

**Submission by NSW Apiarists Association to the Office of the Independent
Planning Commission NSW regarding the McPhillamys Gold Project
(SSD-9505)**

**The urgent need for immediate action on resource security for the
honeybee industry**

*There is a need to make a choice between the past and the future, between the habits and fears
of the past and demands and opportunities of the future. It's Time to remove the resource
constraints on the honeybee industry.*

The Kings Plain gold project will destroy 22 hectares of highly valuable native bushland, ruin ground flora pollen flows and possibly contaminate the water and air our colonies consume. This will restrict apiarists' ability to not only produce honey but maintain colony strength for pollination services and raise high quality queen bees for sale within our industry.

Losses of highly valuable resources and pollution of prime commercial beekeeping area such as that are being lost and affected as a result of the King Plains Gold Project there will be a large impact on the whole commercial beekeeping industry. This simply is a national food security issue. Below outlines the urgent need for immediate action on resource security for the honeybee industry.

Section 1: The Failed History of Ensuring Resource Security for the Honeybee Industry

Section 2 .The Unrecognised Benefits provided by the Australian Honeybee Industry

Section 3: Environmental Impacts of Feral Bee Colonies

Section 4: The Impact of Bushfires and Fire Management Practices on the Honeybee Industry

Section 5: Public Health Benefits Provided by the Honeybee Industry

Section 1: The Failed History of Ensuring Resource Security for the Honeybee Industry

The 2008 unanimous all-party Parliamentary report, More Than Honey, comprehensively addressed the issues facing the honeybee industry and its importance to Australia through its pollination impact. It is still relevant today as so few of its recommendations have been implemented and history has shown that they foresaw the implications and developments that required their recommendations to be implemented.

This submission covers the changes needed to ensure resource security for the benefit of many agricultural industries – with consequent benefits to all taxpayers and consumers, in the form of cheaper and better quality food with public health benefits.

The submission does not reinvent the wheel. It is a demonstration that all-party House of Representatives and Senate committees looking at the issue years apart came to the same conclusions and governments have failed to act upon these comprehensive documents with their recommendations. It's Time to implement the recommendations.

In the More Than Honey report the following recommendation was made to address the issue of resource security for the honeybee industry.

Recommendation 5

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.

The crucial arguments presented in the report and still relevant today are listed here by paragraph number:

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:

- 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.

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'. In the meantime, some 800 000 hectares of land will be taken out of production:

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

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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 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.

3.75 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.

In 2014 a Senate committee reviewed the progress that had been made on the House of Representatives More Than Honey report. Again an all-party committee made the following recommendation.

Recommendation 2

2.50 The committee recommends that the Government liaise with state and territory land management agencies to establish relevant guidelines to clarify access to public lands for beekeepers within the next 12 months.

2.8 The yield of some crops can be increased by up to a factor of four with efficient pollination. As a result, the environmental benefits are associated with reductions in the required agricultural inputs, such as water, soil, chemicals, and preparation of land.

2.12 Honey and other hive products generate \$70 – 90 million a year in Australia. Financial estimates for the contribution to crop production by pollination services included a commonly quoted figure of \$4–6 billion per annum, however the Department of Agriculture cited a 2003 estimate of \$0.6 – 1.7 billion.

2.14 The CSIRO provided some examples of high value crops which rely on managed pollination to varying degrees. The Australian almond and apple industries, worth \$331 million and \$464 million per annum respectively, are 100 per cent dependent on bees for pollination. In contrast, canola is a crop that is worth \$1.8 billion to the Australian economy and is routinely grown without managed pollinators, but a better yield is produced when pollinators are provided.

2.18 The committee also notes that, as recently as 20 June 2014, US President Barack Obama issued a memorandum directing US government agencies to take further steps to protect and restore these industries because of their critical contribution to the economy and environment. This action includes:

- The Department of Interior and United States Department of Agriculture (USDA) joining 45 state governors in issuing Pollinator Week Proclamations, publicly acknowledging the vital services that pollinators provide;
- The Environment Protection Agency releasing guidance designed to help scientists accurately assess the potential risks that different pesticides may pose to bees; and
- As part of its Conservation Reserve Program, the USDA has announcing an \$8 million initiative to provide funding to farmers and ranchers who will establish new pollinator habitats on agricultural lands.²⁴

2.47 The committee notes that this issue was considered in the More Than Honey inquiry, with recommendation 5 of that report recommending that the Commonwealth, in conjunction with state and territory governments, establish guidelines for access to public and leasehold lands, including national parks, with a view to securing access to floral resources for the relevant industries.

