Foreword

This project reviewed the current honey bee industry levies, fees and charges to make a recommendation on an appropriate levy structure to serve the industry in the future. The research is relevant to the Australian Honey Bee Industry Council and various government agencies who have to make decisions about future levy settings and program budgets.

The National Honey Levy is collected for research and development (R&D), biosecurity programs and the national honey residue survey. The value of the R&D component of the National Honey Levy has been eroded by CPI increases, the loss of plant industry funds to complete pollination R&D projects and does not capture the full amount of government matching payments that are available to it.

There is a shortfall in the Biosecurity component of the National Honey Levy and additional funds are required to replace capital transferred from Animal Health Australia, transferred to the National Residue Survey and to expand the Bee Biosecurity Officer program.

The levy is reliant on honey production, a static/possibly declining sector of the industry, but collects no revenue from pollination services, a growth area for the industry. The National Honey Levy collects a flat cents per kilogram rate from honey producers. It does not recognise current and forecast growth in high value honey products nor capacity to pay. There are no funds available for the promotion of the Australian honey category including medicinal honey.

Viable options for honey bee industry levy reform are described in the document and include increases in the R&D and biosecurity levies, introduction of a marketing levy, investigation of a 2% ad valorem levy and introduction of a pollination levy. It is now up to industry to review this analysis and select levy reform options that meet its needs for both the short and long term.

This report is an addition to AgriFutures Australia’s diverse range of over 2000 research publications and it forms part of our Honey Bee and Pollination RD&E Program, which aims to support research, development and extension that will secure a productive, sustainable and more profitable Australian beekeeping industry and ensure the pollination of Australia’s horticultural and agricultural crops.

Most of AgriFutures Australia’s publications are available for viewing, free downloading or purchasing online at: www.agrifutures.com.au. Purchases can also be made by phoning 1300 634 313.

John Harvey
Managing Director
AgriFutures Australia
About the Author

Michael Clarke is an experienced agricultural economist whose work includes economic evaluation, policy analysis, strategic planning and research in agriculture and natural resource management. Michael has worked with the Australian beekeeping industry researching and analysing resource access, industry R&D plans, policy, honey bee product markets and industry levy issues since 1995. In 2014, Michael worked with Sam Malfroy, Plant Health Australia preparing both the business case and the regulatory impact statement for an increase in the honey producer statutory levy. Additional information on Michael is available at www.AgEconPlus.com.au.

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Lindsay Bull, Horticulture and Agricultural Workforce, Agricultural Policy Division, Department of Agriculture and Water Resources
Ian Reichstein, Director - National Residue Survey, Department of Agriculture and Water Resources
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABARES</td>
<td>Australian Bureau of Agricultural and Resource Economics and Sciences</td>
</tr>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>ACT</td>
<td>Australian Capital Territory</td>
</tr>
<tr>
<td>AHA</td>
<td>Animal Health Australia</td>
</tr>
<tr>
<td>AHBIC</td>
<td>Australian Honey Bee Industry Council</td>
</tr>
<tr>
<td>AHC</td>
<td>Australian Horticulture Corporation (now Hort Innovation)</td>
</tr>
<tr>
<td>BBO</td>
<td>Bee Biosecurity Officer</td>
</tr>
<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
</tr>
<tr>
<td>DAWR</td>
<td>Australian Government Department of Agriculture and Water Resources</td>
</tr>
<tr>
<td>DPI</td>
<td>Department of Primary Industries</td>
</tr>
<tr>
<td>DPIRID</td>
<td>Department of Primary Industries and Regional Development (WA)</td>
</tr>
<tr>
<td>EPPI</td>
<td>Emergency Plant Pest Response</td>
</tr>
<tr>
<td>GVP</td>
<td>Gross Value of Production</td>
</tr>
<tr>
<td>GST</td>
<td>Goods and Services Tax</td>
</tr>
<tr>
<td>MLA</td>
<td>Meat and Livestock Australia</td>
</tr>
<tr>
<td>NRS</td>
<td>National Residue Survey</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>PHA</td>
<td>Plant Health Australia</td>
</tr>
<tr>
<td>PIB</td>
<td>Peak Industry Body (e.g. AHBIC)</td>
</tr>
<tr>
<td>PIERD Act</td>
<td>Primary Industries and Energy Research and Development Act 1989</td>
</tr>
<tr>
<td>QLD</td>
<td>Queensland</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RD&amp;E</td>
<td>Research, Development and Extension</td>
</tr>
<tr>
<td>RIRDC</td>
<td>Rural Industries Research and Development Corporation</td>
</tr>
<tr>
<td>RIS</td>
<td>Regulatory Impact Statement</td>
</tr>
<tr>
<td>WA</td>
<td>Western Australia</td>
</tr>
</tbody>
</table>
Contents

Executive Summary .................................................................................................................. viii
Introduction ............................................................................................................................. 15
  Study objectives .................................................................................................................. 15
  Study approach ................................................................................................................... 15
Trends in Australian Beekeeping Industry ............................................................................ 16
  Industry structure ............................................................................................................... 16
  Honey production ............................................................................................................... 16
  Growth in paid pollination ......................................................................................... 18
  Outlook for paid pollination ........................................................................................... 20
  Implications of industry trends for the National Honey Levy ........................................ 21
National Honey Levy - Overview ......................................................................................... 22
  Levy purpose ..................................................................................................................... 22
  Why is there a levy? ............................................................................................................. 22
  Who pays the levy? ............................................................................................................. 22
  Levy collection costs ......................................................................................................... 23
  What causes variation in DAWR cost recovery charges? ............................................. 24
National Honey Levy - R&D ............................................................................................... 25
  R&D levy purpose and management ............................................................................. 25
  Effectiveness of R&D investment ..................................................................................... 25
  Current R&D expenditure ................................................................................................. 25
  Forecast R&D expenditure ................................................................................................. 26
  Loss of R&D purchasing power ....................................................................................... 27
  Levy rate required to maintain R&D purchasing power ............................................. 27
National Honey Levy - Biosecurity ...................................................................................... 28
  Biosecurity levy purpose and management .................................................................. 28
  Effectiveness of biosecurity management ...................................................................... 29
  Current and forecast biosecurity expenditure ............................................................... 29
  Biosecurity purchasing power ....................................................................................... 30
  Levy rate required to maintain biosecurity purchasing power .................................... 30
National Honey Levy - NRS ................................................................................................ 31
  NRS levy purpose and management ............................................................................. 31
  Effectiveness of NRS management ................................................................................. 31
  Current NRS expenditure ................................................................................................. 31
  Forecast NRS expenditure ................................................................................................. 32
  Changes in NRS purchasing power ................................................................................ 32
  Levy rate required to maintain NRS purchasing power ............................................. 32
Problems with Current Levy Structure ............................................................................... 32
Previous Honey Bee Levies and Reasons for their Rejection ........................................ 33

Historical overview ........................................................................................................ 33
Marketing levy ................................................................................................................ 33
Queen bee R&D levy ....................................................................................................... 34
Hive-based levy ................................................................................................................ 34
Levy imposition on a ‘per beekeeper’ basis ..................................................................... 35

Options To Increase The Efficiency Of Levy Collection ........................................ 35

Address levy non-payment (the missing 10,000 tonnes) .............................................. 35
Lift honey production threshold at which levy is paid (3,000kg) .................................. 35

Ad valorem Levy Potential ............................................................................................. 36
Pollination Services Levy Potential .............................................................................. 37
Honey Marketing Levy Potential .................................................................................. 38
Beekeeper Levy Payments Compared to Agricultural Industries of a Similar Size ...... 39
Analysis of State-Based Fees ....................................................................................... 40

Levy Review Conclusions and Reform Recommendations ....................................... 42

References ..................................................................................................................... 43

Tables

Table 1: Beekeepers with 50 or more hives 2017-18 .................................................... 16
Table 2: Honey levy, production volume, honey/beeswax GVP and unit price – 2012 to 2018 ... 17
Table 3: Crops pollinated by paid pollination services, by state, 2014-15 ......................... 20
Table 4: Sample of crops using paid pollination and possible hive requirements .............. 20
Table 5: National Honey Levy – 2014 and 2019 (cents/kg) ............................................ 22
Table 6: National Honey Levy – levy collected and collection costs ............................... 23
Table 7: Financial statement for the honey bee and pollination R&D program, 2016-17 & 2017-18.. 26
Table 8: R&D program income and expenditure – past and forecast ................................ 26
Table 9: Levy rate required to regain R&D purchasing power ......................................... 27
Table 10: Financial statement for the honey bee biosecurity program, 2018-19 to 2021-22 ... 30
Table 11: Financial statement for honey NRS, 2010-11 to 2017-18 .................................... 31
Table 12: Queen bee levy rate prior to levy suspension .................................................. 34
Table 13: Potential income from a 2% ad valorem levy .................................................. 36
Table 14: Potential income from a pollination services levy .......................................... 37
Table 15: Potential income from a marketing levy set at different rates ............................ 38
Table 16: Beekeeper levy payments compared to similar sized (S’2017-18) ...................... 39
Table 17: Summary of State/Territory fees and services by jurisdiction ......................... 40

Figures

Figure 1: Method of honey sale, 2014-15 ................................................................. 17
Figure 2: Expected changes in pollination services, 2014-15 to 2019-20 ....................... 18
Figure 3: Beekeeping businesses conducting paid pollination services, 2006-07 and 2014-15 ... 19
Figure 4: R&D levy receipts 2008 to 2022 (forecast) .................................................. 27
Figure 5: Levy funded promotion sits alongside corporate branding in beef industry ......... 34
Executive Summary

What the report is about

This report presents the results of a review of current honey bee industry levies, fees and charges and identifies options for honey bee industry levy reform.

Who is the report targeted at?

The information contained in the report is targeted at AgriFutures Australia and the Australian Honey Bee Industry Council (AHBIC) who will need to make informed decisions about future honey bee industry levy types and rates. The report is also of interest to the Australian Government Department of Agriculture and Water Resources (DAWR).

Background

AHBIC approached AgriFutures Australia (formerly the Rural Industries Research and Development Corporation) to commission a research project to investigate the adequacy of current levies and options for levy reform. Industry wished to ensure resources for research, biosecurity and honey testing would meet future needs and understand the potential of a levy for marketing and a new levy on pollination services. Industry was also keen to have recognised that national levies are not the only form of statutory cost they face and that State jurisdictions impose a range of compulsory and voluntary fees and charges on their industry. This document reports the results of that research.

Aims and objectives

The principal purpose of this report was to provide analysis to industry and government to inform levy amendment. Consequently, the objectives of the study were to provide information about:

1. Current levy rates paid by the honey bee industry including the compulsory National Honey Levy administered by the DAWR and State-based compulsory/voluntary fees and charges.
2. Where levy money goes, and how effective it is in achieving outcomes for industry.
3. The sustainability of the current national levy structure.
4. Levy rates required to service industry needs and priorities.
5. Options for amending existing levy rates and charges.

