3

Resource security

3.1 Resource security—access to the floral resources upon which the honey bees depend—is one of the two most critical issues facing the honey bee industry and, therefore, those industries which rely on honey bees for pollination. It is estimated that 70 per cent of honey production is derived from native flora species.[1] Much of this is located on public lands. However, native forest also plays a significant role in conditioning hives for pollination, and recovery afterwards. Thus, beekeeper access to native forests is essential to both the honey bee industry and those industries depended on honey bees for pollination. As AHBIC stated in its submission:

> Without access to native flora the commercial beekeeping industry would not exist. Continued access to native flora on private but more especially public land is the essence of the Australian beekeeping industry.[2]

3.2 In its submission, the Victorian Apiarists Association emphasised the importance of native vegetation to the viability of the industry, and the conservation ethic of beekeepers:

> Eucalypt forest and woodland systems represent the most important melliferous (nectar and pollen producing) resource for beekeeping in Australia. In Victoria about 85% of honey production derives from species of eucalypts.

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1 Centre for International Economics, *Future directions for the Australian honeybee industry*, CIE, Canberra, September 2005, p. 1.

2 AHBIC, Submission no. 56, p. 49.

> Native forests and woodlands on public and freehold land therefore play a critical role in maintaining prosperous commercial honeybee populations essential not only for efficient apiary production, but for the maintenance of managed honeybee populations that are deployed to assist production of much of the human and animal foods that are successfully grown, harvested, sold and consumed by Australian and overseas customers. The men and woman of the Victorian beekeeping industry are a resourceful and resilient group of people vested with a considerable body of practical knowledge of the bush. They are driven by a deeply ingrained philosophical ethic to conserve the bush. They spend a good part of their livelihood and working lives in the bush.[3]

3.3 In its submission to the inquiry, Western Australian honey packer Wescobee Limited identified the following threats to resource security:

> From a forestry perspective continuous threats to the floral resources accessed by beekeepers in Western Australia include:
>
> - land clearing for urbanization or agriculture;
> - forestry activities that remove flowering and/or mature trees;
> - replacement of felled trees with pine and low pollen yielding eucalypt plantations like blue gums;
> - fire, including the back burning practices of the State department and natural bushfires;
> - environmentalists/conversationalists demanding beekeeping not to take place in native reserves, wilderness areas and parks.[4]

3.4 Thus the exclusion of beekeepers from native forests and the destruction of native forests for agriculture, urban development or through burning, has a direct impact upon the honey bee industry.

Access to public lands

3.5 Beekeeper access to public lands is seen by the honey bee industry as essential to the future of the industry, as public lands contain the bulk of the remaining forest and woodland vegetation upon which beekeepers depend. In its submission, AHBIC stated:

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3 Victorian Apiarists' Association, Submission no. 71, pp. 25–6.

4 Wescobee Limited, Submission no. 34, p. 3.

> Access to native forests on public land is essential for the honeybee industry—state forests, national parks, Crown lands, stock routes, etc contain the majority of remaining native forest which provide most of the floral resource on which the industry depends for honey flows, a 'safe harbour' and clean rehabilitation. Honeybees are rested in native forest on public lands after completing the pollination services which generate very little honey and on which Australian agriculture and horticulture depend for food production.[5]

3.6 However, beekeeper access to public lands has been declining with the growth of national parks and conservation reserves to protect native forests. In its 2005 report, *Future directions for the Australian honeybee industry*, the Centre for International Economics noted:

> All states have experienced increasing areas of public lands transferred into various state conservation reserves, such as national parks or nature reserves or wilderness areas.[6]

3.7 As CIE further noted, this trend has resulted in the exclusion of beekeepers from public land:

> Within this increasing protectionist framework, managed honeybees are seen by some to be a land management activity which is no longer appropriate without a thorough understanding of the interactions between introduced honeybees and ecological processes. Some ecologists and conservationists have taken the position that as managed honeybees are exotic insects they have no place in any conservation reserve at any time.[7]

3.8 As a matter of policy, governments are excluding beekeepers from public conservation reserves. In its submission to the inquiry, the New South Wales Government acknowledged the importance of public land access to the honey bee industry, noting that 'the honey bee industry is heavily reliant on access to apiary sites, mostly on public land, to harvest nectar flows and maintain hives during cool weather, drought, or following bushfires'. Nonetheless, the New South Wales Government has placed restrictions upon access to apiary sites on public lands and designated feral honey bees as a key threatening process:

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5 AHBIC, Submission no. 56, p. 49.

6 Centre for International Economics, *Future directions for the Australian honeybee industry*, CIE, Canberra, September 2005, p. 86.

7 Centre for International Economics, *Future directions for the Australian honeybee industry*, CIE, Canberra, September 2005, p. 86.

> Under existing Government policy, access to apiary sites on public land such as State Forests, National Parks, and travelling stock routes and reserves, will continue, but it will not increase. Apiary sites in NSW National Parks are managed under the *National Parks and Wildlife Act 1974* which gives conservation objectives precedence over other management objectives. Other jurisdictions such as Queensland and Victoria have a similar approach.
>
> Future access to NSW National Parks is limited because the honey bee is an exotic species and competition from feral honey bees has been listed as a key threatening process under the NSW *Threatened Species Conservation Act 1995*.[8]

3.9 The position of the Queensland Government, as stated in its submission to the inquiry, is that 'beekeeping is inconsistent with the management principles of National Park tenure'. The Queensland legislation, the *Nature Conservation Act 1992*, 'provides for authorised beekeeping activities on some protected areas including conservation parks and resource reserves'. Nonetheless:

> Beekeeping is not normally allowed on National Parks. However, where a new National Park is declared on land used for beekeeping, this activity can be allowed to continue for the unexpired term of existing apiary permits up to a maximum of five years.[9]

3.10 The submission further notes, however, that transitional arrangements have been enacted to allow beekeeping to continue until 2024 on lands covered by the South-East Queensland Forests Agreement (SEQFA) and Wet Tropics lands being transferred from Forest Reserve to National Park or National Park (recovery) tenure. These arrangements allow for 'the continuation of existing apiary sites for beekeepers while alternative resources were found for the industry by 2024'.[10]

3.11 The Queensland Government submission observes that the 'investigation of freehold land for honey production in south east Queensland indicates that there is almost 19 000 hectares of high honey yielding forest areas located on freehold land, which may be available as an alternative resource when access to SEQFA lands ceases in 2024'.[11] In the meantime, some 800 000 hectares of land will be taken out of production:

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8 Government of New South Wales, Submission no. 79, p. 5.

9 Queensland Government, Submission no. 25, p. 11.

10 Queensland Government, Submission no. 25, p. 4.

11 Queensland Government, Submission no. 25, p. 4.

> In 1999, the signing of the South-East Queensland Forests Agreement (SEQFA) provided for protection of important forest ecosystems in south east Queensland through the immediate transfer to forest reserve and termination of any further timber harvesting on 425 000 ha of former State Forests, and the future transfer of a further 375 000 ha of State Forest once timber harvesting was phased out. As of January 2007, 188 594 ha has been converted to protected area, with much of this area being dedicated as National Park.[12]

3.12 As the Queensland Government's submission acknowledges, the cessation of timber harvesting is likely to impact on beekeepers even before total exclusion occurs as forestry roads and fire trails degrade from lack of maintenance:

> The discontinuation of timber harvesting in forest areas means that harvesting roads used by beekeepers to access sites may not continue to be maintained where they are not required for management of the protected area. Remaining management roads, including fire management trails, may not be maintained to a standard suitable for beekeepers' use. In these cases, it may be possible to relocate sites to suitably maintained access roads, in keeping with a commitment to preserving the total number of apiary sites on the areas of previous forest reserves through to 2024.[13]

3.13 A number of submissions and witnesses contradicted the evidence of the Queensland Government, emphasising the probable impact of current policies upon the honey bee industry in that State, and the apparent contradictions within the Queensland Government's position on this issue. In evidence before the committee, Dr Max Whitten stated:

> It is unfortunate that the Queensland government are not here to defend their position. I do not believe, when you look at their submission, that it stacks up. I draw attention to one item which they call 'Key issues impacting on the industry'. They list four key issues: drought, profitability, industry skills and disease management. What is not on that list is what you will hear from beekeepers here today: the question of access…
>
> I just want to show that they then proceed to demolish their own position, because the very next item they deal with is the question

12 Queensland Government, Submission no. 25, p. 4.

13 Queensland Government, Submission no. 25, p. 4.

> of 'Future prospects', and in that, just in relation to south-east Queensland—and the group here can talk about Queensland more broadly—they talk about the areas of land that are currently in state forests which will then move across into reserves and protected land. It actually adds up to one million hectares, and this is a statement of fact: that they are moving one million hectares just in south-east Queensland. They then go on to say:
>
> Investigation of freehold land for honey production in south east Queensland indicates that there is almost 19 000 hectares of high honey yielding forest areas ...
>
> I think that people here would challenge even whether that land exists. But, more importantly, they go on to say, 'We need an education program to educate those freeholders about the importance of the industry and the value of providing access to that land'—which probably does not exist. The education program clearly should be aimed at the Queensland government, because on the one hand they are talking about the importance of the industry and the importance of access and yet, as the owner of the bulk of that land, they are denying access. So it is a shame that they are not here to defend their position. That is in their submission.[14]

3.14 Dr Whitten noted:

> We desperately need a viable honey industry, and the Queensland government does not distinguish adequately between the possible impact of feral bees in those parks as against migratory beekeeping.[15]

3.15 In his evidence before the committee, Mr Don Keith also highlighted problems with the Queensland Government's approach to resource access:

> With regard to land management, the Queensland government have made quite an extraordinary decision with regard to removal of honey bees from the majority of the forests in south-eastern Queensland. I am aware that there are quite a number of submissions that address this issue, and I will try to be brief in my discussion of it. However, the Queensland government are removing honey bees from about 70 per cent of south-east Queensland's honey bee resources. In doing so, they took the attitude that there were plenty of resources for bees and they also said that, if there were not the resources there, it would replace

14 Dr Max Whitten, *Transcript of Evidence*, 10 August 2007, p. 17.

15 Dr Max Whitten, *Transcript of Evidence*, 10 August 2007, p. 17.

> them by planting melliferous resources for the beekeeping industry. I think a very minor level of due diligence would have shown that there are no other resources. In their submission they recognise an area in the tens of thousands of hectares, well below 400,000 hectares, that they have decided in parliament that our industry would be excluded from.
>
> In the process of deciding about the south-east Queensland forests, there was originally a comprehensive regional assessment for a regional forest agreement process, which was the intergovernmental agreed process for determining the needs and uses for forests. Unfortunately, whilst the comprehensive regional process was proceeded with, the Queensland government decided to bypass that and take a different course for deciding on what should happen to the forests, and the decision was made really between the conservationists and the timber industry, and an enormous amount of data in the comprehensive regional assessment was not utilised. Because of that, the knowledge about the linkage between the forest, the honey bees and pollination was totally ignored. If Queensland were an island standing on its own, the decision that the Queensland parliament took to exclude honey bees from the south-east Queensland forests would ensure that Queenslanders would have to eat imported honey and that our horticultural industries would be decimated.[16]

3.16 In his submission, Mr Peter Barnes, a Queensland beekeeper, expressed the view that under current arrangements the future of the industry was under threat:

> The **future of the honey bee industry** in Queensland is grim. The Queensland State Government has put in place legislation to stop beekeeping in most Government controlled Native Forest areas in South East Queensland after the year 2024. The **Western hardwood** areas that are government controlled **are just as important** to the honey bee industry as our other South East Queensland sites. We may get locked out of Western hardwoods sooner than the year 2024. **80% of honey that is produced** in Queensland comes from Queensland Government controlled Native Forest. Over half of the time spent in these Native Forest Areas is not for honey production, but for strengthening bee hives for pollination or a honey flow later on in the season. For example the Spotted Gum Tree which in our industry is vital for strengthening hives in the

16 Mr Don Keith, *Transcript of Evidence*, 10 August 2007, p. 15.

> autumn and winter months by shifting to different areas we can work this tree for 4-8 months of the year (in the right year). An area of trees only flowers well once in 5 years. Huge areas of Native Forest are required to sustain the beekeeping industry over that 5 year cycle. One of the **factors is a drought** and that cycle may go out to once in ten years or more.
>
> **Under current legislation the honey industry in Queensland has no future beyond the year 2024. We cannot survive on pollination alone as pollination is NOT all year round. No business can survive a loss of 80% of their income e.g. honey production. The loss of a large part of the honey bee industry in Queensland will be devastating for horticulture industry and the effects will flow through to the wider community.**[17]

3.17 Queensland was not the only state where beekeepers faced declining access. In his evidence before the committee, Mr Linton Briggs outlined the experience of the industry in Victoria, stating:

> **…**in 1996 in Victoria—and remember that at that time only about nine per cent of the public land estate was vested in national parks—we had upwards of 600 sites vested in national parks out of a total of something like 3,000-odd sites across the state as a whole. We find today that there has been an attrition, with successive management plans having been implemented throughout the state for certain national parks; we have been losing bee sites. As the VAA has described in its submission: it is death by a thousand cuts. We find that, today, we have about 91 fewer sites than we have had in the past, in raw figures.
>
> If you have a look at the number of reserved forests containing bee sites which have been transferred to the national park estate you will see that, since 1996, sites have disappeared. So there is an unknown number of sites that have disappeared off the map. That issue is on the table between the Victorian Apiarists Association and the state government as we speak. We are informed that, when management plans in the national park estate go through their 10-year cyclical reviews—which is about to start now—this issue can be addressed at that time, and we are looking at that process very carefully.[18]

17 Mr Peter Barnes, Submission no. 5, p. 1.

18 Mr Linton Briggs, *Transcript of Evidence*, 25 July 2007, p. 3.

3.18 Mr Briggs saw the precedent being set in Queensland as a potential threat to the industry nationwide:

> We as an industry have been very concerned to observe, for example, the Queensland government's position. They have said, 'We would like all managed honey bees to be out of our conserved forest, our national park estate, by 2024.' That is a precedent that does worry us. We all love our environment and we all want to care for our environment, and we have no problem with that. Beekeepers are themselves men and women of the land, of course, and we have a real conservation ethic. Coming back to the challenges I was talking about a little while ago, we see this precedent established in Queensland as a challenge that could gather moss as far as the rest of Australia is concerned and it could make it harder to maintain access to our national parks.[19]

Land management

3.19 Aside from the question of access to public lands, there are a number of land management issues having a significant impact on the Australian honey bee industry. These include forest management, land clearing, rural subdivision and urban sprawl. In its submission, AHBIC noted that:

> In addition to erosion of access to resources on public lands, the following are also threats to floral resources accessed by beekeepers:
>
> - land clearing for agriculture;
> - forestry activities that remove honey producing trees;
> - replacement of felled trees with pine and low honey and pollen yielding eucalypt plantations;
> - fire, including natural bushfires;
> - reduction in vehicle access to potentially high yielding apiary sites;
> - competition with loggers as forest resources contract;
> - salinity affecting the health of the available flora;
> - droughts which reduce flowering and interrupt growth cycles;
> - control of weed species that provide pollen and nectar for honeybees;
> - urban sprawl;

19 Mr Linton Briggs, *Transcript of Evidence*, 25 July 2007, p. 3.

- access to native flora on private lands because of a perception by some landholders that managed honeybees are harmful to the ecosystem; and
- ageing and dying of mature eucalypt trees across the general landscape in temperate Australia.

