Mr Knuth to explain what consultation had been undertaken on the specific provisions of the Bill. Mr Knuth advised that he had consulted with councils in the Charters Towers area, farmers, other landholders and residents on the Bill, but had not consulted with other governments, or stakeholders such as Agforce or Growcom.<sup>79</sup>

## Conclusions

The provisions in the Bill seek to remove important protections for flying-foxes and flying-fox roosts from the NC Act, and to introduce new measures under the LPPSRM Act for the management of flying-foxes as a pest species.

The Bill also proposes to insert new provisions for the management of flying-foxes as a pest species under the LPPSRM Act, an Act for the management of stock routes and declared pests and weeds.

Further, the Bill would allow for action by a local government or an individual if they ‘reasonably believe’ the removal or destruction of a flying-fox will reduce the risk of disease or harm. The submissions received by the committee suggest that landowners and local governments do not have the requisite skills to decide this issue. Local governments also expressed concern that the Bill would, if passed, place greater cost burdens upon them.

The committee notes that there has been little to no consultation with the Commonwealth Government, local governments, other stakeholders or the public about the provisions contained in the Bill.

The committee also notes that while the provisions of the Bill would allow persons to be authorised to take action against one species, they may inadvertently harm another species roosting in the same colony, and are protected under the EPBC Act. This could lead to civil or criminal penalties pursuant to the Act for the persons involved.

The committee has considered the form and policy intent of the Bill and concludes that the Bill should not be passed. The committee is not convinced that it reflects an appropriate policy or legislative response to the issues the Bill seeks to address.

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<sup>78</sup> Explanatory Notes, p.3.

<sup>79</sup> Agriculture, Resources and Environment Committee 2012, *Minutes of Meeting No 26 – 5 December*.



The committee encourages councils to work closely with the state and commonwealth governments to find practical solutions to flying-foxes in their areas.



## 6. Fundamental legislative principles

Section 4 of the *Legislative Standards Act 1992* states that ‘fundamental legislative principles’ are the ‘principles relating to legislation that underlie a parliamentary democracy based on the rule of law’. The principles include that legislation has sufficient regard to:

- the rights and liberties of individuals, and
- the institution of parliament.

Section 4 provides examples of whether legislation has sufficient regard to those two principles, and the sub-headings are paraphrased from those examples in s.4.

The following sections discuss fundamental legislative principle issues with the Bill based on advice from the technical Scrutiny Secretariat.

### Clause 3 – Constitutional validity - Is the Bill constitutionally valid?

The former Scrutiny of Legislation Committee proceeded on the basis that fundamental legislative principles encompassed constitutional validity.<sup>80</sup> New section 96C of the LPPSRM Act provides that a landowner may destroy, disturb or drive away a flying-fox or destroy or disturb a flying-fox roost. However, two of the species of flying-fox found in Queensland are listed as vulnerable under the EPBC Act. These are the spectacled flying-fox and the grey-headed flying-fox. This means that action likely to have a significant impact on these flying-foxes is prohibited unless approval is obtained from the relevant federal minister.

A person must not take an action that has, will or is likely to have a significant impact on a listed threatened species in the vulnerable category unless he or she has an approval.<sup>81</sup> Civil penalties, of up to 50,000 penalty units for a body corporate, apply for breach of this section. Criminal sanctions also apply if a person, without a relevant approval, takes action that results or will result in or is likely to have a significant impact on a species or an ecological community, where that species or community is listed as threatened. This is a criminal offence of strict liability punishable by up to 7 years’ imprisonment, a fine of up to 420 penalty units, or both.<sup>82</sup>

An offence of strict liability is an offence for which a person can be convicted even if there is no mental element or guilty mind.<sup>83</sup>

When deciding whether to approve the taking of an action and what conditions to attach to such an approval, the minister must not act inconsistently with Australia’s obligations under the Biodiversity Convention,<sup>84</sup> or a recovery plan or threat abatement plan.<sup>85</sup> If an action is likely to have a significant impact on a particular listed threatened species or a particular listed threatened ecological community, the minister must have regard to any approved conservation advice for the species or community.<sup>86</sup>

<sup>80</sup> Scrutiny of Legislation Committee 2002, Report No. 26 *Scrutiny of Bills for Constitutional Validity*, December, p.2, <<http://www.parliament.qld.gov.au/documents/committees/SLC/2002/Report026.pdf>>.