Beneficiaries

The beneficiaries of this report will be industry and Australian Government agencies who have to make decisions about future levy settings and program budgets. The project also provides a discussion paper for distribution by AHBIC to inform beekeepers about the use and effectiveness of their levy payments.
Methods used

The process used drew heavily on Australian Government documents detailing current levies and their purposes. Documentation was also available from historical reviews of honey bee industry levies. When summarised into a discussion paper this information provided a foundation for consultation with stakeholders. Stakeholders consulted included AHBIC, AgriFutures Australia, Plant Health Australia (PHA) and various DAWR branches. Information from the discussion paper and the results of consultation were used to prepare a draft report. The draft report was reviewed with AHBIC and AgriFutures Australia and options were prioritised for industry action.

Results and key findings

Honey Bee Industry Trends
The Australian honey bee industry is changing. Commercial beekeeper numbers and honey production are either static or in decline. The price paid to beekeepers for honey is increasing and the channels used by beekeepers to market their honey is fracturing. Sales are shifting from a small number of large honey packers from whom it is cost effective to collect levy to a large number of diffuse marketing channels. As the honey sector of the industry fractures into many marketing channels, making collection of levy difficult and expensive, the paid pollination sector of the same industry is growing rapidly and coalescing around a relatively small number of pollination brokers and large beekeepers. Trends in the pollination sector favour cost effective levy collection.

National Honey Levy - Overview
The National Honey Levy is not a government imposition but is put in place at the request of industry. The levy is collected for research and development (R&D), biosecurity and the honey National Residue Survey (NRS). The levy currently has no component for marketing and this cannot be introduced without meeting the requirements set out in the Australian Government’s Levy Principles and Guidelines (including widespread consultation with honey levy payers). The levy cannot be used for agri-political activity (lobbying) or funding AHBIC activity. The last major restructure of the levy in 2014 doubled the rate to 4.6c/kg for honey at its first point of sale (Table E1) and increased the threshold at which the levy is paid from 600kg of honey per year to 1,500kg of honey per year.

<table>
<thead>
<tr>
<th>Levy Funded Program</th>
<th>Levy Rate 2014 (cents/kg)</th>
<th>Levy Rate 2016 (cents/kg)</th>
<th>Levy Rate 2019 (cents/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Plant Pest Response</td>
<td>0.7</td>
<td>2.9</td>
<td>2.7</td>
</tr>
<tr>
<td>PHA Membership Levy</td>
<td>0</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>R&amp;D (AgriFutures Australia)</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>NRS</td>
<td>0.1</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2.3</strong></td>
<td><strong>4.6</strong></td>
<td><strong>4.6</strong></td>
</tr>
</tbody>
</table>

Source: PHA and AgEconPlus, 2013, DAWR website accessed January 2019

National Honey Levy – R&D
The R&D component of the levy is matched by the Australian Government up to 0.5% of industry Gross Value of Production (GVP) and management by AgriFutures Australia. The effectiveness of the investment is independently reviewed at regular intervals and has demonstrated a positive return for beekeepers and the Australian community. The pool of funds available for R&D investment has averaged $787,000 over the last eight years but is forecast to fall to $483,000 over the period to 2023. CPI increase has further eroded the real value of levy funds. Since July 2009 when the rate of the R&D levy was last raised, the average price of honey received by beekeepers has increased from $3.50/kg to
$5.50/kg. To restore the real value of R&D investments and capitalise on Government Matching payments an R&D levy increase from 1.5c/kg to 2.5c/kg is recommended for industry consideration.

**National Honey Levy – Biosecurity**
The biosecurity components of the National Honey Levy include both the Emergency Plant Pest Response (EPPR) levy (2.7c/kg) and PHA Membership levy (0.1c/kg). EPPR receipts fund the National Bee Biosecurity Program (Code of Practice plus Bee Biosecurity Officers), National Bee Pest Surveillance Program (early detection of exotics) and the Bee Aware Website (industry resources). At the current time biosecurity programs are drawing down on funds transferred to PHA from Animal Health Australia (AHA) in 2015. An increase in levy is required to ensure program sustainability once AHA funds have been exhausted, to replace funds transferred to NRS in 2019 and to expand the Bee Biosecurity Officer program. A PHA levy increase of 1.5c/kg is recommended for consideration by industry.

**National Honey Levy - NRS**
The NRS program of honey testing provides consumer assurance that Australian honey complies with national and international standards. The ongoing funding by industry of NRS at 0.3c/kg is required and no further demand for additional levy is envisaged over at least the next five years.

**Beekeeper Levy Payments Compared to Other Industries**
The honey bee industry’s levy burden is comparable to other similar sized industries (e.g. cherries), however its focus is on biosecurity rather than promotion (Table E2).

<table>
<thead>
<tr>
<th>Industry</th>
<th>Industry GVP</th>
<th>Government Match R&amp;D</th>
<th>R&amp;D Levy</th>
<th>Biosecurity and NRS</th>
<th>Marketing Levy</th>
<th>Levy as % GVP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honey bee</td>
<td>127,000,000</td>
<td>300,000</td>
<td>289,000</td>
<td>612,312</td>
<td>0</td>
<td>0.72</td>
</tr>
<tr>
<td>Ginger</td>
<td>37,000,000</td>
<td>159,000</td>
<td>332,000</td>
<td>N/a</td>
<td>0</td>
<td>0.90</td>
</tr>
<tr>
<td>Cherries</td>
<td>120,000,000</td>
<td>638,000</td>
<td>504,000</td>
<td>N/a</td>
<td>381,000</td>
<td>0.74</td>
</tr>
<tr>
<td>Water melon</td>
<td>96,400,000</td>
<td>100,000</td>
<td>512,000</td>
<td>N/a</td>
<td>0</td>
<td>0.53</td>
</tr>
<tr>
<td>Sweet potato</td>
<td>88,000,000</td>
<td>255,000</td>
<td>493,000</td>
<td>N/a</td>
<td>997,000</td>
<td>1.69</td>
</tr>
<tr>
<td>Olives</td>
<td>125,000,000</td>
<td>357,707</td>
<td>415,000</td>
<td>N/a</td>
<td>0</td>
<td>0.33</td>
</tr>
</tbody>
</table>


Increases in the overall levy burden of the honey bee industry needs to be carefully considered especially when it is noted that estimates presented do not account for State based fees and charges.

**State and Territory Fees and Charges**
Analysis of state based fees and charges shows a range of hive registration, biosecurity and public land apiary site rental costs that vary from no cost in jurisdictions such as the Northern Territory and the ACT to between $5,000 and $10,000 per annum for larger beekeeping operations in mainland states.

**Pollination Levy Potential**
A new and additional levy targeting paid pollination services is acceptable to DAWR in principle. However, a business case addressing the Levy Principles and Guidelines and a regulatory impact statement (RIS) would be required. Industry investment of $120,000 might be needed for consultation1, development of a business case and RIS.

A new pollination levy would help fund R&D and biosecurity activities across the whole honey bee industry. Hort Innovation already manages a pollination research fund. However, this fund targets alternatives to honey bees such as self-pollinating crops, robotic technologies and native insects. A new pollination levy on honey bees would not duplicate Hort Innovation research.

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1 DAWR note that industry consultation will be the biggest and most costly part of meeting the requirements of the Levy Principles and Guidelines.
The levy could be based on either a rate per hive supplied for paid pollination or on a percentage of value of the pollination fee. A levy collected as a percentage of value is known as an *ad valorem* levy. Beekeepers completing less than 50 hive transactions per year would be exempt from levy payment. This recognises that with smaller enterprises, the cost of collecting the levy is likely to exceed the amount of levy to be paid and therefore all levy payers benefit if those beekeepers are exempted, increasing the amount of levy revenue available for use. This is consistent with the levy arrangements for the National Honey Levy.

An efficient and cost-effective levy collection point will need to be identified. Generally it is useful to find a point in the industry chain which is common to most levy payers, but where there are a small number of collection points. Pollination brokers servicing the almond industry are an example of such an industry chain point, but they are not currently utilised by other industries requiring pollination services. While the honey bee industry may be prepared to accept levy payment by just the almond industry, DAWR Levies Unit note that more thought will need to be put into the best collection point if the industry decides a proposal for a pollination services levy should be developed.

A $2/hive levy on 250,000 hives (190,000 from almonds and 60,000 from all other crops) would generate $500,000/year gross (less DAWR collection costs) on top of the $900,000 in total levy disbursed by DAWR from the National Honey Levy. The levy would also attract additional government matching payments for R&D.

An *ad valorem* hive levy based on 2% of pollination fee value would currently collect $2.20/hive (assuming average fee of $110/hive) and generate $550,000 (less DAWR collection costs) from hives placed on almonds and in all other crops. The actual value of the paid pollination service under an *ad valorem* levy may be difficult to establish.

This study recommends that industry give further consideration to the establishment of a $2/hive pollination services levy.

**Honey Marketing Levy Potential**

Industry has expressed interest in establishing a marketing levy to promote Australian honey. Previous statutory marketing levies were dismantled at the request of large honey packers. Marketing levies are consistent with existing legislation and are used by many industries e.g. Meat and Livestock Australia promotes the qualities of Australian beef while companies promote their individual brands.

Statutory marketing levies do not receive Government matching payments. While establishment of a marketing levy would require adherence to DAWR’s 12 Levy Principles and Guidelines the cost of addressing this requirement would not be as great as for the establishment of a new pollination levy.

Levy funded marketing would highlight the purity and naturalness of Australian honey. A marketing levy could be used to communicate the ‘good news story’ around research into medicinal honeys and would be a source of impartial information about the industry.

As a general rule, Peak Industry Bodies (PIBs) who engage in agri-political activity (lobby) are not able to act as recipient bodies for statutory levies. The exception is Australia Pork Limited whose establishment legislation permitted the conduct of R&D, marketing and agri-political activity. It is unlikely that an established PIB would be afforded the opportunity to manage a statutory levy. DAWR has recently worked with Hort Innovation to disentangle PIB management / delivery of marketing services in a number of horticultural industries.

AgriFutures Australia has indicated that revenue from a honey marketing levy could be managed by the Corporation but stress that collection and management costs will negate the usefulness of a levy that collects less than, say, $400,000 per annum. A 2c/kg marketing levy would gross $400,000 per annum and is comparable to funds raised by the cherry industry – an industry with similar GVP
In 2018 the cherry marketing levy funded mainstream and social media advertising in each Australian state, in-store sampling and export market development.

A 2c/kg marketing levy is recommended for industry consideration.

**Ad Valorem Levy Potential**

Under this option the National Honey Levy would be converted from a cents per kilogram (c/kg) rate to a percentage of value rate. While conversion of the National Honey Levy to an *ad valorem* rate would require adherence to DAWR’s 12 Levy Principles and Guidelines the cost of addressing this requirement would not be as great as for the establishment of a new pollination levy.

Rates used in other industries vary between 0.2% and 0.5% of value at first point of sale. The vegetable industry has an *ad valorem* levy struck at 0.485% for R&D. Sweet potato has an *ad valorem* levy rate of 0.5% for R&D and 1.0% for Marketing.

Advantages of an *ad valorem* levy include: an *ad valorem* levy reflects the products true value and the industry’s capacity to pay; it produces a stable income (when volume is down, price is up); it doesn’t penalise producers of low value crops but collects revenue from high value Jarrah and Leptospermum honey.