2.48 The Department of Agriculture advised the committee that the Commonwealth has raised these matters with state and territory governments through a discussion with state and territory agriculture agencies at a Primary Industry Standing Committee meeting on 11 September 2008.

Committee view

2.49 While the committee notes that the Commonwealth has raised this issue with states and territories, it considers more could be done to address confusion and improve communication between beekeepers and relevant state and territory agencies. The committee also notes that access issues vary between states and territories. Evidence presented to the committee indicates that there is still a high degree of concern and confusion about access to floral resources and the committee reiterates the More Than Honey report recommendation that in states and territories which do not have them, guidelines be developed to clarify access to floral resources.

The result of this recommendation was that nothing happened. Following is the government response to the recommendation.

Noted – this would primarily be a matter for state and territory governments to progress.

State and territory governments are best placed to progress the intent of this recommendation. Management of public land is likely to be determined by reference to the relevant laws of the state or territory in which the particular land is situated. Access arrangements for beekeepers would need to work within general state land use and land access policies that take into account other industry and land use objectives, resources and access needs.

The Commonwealth's land use practice generally favours multiple uses of relevant land wherever this is compatible with the Commonwealth's use of the relevant land. In this context, 'relevant land' means land in a state or in a territory that is vested in the Commonwealth.

To assist the beekeeping industry to engage with states and territories to progress access issues, RIRDC is currently funding a project to evaluate which types of public lands have management objectives compatible with access by managed European honey bees and those that do not have such objectives. The project will include a review of the different public land tenures in each jurisdiction and any policy documents about the use of public land by beekeepers. Telephone interviews will be conducted with each of the public land management agencies to determine how access arrangements are made and what criteria have been used to decide whether beekeepers should be allowed access or be excluded from particular areas. The project is due to report its findings in February 2015.

Section 2 .The unrecognised benefits provided by the Australian beekeeping industry

In the 2008 Report:

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The former RIRDC has organised many forums on pollination and studies on the different crop requirements for managed pollination. A 2008 study, Analysis of the Market for Pollination Services in Australia, provides a comprehensive overview of the agricultural requirements for pollination. The following table demonstrates those requirements.

Honeybee dependence for pollination of selected crops (as percentage of yield)

| Crop | Dependence % | Crop | Dependence % |
|-------------------------|--------------|------------------------|--------------|
| Tree crops | | Vine crops | |
| Almond | 100 | Blueberry | 100 |
| Apple | 100 | Cucumber | 100 |
| Apricot | 70 | Kiwi | 80 |
| Avocado | 100 | Pumpkin | 100 |
| Cherries | 90 | Rock melon | 100 |
| Citrus ^a | 30 – 80 | Squash | 10 |
| Grapefruit | 80 | Water melon | 70 |
| Lemon & Lime | 20 | | |
| Macadamia | 90 | Seed production | |
| Mandarin | 30 | Beans | 10 |
| Mango | 90 | Broccoli | 100 |
| Nectarine | 60 | Brussels sprout | 100 |
| Orange | 30 | Cabbage | 100 |
| Papaya | 20 | Canola | 100 |
| Peach | 60 | Carrot | 100 |
| Pear ^a | 50 – 100 | Cauliflower | 100 |
| Plum & Prune | 70 | Celery | 100 |
| | | Clover | 100 |
| Ground crops | | Lucerne | 100 |
| Peanut | 10 | Mustard | 100 |
| | | Onions | 100 |
| Broad acre crops | | | |
| Canola | 15 | Soy | 10 |
| Cotton | 10 | Sunflower ^a | 30 - 100 |

Notes: ^a – depends on variety

Source: Gill (1989), Crop Pollination Association (personal communication 2007).

The 2014 Senate committee report reiterated the benefits provided to other industries in Australia in the following statement.