Long term climate change that may have the impact of increasing drought durations and frequency will equate to reduced reliability of the floral resources within Australia to regularly and reliably flower. These long-term dry periods may also equate to an escalation in fire events, which potentially remove a floral resource for many years until regrowth is mature enough to return to a regular flowering pattern.[20]

3.20 As the Fewster family (Kuyan Apiaries and West Coast Honey) of Western Australia pointed out in their submission, all these issues have the potential to limit the viability of the industry:

> **Honey and Pollen in shorter supply** due to removal and death, due to lack of water and burning of large old trees and bushland eg—Tuart trees, Redgums, Whitegum, Jarrah—Banksia, Mallee trees and Wildflowers—(coastal heath country).
>
> Older trees produce larger canopies equating to larger collections of honey and pollen—necessary for the hives to survive and for beekeepers to work them.
>
> The coastal heath country—the loss of this country would have a significant effect on our bees. It is ideal country for wintering our bees with the flowering of many smaller plants that produce enough pollen to carry the bees over until spring when more pollen producing plants contribute to building up our hives ready for shifting onto eucalypt flows and pollination…
>
> **Urban sprawl**—moving further into the country each decade. Natural wetland that we are seeing being filled in the city is sacrilege. The powers to be should be leaving natural bushland belts, which would make fantastic areas for our native flora and fauna, e.g. Those who had the foresight to protect and keep Kings Park (WA) as it is today need to be commended.
>
> We have seen so much natural bushland flattened for housing and spread some 20 odd kilometre's in the past 30years.
>
> **Subdivisions of rural land in Regional areas**—We are seeing large parcel of farming land being subdivided for small intensive

20 AHBIC, Submission no. 56, pp. 10–11.

> farming e.g. Olives Vineyards Citrus and people looking for alternative lifestyle.
>
> Once again Natural nature strip should be kept. Only land that has already been cleared should be used for market gardens etc. No more clearing of natural bushland should be allowed.
>
> Goats should be banned on coastal fragile areas.
>
> **Clearing**—agricultural lands and clear felling of natural forest areas. The old system of removing mature suitable trees for timber is the best practice.[21]

3.21 Victorian beekeeper, Mr John Edmonds, painted a similar picture in Victoria:

> Access to farmer's properties is becoming a greater problem as they worry about occupational health and safety issues.
>
> Housing development along perimeters of forests has reduced the areas available for beekeeping on private land.
>
> Acquisition by state governments of parcels of private land from within forests and National Parks has reduced beesites.
>
> Farming practices have changed and the use of herbicides is revolutionising farming with no longer fallow paddocks with weeds to sustain honeybees and has resulted in the elimination of blackberry, gorse, and boxthorn.
>
> Clearing streams of non native plants. Although this may be seen as good for the streams it is removing a valuable source of early spring pollen and nectar from the Willows.[22]

3.22 In evidence before the committee, Mr Rodney Ruge, President of the Queensland Beekeepers' Association, highlighted the problems caused by subdivision of rural lands for urban and semi-rural development. He told the committee:

> I have done an addition to my submission with regard to the access to private land or the use of private land [Submission no. 85]. It was brought to my attention only just last week. I visited one of my regular farmers. I suppose I would have had bees there every four to five years; quite a large holding. When I first met him, he had about 20,000 acres of freehold country, plus about 40,000 acres of leasehold country. But in the last 10 to 15 years he

21 Kuyan Apiaries and West Coast Honey, Submission no. 58, pp. 2–3.

22 Mr John Edmonds, Submission no. 23, p. 3.

> has sold something like 1,000 hectares of the freehold land to developers; 700 hectares have gone since I was there two years ago.
>
> This is just one issue that we have to face. It is right across the board. These are cut up into lifestyle blocks, ranging from 16 hectares, which is 40 acres, down to 1,300 square metres approximately, which are your quarter- or half-acre house blocks. I made a comment to a gentleman the other night on the phone, saying, 'Well, we've lost that as a beekeeping resource.' His comments were, 'No, it's still there. You've just got to see more owners.' But we have actually lost it as commercial producers because 40-acre blocks or 16-hectare blocks are not viable, as, with your duty of care, it is not safe to put bees there.[23]

3.23 Mr Ruge also highlighted the issue of land clearing, which continues to be a problem from the perspective of beekeepers:

> I know that the present government has legislation to stop that. But it created a huge problem. Word got out that that was coming in. Many farmers said prior to this happening, 'If legislation looks like coming in, we've got the dozers fuelled up ready to go, and they will run 24 hours a day.' As we drive around in Queensland, we see evidence of that.[24]

3.24 Forest management was an issue across Australia: in their submission, the Fewsters noted that 'clear felling practices have had a devastating affect on our natural resources and the environment'. They further noted that:

> The woodchip industry are rather cunning leaving belt of timber close to main roads for I am sure if the general public were to drive past and see the effects of clear felling there would be more objections to it. To woodchip our beautiful trees is sacrilege.
>
> It is 41 years since we have been to a Karri flow. The Karri did have the reputation of heavy flowering every five years. (There has only been very small area's that have flowered on odd occasions in the past 41 years).[25]

3.25 Looking at the Victorian experience in his submission, Mr Gavin Jamieson, a Victorian beekeeper, advised the committee:

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23 Mr Rodney Ruge, *Transcript of Evidence*, 10 August 2007, p. 40.

24 Mr Rodney Ruge, *Transcript of Evidence*, 10 August 2007, p. 40.

25 Kuyan Apiaries and West Coast Honey, Submission no. 58, pp. 7–8.

> Forests other than the Gippsland Apiary/Forest Plan do not take into account the age class stands that best ensure sustainability of wood production and honey and beeswax at the same time.
>
> This plan should be considered and implemented across all forests types where wood utilization and honey production can be integrated.
>
> The Forests Act of Victoria sets out this duel purpose but seems not to be practiced.
>
> The Gippsland R.F.A. Investigation was provided with evidence that an 80 year harvest cycle produced revenue for the state from wood royalties that were exceeded by apiary royalties (site fees) over the same 80 year cycle.
>
> Apiarists pay their way in the forests. We provide a heavily subsidized service to agriculture. We are largely free of freebies but this will not last if the future threats come to bare. We don't need "Tree Pull" packages just a fair shake.[26]

3.26 The committee received evidence in the form of detailed submissions and bore witness to robust discussion on the issue of forest management in Tasmania. There the key conflict is between harvesting timber commercially and the preservation of Leatherwood for honey production and the conditioning of hives for pollination. The Forests and Forest Industry Council of Tasmania (FFIC) has worked to harmonise the interest of beekeepers, foresters and government agencies. In its submission, the FFIC noted that the critical issue was the locking up of leatherwood resources in parks and reserves:

> Much resource is now inaccessible to apiarist. There has been an enormous expansion in the area of national parks and wilderness areas, accompanied by a corresponding reduction in the area of State forests. One of the effects of the reduction in the area of State forests and the increase in the area of conserved land is the gradual disappearance of access roads. In most national parks, and in all wilderness areas, former logging roads are not maintained and in some instances are deliberately made impassable to vehicular traffic.[27]

3.27 The consequence of this decline in access was that the Tasmanian honey bee industry was effectively at its productive limits in terms of honey

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26 Mr Gavin Jamieson, Submission no. 10, p. 2.