Disadvantages of an *ad valorem* levy include: increase in administration burden for honey packers and those who operate integrated businesses (produce, retail and manufacture); and there is also a ‘moral hazard’ risk that producers might underestimating honey value for levy reporting purposes.

An *ad valorem* levy is worthy of consideration by industry. A 2% *ad valorem* levy would collect somewhere in the order of $2 million/year. Current levy receipts are approximately $900,000/year.

**Other Levy Reform Options**

The merits of additional levy reform options, reviewed and dismissed, are briefly summarised in Table E3.

**Table E3 Other levy reform options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convert National Honey Levy to a hive-based levy.</td>
<td>With the exception of pollination, there are not enough regular hive-based transactions from which a levy could be collected. Attachment of a hive levy to state registration is constitutionally unacceptable.</td>
</tr>
<tr>
<td>Convert National Honey Levy to a ‘beekeeper’ based levy i.e. every registered beekeeper pays $50/year.</td>
<td>DAWR – Levies Unit have indicated that a ‘beekeeper’ is not a sufficiently clear or uniform input on which to attach a levy.</td>
</tr>
<tr>
<td>Reconfigure the queen bee R&amp;D levy – increase levy rate and target only export. Export certification provides an essential ‘pinch point’ for levy collection.</td>
<td>May not be sufficient export of queens to justify a levy that targets only overseas sales.</td>
</tr>
<tr>
<td>Education/communication campaign to address levy non-payment (the missing 10,000 t of commercial honey production).</td>
<td>This option has some merit, campaign requires industry funding.</td>
</tr>
<tr>
<td>Lift honey production threshold at which levy is paid (i.e. increase to 3,000kg/year).</td>
<td>Further exacerbates current levy payment inequality by exempting additional beekeepers. There are already too many beekeepers benefiting from levy funded activities and exempted from levy payment2.</td>
</tr>
</tbody>
</table>

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2 DAWR note, this is not particularly seen as inequitable by the Department, because the industry (including levy paying beekeepers) obtain a greater benefit from the levy overall when those beekeepers are exempted, if the exemption is set at the right level where it will capture those whose levy paid (if they were not exempt) would be less than the cost of collecting the levy (which is paid out of the levy).

It is also beneficial to the commercial sector of the honey industry if the non-commercial (non-levy paying) sector benefits from biosecurity activities, as that sector has the ability to (if it didn’t benefit) to create biosecurity risk for the commercial sector. Bees don’t know which sector they’re in. Another way to evaluate whether the threshold should be raised, lowered or remain the same, is to ask if there is sufficient material benefit in changing the threshold.
Implications for relevant stakeholders

Current levies are inadequate to meet the needs of industry. Reform options are provided to deliver industry needs.

Recommendations

AHBIC use this report to select a subset of viable options to ensure the ongoing profitability and sustainability of the Australian honey bee industry. Options are summarised in Table E4. Each cell in the table is a ‘standalone’ option. Single options or packages of options may be preferred by industry.
<table>
<thead>
<tr>
<th>National Honey Levy</th>
<th>Pollination Levy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reform existing levy on honey</td>
<td>New statutory levy on a new segment of the beekeeping industry</td>
</tr>
<tr>
<td>NRS levy remains at 0.3c/kg of honey sold for the longer term</td>
<td>$2/hive on honey bee hives used in paid pollination</td>
</tr>
<tr>
<td>Options a), b) and c) below pursued individually or collectively</td>
<td>Beekeepers completing less than 50 hive transactions per year would be exempt from levy payment (collection cost exceeds revenue collected)</td>
</tr>
<tr>
<td>Option d) an ad valorem levy, is a whole new way of collecting levy for R&amp;D, Biosecurity, NRS and potentially Marketing</td>
<td>Payment collected by pollination broker (preferred) or beekeeper when transaction is between grower and beekeeper (levy leakage).</td>
</tr>
<tr>
<td>All options to change National Honey Levy require that DAWR 12 Principles are addressed. However cost is less than establishing a new levy (pollination).</td>
<td>Would trigger comprehensive business case, vote, DAWR 12 Principles</td>
</tr>
</tbody>
</table>

### R&D Levy Increase
- Increase levy rate by 1c/kg to 2.5c/kg
- Some capacity to pay, honey price up from $3.50 to $5.50/kg
- Industry contribution increase from $300k to $500k
- Government contribution increase from $300k to $500k
- Additional funds to be used for industry priorities including extension and honey adulteration research.

### Biosecurity Levy (PHA Membership) Increase
- Increase PHA Membership levy rate from 0.1c/kg to 1.6c/kg.
- Increase in levy required to ensure program sustainability once AHA funds exhausted, to replace funds transferred to NRS and to expand BBO program.

### Marketing Levy
- Establish a new statutory levy to promote Australian honey
- A 2c/kg would create a gross of $400k (comparable to other similar sized industries), any less would not be effective
- Can be managed by AgriFutures Australia but not by AHBIC
- Would work in partnership with brand marketing
- Highlight medicinal qualities, purity and naturalness of Australian honey.

### Investigate a 2% Ad valorem Levy
- Convert R&D, Biosecurity and NRS (and possibly Marketing) levies to a percentage of value at first point of sale
- 2% ad valorem levy would collect $2 million, current receipts <$900k
- Estimate ignores current and future returns from higher value honeys
- True reflection of capacity to pay (crop down, price up).
Introduction

Study objectives

The purpose of this study was to review current honey bee industry levies, fees and charges and make recommendations on an appropriate levy structure to serve the industry in the future. Consequently the objectives of the study were to provide AgriFutures Australia and the Australian Honey Bee Industry Council (AHBIC) with information about:

1. Current levy rates paid by the honey bee industry including the compulsory National Honey Levy administered by the Australian Government Department of Agriculture and Water Resources (DAWR) and State-based compulsory/voluntary fees and charges.
2. Where levy money goes, and how effective it is in achieving outcomes for industry.
3. The sustainability of the current national levy structure.
4. Levy rates required to service industry needs and priorities.
5. Options for amending existing levy rates and charges.

Study approach

Study objectives were delivered through the discharge of seven tasks:

1. A series of inception meetings in Canberra – to further clarify review requirements and receive project data. Meetings were held with AHBIC, AgriFutures Australia, Plant Health Australia (PHA), DAWR – Horticulture and DAWR – Levies Unit.
2. Consultation – including follow up discussions with those present at the inception meetings and additional relevant stakeholders. These included DAWR - National Residue Survey (NRS).
3. Literature review and desk-based research – review of levy funded program budgets, reports from previous levy related projects, historical documents referencing discontinued beekeeper levies and ABARES Australian honey bee industry survey results. Literature review and consultation findings were used to populate a draft discussion paper.
4. Preparation of a draft discussion paper - the draft document summarised the existing levy situation for the honey bee industry and included current levy rates, where the funding is directed, how levies are collected and managed and options for levy reform to ensure the sustainability of funded activities. The draft summary document was distributed by AHBIC to inform beekeepers and industry stakeholders of the current status of industry levies as well as provide options for amending the current levy system.
5. Preparation of a draft report – the draft report detailed current levies collected from beekeepers (nationally and state-by-state), industry trends (honey production and paid pollination services) and existing financial commitments of the honey bee industry. The report summarised previous reviews and levy projects, evaluated other possible products and services that could be subject to levy charge (e.g. pollination), identified if there are new levies that may need to be established (e.g. marketing) and made recommendations in relation to efficiencies and increases to the existing National Honey Levy. The draft report provided recommendations for the honey bee industry to consider in relation to levy options.
6. The discussion paper and draft report were submitted to AgriFutures Australia for review. A meeting was held with relevant stakeholders to discuss the implications of review findings and receive feedback/comment on the content of both documents.
7. Comments on the draft documents were considered and finals were submitted.
Trends in Australian Beekeeping Industry

Industry structure

The Australian beekeeping industry can be divided into commercial and non-commercial sectors. The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES, 2008, 2016) defines the commercial sector as beekeepers who manage 50 or more hives. The non-commercial sector is the largest part of the industry and includes approximately 95% of Australia’s 25,053 beekeepers (AHBIC, 2018). The non-commercial sector does not pay the National Honey Levy but benefits from levy funded biosecurity and some levy funded research and development (R&D) projects. The non-commercial sector is subject to hive registration fees in most Australian states and territories. The non-commercial sector has experienced strong growth in beekeeper numbers and hives kept since the early 2000s. Between 2007 and 2015, some 3,000 registered beekeepers were added to this sector of the industry (ABARES, 2016).

ABARES (2008) estimated the number of Australian commercial beekeepers with 50 or more hives at 1,702 in 2006-07. ABARES (2016) estimates the number of commercial beekeepers with 50 or more hives in 2014-15 at 1,280 – a reduction in commercial beekeeper numbers of almost one third.

AHBIC (2018) in a comprehensive analysis of the data, estimated commercial beekeeper numbers in 2017-18 at 1,781 entities controlling 531,786 hives - Table 1.

Table 1: Beekeepers with 50 or more hives 2017-18

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Number of beekeepers</th>
<th>Hives operated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Capital Territory*</td>
<td>N/a</td>
<td>N/a</td>
</tr>
<tr>
<td>New South Wales*</td>
<td>823</td>
<td>247,238</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>4</td>
<td>1,140</td>
</tr>
<tr>
<td>Queensland</td>
<td>320</td>
<td>84,806</td>
</tr>
<tr>
<td>South Australia</td>
<td>188</td>
<td>64,498</td>
</tr>
<tr>
<td>Tasmania</td>
<td>46</td>
<td>19,388</td>
</tr>
<tr>
<td>Victoria</td>
<td>233</td>
<td>83,342</td>
</tr>
<tr>
<td>Western Australia</td>
<td>167</td>
<td>31,374</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,781</strong></td>
<td><strong>531,786</strong></td>
</tr>
</tbody>
</table>

* ACT was not able to differential between those with less than 50 hives and those with more than 50 hives.
# NSW was not able to differentiate between those with less than 50 hives and those with more than 50 hives. NSW total includes all ‘commercial’ beekeepers but does not include any of the 1,791 ‘concessional’ beekeepers, some of whom may be commercial.
Source: AHBIC, 2018

While ABARES survey data points to a decline in commercial beekeeper numbers, the AHBIC analysis indicates a more stable commercial beekeeping industry.

