



# FOREST MANAGEMENT PLAN SUBMISSION

18<sup>th</sup> December 2022



Thank you for all your effort to prepare this draft of the Forest Management Plan (FMP) for 2024 – 2033.

It has taken us many weeks of work to go through every aspect of this plan in the context of our growing industry. This has been in addition to attending the many forestry field days, meetings with DBCA and DPIRD, and finally meetings with Hon Reece Whitby MLA and his Chief of Staff, Travis Robinson. We have all volunteered this time as we know this is a major change for forest management in the southwest of Western Australia, and vital for the sustainability of WA's apiculture industry.

This report comes with the backing of 174 Apiculture industry supporters. The list is attached as Appendix 1.

What stood out to us was a misunderstanding of what Apiculture is, and how we interact with the area within this plan. There are many levels on which we could interact, and we welcome the opportunity to strengthen our relationship for the positive benefit of the forests.

Please reach out

Kind regards,



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Picture: BICWA Board and industry support – November 2022

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## Introduction

Honey bees support pollination services valued between \$0.81 and \$1.41 billion to the agriculture industry (Karasinski, 2018). Honey bee product value varies depending on the year's climate, forest health, and market price. According to a recent survey (White and Day, 2022), the industry currently produces \$60 million worth of honey annually. For companies focusing on honey and other honey bee products, 13 per cent of their revenue is earned from these; Queen production earns 25% and pollination services 50%.

The growth of the industry in the last 7 years has been rapid – from 1000 registered beekeepers in 2015 to over 4,500 in 2022. This has been reflected in business growth through an awareness of the premium product WA produces with our low disease rate (and not using veterinary chemicals and antibiotics in our husbandry) and the honey bee products mainly being collected from forests or wild bush areas (devoid of agriculture chemicals).



Hobby beekeepers (1-3 hives) rarely move their hives but any greater number and either hive movement or artificial feeding are required. For commercial beekeepers, hives are moved to new apiary sites, spread across a vast number of regions, at least 6 times per year with regular apiary site visits to ensure the colonies have water, remain healthy, remove honey, perform husbandry and management tasks and check hives have not been vandalised.

Geographically, the most important sub-biogeographical regions to beekeepers are the Swan Coastal Plain, Jarrah Forest, Warren, Geraldton sandplains, Avon Wheatbelt-Yalgoo, Esperance, Murchison-Coolgardie and Mallee. The value of Jarrah honey makes the Jarrah Forest the most important for beekeeping business sustainability, followed by the Swan Coastal Plain for building the colonies after winter.

Apiary sites remain unused when there has been a fire (return to the site will depend on the intensity of the fire), logging event, drought, there is no flowering (some trees only flower every 2-3 years) or if the distance from the previous site is excessive.

Beekeeping is a rare industry that utilises both forests, and agricultural lands where bees are regarded as livestock with the biosecurity management falling under the Plant rather than Animal, Deed. As a result, within Government, we cross two departments with the direct benefits to WA quantified within DPIRD and our relationship with the forest fostered by DBCA. This latter relationship with DBCA is critical as it directly determines our economic success. We request this is recognised in the Forest Management Plan.

The industry was jubilant at the Government's decision to ban native forest logging. Whilst it will take time and patience for forest health recovery, the bee industry now has some level of resource security and is looking towards a strong future.

As acknowledged in the FMP (and through the field days attended), this change in forest management to stewarding forest health is pioneering and will be undertaken in a changing environment. The thinning program for the over-stocked areas needs to be based on robust science as well as be free of commercial incentives. As the science is deficient, we note and applaud the Adaptive Forest Management approach. Unclear in the description of this management system is if the consultation will include the industries using the forest, with beekeeping and eco-tourism being the major industries. Similarly, the process by which the subsidiary management documents are developed, as well as the annual landscape-scale assessment (via satellite analysis) of our forests, is unclear. Representation of the industry at this level appears to be critical for future management of the different reserve classifications and areas.



The Montreal Process was primarily designed for coniferous forests which are wind pollinated with no reliance on mammals or insects for their pollination services, or the mammals and insects being reliant on these trees for a source of moisture and food. The strength of the Australian honey bee industry is that our temperate forests are mostly angiosperms and copious producers of nectar and pollen. With the ever-increasing use of agricultural chemicals, particularly for insects, our forests provide a haven for recovery and survival.