2.15 The honey bee industry also offers downstream benefits to other industries in the supply chain with food manufacturing reliant on the availability of ingredients such as:

- honey or honey derived products;
- plant food products (e.g. fruits, vegetables, nuts) which rely on the pollination services of the honey industry to maintain production from season to season; and
- dairy, meat and protein

products derived from grazing farm animals foraging on introduced pasture grasses (e.g. clover, legumes, lucerne) reliant on honey bees for pollination.

The importance of pollination is well established and known by governments. The importance of secure resource access for honey bees is well-established but there are obvious failures by governments in ensuring resource security for the industry

Section 3: Environmental Impacts of Feral Bee Colonies

The 2008 More Than Honey Report provided a comprehensive overview and received detailed submissions on the issue from a variety of sources. Following are extracts from the report relevant to the issue and more recent developments.

3.43, 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(sic) 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 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.

3.8 NSW Government notes

- 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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- 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.

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.

The 2008 report also made the following points.

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The 2014 Senate Committee made the following observation:

2.16 The committee is also aware of arguments that there are gaps in understanding how well feral and managed honey bees contribute to crop pollination in Australia, due to inconclusive data and a lack of Australian specific data.

A recent report to the Queensland Parks and Wildlife Service on the Effects of Commercial Honeybees on Native Flora and Fauna by Dr Nadine Chapman and Professor Ben Oldroyd July 2020 provides further recent evidence that commercial beekeepers are not a threat to native flora and fauna. Their recommendations:

As a result of our review we believe that on the balance of probabilities the presence of commercial colonies is unlikely to pose additional stresses on ecosystems beyond those caused by feral bees. Therefore, there is no compelling reason to exclude beekeeping on the basis of the available ecological data. Again, we emphasise an absence of evidence rather than evidence of absence.

Exclusion of beekeeping will cause severe economic hardship to a number of beekeepers and reduce the number or quality of colonies available for paid pollination services.

Recent developments *Anecdotal observations by commercial beekeepers are that they have been noticing a much reduced presence of feral honeybee colonies in more recent years. A working hypothesis is that the small hive beetle incursion into Australia has had a major impact on unmanaged feral colonies. There is no statistical or data baseline to prove this or any other*

hypothesis for that matter but is very much theoretically possible as managed hives can survive the small hive beetle incursion whereas feral colonies have no means of surviving the incursion. The impact of managed honeybee hives in National Parks on native fauna and flora is now minimal. This environmental excuse for refusing apiary sites to beekeepers is no longer relevant.

*Another academic paper provides evidence from a study in the Philippines that small hive beetle also has a negative impact on Asian honeybees (*Apis cerana*).*

Cleofas R Cervancia, Lilia I de Guzman, Elmer A Polintan, Aimee Lynn B Dupo & Anna A Locsin (2016): Current status of small hive beetle infestation in the Philippines, Journal of Apicultural Research, DOI: 10.1080/00218839.2016.1194053

Section 4: The Impact of Bushfires and Fire Management Practices on the Honeybee Industry

Bushfires and fire management practices have been extensively dealt with in the previous Parliamentary reports on the honeybee industry. The discussions on fire management practices covered National Parks and forests (public and private). The 2008 report made the following recommendation.

Recommendation 7

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.

The 2014 committee report made the following comments.

2.55 The committee notes that recommendation 7 of the More Than Honey report recommended that the Commonwealth government fund research into fire management practices that are more appropriate to the honey bee industry. The Department of Agriculture in its submission to the current inquiry, stated that as fire management is primarily the responsibility of state and territory authorities, this issue had been raised with relevant state and territory agencies during the meeting where access to floral resources was discussed.

Committee view

2.56 While the committee notes that the Commonwealth has raised this issue with states and territories it considers more could be done to consider the impact of fire management practices on the beekeeping industry. The committee encourages the Commonwealth government to liaise with states and territories to encourage integrated fire management practices which consider the needs of the beekeeping industry.

No progress has been made on the recommendations of these Parliamentary committee reports. The industry can demonstrate the positive advantages it helps to supply to land managers to effectively combat the problems created by our bushfire prone forests.