Honey production

The beekeeping industry generates a range of products and services including honey, beeswax, queen bees, packaged bees, nucleus hives, pollen, propolis and paid pollination services. Levy is only paid on honey. Honey levy, honey production volume on which levy is paid, honey and beeswax gross value of production (GVP) and the unit value of honey and beeswax ‘farm gate’ is shown in Table 2.
Table 2: Honey levy, production volume, honey/beeswax GVP and unit price – 2012 to 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Levy Dispersed by DAWR – Levies Unit ($)</th>
<th>Honey Production Volume on which Levy is Collected (tonnes)</th>
<th>Honey and Beeswax GVP ($’million)</th>
<th>Farm Gate Price ($/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>492,377</td>
<td>21,744</td>
<td>85</td>
<td>3.91</td>
</tr>
<tr>
<td>2012-13</td>
<td>517,240</td>
<td>23,031</td>
<td>92</td>
<td>3.99</td>
</tr>
<tr>
<td>2013-14</td>
<td>536,027</td>
<td>21,920</td>
<td>88</td>
<td>4.01</td>
</tr>
<tr>
<td>2014-15 (levy 2.3c)</td>
<td>440,000</td>
<td>19,314</td>
<td>101</td>
<td>5.23</td>
</tr>
<tr>
<td>2015-16 (levy 4.6c)</td>
<td>645,220</td>
<td>15,957</td>
<td>110</td>
<td>6.89</td>
</tr>
<tr>
<td>2016-17</td>
<td>789,341</td>
<td>17,148</td>
<td>116</td>
<td>6.76</td>
</tr>
<tr>
<td>2017-18</td>
<td>893,834</td>
<td>19,752</td>
<td>127</td>
<td>6.43</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>19,838</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: DAWR Report to Levies Stakeholders 2017-18 and ABARES Commodity Statistics, various issues

ABARES (2008) estimated total Australian honey production in 2006-07 at 31,000 tonnes. Using data provided in ABARES (2016), total honey production for 2014-15 can be estimated at 29,931 tonnes (1,280 commercial beekeepers each with an average of 393 hives producing 59.5 kg of honey per hive per year). While honey production is highly dependent on seasonal conditions, total output would appear to be approximately 30,000 tonnes of which levy has been collected on an average of 19,838 tonnes per annum between 2012 and 2018. Non-payment of levy (‘leakage’) appears to account for approximately one third of commercial beekeeper honey production (10,000 tonnes of leakage in a total crop of 30,000 tonnes). This is significant and probably reflects the large share of commercial beekeeper honey sales that occur through channels other than the major processors - Figure 1.

Figure 1: Method of honey sale, 2014-15

Average per beekeeping businesses


In 2014-15 sales outside of the major processors accounted for 48% of all commercial honey sold by Australian beekeepers. This percentage is up on previous years. Beekeepers are finding new ways to engage directly with end consumers. Consumers are seeking local honeys with provenance.

In comparison to other Australian agricultural industries that pay a levy, the honey bee industry is viewed by DAWR – Levies Unit as an industry with a mixed compliance (payment) record.
Table 2 shows that honey production is either static or declining. Reasons for static or declining honey production include (Dr Doug Somerville, Chair AgriFutures™ Honey Bee and Pollination Advisory Panel, pers. comm., January 2019):

- Decreased access to native forests and native forests of lesser quality – a younger resource with lesser ability to generate nectar and pollen due to increased logging, hazard reduction burning and bushfire frequency.
- Use of biocontrols to decrease the volume of useful weed species available to honey bees for nectar and pollen collection including Patterson’s Curse, nodding thistle, scotch thistle and blackberry. Historically Patterson’s Curse accounted for 20% of total Australian honey production.
- Loss of paddock trees to senescence and enterprise change from grazing and crop production incorporating mature trees to production of large scale monocultures.
- The shifting of beekeeper resources out of honey production and into the provision of paid pollination services.
- Move by beekeepers to higher value/lower yielding Manuka honey from other honey (Peter McDonald, AHBIC President, written communication, April 2019).

Table 2 also shows that honey and beeswax GVP has been increasing. Unit prices have also been on the rise. The high ‘farm gate’ price received when production volume was low in 2016 and 2017, up to $6.86/kg, has been mostly maintained post an increase in supply in 2018 ($6.43/kg). In July 2009, the last time the R&D component of the National Honey Levy was increased, average honey price was $3.50/kg. Buoyant farm gate prices for honey and beeswax point to increased beekeeper capacity to pay the National Honey Levy.

**Growth in paid pollination**

As the honey sector of the industry continues to fracture into many marketing channels, making collection of levy difficult and expensive, the paid pollination sector of the same industry is growing rapidly and coalescing around a relatively small number of pollination brokers and large beekeepers. Beekeeper participation in the paid pollination sector is expected to continually and significantly increase given the planting being undertaken in almond, avocado, macadamia and berry industries.

Australia-wide, 44% of commercial beekeepers (~750 beekeepers) supplied paid pollination services in 2014-15 up from 28% in 2006-07. Most of these beekeepers plan to expand the number of hives they supply to paid pollination and a further 8% plan to start in the sector (ABARES, 2016) – Figure 2.

**Figure 2**: Expected changes in pollination services, 2014-15 to 2019-20
Paid pollination as an important source of beekeeper income in South Australia (especially almonds and lucerne seed production), Tasmania (cherries), Victoria (almonds) and NSW (almonds). Large beekeepers are most likely to provide paid pollination services - Figure 3.

**Figure 3: Beekeeping businesses conducting paid pollination services, 2006-07 and 2014-15**

Average pollination revenue for commercial beekeepers in 2014-15 was $44,200 in total revenue of $198,000 with the balance of receipts mostly sourced through sale of honey. The highest levels of pollination revenue were received by beekeepers in NSW ($59,000), Victoria ($50,500) and South Australia ($31,000) mostly servicing the almond industry (ABARES, 2016).
Outlook for paid pollination

While avocados, macadamia, berries, apples, pears, cherries, canola and lucerne seed all have demand for paid pollination services it is almonds which dominate beekeeper receipts – Table 3.

Table 3: Crops pollinated by paid pollination services, by state, 2014-15

<table>
<thead>
<tr>
<th>State</th>
<th>Almonds</th>
<th>Cherries</th>
<th>Pomefruits</th>
<th>Other fruit</th>
<th>Lucerne</th>
<th>Oilseeds</th>
<th>Vegetables</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>79</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>12</td>
<td>31</td>
</tr>
<tr>
<td>Victoria</td>
<td>94</td>
<td>4</td>
<td>7</td>
<td>11</td>
<td>0</td>
<td>18</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Queensland</td>
<td>6</td>
<td>0</td>
<td>8</td>
<td>22</td>
<td>0</td>
<td>7</td>
<td>64</td>
<td>22</td>
</tr>
<tr>
<td>South Australia</td>
<td>65</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>67</td>
<td>18</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Western Australia</td>
<td>0</td>
<td>48</td>
<td>37</td>
<td>54</td>
<td>0</td>
<td>12</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Tasmania</td>
<td>0</td>
<td>92</td>
<td>32</td>
<td>16</td>
<td>0</td>
<td>9</td>
<td>50</td>
<td>9</td>
</tr>
<tr>
<td>Australia</td>
<td>65</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>18</td>
<td>14</td>
<td>16</td>
<td>14</td>
</tr>
</tbody>
</table>

Note: Beekeeping businesses can pollinate multiple types of crops throughout a given year.
Source: ABARES Australian Honey Bee Industry Survey 2014–15

The standard unit of exchange in the paid pollination sector is the honey bee hive and peak industry body Almonds Australia estimates that the demand for honey bee hives for paid pollination in the almond industry will increase from 190,000 hives in 2017 to 300,000 hives by 2027 (Almonds Australia, Annual Report 2017-18). Other observers have indicated that this estimate is too conservative (AHBIC, 2018).

Mostly the almond industry makes use of pollination brokers, a ‘pinch point’ through which any future levy could be cost effectively collected. A single broker (Trevor Monson) controls close to half the sector. A second broker (Harold Saxvik) controls a further 20%. In total, there are thought to be less than 50 pollination brokers servicing the sector in NSW, Victoria and South Australia and these include large commercial beekeepers that may aggregate hives from other beekeepers.

Around 10-15 other crops require significant numbers of hives for pollination (Table 4). However, it is more difficult to gauge this number of transactions and beekeepers as they are generally the result of a direct negotiation between beekeeper and grower. These transactions would be a potential point of leakage in any new pollination levy.

Table 4: Sample of crops using paid pollination and possible hive requirements

<table>
<thead>
<tr>
<th>Crop</th>
<th>Hives per Hectare for Pollination</th>
<th>Production Area (ha)</th>
<th>Possible Hive Requirements (No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherries</td>
<td>10</td>
<td>1,700</td>
<td>17,000</td>
</tr>
<tr>
<td>Apple</td>
<td>4</td>
<td>6,600</td>
<td>26,400</td>
</tr>
<tr>
<td>Pear</td>
<td>5</td>
<td>1,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Avocado</td>
<td>6</td>
<td>4,500</td>
<td>27,000</td>
</tr>
<tr>
<td>Blueberry</td>
<td>4</td>
<td>1,200</td>
<td>4,800</td>
</tr>
<tr>
<td>Peach/Nectarine</td>
<td>3</td>
<td>2,700</td>
<td>8,100</td>
</tr>
<tr>
<td>Plum/Apricot</td>
<td>4</td>
<td>700</td>
<td>2,800</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>91,100</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: various Pollination Aware Case Studies, AgEconPlus 2017 and ABS Agricultural Commodity Statistics 2016-17

NB: Canola and macadamia excluded as beekeepers place hives to secure a honey crop, rather than payment for a pollination service
Hives placed in an almond orchard earn approximately $110/hive for a six week pollination and are then available to the beekeeper to place in crops or forest and generate a honey income. This situation and cost is similar in other crops requiring paid pollination.

The fee paid by crop growers for paid pollination is forecast to increase steeply over time as demand from crop growers increases. The demand for paid pollination would increase exponentially if Varroa were to establish in Australia and free pollination provided by unmanaged honey bees was lost to crop growers. Conservatively, industry estimates pollination fees of at least $150/hive under these conditions.

The shift in beekeeper resources out of honey production and into paid pollination services has negative implications for the amount of revenue collected by the National Honey Levy. At the current time there is no equivalent levy to collect revenue for honey bee R&D, biosecurity and NRS on paid pollination services.

**Implications of industry trends for the National Honey Levy**

Review of trends in the Australian beekeeping industry reveals:

- The non-commercial sector of the Australian beekeeping industry is growing strongly but does not pay the National Honey Levy which funds biosecurity, R&D and the NRS. The non-commercial sector derives a benefit from biosecurity measures which protect all hives. The non-commercial sector also benefits from some R&D outputs (e.g. technologies to control small hive beetle, queen bee genetic improvement). In the past, mechanisms have been explored to capture levy from the non-commercial sector and these are reviewed in subsequent chapters of this report.

- Non-payment of the National Honey Levy appears to account for approximately one third of commercial beekeeper honey production i.e. levy is paid on 19,838 tonnes when ABARES estimates commercial production at approximately 30,000 tonnes.

- The commercial beekeeping sector is changing, at best beekeeper numbers and honey production are static, at worst they are in decline. On a positive note the unit price for honey and beeswax at ‘farm gate’ has been increasing.

- The trend in the industry is for the honey sector to fracture into many marketing channels making collection of levy difficult and expensive. At the same time, the paid pollination sector is growing rapidly and coalescing around a relatively small number of pollination brokers and large beekeepers.