It was evident in our discussions with DBCA that measures of forest health were being sought. The honey bee industry could be organised to provide a measure of honey and pollen collected per sub-biogeographical region. Flowering is an indicator of plant and ecosystem health and maturity but does not necessarily correlate to nectar and pollen production. The regular production of nectar and pollen occurs when vegetation is in an unstressed state.

The introduction of stress through the use of fire to control wildfires is an aspect of the Forest Management Plan that does not sit well with the honey bee industry based on its impact. When the fires become unmanageable and, all too frequently reach fire intensities beyond the described 'cool burn', irreversible damage is occurring leading to a species change or the infiltration of weed species. The current frequency of burning is reducing the forest landscape to the domination of pioneering species and a slow deterioration of the forest canopy to not allow many targeted honey crops to reach flowering or reproductive maturity.

Finally, it is acknowledged in the FMP that the current mining scar through the Northern Jarrah Forest covers 50,000 hectares and this has certainly been felt by the beekeeping community. This area produces our most valuable Jarrah honey. Our concern is that this may be an irreversible loss. We worry that those rehabilitated areas will never return to anything near what they are today with a drying climate. Once they are gone, they're gone.

Better Bee WA Inc working on their honey bees after returning from the mating at Rottneest Island. The oldest honey bee breeding program in the world.



### Aspects of the Draft FMP that BICWA support is:

- The shift towards prioritising forest health, resilience and biodiversity.
- The promise of adaptive management, continuous assessment, monitoring and engagement with a range of stakeholders and traditional owners.
- Acknowledging the opportunity to preserve and protect the unique biodiversity in the southwest native forests, while allowing us to enjoy the beauty of these exceptional natural areas.
- The promise of secure protection of at least 400,000ha of SW forests
- The commitment to secure the protection of 320,000ha as promised under previous FMPs.
- The ending of native forest logging.

### Broad suggested changes to the Draft FMP include, but are not limited to:

- Better recognition of the contributions to and the relationship between the beekeeping industry and WAs forests.
- The current prescribed burning program is based on an annual quota of burning 200,000ha. A more nuanced and less aggressive approach must be adopted under the new FMP.
- The lack of detail surrounding the proposed ecological thinning program. This program must be developed using robust and proven scientific principles and under no circumstances be based on commercial outcomes or incentives.
- Expansion of mining in the Northern Jarrah forests under mining State Agreement Acts must not proceed. The lack of indicative protection of the Northern Jarrah forests in the Draft FMP is unsatisfactory.

With this overview, we have suggested the following amendments be considered for adoption within the final Forest Management Plan for 2024 – 33.

## Detailed BICWA suggested changes to the draft FMP

### Page 31 – Economic and social values

#### FMP draft

The southwest forests are important to the economic and social fabric of Western Australia, generating tangible and intangible benefits. *Tangible benefits include the provision of jobs and economic outputs for a range of industries, such as tourism and recreation, basic raw materials (BRM), and forest-based produce and resources.* Intangible benefits relate to the inherent value of the natural environment and the well-being, health, and quality of life benefits to people from connecting with nature.

#### Suggested text

Tangible benefits include the provision of jobs and economic outputs for a range of industries, such as tourism, *beekeeping* and recreation, basic raw materials (BRM), and forest-based produce and resources.

#### **Definition of beekeeping/apiculture:**

While we understand that honey and beeswax are considered forest-based produce under the CALM act, recognising the entirety of the industry under such a definition ignores the true understanding of what beekeeping is.

Beekeeping is its own industry which is inclusive of honey, and beeswax, as well as, pollination services, queen breeding, bee (livestock) sales and pollen. Honey and beeswax are a byproduct of the act of beekeeping and are not separate from the previously mentioned aspects.

The term ‘beekeeping’ or ‘apiculture’ must be used to accurately reflect the beekeeper and forest relationship and provide a clearer understanding in the context of the provision of jobs, business growth and economic outputs.