27 Forests and Forest Industry Council of Tasmania, Submission no. 80, p. 3.

production and provision of pollination services. This has significant implications for agriculture and public land management:

> If most multiple use forest is now accessed to the productive limit of apiarists, and if the pollination industry is entirely dependent on leatherwood to raise hives to efficient pollinating capacity as is claimed by some, there appears to be a limit to which horticulturalists can intensify cropping. Only two changes are possible—more retention of leatherwood during harvesting to sustain the industry at current levels, or making the large areas of leatherwood in reserves more accessible to commercial beekeepers. Currently, more than 60% of leatherwood lies within World Heritage Area or other Reserve boundaries. It follows that consideration must be given to making these boundaries more porous for legitimate beekeepers and to finding ways to lessen the impact of harvesting patches of leatherwood in public forests coupes. Both of these points require serious consideration and the topic of mitigating harvest impacts is being addressed.[28]

3.28 Both apiarists and Forestry Tasmania emphasised the good working relationship between beekeepers and the forestry industry. In evidence before the committee, Mr Julian Wolfhagen, President of the Tasmanian Beekeepers' Association and member of FFIC, told the committee:

> There has been close communication between Forestry Tasmania and Tasmanian beekeepers, particularly over the last few years. Obviously it has been ongoing…but in my involvement in the last three years as president and some years before that heading up the TBA's resource subcommittee, we have had good and meaningful communications with forestry. They have been redressing coupe boundaries in certain areas to minimise the impact on leatherwood. That has been a significant benefit to us; however, I believe their remit does not allow them to facilitate our industry as much as the timber industry, of course. That is a matter of debate because of the size of the industries, but for the future benefit of the industry we need to see leatherwood getting formal recognition within the Forest Practices Code.
>
> We are seeing a move in harvesting away from clear fall. We are seeing in the Community Forest Agreement a reduction in the amount of clear fall, which has to be a benefit. Managing the coupes with apiaries in mind under the selective harvesting program will benefit the beekeeping industry, but we need to see

28 Forests and Forest Industry Council of Tasmania, Submission no. 80, p. 20.

> leatherwood getting some sort of regulatory recognition. At the moment it comes down to the goodwill of the planners and harvesters to see that after the implementation of the plan leatherwood is protected.[29]

3.29 Mr Graham Sargison, of Forestry Tasmania, explained in turn:

> I would like to make a few comments from the point of view of Forestry Tasmania. Forestry Tasmania does have a very good working relationship with most of the state's beekeepers. We signed a Community Forest Agreement with them in November 2000. Part of that agreement contained some guidelines by which we manage beekeeping on state forests and it includes mostly the protection of the leatherwood-rich forest.
>
> As you know, we have a very rigid planning scheme for forestry. When all of our planners are planning for harvesting they take into account what we call special management zones specifically for apiary, which surround every beehive site on state forests. So every planner, when they are planing a harvesting operation within an apiary protection area, knows that it will come up flagged for special management. So they know they have to take special account of any leatherwood-rich forest in that zone. That is not to say they protect every tree, but they try to protect the leatherwood-rich areas and streamside reserves; they amend boundaries to try to protect it.
>
> But, as we have heard already, there are some 777,000 hectares of leatherwood-rich forest in this state and only 260,000 of those are on state forest. The formal reserve system has expanded fourfold over the past four decades so a lot of that leatherwood-rich forest has been placed in reserves. The beekeepers access multiple state forests via our network of forestry roads free of charge. They have been built by the timber industry. So we have contributed towards the growth of the leatherwood honey industry by making more hive sites available during the last decade.[30]

3.30 The problem is, as both Mr Wolfhagen and Mr Sargison admitted, the relative importance placed on apiarists needs by those responsible for forest management. Mr Wolfhagen, from the point of view of the honey bee industry, explained:

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29 Mr Julian Wolfhagen, *Transcript of Evidence*, 3 September 2007, p. 7.

30 Mr Graham Sargison, *Transcript of Evidence*, 3 September 2007, pp. 24–5.

> One of the core issues in the broader sense is that in the state we have an issue that forestry at times does not necessarily see itself constitutionally as responsible for agriculture. We have been told this in the past. I appreciate the work and the communication that has happened, but structurally there is an issue that their remit does not, I believe, cover the responsibility that they have to our industry in a holistic sense.[31]

3.31 Mr Sargison, from the point of view of Forestry Tasmania, stated:

> It is all down to the value. From our point of view, forestry gets returns from the timber industry of about $50 million. Our return from the beekeeping industry is $30,000 a year. So when it comes to management we try to do our best but, as Julian says, we are there to manage the forest for all its values. My concern is that the true value is not placed on the pollination services. If the true value of pollination services was recognised that could be reflected right back through the chain and we could all get a reasonable return. After all, forestry is a business.[32]

3.32 Mr Sargison advocated opening up reserves to the honey bee industry:

> I think that is an absolutely crucial issue. On state forest, as I said earlier, we manage for multiple use so that beekeepers will always be welcome on state forest. But, as we said earlier, although we may differ somewhat on the percentages of leatherwood-rich forest, the majority is in reserves. Leatherwood is so critical to this industry, for both honey and pollination, that if we do want to move ahead I think we do have to make access available into those reserves for the beekeepers.[33]

3.33 He could see little merit in continuing to exclude them:

> I certainly cannot understand the reasoning. We have got wasps in there and bumblebees and, as Julian said earlier, we have got honey bees that overfly the boundary—they do not know where the boundary is—so it seems farcical to exclude them. In fact, our parks have withdrawn access. In some cases we have had existing roads into what are now reserve areas and they have actually pulled up those roads and withdrawn access in a couple of cases. We have supported the beekeepers in trying to reopen that access—without success. I think one of the management guidelines

31 Mr Julian Wolfhagen, *Transcript of Evidence*, 3 September 2007, p. 28.

32 Mr Graham Sargison, *Transcript of Evidence*, 3 September 2007, p. 28.

33 Mr Graham Sargison, *Transcript of Evidence*, 3 September 2007, pp. 42–3.

> in the World Heritage area was to close any unnecessary road access. But when the road is already there it does seem rather strange to me.[34]

Plantations

3.34 While plantation timber has been seen as a potential resource for the honey bee industry, the industry itself sees plantations as a poor substitute for mature native forest. In her submission, Mrs Elwyne Papworth explained that:

> There is a trend to try to replace denied access to public lands with plantation timber, no plantations are being planted to replicate the natural mixes of flora, (eucalypt and ground flora), not enough land is available to replace the same quantity of denied native flora, planters have no understanding of industry needs to maintain hives or to produce honey, plantations already in ground mostly flower during the winter and are not of mainland species. From May to August, managed honey bees go into hibernation, and have to [be] encouraged through specific management techniques to be prepared for Almond pollination in early August.[35]

3.35 In its submission, the Amateur Beekeepers Society of South Australia decried the 'unnecessary clearing of remote or inaccessible areas of land for alternative plantings of softwoods or wood chip products. Those responsible for land management need to understand the irreplaceable resources yielded from a Eucalypt tree 50 years or older…'[36]

3.36 In its submission, the Tasmanian Department of Primary Industries and Water stated:

> Eucalypt plantation forests are not likely to be a significant source of honey for the apiary industry because the trees are generally harvested before they reach floral maturity. Native forests are an important source of nectar.[37]

3.37 However, in its submission the South Australian Government advocated planting trees for bees as part of revegetation programs:

34 Mr Graham Sargison, *Transcript of Evidence*, 3 September 2007, pp. 43.
35 Mrs Elwyne Papworth, Submission no. 74, p. 7.
36 Amateur Beekeepers Society of South Australia, Submission no. 19, p. 4.
37 Tasmanian Department of Primary Industries and Water, Submission no. 72, p. 4.

> Access to privately managed areas of native flora is declining. This access problem could be rectified by making future access to Federal funds for revegetation and conservation activities on private land provisional on the inclusion of local pre-European "bee friendly" vegetation and that such vegetation is available to the honeybee industry. Similar consideration could also be given to plantations intended for use in the event of carbon trading.[38]

3.38 The South Australian Government recommended:

> Review[ing] the potential to make Federal Government funds for revegetation land conservation activities provisional on the inclusion of local pre-European "bee friendly" vegetation that is available to industry.[39]

Environmental impact of the honey bee industry

3.39 The environmental impact of the honey bee industry has two facets—the environmental impact of the European honey bee in the Australian environment; and the environmental impact of managed bees upon the natural environment.

3.40 In its submission, CSIRO identified three classes of potential impacts of European honey bees in the Australian environment:

- Competition with native species for floral resources;
- Changes in reproduction by native plants; and
- Competition with native species for nesting sites.

3.41 On the first point, CSIRO notes:

> There have been numerous studies from around the world showing that when honey bees are present, native bee visitation rates are reduced. Unfortunately, this research does not answer the fundamental question regarding the long term survival of these native species in response to honey bee competition. Only by looking at reproduction, survival, or population levels can one really answer this question. Recently researchers have focused on the reproduction of native bees when honey bees are present. Two studies, one of which was conducted in Australia, show a negative

38 Government of South Australia, Submission no. 73, p. 8.

39 Government of South Australia, Submission no. 73, p. 8.

impact of honey bees on natives (Paini and Roberts 2005; Thomson 2004), and two others found no impact (Paini *et al.* 2005; Spessa 1999).