- Paid pollination services are the major source of revenue growth for the beekeeping industry, but do not currently attract a levy. Paid pollination services are an increasingly important source of beekeeper income and their growth comes at a cost to honey production and National Honey Levy revenue.
National Honey Levy - Overview

Levy purpose

The national honey levy was first introduced 14 December 1962. Honey that is produced in Australia and sold, exported or used in the production of other goods attracts a levy and export charge. As levy recipient bodies, AgriFutures Australia (R&D levy), Plant Health Australia (PHA and EPPR levies) and the National Residue Survey (NRS levy) are responsible for the expenditure of the honey levy and charge. R&D investment, essential biosecurity programs, and national honey residue surveying are all activities that are funded primarily by the collection of the National Honey Levy (DAWR, 2018).

The current National Honey Levy has no marketing component and no other component can be used for marketing, market development or honey promotion. A business case that addresses DAWR’s 12 Levy Principles and Guidelines including industry consultation and a vote of support would be required before a marketing levy could be established. The National Honey Levy cannot be used for agri-political activity (government lobbying) or the funding of functions delivered by the peak industry body, AHBIC.

The last major restructure of the honey levy occurred in 2014 with the new levy rate coming into effect in the 2015-16 year. This restructure doubled the National Honey Levy rate from 2.3c/kg of honey sold to 4.6c/kg of honey sold and increased the honey production threshold at which the levy is paid from 600 kg to 1,500 kg per annum. The doubling of the National Honey Levy was instigated by industry to contribute a significant pool of funds towards national bee biosecurity programs – Table 5.

Table 5: National Honey Levy – 2014 and 2019 (cents/kg)

<table>
<thead>
<tr>
<th>Levy Funded Program</th>
<th>Levy Rate 2014 (cents/kg)</th>
<th>Levy Rate 2016 (cents/kg)</th>
<th>Levy Rate 2019 (cents/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Plant Pest Response</td>
<td>0.7</td>
<td>2.9</td>
<td>2.7</td>
</tr>
<tr>
<td>PHA Membership Levy</td>
<td>0</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>R&amp;D (AgriFutures Australia)</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>NRS</td>
<td>0.1</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2.3</strong></td>
<td><strong>4.6</strong></td>
<td><strong>4.6</strong></td>
</tr>
</tbody>
</table>


In 2018-19, the allocation to levy funds to Emergency Plant Pest Response (EPPR) was decreased by 0.2c/kg and allocated to the NRS.

Why is there a levy?

The National Honey Levy is a compulsory, statutory levy which was established at the request of the Australian honey bee industry. It was not initiated by the government, but rather was the result of a request from industry to use the Australian Government’s taxation and excise powers to achieve industry identified priorities. Industry was consulted and voted on National Honey Levy establishment and was consulted and voted on its subsequent increase in 2014. Industry is routinely consulted through its peak industry body, AHBIC on how the National Honey Levy is invested by levy recipient bodies.

Who pays the levy?

A producer of honey, the person who owned the honey immediately before sale, uses honey in the production of other goods or exports honey is liable to pay the levy and export charge. If an individual beekeeper produces more than 1,500 kilograms of honey in a calendar year and sells their honey by
designated sale or uses their honey in the production of other goods, the individual must lodge a return and make a payment to DAWR (DAWR, 2018).

If the beekeeper produces honey and sells it through an intermediary, including a first purchaser, buying agent, selling agent or exporting agent, the intermediary can recover from the beekeeper the amount of levy paid to DAWR on the beekeepers behalf, by offset or otherwise. An intermediary, including a first purchaser, buying agent, selling agent or exporting agent, must lodge a return and make a payment to DAWR. The intermediary can recover from the beekeeper the amount of levy paid to DAWR on the beekeepers behalf, by offset or otherwise. Honey exporters - that is, those who own the honey at the time of export - must lodge a return and make a payment to DAWR (DAWR, 2018).

The national honey levy is not payable by beekeepers who produce and sell less than 1,500 kg of honey per annum. ABARES (2016) estimates annual per hive production by commercial beekeepers of 59.5kg/hive, therefore a beekeeper who achieves average industry per hive production would need 25 hives to be liable for levy payment (1,500 kg divide 59.5 kg/hive). In theory, the National Honey Levy is collected from beekeepers with half the number of hives ABARES considers to be the threshold for commercial beekeeping (50 or more hives). One measure that might be available to industry to lower levy collection costs would be to increase the threshold at which levy is paid to 3,000 kg or 50 hives (50 hives by 59.5kg).

**Levy collection costs**

The Levies Unit is an area within DAWR which collects and disburses levies on a cost recovery basis, on behalf of the honey bee industry. The Levies Unit disburses the levy, and any matching government funding, to the relevant organisation to administer, which in the case of the honey bee industry is AgriFutures Australia for R&D, PHA for the EPPR and PHA Membership and DAWR for the NRS levy.

The cost of collecting the levy for the honey bee industry has varied over time from a low in 2017-18 of 5.3% of funds collected to a high of 11.5% prior to levy restructure coming into effect in 2015-16, see Table 6.

**Table 6: National Honey Levy – levy collected and collection costs**

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2013</th>
<th>2014</th>
<th>2015 (2.3c)</th>
<th>2016 (4.6c)</th>
<th>2017</th>
<th>2018</th>
<th>2019 est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honey production (t)</td>
<td>20,174</td>
<td>23,031</td>
<td>21,920</td>
<td>19,314</td>
<td>15,957</td>
<td>17,148</td>
<td>19,752</td>
<td>N/a</td>
</tr>
<tr>
<td>Levy disbursed ($)</td>
<td>464,000</td>
<td>517,240</td>
<td>536,027</td>
<td>440,000</td>
<td>645,220</td>
<td>789,341</td>
<td>893,834</td>
<td>N/a</td>
</tr>
<tr>
<td>Levy collection cost ($)</td>
<td>32,000</td>
<td>59,387</td>
<td>59,684</td>
<td>50,815</td>
<td>65,674</td>
<td>50,373</td>
<td>47,108</td>
<td>65,542</td>
</tr>
<tr>
<td>Collection cost percentage (%)</td>
<td>6.9%</td>
<td>11.5%</td>
<td>11.1%</td>
<td>11.5%</td>
<td>10.2%</td>
<td>6.4%</td>
<td>5.3%</td>
<td>N/a</td>
</tr>
</tbody>
</table>

NB: 2015-16 was the first year of levy change from 2.3c/kg to 4.6c/kg
Source: Granger and Woodburn, 2010 and DAWR Report to Levies Stakeholders 2017-18

One of the reasons for levy restructure in 2014 was to increase the threshold at which the levy is paid from 600 kg of honey production per beekeeper/year to 1,500 kg honey production per beekeeper/year and in so doing lower the number of agents from which levy is collected and hence levy collection costs.

It is worth noting that collection costs will be in the vicinity of $65,500 in 2018-19 the equivalent of their previous peak in 2015-16 when the threshold for levy payment was increased to lower levy collection costs.
What causes variation in DAWR cost recovery charges?

Honey levies are collected from a large number of agents who operate a diversity of businesses. These agents include large and small honey processors (packers), beekeepers that retail their own honey (e.g. roadside sales, farmers’ markets, online sales), businesses that process honey into consumer products (e.g. bakery goods) and exporters.

In 2014, there were 189 agents eligible to pay the National Honey Levy. In 2018 this number was reduced to 132 following the lifting of the levy payment threshold.

Levy collection costs are high in the honey bee industry for a number of reasons including:

- The absence of opportunity to spread collection costs across multiple commodities - honey agents tend to be single commodity focused unlike produce wholesalers who handle multiple fruits and vegetables.
- There are few ‘pinch points’ in the supply chain through which all honey must pass and levy can be cost effectively collected. Instead, honey may be consumed is a ‘raw’ commodity, extracted on-farm and retailed at farm gate.
- Highly variable payments by individual agents that result in the need for the DAWR Levies Unit to issue reminders and conduct audits.

Levy payment by agents varies due to changes in seasonal conditions (some years an agent may not need to generate a return), changes to the levy creating confusion about who is required to pay it and a general dislike of paperwork by smaller levy paying agents.

Smaller agents may require repeat reminders from Levies Unit to pay the levy or costly enforcement action to ensure the levy is paid. DAWR Levies Unit is required by its legislation to recover all levy collection costs and these costs are deducted from the final amount disbursed to industry. DAWR Levies Unit prioritises follow up levy collection action in the first instance on a benefit-cost basis (i.e. maximum levy recovered for the least cost). However, it is required to achieve compliance with its legislation and this may mean follow up with all non-paying agents.

Typically, the cost of levy collection osculates – low compliance followed by high reminder/audit costs which result in low collection costs before the cycle repeats – see Table 5 above. Table 5 shows high compliance costs in 2019 after two low cost years. In 2019 the DAWR Levies Unit has completed risk ratings on agents and there are a number of agents who have not engaged with DAWR in the past two years (i.e. paid levy). In 2019 collection costs will be $65,542. Normally DAWR budget on collection costs being around $50,000. Improved compliance with the levy has the potential to save the industry between $15,000 and $20,000 per annum in collection costs.

To lower the cost of levies collection it is suggested by the Levies Unit that (1) a communication / education campaign targeting agents may be appropriate or (2) that industry initiate further change to the amount of honey produced per annum before the levy requires payment.

A communication/education campaign would need to be funded by industry. The equity of a change in levy collection threshold would need to be decided by industry.
National Honey Levy - R&D

R&D levy purpose and management

The R&D component of the National Honey Levy is intended to enable the honey bee industry to pool its resources to undertake R&D activities which would not be feasible or likely to be undertaken on an individual beekeeper basis (Granger and Woodburn, 2010).

The R&D levy is matched by the Australian Government on a dollar-for-dollar basis up to 0.5% of industry GVP. The R&D component of the National Honey Levy has never reached the 0.5% GVP cap and industry has foregone potential R&D projects.

AgriFutures Australia is the trading name of the Rural Industries Research and Development Corporation, the statutory authority established by the Primary Industries and Energy Research and Development Act 1989 (PIERD Act) to work with the honey bee industry to invest in R&D for a more profitable, sustainable and dynamic rural sector. AgriFutures Australia manages the Honey Bee and Pollination R&D Program on behalf of industry.

Effectiveness of R&D investment

Levy investment in R&D has an established history of generating economic benefits for the honey bee industry and social and environmental benefits for the Australian community. Agrtrans Research (2012) analysed honey bee and pollination research projects completed using levy funds between 2007 and 2012. The projects evaluated demonstrated a wide range of predominantly economic benefits. Funding for the three projects analysed totalled $0.79 million (present value terms) and produced aggregate total benefits of $4.71 million (present value terms). The analyses found each of the three investments provided positive returns with benefit-cost ratios ranging from 2.05 to 28.61.

ABARES (2016) estimated that 74% of Australian beekeeping businesses changed their management practices in 2014-15 as a result of research. The majority of beekeepers felt that that production had increased by between 5% and 25% over the 5 years to 2014-15 as a result of research. Large beekeeping businesses made more production changes than small beekeeping businesses. Western Australia had the greatest increase in production with 20% of beekeeping businesses reporting an increase of more than 50% as a result of changing their management practices.