#### Request

We request that there is a distinction made between Apiculture or Beekeeping and the products that result from them. To appropriately cater for and acknowledge Apiculture the definition of what needs to be understood and considered when referencing and considering Apiculture/ Beekeeping or forest-based resources in the FMP. Our industry is much more than honey and wax and the interaction we have with forests provides a range of services and products that do not fit within the definition of BRM. This will be detailed in our preferred approach on page 8-9.

### Page 33 – Honey and related products

In this instance, we have included preferred text but believe that the approach should be changed with a section in the report included ensuring that the Forest Management Plan includes the management requirements for the continued support of the Apiculture industry.

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FMP draft

Apiculture is an expanding industry in Western Australia. The forests of the southwest are an important resource to this industry and honey and beeswax are considered forest produce under the CALM Act. Honeybees (*Apis mellifera*) provide a number of ecosystem services, such as enhanced pollination to increase crop yields, and honeybee products provide valued raw material for food, medicine and cosmetics. There are a number of apiary products with a clear economic value including honey, wax, pollen, propolis, royal jelly, venom, queens, bees and even larvae.

Commercial apiary sites underpin the honey products industry in Western Australia. At the date of publication, the department had issued licences to beekeepers to collect honey in the planning area on 1,751 sites which represents approximately 25 percent of the State's hives.

Suggested text

Title: Page 33 - Apiculture and related products

Apiculture is an expanding industry in Western Australia. The forests of the southwest are a critical resource to this industry with honey and beeswax being considered forest produce under the CALM Act. Honeybees (*Apis mellifera*) provide a number of ecosystem services, such as enhanced pollination to increase agriculture crop yields, and honey bee products provide valued raw material for food, medicine and cosmetics. There are a number of apiary products with a clear economic value including honey, wax, pollen, propolis, royal jelly, venom and live bee export of queens, packaged bees and nucleus hives. With the Varroa incursion (a mite that can carry and introduce viruses to honey bees) on the east coast, the value of Western Australian honey bee products has escalated.

Commercial apiary sites within the area of the FMP underpin the viability of the industry in Western Australia. At the date of publication, the department had issued licences for access to 1,751 sites. This access is permissible by following strict protocols and is only accessed when the forest health enables flowering and the production of nectar and /or pollen.

Preferred Approach

### 3.6.2 Apiculture and related products

Apiculture is an expanding industry in Western Australia. The West Australian beekeeping industry is regarded as having some of the healthiest bees in the world and it is this disease and pest-free status, combined with its access to healthy and chemical-free foraging resources that give the WA industry a market and operational advantage.

The forests of the southwest are a critical resource to this industry and its associated pollination-dependent horticultural industries, in that mature and reproductive forests directly support the ability of beekeepers to maintain healthy and productive colonies of bees. Honey bees (*Apis mellifera*) provide a number of ecosystem services, such as enhanced pollination to increase agriculture crop yields (valued at \$0.81 - \$1.41bn), and honey bee products provide valued raw material for food, medicine and cosmetics. There are a number of apiary products with a clear



economic value including honey and wax (considered forest produce under the CALM Act.), pollen, propolis, royal jelly, venom and live bee export of queens, packaged bees and nucleus hives and, at present, this is valued at \$60 million to the State. With the Varroa incursion (a mite that can carry and introduce viruses to honey bees) on the east coast, the value of Western Australian honey bee products has escalated.

The quality and economic benefit of the honey bee industry is heavily reliant on forest health and its reproductive maturity. Certain landscape characteristics, as defined by their species, reproductive cycle and quality of the pollen, are accorded a higher 'value' by the beekeeping community (White and Day 2022)

Beekeeping values align with the recreation and tourism industry, and the conservation outcomes by favouring the older forests, minimal disturbance, good ecosystem function and health and relatively easy access. Apiculture is complementary to tourism and recreation in its marketing strategy, portraying Western Australia as unique with its biodiversity, endemic flora and beautiful landscapes creating a sense of place and products from the healing purity of the forests.

Beekeeping is experiencing exponential growth, and at the date of publication, 500 beekeepers registered in the last 6 months reaching a total of over 4500 (Table 1). This trend is in line with a growing demand for engagement and a growing fascination with the natural world, together with a deeper appreciation of the forest, seasonal and annual cycles, and their interaction with the climate and food security.