<sup>81</sup> EPBC Act 1999, section 18.

<sup>82</sup> EPBC Act 1999, section 18A.

<sup>83</sup> Nygh, P and Butt, P (eds) *Australian Legal Dictionary*, Butterworths, Sydney, 1997, pages 740 and 1121, citing the High Court’s decision in *He Kaw Teh v. R* (1985) 157 CLR 523, *Criminal Code Act 1995* (Cwlth), section 6.1. The defence of mistake of fact is available to a person charged with an offence of strict liability – section 9.2.

<sup>84</sup> The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) domestically implements Australia’s obligations under the Biodiversity Convention, that is the Convention on Biological Diversity done at Rio de Janeiro on 5 June 1992, as amended and in force for Australia from time to time. (Australian Treaty Series 1993, No. 32) See, for example, sections 15B, 15C, 34D, 37G, 49A, 53, 139, 146K, 171, 303BA, 303ER, 303GN, 306, 324Y, 520.

<sup>85</sup> EPBC Act 1999, section 139.

<sup>86</sup> EPBC Act 1999, section 139.

Health-related factors do not appear to be among the factors the minister must consider when deciding whether to give an approval. New section 96C may permit a landowner to destroy a flying-fox, however, if it is a grey-headed or spectacled flying-fox, an approval to destroy it may not be granted under the EPBC Act.

Therefore, there is potential for inconsistency between the provisions of the Queensland Bill and the EPBC Act. In these circumstances, section 109 of the Commonwealth Constitution may be enlivened so that the Commonwealth law prevails over the state law to the extent of the inconsistency.

The submission of the EDONQ (at pages 4-5) addresses constitutional inconsistency arising when a Commonwealth Government enactment is intended to be a complete statement of the law governing a particular matter or set of rights and duties and cites the High Court decision in *Telstra v. Worthing*.<sup>87</sup> This is also known as the 'covering the field' limb of inconsistency. Therefore, it is arguable whether the EPBC Act evinces a legislative intention to 'cover the field'.<sup>88</sup> This is because section 3 'Objects of Act' indicates an approach to environmental protection involving cooperation between States and the Commonwealth. That is, section 3(1)(d) states that one of the objects of the Act is to:

*promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples...*

Section 3(2) states that in order to achieve its objects, the Act:

- (b) strengthens intergovernmental co-operation, and minimises duplication, through bilateral agreements,*
- (c) provides for the intergovernmental accreditation of environmental assessment and approval processes, and*
- (g) promotes a partnership approach to environmental protection and biodiversity conservation through:*
  - (i) bilateral agreements with States and Territories.*

Further, section 10 states that the Act is not intended to exclude or limit the concurrent operation of any law of a State or Territory, except so far as the contrary intention appears. Therefore this 'covering the field' limb of constitutional inconsistency may not arise.

### **The committee's request for advice**

The committee asked the Member for Dalrymple, Mr Shane Knuth MP, to assure the committee that the Bill is constitutionally valid given it deals with an area (vulnerable species) which is regulated by the Commonwealth under the EPBC Act.

### **Comments from the Member for Dalrymple**

Mr Knuth advised that:

*Constitutional validity issues raised by the Technical Scrutiny Secretariat relate to a perceived conflict of conferred rights in the Bill with the Environmental Protection and Biodiversity Conservation Act 1999 (Cwlth). The TSS brief notes that the spectacled and grey headed flying fox are a threatened species under Subdivision C, however it is neither the intention nor the reasonably expected outcome of this bill for the highly mobile flying fox*

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<sup>87</sup> *Telstra v. Worthing* 1999, 197 CLR 61, pp.76-7.