In 2019, AgEconPlus completed an Economic Evaluation of AgriFutures’ Investment in the Honey Bee and Pollination Program 2015 to 2019. The evaluation quantified benefits from five projects that accounted for 41% of total AgriFutures investment. Projects included Leptospermum medical honey; Jarrah, Marri and White Gum medical honey; chalkbrood; large African hive beetle risk assessment; and genetic selection of honey bees. The five projects analysed had total costs of $2.83 million (present value terms), produced aggregate total expected benefits of $11.68 million (present value terms) and a benefit-cost ratio of 4.1.

Current R&D expenditure

AgriFutures Australia is charged with coordinating the honey bee industry’s research effort. In 2017-18, industry collected $288,745 via statutory levies on honey production, the Australian Government provided $300,095 of matching contribution and $111,289 was collected from other sources. Industry expenditure on
research projects through the AgriFutures Australia Honey Bee and Pollination Program in 2017-18 was approximately $474,470. Honey Bee and Pollination Advisory Panel expenses are in addition to this total ($18,373) and AgriFutures Australia charges an R&D Program management fee of 10% of total revenue based on a five-year rolling average ($94,153) – Table 7.

**Table 7: Financial statement for the honey bee and pollination R&D program, 2016-17 & 2017-18**

<table>
<thead>
<tr>
<th>Income</th>
<th>2016-17</th>
<th>2017-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry levies</td>
<td>257,631</td>
<td>288,745</td>
</tr>
<tr>
<td>Commonwealth contributions</td>
<td>508,060</td>
<td>300,095</td>
</tr>
<tr>
<td>Industry levy penalties</td>
<td>2,777</td>
<td>1,989</td>
</tr>
<tr>
<td>External contributions</td>
<td>67,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Other income</td>
<td>156,436</td>
<td>34,300</td>
</tr>
<tr>
<td><strong>Total revenue</strong></td>
<td>991,904</td>
<td>700,129</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenditure</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Research projects</td>
<td>896,407</td>
<td>474,470</td>
</tr>
<tr>
<td>Advisory panel expenses</td>
<td>4,342</td>
<td>18,373</td>
</tr>
<tr>
<td>Program management fees</td>
<td>105,000</td>
<td>94,153</td>
</tr>
<tr>
<td>Other expenses</td>
<td>26,609</td>
<td>33,600</td>
</tr>
<tr>
<td><strong>Total expenditure</strong></td>
<td>1,032,358</td>
<td>620,596</td>
</tr>
<tr>
<td>Surplus (deficit)</td>
<td>(40,454)</td>
<td>79,533</td>
</tr>
<tr>
<td>Retained surplus at beginning of period</td>
<td>360,649</td>
<td>320,195</td>
</tr>
<tr>
<td>Retained surplus at end of period</td>
<td>320,195</td>
<td>399,728</td>
</tr>
</tbody>
</table>

Source: AgriFutures Australia, 2018

In 2017-18, industry levy collections were slightly down (2%) compared to the average levy collection value for the previous 5 years (AgriFutures Annual Report 2017-18). Australian Government matching contributions in 2017-18 were down $207,965 on the previous year also reflecting a five-year rolling average calculation.

**Forecast R&D expenditure**

In the eight year period 2011 to 2018, AgriFutures Australia was able to invest an average $787,021 per annum in industry R&D projects. The AgriFutures Australia forecast for the four years through to 2022 is for this average to decrease to $482,500 reflecting a static R&D levy and the absence of external contributions (Table 8). External contributions have in the past been sourced from a range of initiatives including, but not limited to, contributions from the plant industries for pollination projects.

**Table 8: R&D program income and expenditure – past and forecast**

<table>
<thead>
<tr>
<th>Income</th>
<th>Past Investment (Average 2011 to 2018)</th>
<th>Forecast Investment (Average 2019 to 2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry levies</td>
<td>296,022</td>
<td>285,000</td>
</tr>
<tr>
<td>Commonwealth contributions</td>
<td>416,181</td>
<td>301,147</td>
</tr>
<tr>
<td>External contributions</td>
<td>156,479</td>
<td>5,000</td>
</tr>
<tr>
<td><strong>Total revenue</strong></td>
<td>868,682</td>
<td>591,147</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenditure</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Research projects</td>
<td>787,021</td>
<td>482,500</td>
</tr>
</tbody>
</table>

Source: AgriFutures Australia data

While AgriFutures has no concrete plans to change the management fee it charges the Honey Bee and Pollination R&D Program, the Corporation is considering a ‘ground up’ review of the cost associated with managing various levied programs and this could have further negative impact on funds available for honey bee research projects.
Loss of R&D purchasing power

The static nature of R&D levy component of the National Honey Levy is shown in Figure 4.

Figure 4: R&D levy receipts 2008 to 2022 (forecast)

In the 15 years between 2008 and the end of the AgriFutures forecast period in 2022, levy receipts will have remained in the band between $246,000 and $349,000. To maintain the real ‘purchasing power’ of the levy (i.e. accounting for inflation as measured by changes in CPI), a levy of $290,653 collected in 2008-09 should now be $427,000 – actual levy receipts fall well short of this total. The R&D component of the National Honey Levy has remained unchanged since 1 July 2009 when it was increased from 1.2c/kg of honey sold to 1.5c/kg of honey sold.

Levy rate required to maintain R&D purchasing power

To recover the forecast loss in the nominal value of the R&D levy, a levy rate of 2.0c/kg is required. Recovery does not include allowance for loss in inflation adjusted value due to CPI increase. Of note is that a levy rate of 2.5c/kg would create Government Matching payments of $500,000 per annum which still fits under the 0.5% of GVP cap – Table 9.

Table 9: Levy rate required to regain R&D purchasing power

<table>
<thead>
<tr>
<th>Levy rate</th>
<th>Average production (t)</th>
<th>Levy raised for R&amp;D ($)</th>
<th>Government matching ($)</th>
<th>Total R&amp;D funding ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current (1.5c/kg)</td>
<td>20,000</td>
<td>$300,000</td>
<td>$300,000</td>
<td>$600,000</td>
</tr>
<tr>
<td>Increase (2.0c/kg)</td>
<td>20,000</td>
<td>$400,000</td>
<td>$400,000</td>
<td>$800,000</td>
</tr>
<tr>
<td>Increase (2.5c/kg)</td>
<td>20,000</td>
<td>$500,000</td>
<td>$500,000</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

NB: 5 year average GVP is $105 million, cap for Government Matching = $525,000

To capitalise on Government Matching payments an increase of 1.0c/kg to 2.5c/kg is recommended for industry consideration. The increase is consistent with increased capacity to pay. ‘Farm gate’ honey price has increased from $3.50/kg in July 2009 when the R&D component of the levy was last reviewed to an average price of $5.50/kg in 2019.
National Honey Levy - Biosecurity

Biosecurity levy purpose and management

The biosecurity component of the National Honey Levy includes both the Emergency Plant Pest Response (EPPR) levy and PHA levy. The EPPR component of the National Honey Levy was increased in 2015-16 from 0.7c/kg of honey sold to 2.9c/kg of honey sold and subsequently reduced to 2.7c/kg in 2018-19 to restore funding to NRS. A PHA levy of 0.1c/kg of honey sold was introduced in 2015-16. The PHA member contribution paid through the levy can be used for a wider range of biosecurity initiatives than the EPPR levy. The way PHA can use the levies is set out in the Plant Health Australia (Plant Industries) Funding Act 2002.

Currently, Australia is free of many serious pests that damage the health of honey bees overseas. PHA has used revenues from the EPPR levy to develop and deliver a number of programs to help protect Australia’s honey bees from exotic pests, and to preserve the pollination benefits they bring to many crops. Together, these activities enhance the preparedness of the honey bee industry for exotic bee pests, provide support for international trade and protect the pollination reliant industries from the impacts of an exotic bee pest incursion (PHA website, accessed January 2019).

National Bee Biosecurity Program

The National Bee Biosecurity Program is managed by PHA using National Honey Levy funding with additional funding support from state and territory governments. The aim of the Program is to manage endemic pests and prepare for exotic pests through training and education. The Program underpins the Australian Honey Bee Industry Biosecurity Code of Practice. The Code includes basic biosecurity practices that should be used by all beekeepers in Australia. These practices help to minimise the impact of pests and diseases on the beekeeper’s own hives and those of other beekeepers.

Bee Biosecurity Officers (BBOs) are employed as part of the Program and assist beekeepers to implement biosecurity measures and to ensure that they are complying with the Code and relevant legislation. BBOs are employed within departments of primary industries in NSW, Victoria, Tasmania, South Australia, Western Australia and negotiations are underway to employ a BBO in Queensland. BBOs provide training and education. If there is an exotic pest incursion, the BBO will be on hand to provide expert support to industry, and to help design and implement response measures.

Biosecurity for Beekeepers online training has been developed and implemented as part of the National Bee Biosecurity Program to make it easy for beekeepers to find out how to care for honey bees in accordance with the Code of Practice. The Biosecurity for Beekeepers course explains why biosecurity is important, describes the main pest threats to bees and shows how to check hives for signs of pests and diseases. The course has been designed for people with a basic understanding of beekeeping practices, but all beekeepers should find it helpful.
National Bee Pest Surveillance Program

The National Bee Pest Surveillance Program is managed by PHA using national honey levy funding with additional funding support from Hort Innovation and the Australian Government. It is an early warning system to detect new incursions of exotic bee pests and pest bees. The Program involves a range of surveillance methods conducted at sea and air ports throughout Australia considered to be the most likely entry points for bee pests and pest bees.

Bee Aware Website

The Bee Aware Website is a hub of information for beekeepers and growers about honey bee biosecurity and pollination of agricultural and horticultural crops.

Emergency Response and Other Activities

PHA in collaboration with AHBIC also uses National Honey Levy funds to address pest incursion emergency response (funded with the EPPR levy) and to raise biosecurity awareness including sponsorships such as the Third Australian Bee Congress held on the Gold Coast in 2018 (funded with the PHA Membership levy).

Effectiveness of biosecurity management

In 2019, the honey bee biosecurity program managed by PHA is still in the rollout phase. The effectiveness of biosecurity measures is yet to be tested through independent review. An independent review funded by industry using levy receipts will be required by 2021.