Number of Hives	No. Beekeepers 28/10/22	No. Hives 28/10/22
0 – 5	3438	6943
6-19	713	6775
20 – 49	248	6972
50 – 199	122	11249
200 - 400	43	11918
Greater than 401	15	11448
<b>Total</b>	<b>4579</b>	<b>55305</b>

Table 1: DPIRD supplied beekeeping registrations on 14<sup>th</sup> November 2022

Commercial apiary sites within the area of the FMP underpin the viability of the industry in Western Australia. At the date of publication, the department had issued licences for access to 1,751 sites. This access is permissible by following strict protocols and is only utilised when the forest health enables flowering and the production of nectar and /or pollen for a brief period during the year. The impact on the forest is minimal, irregular and defined by the management of the forest.

Market stalls selling honey bee products provide an opportunity to promote the wonders of the forests through the sale of honey bee products to local, national and international tourists. These products provide a unique level of community engagement and connection to the forests of the southwest through taste, healing benefits, unique experience and terroir (sense of place).

## Page 48 -Pest invertebrates

### FMP draft

Feral bees compete with native bees\*, can displace native fauna from tree hollows, and can disrupt pollination mechanisms of native flora\*\*. Competition for hollows by introduced species such as feral bees also limits availability for native species\*\*\*. Feral bees and hives can also occupy recreation infrastructure and aggregate at water sources, disrupting their amenity.

### Comment

\*The scientific literature currently is split equally between papers that show competition exists against native bees and those that show no competition. Papers are now reviewing the scientific methodology of flower visitor assessment and if pollination occurs with the flower visit. New assessment technologies are being invented and, with these, a clearer picture will emerge. Initial studies show that the flower visitors overlooked include ants (Samual and Rastogi, 2022) and flies (Cook et al., 2020) and both have species introduced to WA.

\*\* No reference.

\*\*\* Whilst tree hollows are occupied by feral bees, the direct impact on native versus introduced birds has not been assessed. Each bird requires a specific hollow size and shape for breeding, as does a feral colony. Honey bees require fresh water and the urban spread into the forest will have opened the spread of the feral honey bee.

### Suggested text

Exotic insects and birds are hypothesised to compete for flower resources with their native counterparts, leading to the displacement of native fauna from the food source. Competition for hollows by introduced bird species as well as feral bees may limit their availability for native species. Feral bee colonies can occupy recreation infrastructure and aggregate at water sources, disrupting an amenity for tourism.

## Page 56 - Maintaining and expanding the conservation reserve system

### Comment

There is no description of the process by which change in the classification of the different forest areas is going to happen. Whilst change is declared, there is no statement that this change is going to happen in consultation with the industries economically dependent on the forest. Greater clarity of the process is needed in this section to be able to provide meaningful feedback.

With a little over 720,000 ha earmarked to be put into formal reserves/ protected areas we understand and are fully conscious that challenges around beekeeper access may arise. As outlined already in this submission, the industry is expanding, and resource (forest) access is crucial to support

the growth, viability and resilience of the apiculture industry and its pollination-dependent agricultural industries (food security).

### Request

Our request is to see, prescribed in the FMP, that beekeeping industry representatives are included in the formation process of all new, and for any revisions of any management plan, or in the creation and review process for any proposed reserve or protected area, that may impact apiary site availability. This would be in the form of an appointment of an apiculture industry representative or consultant to the team/ panel/ expert group responsible for the plan. Engagement and consultation during the initial stages of the plan's development, well before any public comment or review type period, is to ensure that the nuances of beekeeper access around such things as timing of target flowering crops, special conditions on access, frequency of access and other beekeeping specific activities are correctly understood so that, specifically, we can ensure beekeeper access is not compromised if it can be done in a way that aligns with outcomes and objectives of that plan.

### **Page 63 – Climate mitigation: carbon storage**

#### FMP draft

Fire plays an important role in the natural carbon cycle. Carbon stock losses from biomass burning do not increase the accumulated atmospheric CO<sub>2</sub> concentrations under historical fire regimes. However, carbon stock dynamics may alter if fire regimes are impacted by climate change through an increase in the size and scale of large, intense summer bushfires. Proactive fire management through the implementation of the department's prescribed burning program and maintaining a rapid bushfire detection and response capability are essential mitigation measures to protect carbon stores by reducing the risk of large-scale bushfires emitting significant quantities of carbon.