Honey bees might also compete with large animals, such as nectar-feeding birds. Paton (1993) showed that honeyeater feeding behaviour is affected by the presence of honey bees, such that birds travelled further to collect nectar. To our knowledge no researcher has investigated the impact of honey bees on native marsupial pollinators.[40]

3.42 On the second point, CSIRO notes:

> Honey bees have distinctive behaviours that mean they may cause patterns of plant pollination that differ from the native pollinators. Studies of different plant species have shown different kinds of effects, with honey bees diminishing pollination of some species and enhancing pollination of others (Gross & Mackay 1998). Honey bee pollination can also affect patterns of gene flow, such that their pollination increases the frequency of mating over short distances rather than long distances (England *et al.* 2001) which could lead to inbreeding effects.[41]

3.43 On the third point, CSIRO notes:

> It has been shown that bees select similar hollows to some endangered species (Oldroyd *et al.* 1994), and some endangered vertebrates are limited by the availability of hollows (Lindenmayer *et al.* 2002). There have been two cases reported where nests of the white-tailed cockatoo failed as a result of swarming honey bees (Saunders 1979). Honey bees are also known to occupy caves, where they could affect roosting of bat species.
>
> Whereas affects on plant reproduction and competition for floral resources might occur with managed or feral bees, competition for nesting sites is exclusively linked to feral honey bees. From a management point of view, bees in commercial hives can be withdrawn if problems arise. The feral population, however, is more or less entrenched. While feral honey bees obviously derive from the domestic managed population, there is very little data available to show whether the managed bee population continues to support the feral populations. It might be that placing bee hives in native vegetation significantly increases the size and stability of

40 CSIRO, Submission no. 33, pp. 14–15.

41 CSIRO, Submission no. 33, p. 15.

> the feral bee population, but more research is needed on this matter.
>
> The scientific literature shows that negative biodiversity impacts of honey bees have been documented in some cases. In addition, it shows that negative effects will not be felt in all sites at all times. Indeed some studies suggest that in some times, particularly when nectar is very abundant, competition with native fauna is low (Paton 1999). In other words it is false to suggest honey bees will never have negative effects on nature conservation, just as it is false to suggest that they will have serious negative impacts in all circumstances. The key question for the future is to determine where and when the risk of negative impact is such that it is incompatible with nature conservation, and conversely where the impacts likely to be compatible with the designated land use.[42]

3.44 The extent of the impact, if any, of the European honey bee in the Australian environment has been the subject of some debate in the evidence put to the committee.

3.45 In his submission, Mr John Tadman, a Queensland beekeeper, questioned the relevance of this issue, arguing that honey bees had been in the environment for so long that any damage they were going to do had already been done and that honey bees were now a part of the Australian environment. He stated:

> The important points out of all this are:
>
> - Feral *Apis mellifera* had spread throughout Australia wherever the vegetation and water supplies have suited them, by the mid-1800s.
> - Any adverse effect on the native flora and fauna caused by the honey bee *Apis mellifera* has had at least 150 years in which to occur.
> - In all probability any conceivable damage has already happened, so there is little point in banning honey bees from conservation areas.
> - Conversely, there could well be an advantage in keeping either feral or managed hives of *Apis mellifera* in conservation areas for the benefit of native flora in case the natural pollinators of some native flora have been displaced by *Apis mellifera*.
> - Where vegetation types have been fragmented, *Apis mellifera* with its foraging radius of five kilometres, is better able to carry pollen between remnant fragments of forest than any of the

42 CSIRO, Submission no. 33, p. 15.

native insect pollinators. It could therefore be critical to the survival of endangered plant species.

- Consequently, there could well be an advantage in keeping either feral or managed hives of *Apis mellifera* in conservation areas for the benefit of native flora in case the natural pollinators of some key native flora have been displaced by *Apis mellifera.*
- Feral bees have been providing free pollination to crop growers in most regions for the best part of 150 years, but this is beginning to change as the habitat for ferals is being removed. Also, the free pollination service of the ferals could disappear suddenly if biosecurity is breached.
- The failure of native insects to pollinate the early settlers' crops (when cultivations were surrounded by bush) holds out little hope that alternative pollinators can be found within Australia.
- The introduction of new exotic species is always fraught with danger.[43]

3.46 In his evidence before the committee, Mr Trevor Weatherhead, a beekeeper from Queensland, noted that in his experience native bees and honey bees co-existed happily. He argued that the biggest threat to native bees was habitat destruction:

> With the native bee—the trigona—there are records of people rescuing hives out of trees and finding native bees and European honey bees working out of a hole in a tree, using exactly the same entrance. It is not uncommon to find them in the same tree together. When I kept native bees before the drought, when they died off, we had situations where native bees were living side by side with honey bees. I see no real threat to either one. They certainly coexist. There are plenty of cases of beekeepers who have both. They keep the trigona basically as a hobby. There are no published papers that I am aware of that show that there are any problems with having one or the other. They always bring up the competition angle with it. The biggest threat to the native bee population in Queensland is clearing. There is a service in Ipswich where fellows go out and rescue native beehives from trees before subdivision and before people cut down trees for firewood. They like to get the dead, high trees for firewood, and that is where the bees are. From the point of view of a threat to the native bee—the trigona—the honey bee, in my opinion, is not a threat.[44]

43 Mr John Tadman, Submission no. 30, pp. 11–12.

44 Mr Trevor Weatherhead, *Transcript of Evidence*, 10 August 2007, p. 60.

3.47 In his evidence before the committee, Mr Des Cannon, beekeeper and chairman of RIRDC's Honeybee Research and Development Committee, noted that the European honey bee might actually be benefiting native flora. He stated:

> …studies have been done that show that in some cases native pollinators do not pollinate eucalypts as effectively as European honeybees. There is less seed set per tree and the seed that is set is more viable when European honeybees are used as the pollinators.[45]

3.48 In a similar vein, the Department of Agriculture and Food, Western Australia, noted in its submission:

> Honeybees are recognised as important pollinators of Western Bluegums *(Eucalyptus globulus)* which provide seeds to grow large numbers of seedlings the private and state forestry operations. The use of the Jarrah forest belt of WA by beekeepers ensures the trees have plenty of seed to disperse. The benefit of bees to forest trees requires further research to quantify that interaction. A recent DAFWA project has shown that honey from the Jarrah forest has effective levels of antimicrobial activity and therefore there is an additional community health benefit associated with bees having access to forests.[46]

3.49 In evidence before the committee, Mr Weatherhead downplayed the role of honey bees in the cross-pollination of native flora, noting that there was evidence of hybridisation predating the presence of European honey bees:

> They say that bees will cross-pollinate in things like eucalypts, but in a previous life I worked in the forestry department, and I know that there are many records of botanical identification of trees within Australia back in the 1800s where they named new species of trees and later on found out that they were hybrids between trees. Taking into account that the first European bees came into Australia in 1822, and those trees in the 1800s would have been hundreds of years old, it certainly was not honey bees that caused those trees to hybridise. There is certainly plenty of other native fauna out there that contribute to the crosspollination of particular species and hybridisation of species without needing any help at all from the honey bees.[47]

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45 Mr Des Cannon, *Transcript of Evidence*, 8 August 2007, p. 7.