Current and forecast biosecurity expenditure

Current and forecast honey bee biosecurity income and expenditure estimates from the EPPR levy set at 2.7c/kg for the period 2018-19 to 2021-22, prepared by PHA, are shown in Table 10. The PHA levy of 0.1c/kg raises a further $25,000/year from which DAWR collection costs of $5,000/year are extracted (Michael Milne, Chief Financial Officer, PHA pers. comm., March 2019).
Table 10: Financial statement for the honey bee biosecurity program, 2018-19 to 2021-22

<table>
<thead>
<tr>
<th></th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>2021-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening Balance</td>
<td>1,025,000</td>
<td>955,500</td>
<td>792,000</td>
<td>631,500</td>
</tr>
<tr>
<td>Levy Received #</td>
<td>500,000</td>
<td>400,000</td>
<td>400,000</td>
<td>400,000</td>
</tr>
<tr>
<td>Interest Received</td>
<td>18,000</td>
<td>15,000</td>
<td>15,000</td>
<td>15,000</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td>518,000</td>
<td>415,000</td>
<td>415,000</td>
<td>415,000</td>
</tr>
<tr>
<td>National Bee Pest Surveillance Program</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>National Bee Biosecurity Program</td>
<td>400,000</td>
<td>400,000</td>
<td>400,000</td>
<td>400,000</td>
</tr>
<tr>
<td>Levy Collection Fees</td>
<td>38,500</td>
<td>38,500</td>
<td>38,500</td>
<td>38,500</td>
</tr>
<tr>
<td>Management Fee</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Emergency response – Varroa jacobsoni</td>
<td>12,000</td>
<td>3,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AHBIC Reimbursement</td>
<td>32,000</td>
<td>32,000</td>
<td>32,000</td>
<td>32,000</td>
</tr>
<tr>
<td><strong>Expenditure</strong></td>
<td>587,500</td>
<td>578,500</td>
<td>578,500</td>
<td>578,500</td>
</tr>
<tr>
<td>Closing Balance</td>
<td>955,500</td>
<td>792,000</td>
<td>631,500</td>
<td>471,000</td>
</tr>
</tbody>
</table>

Source: PHA estimates. # 2017-18 receipts were $550,000 so possible forecast underestimate

The honey bee biosecurity fund had an opening balance in 2018-19 of more than $1 million and mainly comprised funds transferred from Animal Health Australia (AHA) when biosecurity management was switched from that organisation to PHA. Over the three-year forecast period these funds are more than halved to $471,000.

A contingency fund with a minimum of $500,000 is suggested by PHA to deal with any future emergency response(s) to a bee pest or pest bee incursion. A contingency fund works like an insurance policy – when an incursion occurs and funds are needed, the fund has built up over time from contributions made by both past and current beekeepers. Contingency funds are maintained by a range of plant industries including mango, nursery and grains.

In addition to the need to maintain a stable contingency fund of $500,000, levy funds are required to replace levy transferred to NRS and to expand the BBO program.

**Biosecurity purchasing power**

The EPPR and PHA Membership levies were put in place in 2015-16 and there has been no significant erosion in purchasing power caused by changes in CPI.

**Levy rate required to maintain biosecurity purchasing power**

To maintain a contingency fund of $500,000 and replace funds transferred and drawn down from AHA, replace funds transferred to NRS and expand the BBO program, a levy increase of 1.5c/kg attached to the PHA Membership levy is recommended for consideration by industry.
National Honey Levy - NRS

NRS levy purpose and management

The primary purpose of the NRS is to facilitate key export and domestic market access for participating industries by (Granger and Woodburn, 2010):

- Providing residue testing services that are technically sound, risk-based and structured to meet market requirements, within a specified budget.
- Providing scientific and policy advice on residues and contaminants to the Australian Government and to industry.
- Underpinning participating industries’ quality assurance projects.
- Providing support to industry and government in settling matters concerning residue-related trade incidents.
- Maintaining a database of residue test results for the use of participating industries, when legally acceptable.

The NRS program for honey aims to provide assurance to Australia’s trading partners and domestic consumers of the high level of compliance of Australia’s honey with national and international standards. Benefits of this program are thought to attach to Australian honey producers by virtue of brand confidence in the Australian product.

NRS results form the basis for DAWR – Biosecurity certification for compliance with the residue requirements of importing countries and Australian standards. The NRS honey residue testing programs cover a range of pesticides and other chemicals. Sampling is conducted in each state on the basis of production volumes. Residue testing programs are managed in accordance with agreed arrangements between AHBIC, DAWR and NRS.

In 2019, the operative rate for the NRS levy is 0.3c/kg of honey up from 0.1c/kg in 2018. The increase in levy rate follows depletion of the industry’s NRS reserves and reverses a previous decrease in the levy rate when reserves were higher than needed.

Effectiveness of NRS management

No review of NRS management was available to this study.

Current NRS expenditure

Current revenue, expenditure and account closing balance for honey bee NRS for the period 2010-11 to 2017-18, prepared by NRS, is shown in Table 11.

| Table 11: Financial statement for honey NRS, 2010-11 to 2017-18 |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Revenue                        | 31,963  | 32,300  | 30,179  | 28,725  | 23,348  | 19,573  | 19,831  | 31,006  |
| Expenditure                    | 70,775  | 47,167  | 47,919  | 57,434  | 53,598  | 46,409  | 36,735  | 36,123  |
| Closing Balance                | 195,828 | 180,961 | 163,221 | 134,512 | 104,262 | 77,391  | 60,487  | 45,370  |

Source: Ian Reichstein, Director NRS (written comm., March 2019)
The levy rate during this period was 0.1c/kg. The table shows reserves of close to $200,000 at the beginning of the period declining to $45,000 by 2017-18.

**Forecast NRS expenditure**

NRS have indicated that the current levy rate of 0.3c/kg is appropriate for the long term funding of the NRS honey residue monitoring program. NRS need to have reserves in place to handle unforeseen market issues which may require additional testing. NRS also need to handle potential increases in the monitoring programs (new chemicals to be tested for and increased number of samples) as required. Overseas honey markets are becoming increasingly focussed on residues and associated food safety issues (Ian Reichstein, Director NRS, written comm., March 2019).

**Changes in NRS purchasing power**

The levy rate was revised upward in 2018-19 and there is no loss in purchasing power caused by CPI.

**Levy rate required to maintain NRS purchasing power**

The current levy rate is appropriate and maintenance of the status quo is recommended to industry.

**Problems with Current Levy Structure**

The value of the R&D component of the National Honey Levy has been eroded by CPI increases, the loss of plant industry funds to complete pollination R&D projects and does not capture the full amount of government matching payments that are available to it. The value of honey has increased from $3.50/kg to $5.50/kg providing industry with additional capacity to pay.

There is a shortfall in the Biosecurity component of the National Honey Levy and additional funds are required to replace capital transferred from AHA, transferred to NRS and to expand the BBO program.

The levy is reliant on honey production, a static/possibly declining sector of the industry, but collects no revenue from pollination services, a growth area for the industry.

The National Honey Levy collects a flat cents per kilogram rate from honey producers. It does not recognise current and forecast growth in high value honey products nor capacity to pay.

There are no funds available for the promotion of Australian honey including medicinal honey.
Previous Honey Bee Levies and Reasons for their Rejection

Historical overview

Over the years the honey bee industry has had levies applied for a variety of purposes and outcomes, culminating in the current levy regime funding R&D, biosecurity and residue survey activities.

In 1962, the industry asked the Australian Government to provide for the establishment of a board to conduct promotional and research activities and to regulate honey exports. The Australian Honey Board was established and funded under the *Honey Industry Act 1962*.

In 1974, an export charge of 0.3c/kg was introduced under the *Honey Export Charge Act 1973* to provide additional finance for the Honey Board to regulate honey exports and undertake R&D and promotional activities. At the time, exporters of honey required an export licence issued by the Government on the recommendation of the Honey Board. A levy or charge was imposed on all honey sold domestically and overseas to fund the operations of the Board.

In 1981-82, the levy amount was 1.8 c/kg on domestic sales and 0.5 c/kg on export sales. In addition there was a research levy of 0.25c/kg on all honey. Total expenditures by the Honey Board in 1981-82 was $347,480, of which about 60% came from the levy imposed domestically, 18% from the export charge with the remainder from grants and miscellaneous receipts.

Faced with the dissolution of the Australian Honey Board, the industry joined with the Australian Horticulture Corporation (AHC) from 1993 for a trial period of two and one-half years, with a dedicated Honey Desk and through which control of exports of honey and honey products became the responsibility of the AHC.

The relationship with AHC eventually ceased when Horticulture Australia Limited was established and there has been no further industry funded generic promotion of honey since. Honey is classified as a ‘non-prescribed good’ under Australian export control legislation, which means that there is no Australian restriction on its export (https://www.austrade.gov.au/contact/faqs/i-want-to-export-honey-how-do-i-go-about-this).

In 2015-16, the honey bee industry moved away from management of its biosecurity arrangements through AHA to PHA to better align with pollination dependent industries. Changes made to the honey levy at the time, including replacing the Emergency Animal Disease Response levy with the EPPR levy, reflected this shift.

Since the mid-1980s, R&D management has been undertaken by AgriFutures Australia (previously RIRDC).

Marketing levy

Levy funded marketing was discontinued at the request of the large Australian honey packers who argued marketing was their commercial responsibility. It is noted that many industries have both a generic industry funded marketing program and specific brand-based promotion e.g. Meat and Livestock Australia (MLA) promotes the generic qualities of beef while AACo, a large beef cattle producer and processor, promotes its specific brands – Figure 5.

The potential of a honey marketing levy is further explored in a subsequent chapter of this review.
Figure 5: Levy funded promotion sits alongside corporate branding in beef industry

Queen bee R&D levy

The honey bee industry also had a statutory R&D levy imposed at the first point of sale for queen bees. Levy rate was set as per the table below. The levy raised approximately $8,000 per annum but 38% of the funds raised were required for levy collection (Granger and Woodburn, 2010). The queen bee levy remains in place but the levy rate has been set at zero.

Table 12: Queen bee levy rate prior to levy suspension

<table>
<thead>
<tr>
<th>Queen bee levy</th>
<th>Total levy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queen bees sold for $20 and under</td>
<td>0.5% of the sale price</td>
</tr>
<tr>
<td>Queen bees sold for over $20</td>
<td>10 cents per queen bee</td>
</tr>
</tbody>
</table>

Source: Granger and Woodburn, 2010

Review of the queen bee levy with DAWR – Levies Unit revealed that the instrument did not have the attributes required for an effective levy - a small amount was collected from many collection points. Possible solutions include increasing the levy amount per transaction and finding a suitable ‘pinch point’ in the supply chain where levy can be cost effectively collected. One possible ‘pinch point’ is export certification. Success would depend on the share of production (queen bees) that is exported and whether an export only levy might be relevant.

Hive-based levy

The feasibility of a hive-based levy for the honey bee industry was investigated for RIRDC at the request of AHBIC in 2010 (Granger and Woodburn, 2010). The study revealed that the honey bee hive can be used as the basis for a levy, it is consistent with DAWR’s 12 Levy Principles and Guidelines, and it can be applied on a consistent basis to all beekeepers i.e. non-commercial and commercial operations. A strong case would need to be made to ‘non-commercial’ beekeepers who make up 95% of beekeeper numbers and currently do not pay the levy. The business case would need to highlight the benefits of biosecurity and R&D programs.

However, collection approaches and costs pose significant challenges to the industry using the bee hive as the levy base. This is because there are limited consistent and common transactions based on the bee hive (‘pinch points’) and as a consequence a large number of individuals would be required to pay the levy independently. In turn, this is likely to lead to beekeepers understating hive numbers, a common occurrence with state-based registration programs, and high consequent enforcement costs.

In contrast, a hive-based levy imposed only on hives used for paid pollination has consistent and common transactions and the required ‘pinch points’ – each year most of this sector of the industry passes through a small number of pollination brokers and a few large participating beekeepers.

Rolling a national hive-based levy system into existing state-based registration programs will not work. State-based government stakeholders consulted by Granger and Woodburn (2010) reported this would be difficult to achieve and highly unlikely to occur. There are legal and constitutional constraints that make this
pathway non-feasible. It could also compromise hive registration as beekeepers would be inclined to remain un-registered to avoid levy costs. Granger and Woodburn (2010) conclude that it would take a considerable amount of work for the industry to prove to governments that this approach would work and significant legal counsel would be required.