The overall forest carbon storage in the planning area is anticipated to remain relatively stable as most of the forests won't be subject to significant disturbance over the next decade unless large-scale bushfires or other natural events occur.

#### Comment

After a review of the Waroona (Yarloop) fire (Reframing Rural Fire Management 2016), the use of Prescribed burning as a tool increased beyond historic fire regimes. Evident is that whilst this prescribed burning is described as a 'cool' burn, this is not what is being measured (Dixon et al., 2022). In the northern Jarrah Forest, prescribed burning now hot-burns a greater area of the forest than wildfires.

So, prescribed burning is not an opportunity for a carbon management practice

*“the protection of carbon stored within carbon-dense forest ecosystems by managing the risk of landscape-scale high-intensity bushfires through prescribed burning and fire suppression.”*

Likewise, this next statement is suggesting forest thinning – which also takes carbon from the forest.

*Explore additional climate mitigation opportunities to reduce carbon emissions during the life of this plan.*

The mix of burning and the slow growth of the forests and the act of forest thinning is unlikely to show a positive measure of ACCUs. If measured through the Adaptive Forest Management process, this part of the FMP will be impossible to deliver unless an alternate tool to prescribed burning is used.

#### Suggested change

Alternate tools to prescribed burning will be sought to enable to the accumulation of carbon to meet a positive measure of ACCUs

### **Page 65-71 Climate adaptation: active forest management and ecological thinning**

#### Request

Our request is to see prescribed that there will be a panel of independent scientific, conservation and community experts to create and oversee the implementation of the thinning program. Beekeeping industry representatives are to be included as experts in forest health reproduction cycles and measurement of nectar and pollen availability. These naturally occurring cues form an important function of a healthy forest ecosystem and were an overlooked aspect of the recent silvicultural review.

We request that the FMP prescribe that thinning be limited to areas of dense immature regrowth, mine site rehabilitation and ecological restoration. Thinning of larger and reproductively mature trees would not be compatible with supporting beekeepers and associated pollination-dependent industries. Justification of thinning anything other than dense immature regrowth or mine site rehabilitation must be transparent and supported by clear and concise scientific evidence that supports the activity having beneficial ecological outcomes and enhancing climate resilience. Serious consideration must be given to impacts on understory species, fire, soil compaction, the spread of dieback and carbon emissions in the formation of any thinning plans.

### **Page 72 – Fire management**

#### FMP draft

This fire management approach is underpinned by legislation and supported by research and over 60 years of operational evidence. Peer-reviewed research shows that the fraction of the forest landscape that experienced a fire in the previous six years was associated with lower annual extent of bushfire events (Boer et al. 2009).

#### Comment

The reference used – Boer et al., 2009, is irrelevant as this was not undertaken within the new prescribed burning regime. Prescribed burning practices changed in 2016.

Please update your reference within the current management system, and this may change your statement.

## **Page 74 – Fire management**

### FMP draft

Fire management practices are closely linked to climate mitigation and adaptation activities.

### Suggestion

This should be deleted as there is no proof provided to substantiate this statement.

## **Page 87: Foundation: Social and economic benefits and opportunities**

### Preferred- Addition to section 5 Part C

#### **5.6.? The Apiculture industry**

The honey bee industry has been active in Western Australia since early settlement. By 2024, honey bees will have been contributing to WA's food security for 178 years (The Bee Congress Times, 2022).

Honey bees support pollination services valued between \$0.81 and \$1.41 billion to the agriculture industry (Karasinski, 2018). Honey bee product value varies depending on the year's climate, forest health, and market price. From a recent survey (White and Day, 2022), the industry is currently producing \$60 million worth of honey. For companies focused on honey and/or other honey bee products, there is an additional 13% of their revenue is earned from wax, propolis, and pollen; queen production is 25% and pollination services 50%. This highlights the varied products that are supported by forest access.

The growth of the industry in the last 7 years has been rapid – from 1000 registered beekeepers in 2015 to over 4,500 in 2022. This has been reflected in business growth through an awareness of the premium product WA produces with our low disease rate (and not using veterinary chemicals and antibiotics in our husbandry) and the honey bee products mainly being collected from forests or wild bush areas (devoid of agriculture chemicals). Without an increase in registered beekeepers, the industry is expected to double the number of managed hives by 2025 (White and Day, 2022).