<sup>88</sup> *Clyde Engineering v. Cowburn* 1926, 37 CLR 445, cited in Blackshield, T and Williams, G 2010, *Australian Constitutional Law and Theory, Commentary and Materials*, 5th edn, The Federation Press: Annandale.

*population of any species to be significantly impacted as a result of actions undertaken under this legislation.*<sup>89</sup>

### **Clause 3 – Clear and precise language – Is the Bill unambiguous and drafted in a sufficiently clear and precise way?**

The way the Bill relates to the provisions of the LPPSRM Act, the NC Act and the EPBC Act is confusing. As mentioned above, a landowner may be in a situation whereby new the section 96C permits him or her to destroy a flying-fox but, if it is a grey-headed or spectacled flying-fox, an approval to destroy it may not be granted under the EPBC Act. The note to new section 96C states that:

*Taking action under this section may require an approval under the Environment Protection and Biodiversity Conservation Act 1999 (Cwlth).*

The note is part of the Act.<sup>90</sup> The explanatory notes, under the heading 'Consistency with other jurisdictions' state that:

*If a colony consists of grey-headed or spectacled flying-foxes any new flying-fox management strategies may require approval from the Commonwealth under the Environment Protection and Biodiversity Conservation Act 1999.*

Also, new section 96C permits a landowner to destroy, disturb or drive away a flying-fox and to destroy or disturb a flying-fox roost. However, under the NC Act, at present all species of flying-fox found in Queensland are protected under the NC Act and NCW Regulation. This Bill does not change the protected status of flying-foxes.

Given this disconnect between new section 96C of the LPPSRM Act, the NC Act and the EPBC Act, it would be hard for a landowner to know exactly what conduct is permitted and what is prohibited. Therefore it is questionable whether the Bill is unambiguous and drafted in a sufficiently clear and precise way.

### **The committee's request for advice**

The committee asked the Member for Dalrymple to assure the committee that the Bill is unambiguous and drafted in a sufficiently clear and precise way. The committee also asked the Member whether, if the Bill is passed, it would be clear to landowners what they are permitted to do and what they would be prohibited from doing in relation to destroying, disturbing or driving away flying-foxes or destroying or disturbing flying-fox roosts given that some flying-foxes are endangered species.

### **Comments from the Member for Dalrymple**

Mr Knuth advised:

*On advice from the Office of Queensland Parliamentary Counsel the bill was drafted in such a way as to accommodate the inability of a non-government member to alter regulatory instruments. It was ultimately decided under legal consultation that the policy outcomes were best achieved legislatively. Considering the migratory and geographically fluid nature of flying fox populations in residential areas it was also resolved that the legislation be deliberately non-prescriptive. This is also relevant to the capricious nature of species protection i.e. a species may recover from ecological threats and no longer require protection, thus the explanatory notes give way to the more prescriptive nature of the*

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<sup>89</sup> Shane Knuth MP 2012, *Correspondence*, 4 December.

<sup>90</sup> [Acts Interpretation Act 1954](#), s.14.

*Commonwealth legislation. The responsibility of proof is deferred to the Commonwealth legislation to demonstrate that any action undertaken under this legislation would significantly impact flying fox populations. Considering the bill addresses the issue of problem flying fox populations in residential and agricultural areas I am confident there is no risk flying fox populations of any species will be significantly impacted.*

*The removal of Section 88C resolves any inconsistencies of this bill with the Nature Conservation Act 1992.<sup>91</sup>*

### **Clause 3 – Proportion and relevance**

As stated by the Office of the Queensland Parliamentary Counsel, ‘the desirable attitude should be to maximise the reasonableness, appropriateness and proportionality of the legislative provisions devised to give effect to policy’.<sup>92</sup> When introducing the Bill to the Legislative Assembly, the Member for Dalrymple stated:

*I fully support a bill that deals with the flying-fox plague that has harassed Charters Towers residents and other communities in Queensland for more than a decade.*

This indicates that the primary mischief sought to be addressed by the Bill is the flying-fox problem in Charters Towers. However the Bill applies to all of Queensland. It is questionable whether this is a reasonable, appropriate and proportional response to the policy intention of dealing with the flying-fox issues in Charters Towers. Under the heading ‘Consistency with fundamental legislative principles’, the Explanatory Notes tabled with the Bill state that:

*Residents have the right to protect themselves and their families from a reasonable threat of fatal disease by appropriate action which is proportionate to the threat.*

### **The committee’s request for advice**

The committee asked the Member for Dalrymple whether is it reasonable, appropriate and proportionate that the Bill applies to all of Queensland given that the Bill seeks primarily to address the flying-fox problem in Charters Towers.

### **Comments from the Member for Dalrymple**

Mr Knuth advised that:

*When introducing the Bill in Parliament I used the situation in Charters Towers to highlight the necessity of the Bill however the issue of problem flying fox roosts affecting residential areas and agricultural industries is replicated throughout Queensland in multiple communities as indicated by numerous media reports over the last 2 years.<sup>93</sup>*

### **Explanatory Notes**

Part 4 of the *Legislative Standards Act 1992* relates to explanatory notes. Subsection 22(1) states that when introducing a Bill in the Legislative Assembly, a member must circulate to members an Explanatory Note for the Bill. Section 23 requires an Explanatory Note for a Bill to be in clear and precise language and to include the bill’s short title and a brief statement providing certain information.

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<sup>91</sup> Shane Knuth MP 2012, *Correspondence*, 4 December.

<sup>92</sup> Office of the Queensland Parliamentary Counsel 2008, *Fundamental Legislative Principles: The OQPC Notebook*, p.120, <[http://www.legislation.qld.gov.au/Leg\\_Info/publications/FLPNotebook.pdf](http://www.legislation.qld.gov.au/Leg_Info/publications/FLPNotebook.pdf)>.

<sup>93</sup> Shane Knuth MP 2012, *Correspondence*, 4 December.

Explanatory Notes were tabled with the introduction of the Bill. The notes are fairly detailed and contain the information required by s.23 and a reasonable level of background information and commentary to facilitate understanding of the bill's aims and origins. As mentioned above, under the heading 'Consistency with fundamental legislative principles', the notes assert that the Bill is a proportionate response to the threat of fatal disease.

The Notes do not raise or address the other issues of fundamental legislative principle mentioned above.

### **The committee's request for advice**

The committee asked the Member for Dalrymple why the Explanatory Notes that accompanied the Bill do not address the fundamental legislative principal issues raised above concerning constitutional validity and clear and precise language.

### **Comments from the Member for Dalrymple**

Mr Knuth did not make comment on this issue in his correspondence to the committee.

### **Conclusions**

The committee notes that Mr Knuth's advice that the proposed changes contained in the Bill are intended to work in conjunction with the EPBC Act.

However, the committee also notes that there is potential for inconsistency between provisions contained in the Bill and the EPBC Act, which may enliven s109 of the Constitution in relation to Commonwealth law prevailing over State law.