46 Department of Agriculture and Food, Western Australia, Submission no. 24, p. 3.

47 Mr Trevor Weatherhead, *Transcript of Evidence*, 10 August 2007, pp. 60–1.

3.50 Mr Allan Baker, a Western Australian beekeeper, observed that 'in badly fragmented landscapes where natural pollinators have been lost Honey Bees may now be the only way that many native plants in remnant bush can reproduce'.[48]

3.51 However, Mr Baker also emphasised that feral honey bees had a significant impact upon the environment, especially in competing with native birds for nesting sites:

> Bee-keeping has an environmental impact and much of it occurs on public land. As such the industry should be responsible and accountable for the sustainable use of the natural resources upon which it depends. Currently the industry has a "head in the sand" attitude with respect to environmental issues. An environmental (Environmental Management System) needs to be introduced (complementing BeeQual on the food safety side) as a condition of access to apiary sites on crown lands.
>
> Feral Honeybees are becoming a significant conservation issue, usurping tree hollows normally used by native wildlife including threatened species such as our Black Cockatoos. This problem has become more serious recently due in part to the impact of Canola crops on bee swarming behaviour and possibly on genetic changes in feral populations. Genetically poor domestic bees are also more likely to swarm and behave aggressively.
>
> Living in the area for a number of years, I have removed over seven hundred colonies from all sorts of objects and situations. I have developed a passive method of extracting worker bees from wild hives in tree hollows thus eradicating the feral hives. I am now actively involved in programs to manage feral bees in important natural habitat areas using my knowledge of bee behaviour. This includes working with the Cockatoo Care Program, removing bees from tree hollows which are nesting areas for Cockatoos with Mr Ron Johnson from the Western Australian Museum.[49]

3.52 The Department of Environment and Conservation, Western Australia, took the view that feral bees were an environmental pest that had to be managed. In an attachment to its submission entitled *Development of a Feral bee Control Strategy for Western Australia*, the department noted:

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48 Mr Allan Baker, Submission no. 53, p. 2.

49 Mr Allan Baker, Submission no. 53, pp. 1–2.

> The European honey bee *(Apis mellifera)* is an exotic species that was introduced into Western Australian in the 1840s. Although they are the same species, feral bees differ from managed bees. Feral bees are those that have escaped from a managed apiary hive to establish unmanaged hives in many areas of the State. Feral bees are generally aggressive, have a tendency to swarm and they are of little value for commercial honey production or for pollination of crops.
>
> In Western Australia feral bees compete with native birds, mammals and invertebrates for floral resources (nectar and pollen), disrupt natural pollination and seed set processes, aid in the spread and establishment of introduced weeds and compete with a range of native birds and mammals that are dependant on hollows in trees for shelter or nests. Feral bees also compete with managed bees for nectar and pollen resources and represent a considerable risk to the commercial apiculture industry in the event of the introduction of any one of a range of exotic diseases that affect honeybees and that are not currently present in Western Australia or Australia.
>
> Research conducted in New Zealand showed that feral bees could effectively be controlled by using a small amount of pesticide presented with a sugar solution in a specially designed bait station. The study found that depending on the season, feral bees within a 500m radius were attracted to the bait stations quickly and in large numbers. The study also found that if an average 11% of the bees in a nucleus colony consumed a sugar solution containing pesticide, the entire colony would die.[50]

3.53 In its submission, the Department of Environment and Conservation, Western Australia, noted its progress with the Feral Bee Control Strategy:

> Stage One has been completed in partnership with the Water Corporation. DEC trials are continuing, using remote poisoning for large scale programs and in situations where the location of feral hives cannot be determined or accessed. Baiting trials have been conducted at three sites, with effective control of feral hives being observed. The Department has developed a Standard Operational Procedures (SOP) manual for feral bee control based on the results of the trials conducted during the program. The SOP considers the impact and risks to non-target species and the relevant

50 Department of Environment and Conservation, Western Australia, Attachment to Submission no. 84, *Development of a Feral Bee Control Strategy for Western Australia*.

> occupational health and safety requirements for efficient baiting of feral bees using the pesticide.[51]

3.54 The other aspect of the question is the environmental impact of managed bees upon the natural environment. In his submission, Mr John Edmonds, a Victorian beekeeper, referred to research which indicated that managed bees had little or no impact upon the natural environment:

> Research will prove that when the trees are in full flower and weather is suitable nectar secretion is unlimited and there is more nectar available than can be used by native birds, bees and the honeybees. Research conducted by Latrobe University in approx 1990 at Cobobonee State Forest proved that managed honeybees did not reduce available nectar for native bees; in fact the greater numbers of native bees were where the largest commercial apiaries were located. The main reason this occurs is because the insect eating birds and insects prefer to catch and eat the honeybee, and the species do not compete as they have differing preferences for nectar sugar composition. As far as I know because this research did not suit the environmentalists it has never been published.[52]

3.55 In evidence before the committee, Mr Linton Briggs elaborated:

> …as far as research targeted specifically to the operations of migratory commercial beekeepers is concerned, not much work has been done. The most important work that has been done in that regard was in south-western Victoria in the early nineties, where the World Wildlife Fund, cooperating with the La Trobe University in Victoria and the Victorian Apiarists Association, cooperating with what was in those days the department of conservation, forests and lands put together a design which, if implemented, would test the hypothesis for honey bees being managed according to the migratory principle. Bearing in mind that our operations are tuned to the sporadic flowering behaviour of eucalypts in particular, you might be in there for only six weeks for a particular eucalypt and then maybe every third, fourth or fifth year, or whatever. So the design was specifically tailored to accommodate that—usually when there is a super-abundance of nectar and pollen in any case.
>
> Within the body of the document I have described and will seek permission to table you will see where that research is discussed.

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51 Department of Environment and Conservation, Western Australia, Submission no. 84, p. 1.

52 Mr John Edmonds, Submission no. 23, p. 2.

The outcome of that research showed that it was expected by the scientific community that an adverse impact would be recorded, particularly in the native bee population—and there are four specific species in the south-western Victoria environment. That environment was selected because native bees and their reproduction were seen to be a very sensitive indicator of an adverse impact.

The outcome of that research showed that there was no adverse impact and, in fact, that the reproductive success of those four native bee populations was improved. Why? It was something that the members of the beekeeping industry, who work so closely with nature and are so tuned in to the dynamics that affect the biota, anticipated that this would be the case. Why? There are a couple of things. One is that there was a super-abundance of nectar. In the year of that research study, when *Eucalyptus obliqua* flowered—we have all heard of the Messmate eucalypt—it produced copious quantities of nectar and pollen. The contention in the industry was that the bringing in of many apiaries, thousands of colonies, into that particular forest system, for that specific nectar flow, took off only a portion of the crop and that, with the super-abundance of nectar and pollen, the presence of the honey bees nipping off a portion of the nectar had no effect on the biota—the native bees, all the rest of the native invertebrates and nectar feeding birds.

The other issue was that we anticipated that the honey bee populations coming into that forest system would bring in many hundreds of thousands of insects. Many honey bees die out in the field on their last flight and the predation that would normally be there chewing away at the native bee population was suddenly eased by the presence of a lot of additional food in the environment, so much so that the outcome was quite astonishing to the researchers but not to the industry. That is an example of why it is important to get the design right, certainly not to do research when there is a dearth of nectar out in the forests. It is very important that you do not bring honey bee apiaries into a research project and superimpose them on the environment when there is very low nectar production—because the eucalypts are not flowering—because you would be creating a bias or skew which could hurt you. We noticed one of the conclusions from the rural skills inquiry was that there should be a national group of stakeholders convened to have a look at this whole question of access around Australia with the view that policies may be

> developed. We are all aware of the inherent problems with state and federal governments, more today perhaps than at any other time in our recent history. That is why we are very determined to put together a group of stakeholders and have a look at this with a view to developing harmonious policies around Australia.[53]

3.56 Nevertheless, the industry recognised that in order to justify access to public lands it needed to develop a National Code of Conduct (NCC) and an Environmental Management System (EMS) for the industry. In its submission, AHBIC stated:

> In order to reduce the risk from declining access to public lands, the industry has already developed an action plan to drive it towards a national code of conduct and then on to an Environmental Management System (EMS). This includes the establishment of a management industry steering committee, an industry reference group (made up of various industry participants across the entire supply chain), and an industry scientific environmental advisory group. Furthermore the industry held a workshop with industry representatives to discuss the development and implementation of a national code of conduct and the subsequent introduction of an EMS once the code has been implemented. In June 2006, the industry received funding from stage two of the Industry Partnership Program (IPP) to develop a national code of conduct for those working on public land, and has been developing such a code for the last nine months.[54]