Hobby beekeepers (1-3 hives) rarely move their hives but any greater number and hive movement or artificial feeding are required. For commercial beekeepers, hives are moved to new apiary sites, spread across a vast number of regions, at least 6 times per year with regular apiary site visits to ensure the colonies have water, remain healthy, remove honey, perform husbandry and management tasks and check hives have not been vandalised.

Geographically, the most important sub-biogeographical regions to beekeepers are the Swan Coastal Plain, Jarrah Forest, Warren, Geraldton sandplains, Avon Wheatbelt-Yalgoo, Esperance, Murchison-Coolgardie and Mallee. The value of Jarrah honey makes the Jarrah Forest the most important for beekeeping business sustainability, followed by the Swan Coastal Plain for building the colonies after winter.

At the date of publication, DBCA has issued licences for access to 1,751 apiary sites within the FMP area. This access is permissible by following strict protocols. Apiary sites remain unused when there has been a fire (return to the site will depend on the intensity of the fire), logging event, drought, there is no flowering (some trees only flower every 2-3 years) or if the distance from the previous site is excessive. The recent Varroa outbreak on the east coast increased the value of WA’s honey bees and their honey bee products.

Table 2?: Summary of management directions for beekeeper access

Key points and considerations	
<ul style="list-style-type: none"> <li>• The planning area holds the public apiary sites which are the economic drivers for the honey bee industry</li> <li>• Continued access to viable apiary sites has a considerable impact on the ability of beekeepers to perform effective pollination services for agriculture</li> <li>• The popularity of beekeeping has increased 7-fold in the last 10 years with the registered beekeepers now standing at 4,579. The southwest forests are expected to remain an important destination for beekeeping.</li> <li>• Beekeeping contributes to a deep understanding of the forest, its seasons, the impacts of climate change and the impacts of forest management decisions. It provides physical and mental health benefits to its growing community.</li> <li>• There is a need to balance beekeeping requirements with conservation values. Access control and compliance with regulations are well considered and monitored.</li> </ul>	
Management objectives	Management activities
<ol style="list-style-type: none"> <li>1. Provide licensed apiary sites through planning that minimises impacts on other values and uses and delivers economic benefits to meet business growth demand.</li> <li>2. Seek to support WA’s beekeeping industry to promote the pristine environment of the southwest of Western Australia and provide opportunities to expand its international market.</li> <li>3. Facilitate the use of CALM Act land to support the apiculture industry and sustained access</li> </ol>	Plan and provide a range of licensed apiary sites to the beekeeping industry
	Continue to administer and assess apiary sites as per the Apiary General conditions
	Engage with beekeepers to inform planning, operations, management and commercial opportunities.
	Support environmental stewardship by providing educational information in the form of education programs, ranger talks, media and publications.
	Encourage and facilitate access to the planning area by beekeepers of all abilities and culturally diverse backgrounds.
	Liaise with beekeepers via the Bee Industry Council of Western Australia, and DPIRD to

	seek to understand and address identified challenges and provide for the efficient and sustained use of apiary sites to support apiculture.
<b>Relevant Commission position statements and DBCA policies and guidelines</b>	
Corporate Policy XX: Apiary sites Apiary General conditions in Western Australia (Updated 15th August 2022)	

#### Alternate approach

#### **Page 91: Table 27: Summary of management directions for forest-based resource (excluding plantations)**

If the addition to section 5 part C (above) is not adopted, this is our alternative request with two changes in Table 27

#### FMP Draft – Management objectives

2. Facilitate use of CALM Act land for apiary activities to a sustainable level.

#### Requested change

2. Facilitate the use of CALM Act land to support the apiculture industry and sustained access.

#### FMP Draft – Management activities

Liaise with beekeepers, the Bee Industry Council of Western Australia, and DPIRD to provide for the efficient and sustainable use of apiary sites.

#### Requested change

Liaise with beekeepers, the Bee Industry Council of Western Australia, and DPIRD to seek to understand and address identified challenges and provide for the efficient and sustained use of apiary sites to support apiculture.