## Appendix A – Written submissions

- 1 Flying-Fox Rescue Release Noosa Inc.
- 2 Gina Bilwin
- 3 Joseph and Paula de Kroon
- 4 Lyn Laskus
- 5 Wildlife Preservation Society of Qld - Sunshine Coast and Hinterland Inc
- 6 Tess Pemble
- 7 Myles H. Ball
- 8 Jason and Angela Reid
- 9 Carol Booth (has requested submitter name be changed to 'NGOs' or similar)
- 10 Animal Liberation Queensland
- 11 Rockhampton Regional Council
- 12 Capricorn Conservation Council
- 13 Environmental Defenders Office of Northern Queensland Inc.
- 14 Livingstone Remnant Vegetation Study
- 15 Charters Towers Action Group
- 16 The Australian Veterinary Association Limited
- 17 Adam Rush
- 18 Cr Jennifer Sanders
- 19 Tamborine Mountain Natural History Association
- 20 Central Highlands Regional Council
- 21 Gladstone Regional Council
- 22 Logan City Council
- 23 Gympie Regional Council
- 24 Basia Puszka
- 25 W.E. Randolph
- 26 Zoe Morgan
- 27 Ipswich City Council
- 28 Ronald and Christine Fraser
- 29 Charters Towers Regional Council
- 30 Ecosure
- 31 Scenic Rim Regional Council
- 32 Tablelands Regional Council
- 33 Bat Conservation & Rescue Qld. Inc
- 34 Nadia O'Carroll
- 35 Candy Daunt
- 36 Local Government Association of Queensland
- 37 Wildlife Protection Association of Australia Inc.
- 38 Bruce Peden
- 39 John Pollock
- 40 Olive L Morris
- 41 Wildlife Tourism Australia Inc.

## **Appendix B – Hearing witnesses**

Ms Carol Booth, representative of 28 environmental groups

Ms Dorean Erhart, Principal Advisor, Natural Assets, Natural Resource Management and Climate Change, Local Government Association of Queensland

Mr Allan Henderson, Chairman, Charters Towers Action Group

Mr Shane Knuth, Member for Dalrymple, Queensland Parliament

Mr John Pollock, private capacity

Mr Phil Shaw, Managing Director, Ecosure

Dr Frank Beard, Senior Medical Officer, Communicable Diseases Unit, Queensland Health

Mr Geoff Clare, Executive Director, Nature Conservation Services, Department of Environment and Heritage Protection

Mr Michael Devery, Manager, Wildlife Operations, Department of Environment and Heritage Protection

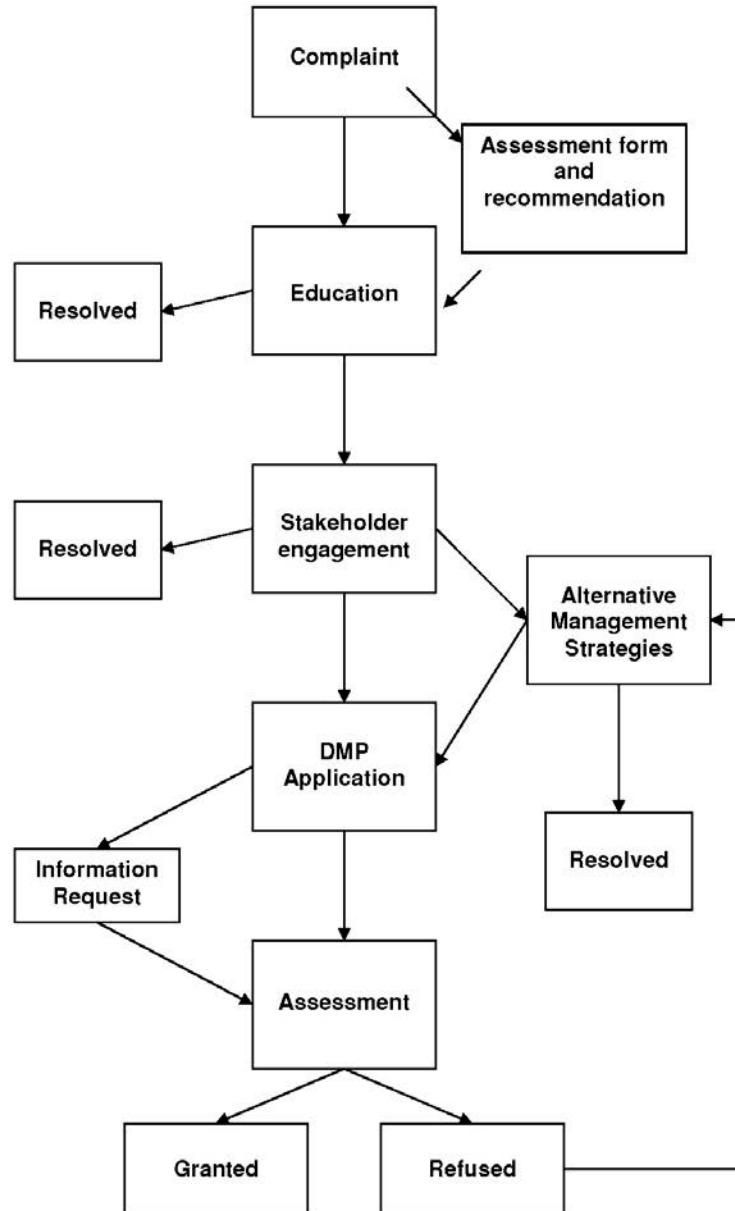
Dr Hume Field, Principal Scientist, Biosecurity Queensland, Department of Agriculture, Fisheries and Forestry