3.57 In its submission, the Department of Agriculture and Food, Western Australia, also highlighted the need for an EMS for the industry:

> Western Australian beekeepers had a 'no new sites' policy implemented in 1992. A moratorium on the issue of new sites had been in place five years and at the time beekeepers were given an assurance that a decision would be made after research had been concluded on the subject of honey bees in the environment. The moratorium is still in place 15 years later.
>
> The apiculture industry will require sound, professional and well-presented arguments and will need to establish its own environmental credentials through the adoption of an Environmental Management System (EMS) to halt further

53 Mr Linton Briggs, *Transcript of Evidence*, 25 July 2007, pp. 6–7.

54 AHBIC, Submission no. 56, p. 26.

> restrictions on access to the national parks and nature reserves and to demonstrate that the current policy can be reversed.[55]

3.58 In evidence before the committee, the Commonwealth Department of Agriculture, Fisheries and Forestry pointed to the importance of the National Code of Conduct to the future viability of the industry:

> One of the purposes of this environmental code of conduct project is to provide assurances of the environmental sustainability of the industry and, therefore, to help access to public land so beekeepers can demonstrate their environmental credentials and I guess reduce some of the concerns that the keepers of those public lands may have about having beekeepers on that public land. That is one part of it. It is probably not the whole solution, but it is certainly part of the solution there.[56]

3.59 In its submission, the South Australian Government argued for more research into the impact of managed bees on the natural environment to underpin the environmental credibility of the industry:

> To ensure that future negotiations for land access are based on scientific data, research funds are needed to measure the impact of managed beehives on different ecosystems. It is arguable that the South Australian honeybee industry's relatively stable access to crown land is the result of such research undertaken in the Ngarkat Conservation Park.[57]

3.60 In its submission, CSIRO also argued for more research into the impact of bees on native flora and fauna:

> A key issue confronting beekeepers is the environmental concern around the perceived impact of honey bees on native flora and fauna and weeds. However, the knowledge upon which this is based has been drawn from a narrow range where vested interests have exposed the process to accusations of framing, context dependence and motivational bias. This opens the area to bias and misleading prioritisation. A key set of questions needs to be answered before issues such as access to floral resources can be dealt with effectively. These questions include, what are the population dynamics of the feral honey bee population? How much will varroa change this? To what degree are feral

55 Department of Agriculture and Food, Western Australia, Submission no. 24, p. 3.

56 Ms Victoria Anderson, General Manager, Industry Leadership and Development Branch, DAFF, *Transcript of Evidence*, 13 June 2007, p. 6.

57 Government of South Australia, Submission no. 73, p. 8.

> populations dependent on the managed populations for re-colonization? What plant communities and animal species are most vulnerable to negative effects of feral honey bees?[58]

3.61 However, the committee notes that the question of researching the impact of honey bees on the natural environment is an issue of some controversy. In his submission, Mr John Tadman, a Queensland beekeeper, argued that the 'question of environmental impacts of bees in National Parks is a giant red herring. Feral bees have been in National Parks for 150 years, and any considerations of good or harm are now purely academic'. He urged that research funding be concentrated on other areas rather than trying to prove a negative—that bees have had no serious or irreversible effects on the environment in which they are now an established fact.[59]

3.62 Mr Robert McDonald, a beekeeper and President of the Beekeepers Branch of the Victorian Farmers Federation was also sceptical of the value of research into the impact of bees in the environment:

> I am not prepared to say much off the top of my head as to which lines of research, except that I have got huge problems with pouring a lot of money into research into the effect of European honey bees on our native ecosystem. In my opinion, there have been quite a few good research projects done that have proved fairly conclusively that there is no effect. Generally land managers will not accept the results of such research. The attitude seems to be, when the land managers talk about doing further research, that 'we want to do some research until we can find a negative impact so we can limit your access'. In some submissions that I have done in relation to management plans, I note they always say in these management plans that there is a need for more research into the impact of European honey bees on the native ecosystem. So in my submissions I always say, 'So you should accept the results of the research that has already been done and which we have put in front of you quite often. You won't accept them, so I cannot feel any need for any more research.'[60]

58 CSIRO, Submission no. 33, p. 16.

59 Mr John Tadman, Submission no. 30, p. 23.

60 Mr Robert McDonald, President, Beekeepers Branch, VFF Horticulture Group, *Transcript of Evidence*, 25 July 2007, pp. 18–19.

Bushfires

3.63 Bushfires have a significant effect on the Australian honey bee industry. As the Victorian Apiarists' Association noted in its submission, loss of honey producing flora and viable bee sites through fire is a major issue for apiarists:

> Since 2002–03, major bushfires in North Eastern Victoria, Central Victoria and Gippsland have impacted in some cases severely on native flora and beekeeping industry prospects.
>
> Impacts on preferred nectar yielding forest flora range from little crown damage, severe crown damage, to destruction of mature eucalypts. Where little crown damage has occurred, potential for production could return in 2–3 years. Where severe crown damage has occurred, full recovery could be as far away as 8–10 years. Where mature trees have fallen, replacement species regenerating will not be useful for production for something like 25–30 years.[61]

3.64 The evidence presented to the committee indicates that fire management is a major source of contention between the honey bee industry and land managers. Solutions to the problems of how and when to conduct controlled burns of native bushland and management of wildfires seemed to have defied agreement in all States. Mr Peter McDonald, a Victorian beekeeper, explained in his submission:

> Bushfires affect us greatly. The loss of the flora to everyday Australians is only temporary, they generally recover relatively quickly. However, they take much longer to recover in terms of beekeeping and we may be unable to use the resource again for 10 or more years and the trees re-grow.
>
> We are the same as all other forest users in that we want the forest managers to keep the forests safe from bushfires. They must ensure that clear communication of fuel reduction burns to achieve this aim is given and be prepared to listen to beekeepers that request changes to these plans if they conflict with major flowering events occur. Whilst fuel reduction can be flexible at times, we are at the mercy of the weather and climate and trees for the timing of honey flows.[62]

61 Victorian Apiarists' Association, Submission no. 71, p. 38.

62 Mr Peter McDonald, Submission no. 45, p. 4.

3.65 In his evidence to the committee, Mr Peter Barnes, a Queensland Beekeeper and member of the Queensland Beekeepers' Association (QBA) executive, highlighted problems in that State with fire management:

> …it is a widespread problem. You now have guys coming out of university, the EPA and National Parks, and they get to manage the large areas of forest. We find that Forestry do an exceptional job when it comes to burning and that sort of thing, but the problem is that there is a history of a lot of these places going from Forestry to National Parks. I will give you an example. About six years ago, we had a load of bees burnt on Kandanga State Forest, which is at the back of Gympie. That fire had been reported to National Parks on 10 separate occasions over 15 days before the humidity got down to 10. We actually had our bees on burnt ground and it got them as well. This is not uncommon.
>
> Another case was in the Condamine area. They did a controlled burn and the wind got up the next day. It is just lack of preparedness, we find quite often, on the part of the rural fire brigade where you have a major fire. You have blokes that, on paper, have lovely fire credentials but when you come down and question them they are from the marine park part of the government or other areas, and they are shipped in from other places to fight these fires and they know nothing about the vegetation or areas. This in my opinion is the reason why these fires are getting away.
>
> We have large areas of jelly bush down in Tinnanbar that were control burnt during conditions when it should not have been, and those areas were wiped out for eight to 10 years because of very poor management. The government has a policy that they only burn between certain months in the year. I believe that is all fine and good until you come to the stage where it might be a very dry year and they still conduct their burning. If they have a bad reputation in burning, it has to be looked at in terms of, 'What can we do to burn these areas in the right conditions, no matter what time of year it is?' and in consultation with the beekeepers.[63]

3.66 In its submission, the Western Australian Beekeepers' Association noted:

> In WA the industry maintains a very good relationship with the state Department of Environment and Conservation, (DEC), who are responsible for management of our state forests and the