#### **Page 87: Foundation: Social and economic benefits and opportunities**

Table 25: Summary of management directions for other Australian heritage

#### Addition to Key points and considerations

The honey bee industry has been an important part of the history of early settlement and development in the southwest region. The world record for the most honey produced by a single hive was set in mature Karri forest between Manjimup and Pemberton (newspaper report)

## Page 88 – Honey and related products

Adjust the title to “Apiculture and related products”

## Page 96 – Implementation

Add two strategic goals

1. Develop and implement transparent monitoring and adaptation systems based on principles of best-practice conservation of biodiversity, heritage and ecological restoration.
2. Seek out and incorporate external knowledge and data to enhance conservation and forest health outcomes and build lasting connections with independent experts, community conservationists, beekeepers, tourism and recreation operators and others.

## Page 97 – 6.2.1 Forest Management System

Add the following sentence to the end of section 6.2.1

As well as forming formal partnerships with Noongar Regional Corporations, standing arrangements will be established with independent scientific experts, community conservationists, beekeepers and tourism and recreation operators to share knowledge and data, including results of monitoring programs and research, and to discuss and seek to agree on prescriptions for active management and adaptive management directions.

## Page 100 – Periodic assessments

Draft FMP

The Commission has the responsibility for assessing the implementation of this plan in accordance with the CALM Act<sup>24</sup>. Periodic assessments of the implementation of the plan enable the Commission and DBCA to ascertain the suitability, adequacy and effectiveness of management activities and to determine whether the plan or relevant policies and guidelines, should be amended. Periodic assessments of KPIs will involve analysis of results, identifying issues and any related underlying causes and developing recommendations to improve performance. These assessments are proposed to occur at years 5 and 10 of plan implementation, with key findings and recommendations to be made available through reporting.

The outcomes of performance assessment also assist in promoting the practice of adaptive management.

Suggestion

The Commission has the responsibility for assessing the implementation of this plan in accordance with the CALM Act 24. Periodic assessments of the implementation of the plan enable the Commission and DBCA to ascertain the suitability, adequacy and effectiveness of management activities and to determine whether the plan or relevant policies and guidelines, should be amended.



This assessment is to inform forest stakeholders and the public about the effectiveness of the FMP and if any changes are proposed for approval. Periodic assessments of KPIs will involve analysis of results, identifying issues and any related underlying causes and, through discussion with stakeholders, developing recommendations to improve performance.

These assessments must occur every two years from plan implementation, with key findings and final recommendations after consultation to be made available through a public report that can be accessed on the DBCA website.

The outcomes of the biannual performance assessment will inform the practice of adaptive management.

### **Page 100 - 6.3.3 Management effectiveness evaluations**

#### FMP draft

Departmental management effectiveness evaluations will be undertaken periodically to assess progress on the delivery of management activities, the condition of values and pressures on those values. This will inform the evaluation of management effectiveness in achieving the strategic goals and management objectives of the plan, as well as contributing to the measurement of KPIs against targets. Departmental staff, including scientists, managers and policy officers, will collaborate to undertake management effectiveness evaluations.

#### Suggested changes

Departmental management effectiveness evaluations will be undertaken periodically to assess progress on the delivery of management activities, the condition of values and pressures on those values. This will inform the evaluation of management effectiveness in achieving the strategic goals and management objectives of the plan, as well as contribute to the measurement of KPIs against targets. *This review will be undertaken by an external body comprising forest stakeholders every 2 years.* Departmental staff, including scientists, managers and policy officers, will collaborate to undertake management effectiveness evaluations.

### **Page 122 - Glossary**

#### FMP Draft

**Apiculture** Beekeeping

#### Suggested Change

**Apiculture** The activities, products and services associated with beekeeping carried out by beekeepers. Including, but not limited to, pollination services of agricultural crops, and production of honey, beeswax, pollen, propolis, royal jelly, bee venom, queen breeding, live bee packages and nucleus colonies.

## References

Cook DF, Voss S.C., Finch JTD, Rader RC Cook JM and CJ Spurr (2020) *Insects* 11(6), 341;  
<https://doi.org/10.3390/insects11060341>

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Walking on country with the Noongar Land Enterprise and sharing stories about *Eucalyptus todiana* which beekeepers call Black Butt.