Mr Nick MacLeod, Science Leader, Horticulture and Forestry Science, Department of Agriculture, Fisheries and Forestry

## Appendix C – Situation assessment flowchart<sup>94</sup>

Procedural guide  
Management of flying-fox roosts in urban areas

**Appendix 3:** Situation assessment flowchart



<sup>94</sup> Source: DEHP 2012, *Correspondence*, 4 December.



## Statement of reservations



*An honour to serve*

**SHANE KNUTH MP**  
MEMBER FOR DALRYMPLE

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6 December 2012

**Dissenting Motion - Land Protection Legislation (Flying-control) Amendment Bill 2012**

The recommendations of the final AREC report on this bill were drafted prior to the deadline provided to me to respond to the Technical Scrutiny Secretariat in relation to perceived conflicts with s.109 of the Constitution.

This demonstrates that the recommendations contained in the final report were a foregone conclusion which makes a mockery of the committee process and fails to take into account the nine years of consultation and research that went into the development of this solution for frustrated and suffering communities.

The committee's recommendations doom residents to live with the threat of disease and guarantee the sick, frail and elderly will have to put up with the stench, the filth and screeching of plagues of flying foxes defecating in drinking water and destroying property. This Government has proven to communities such as Charters Towers, Yungaburra, Mount Isa, Gympie, Gayndah and many more that their welfare and quality of life is not as important as a pest.

The recommendations show that this Government lacks the intestinal fortitude to apply necessary and practical solutions to address the flying fox problem for the sake of those who have pointlessly lived with this diabolical problem for over a decade.

This Government has failed to acknowledge the threat of a serious disease that has already killed four people, over 80 horses and a dog. The Government has also failed to consider the many sicknesses and illnesses reported in areas where humans are compelled to live in the vicinity of flying foxes.

Before the election the Premier and the Minister for the Environment and Heritage Protection swore they would 'get rid of the bats, **by any means necessary**'. This committee has offered no means whatsoever and have fallen back to the former Government's dithering position of more research and feel-good bat habitats. The Government is obviously determined to follow the expensive and protracted policy failures of the Labor Government. The recommendations draw on old data and obviously ineffective dispersal methods to develop

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a policy in favour of flying foxes over people which is completely contradictory to the Government's pre-election commitment to 'put people before bats'.

The recommendations in the final report of the Agriculture, Resources and Environment Committee were foregone; do not take into consideration nine years of research and consultation that went into its development; and are no different to the failed and expensive flying fox management policies of the former Government. The report fails to make any recommendations to move flying fox roosts out of residential areas in the short term and ultimately damns residents to a lifetime of misery and hopelessness.

For the reasons stated above I do not support, and fundamentally disagree with, the recommendations of the committee report.

Sincerely,



**Shane Knuth**

**Member for Dalrymple**