63 Mr Peter Barnes, *Transcript of Evidence*, 10 August 2007, p. 49.

> conservation estate. Generally very few problems arise that can't be resolved to our mutual satisfaction. Perhaps the one area causing most angst relates to fire events; both controlled hazard reduction burns and wildfires. Given the rainfall reductions WA has experienced in the past decade, this situation is more likely to worsen than improve. DEC has a very good system of prior written notice to beekeepers about planned hazard reduction burns affecting apiary sites, which enables forward planning for sites that will be available during particular honey flows, (although it is not a rare event for this system to break down!). Depending on the vegetation type, some flexibility in timing of the burn can usually be negotiated. However as our landscape becomes drier with time, recovery of some burnt areas is taking longer. This same drying phenomenon places even greater emphasis on the importance of hazard reduction burns to the wider community, and to a degree restricts the ability of the agency to be flexible towards beekeepers' desires for these burns to not proceed at the scheduled time. This will remain an issue for negotiation between the industry and DEC.[64]

3.67 In his submission, Mr Allan Baker, a Western Australian beekeeper, told the committee:

> Bushfires and burning policies have also had a significant impact on the bee-keeping resource in my area.
>
> The fighting of fires has left much to be desired and the defence of active apiary sites during fires has not been a priority.[65]

3.68 In its submission, the New South Wales Government acknowledged the concerns of beekeepers, but highlighted the conflicting priorities of land managers and differences within the honey bee industry over timing and methods for controlled burning:

> Bushfires can devastate an area for many years regarding its potential productivity for bees. Banksia heath country may take seven years to recover, eucalypts possibly several decades.
>
> It is notable that the industry is divided over the impacts of bushfire. Some apiarists prefer long un-burnt heath, claiming it contributes positively to the production of royal jelly, while others prefer more frequently burnt foraging areas.

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64 Western Australian Beekeepers' Association, Submission no. 32, pp. 14–15.

65 Mr Allan Baker, Submission no. 53, p. 3.

> Whilst the NSW Government supports the honey bee industry, conservation of the natural environment, flora and fauna is the primary objective of land management in nature reserves and National Parks, and at times may impact on beekeeping. Fire management planning in National Parks involves managing the risk of wildfire, as well as optimising the likelihood of achieving ecologically appropriate fire regimes. Hazard reduction regimes to achieve these goals may not always be consistent with apiarists' preferred outcomes. Where possible, apiarists are notified in advance of proposed hazard reduction burning and trail maintenance.
>
> In the event of a wildfire, apiarists with sites in National Parks are notified where possible but priority is given to conserving park values and protecting life.[66]

3.69 In its submission, the Department of Environment and Conservation, Western Australia, highlighted the importance of prescribed burning for fire management:

- Western Australia has a very fire prone climate;
- there is a high incidence of fires due to human causes (70+%) and lightning (up to 40%);
- fire is a natural and integral factor in the landscape, which has and will continue to influence the nature of vegetated landscape and biodiversity;
- in the absence of adequate fuel reduction by prescribed burning, the incidence, extent, severity and impacts of wildfires on community assets, natural values, biodiversity (and the honey production industry) would be significant;
- the prescribed burning program applied by DEC has ensured that the impact of wildfires on honey production is very low. On average the area of State forest/timber reserves affected by wildfires each year is less than 15,000 hectares or only 0.06% of the DEC-managed estate;
- DEC will attempt to accommodate the needs of honey producers in peak honey flow years by either modifying or delaying some burns that are of lower priority for community protection;
- the Spring burns are generally of very low intensities and have little impact on the tree crowns;
- in its 2004 review of CALM's [Department of Conservation and Land Management] fire policies and management practices, the Western Australian Environmental Protection Authority

66 NSW Government, Submission no. 79, pp. 7–8.

> recognised that a fuel reduction programme is a key strategy used by CALM (now DEC) to reduce the extent and damage to biodiversity and other assets, which might otherwise be caused by wildfires.[67]

3.70 In its submission, the Department of Agriculture and Food, Western Australia, highlighted the impact on apiarists of prescribed burning for fire management:

> Bushfires are mainly started by lightening strikes. But the concern of beekeepers is the way prescribed burning of the forests and other bushland by conservation agencies to reduce fuel loads and thereby minimise risks of more severe fires. Often the prescribed burns are conducted in spring when the understorey plants are providing a source of pollen and nectar for the honeybees and when it's an 'on year' for some of our forest tree species. The majority of the eucalyptus species flower biennially. There is a light flowering one year followed by a heavy flowering in the second year. Prescribed burning may coincide with the year when trees are in heavy bud. The heat from fires forces the tree to drop buds and beekeepers (and wildlife in general) miss out on the expected heavy flowering. The cost to beekeepers can be significant. There seems to be no provision for variations in times of burning, so that heavy nectar flows can be exploited, before burning is undertaken, or arranging for burns to be conducted in light flowering conditions.[68]

Committee conclusions

3.71 In the committee's view, a critical challenge facing the Australian honey bee industry is resource security. Access to floral resources underpins the viability of the honey bee industry. The principal sources of nectar and pollen for the production of honey and the maintenance of hive health are native forests species—especially eucalypts and leatherwood (Tasmania)—and some weed and crop species. Despite this, beekeeper access to native flora is under increasing pressure from land use change, declining access to public land, land clearing and the impact of bushfires.

3.72 The committee notes, and wishes to highlight, that the level of access to floral resources limits the size of the industry and therefore the capacity to

67 Department of Environment and Conservation, Western Australia, Submission no. 84, p. 2.

68 Department of Agriculture and Food, Western Australia, Submission no. 24, p. 5.

provide pollination services. Access to native flora is therefore essential to crop pollination in Australia. Much of our native flora is on public land, which is increasingly being locked away in national parks and nature reserves. *In the event of a Varroa incursion, beekeeper access to public land will be essential to the maintenance of many agricultural and horticultural industries*.

3.73 The committee therefore believes that giving beekeepers access to public lands is essential to the future of the honey bee industry and pollination dependent industries. Governments must ensure this to maintain the viability of major agricultural industries and to ensure the nation's food security.

3.74 In turn, access to public lands requires the industry to uphold environmental standards which protect the natural environment and minimise the impact of the industry upon it. The committee notes and endorses the industry's work towards a National Code of Conduct and the development of an Environmental Management System, supported by funding from the Australian Government. This is essential to beekeeper access to public land.

3.75 The committee also notes that the evidence for the environmental impact of honey bees on native flora and fauna is at best equivocal. There is evidence for both positive and negative impacts, but the overall picture is of a species that has become naturalised within the Australian environment and is now endemic to Australia. There is a case for managing certain environmental impacts, such as is happening in Western Australia, but no case for excluding the industry from public lands. The committee is of the view that the 'precautionary principle' should be reversed in the case of bees—that their exclusion should only be justified by positive evidence of environmental harm.

3.76 The committee also believes that revegetation schemes under the Natural Heritage Trust and plantations established for the purpose of obtaining carbon credits could be established under multi-use principles that would allow for 'bee friendly' plantings. The committee is of the view that the public investment is best justified by obtaining the broadest possible public benefit.

3.77 The committee is also concerned about the impact of bushfires and fire management upon the honey bee industry. While recognising the responsibility of land managers to a range of stakeholders, it would appear to the committee that land managers and beekeepers could quite easily coordinate and communicate with each other as to their respective needs, and that public lands could be better managed to protect the floral resources available to the industry and, therefore, to industry more widely.

Recommendation 5

3.78 **The Committee recommends that the Australian Government, in conjunction with State and Territory governments, establish guidelines for beekeeper access to public lands and leasehold lands, including national parks, with a view to securing the floral resources of the Australian honey bee industry and pollination dependent industries.**

Recommendation 6

3.79 **The Committee recommends that the Australian Government provide incentives for the planting and conservation of melliferous flora under Commonwealth funded revegetation projects and carbon credit schemes.**

Recommendation 7

3.80 **The Committee recommends that the Australian Government fund research into the impact of fire management on the Australian honey bee industry with a view to establishing honey bee industry friendly fire management practices.**