Where there are set down sites for hives still available in National Parks and other forest areas they provide a cleared area for emergencies of all types and not just during bushfire periods. For example they can be helicopter pads for emergency evacuations of injured public visitors or National Park employees.

Another example is that they can be bases for multiple fire trucks allowing safer handling of fires with greater backup of resources to deal with the fires. There is also the advantage that many of these are on minor roads and provide additional and probably more effective access for controlling bushfires.

Section 5: Public Health Benefits Provided by the Honeybee Industry

In a world of 8 billion people, implementing or maintaining policies that increase the costs and reduce levels of production and therefore raise prices of major agricultural products will have a major impact on the health and well-being of many people throughout the world with possible consequent political and migration turmoil. Reducing the capacity of the honeybee pollination industry in Australia is likely to have an impact upon the many countries importing Australian agricultural produce. There are also the direct effects likely on the Australian population with consequent higher costs for all.

All the governments in Australia benefit from maintaining the health of their population. Reduced access to many fruits and vegetables, especially fresh produce, from reduced pollination will lead to higher rates of health difficulties for many people which will lead to greater usage of our medical and hospital systems with obvious costs to taxpayers. A recent example from Canada:

- British Columbia, the nation's biggest cultivated blueberry producer, is probably short around 20,000 hives, said Smith, a grower in an agricultural community east of Vancouver. "The number of bees we need this year highlights how susceptible the industry is to a disaster situation," said Rod Scarlett, Canadian Honey Council's executive director. "The greater fear is if we have something close to this next year, things like the pollination industry and the fruit crops and even canola seed could be in jeopardy."

Blueberries are regarded as providing many health benefits:

- "Many studies have suggested that increasing consumption of plant foods such as blueberries decreases the risk of obesity, diabetes, heart disease, and overall mortality."

This simple example demonstrates the potential for greater health costs because of restrictions on the honeybee industry.

The 2008 report noted that:

- 6.46 AHBIC saw great opportunities for the industry to diversify into the production of medicinal honey, but only if research funding was available to identify and test different honeys for their medicinal properties: There is a good possibility for honey producers to expand into the production of medicinal honey. We also recognise the potential benefits that beekeepers can provide for human health from harvesting honey from the *Leptospermum* (Manuka) species, which are prevalent on many of our public lands, both in terms of reducing medical costs and providing an alternative effective treatment to antibiotics.
- 6.47 The West Australian government noted that a 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.

*A recent volume of academic papers, *The Global Antimicrobial Resistance Epidemic*, published last year contained the following article of which the abstract is shown.*

Honey as a Natural Product Worthy of Re-Consideration in Treating MRSA Wound Infections

- The use of antibiotics to treat bacterial infections has largely been successful. However, the misuse and overuse of these precious drugs have led to the development of bacterial

resistance and this seems to have jeopardized their effectiveness. Many antibiotics that hitherto were seen as “miraculous drugs”, have witnessed a low efficacy and this has threatened the life of humanity as never before. The rapid emergence of antibiotic resistance in bacteria is the major cause of this sad development. One such superbug is methicillin-resistant *Staphylococcus aureus* (MRSA). MRSA is a general problem in most healthcare centers with a reported astronomical incidence of invasive MRSA infections causing death. Honey, a natural product, popular for its antibacterial activity is increasingly being used owing to its reported antibiotic potential against ‘stubborn’ bacteria. This review discusses the fact that though honey is an ancient remedy, it is still relevant and its application in modern medicine for the treatment of chronically infected wounds caused by MRSA should be re-visited. Furthermore, the in vitro antibacterial and antibiofilm activities of medical-grade honey on *S. aureus* infections and challenges encountered by Researchers in developing honey, into an acceptable medical, therapeutic antibacterial agent for wound care have also been highlighted.

This provides another potentially unrecognised benefit that the honeybee industry provides to all Australians.

In Conclusion

Now has never been a better to time to protect this crucial industry as pollination if vital to life on our planet.

The NSW Apiarists’ Association are disappointed there has been no consultation over the potential loss of these extremely important resources located in the Kings’ Plains area. Compensation of the loss of these apiary sites is extremely important and would be greatly appreciated by industry, though nothing compares to the untouched rare bush land that apiarists use to keep their colonies healthy.