**Levy imposition on a ‘per beekeeper’ basis**

Granger and Woodburn (2010) noted beekeeper requests for a levy based simply on the number of beekeepers. A figure of $50 per year could be levied and payment could, as with a hive-based levy, be linked to registration. Once again this cannot occur. There are legal and constitutional constraints that make the pathway non-feasible and consultation with DAWR – Levies Unit revealed that a ‘beekeeper’ is not a sufficiently clear uniform input and could not be used for a levy.

**Options to Increase the Efficiency of Levy Collection**

Increasing the efficiency of levy collection is at best a short term solution to temporarily boost the receipts from the National Honey Levy where levy sustainability requires a long term plan. Two options to increase levy collection efficiency are reviewed.

**Address levy non-payment (the missing 10,000 tonnes)**

Data prepared by ABARES suggests Australian commercial honey production of 30,000 tonnes. DAWR Levies Unit receives levy payments from 20,000 tonnes. The issue of levy ‘leakage’ was reviewed with DAWR Levies Unit and an education/communication campaign was suggested. The campaign would need to be funded by industry.

While leakage seems to be a ‘fact of life’ in a diffuse industry such as honey bees, an education/communication campaign highlighting the benefits delivered by levy investment has merit. This study recommends that industry consider the funding of a single project through AgriFutures and that the project be packaged as an extension activity.

**Lift honey production threshold at which levy is paid (3,000kg)**

In 2014, the honey production threshold at which the National Honey Levy is paid was increased from 600kg/year to 1,500kg/year cutting out 57 small agents from a total of 189 agents. The cost of collecting levy from the 57 smallest agents exceeded the levy collected. As a further cost saving measure this study suggested that the honey production threshold at which levy is collected now be lifted from 1,500kg/year to 3,000 kg/year – the equivalent of only targeting ABARES defined commercial beekeepers who manage more than 50 hives (50 hives X 59.5kg/hive = 2,975kg).

Industry has reviewed this proposal and considers the further exempting of beekeepers from levy payment as an unacceptable increase in levy burden inequality. There are already too many beekeepers benefiting from levy funded activities and exempted from levy payment.
Ad valorem Levy Potential

Ad valorem simply means percentage of value, in this case percentage of honey value. Under this option the National Honey Levy would be converted from a cents per kilogram (c/kg) rate to a percentage of value rate. Percentage of value rates used in other industries vary between 0.2% and 5.0%. The grains industry has a 1.02% levy addressing R&D, EPPR, PHA Membership and NRS. The vegetable industry has an R&D levy that is struck at 0.485% of sale value. In 2016, the sweet potato industry moved to an ad valorem levy set at a rate of 0.5% for R&D plus 1.0% for Marketing.

Advantages of an ad valorem levy include:
- Reflects the products true value and the producers capacity to pay.
- Produces a stable levy income – falls in production volume are offset by increases in product price.
- If for some reason the price of honey declines then the levy payment made by an individual beekeeper also declines.
- Doesn’t penalise producers of lower value honey (e.g. canola and eucalypt) who currently pay the same levy amount as high value honey (e.g. medical Manuka).
- Has the potential to capture a share of the value of niche high value honeys such as Manuka and Jarrah and in time honeys identified as having additional medicinal qualities.

Disadvantages of an ad valorem levy include:
- Could only cover the same segment of the industry as currently paying the cents per kilogram, or collection costs would be too high. Free riders who don’t pay levy in both the non-commercial and commercial sector would continue to remain unchallenged.
- An ad valorem levy would (marginally) increase the levy administrative burden on agents (honey packers) who would need to report by honey type/grade rather than total volume handled.
- There is some ’moral hazard’ in underestimating the value of the honey sold (could also be true for the current cents per kilogram based levy).
- An ad valorem levy will be the most difficult to manage for the integrated businesses that produce, retail, manufacture products and/or honey for export.

A 2% ad valorem levy is modelled in the table below.

**Table 13:** Potential income from a 2% ad valorem levy

<table>
<thead>
<tr>
<th>Assumed Industry Profile</th>
<th>Unit Pricing</th>
<th>Production (tonne)</th>
<th>Levy raised at 2% Ad Valorem ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1: undifferentiated</td>
<td>$5.50/kg - all production</td>
<td>20,000 t</td>
<td>$2,200,000</td>
</tr>
<tr>
<td>Scenario 2: recognition of market segments</td>
<td>$4.90/kg for canola and eucalypt</td>
<td>18,000 t</td>
<td>$1,764,000</td>
</tr>
<tr>
<td></td>
<td>$7.00/kg leatherwood, non-med Manuka</td>
<td>1,000 t</td>
<td>$140,000</td>
</tr>
<tr>
<td></td>
<td>$25.00/kg Jarrah and medicinal Manuka</td>
<td>1,000 t</td>
<td>$500,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>$2,404,000</strong></td>
</tr>
</tbody>
</table>

An ad valorem levy is worthy of consideration by industry. A 2% ad valorem levy would collect somewhere in the order of $2 million/year. Current levy receipts are less than $900,000.
A new and additional levy targeting paid pollination services is acceptable to DAWR in principle. However, a business case addressing DAWR’s 12 Levy Principles and Guidelines and a regulatory impact statement would be required. Industry investment of $120,000 might be needed and this cost is likely to be greater than modifying the current National Honey Levy or establishing a Marketing levy.

A new pollination levy would help fund R&D and biosecurity activities across the whole honey bee industry in the same way that a levy on wine grapes grown and wine produced is managed in a single fund by Wine Australia. DAWR Levies Unit would be responsible for collecting and disbursing levy receipts to AgriFutures (R&D), PHA (biosecurity) and NRS.

Hort Innovation already manages a pollination research levy. However, this fund collects levy from crop growers and targets alternatives to honey bees such as self-pollinating crops, robotic technologies and the use of native insects. A new pollination levy would not duplicate Hort Innovation research. Nor would it ‘double dip’ crop growers, it would in the first instance, be paid by beekeepers. Whether beekeepers are able to pass some or all of the levy onto crop growers will depend on prevailing market forces.

Levy would be easily collected from a concentrated almond industry but more difficult to collect from other paid pollination crops that do not use a pollination broker. It is proposed that beekeepers completing less than 50 hive transactions per year would be exempt from levy payment as collection costs would be too high. This exemption is consistent with the National Honey Levy that targets production from more than 50 hives.

A pollination levy could be based on either a rate per hive supplied to paid pollination or on a percentage of value of the pollination fee (ad valorem). Both options are presented in the table below.

**Table 14: Potential income from a pollination services levy**

<table>
<thead>
<tr>
<th>New Pollination Levy Option</th>
<th>Hives Servicing Almond Pollination</th>
<th>Hives Servicing Other Crops*</th>
<th>Levy raised (less DAWR Collection costs) ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2/hive servicing pollination</td>
<td>190,000</td>
<td>60,000</td>
<td>$500,000</td>
</tr>
<tr>
<td>2% of pollination service value</td>
<td>190,000</td>
<td>60,000</td>
<td>$550,000</td>
</tr>
</tbody>
</table>

# Assumes two thirds of the 91,100 paid pollination services recorded in Table 4 are more than 50 hives and that DAWR Levies Unit is able to cost effectively collect from these larger transactions.

A $2/hive levy on hives placed in almonds would be readily absorbed by a guaranteed fee earning beekeeper. A $2/hive levy on 250,000 hives (190,000 from almonds and 60,000 from all other crops) would generate $500,000/year gross (less DAWR collection costs) on top of the $893,834 in total levy disbursed by DAWR in 2018. The levy would also attract additional government matching payments for R&D.

An ad valorem hive levy based on 2% of pollination fee value would currently collect $2.20/hive (assuming average fee of $110/hive) and generate $550,000 (less DAWR collection costs) from hives placed on almonds and in all other crops. The actual value of the paid pollination service under an ad valorem levy may be difficult to establish/police. However, an ad valorem levy would collect additional revenue as the value of each paid pollination service increases, possibly dramatically, over time.

This study recommends that industry give further consideration to the establishment of a pollination services levy.
**Honey Marketing Levy Potential**

Industry has expressed interest in establishing a marketing levy to promote Australian honey. Previous statutory marketing levies were dismantled at the request of large honey packers. Marketing levies are consistent with existing legislation and could be added to the existing National Honey Levy. Many agricultural industries make use of a statutory marketing levy e.g. MLA promotes the qualities of Australian beef while companies promote their individual brands (see Figure 5). The legislation does not make provision for Government Matching payments for an industry marketing levy.

Levy funded marketing would highlight the medicinal qualities, purity and naturalness of Australian honey. A marketing levy could be used to communicate the ‘good news story’ around medicinal honeys and would be a source of impartial information about the industry.

At the current time, the AgriFutures Honey Bee and Pollination R&D program is investing in honey as a health food (PRJ-010879), the medicinal properties of honey from biodiversity hotspots (PRJ-010313) and Australian Leptospermum (Manuka) honey (PRJ-009186). The industry will soon have a positive, science-based story to tell about honey and funds are needed to communicate it.

The medical use of honey is changing the nature of the honey market. Some of this story will be about niche honey varieties and small volume branded products e.g. honey with provenance / local honeys. Small packers do not have marketing collateral available to them to support their products. Large honey packers are not especially well positioned or nimble enough to realise niche opportunities. Funds from a marketing levy can also be used to support large packer marketing effort for their main honey lines. For example, a major packer might make use of marketing levy generated industry information on the qualities of yellow box honey and then promote its own brand of superior, local and organic yellow box honey.

Furthermore, if a teacher or media person requires authoritative information on honey they need to approach one of the major honey packers and this information may subsequently be viewed by the recipient and their audience as furthering a particular commercial interest. NSW DPI continue to make use of generic honey bee industry materials produced by the Honey Board in the 1980s. Commercially neutral information and general up to date facts on Australian honey are required to increase community awareness of the attributes of Australian honey.

As a general rule, Peak Industry Bodies (PIBs) who engage in agri-political activity (lobby) are not able to act as recipient bodies for statutory levies. The exception is Australia Pork Limited whose establishment legislation permitted the conduct of R&D, marketing and agri-political activity. It is unlikely that an established PIB would be afforded the opportunity to manage a statutory levy. DAWR has recently worked with Hort Innovation to disentangle PIB management and delivery of marketing services in a number of horticultural industries.

AgriFutures has indicated that revenue from a honey marketing levy could be managed by the Corporation but stress that collection and management costs will negate the usefulness of a levy that collects less than, say, $400,000 per annum. Marketing levy rate options are shown in the table below.

**Table 15: Potential income from a marketing levy set at different rates**

<table>
<thead>
<tr>
<th>Marketing Levy Rate (c/kg)</th>
<th>Average Leviable Honey Production (tonnes/year)</th>
<th>Gross Receipts for Honey Promotion ($)#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 cent/kilogram</td>
<td>20,000 tonnes</td>
<td>$200,000</td>
</tr>
<tr>
<td>2.0 cents/kilogram</td>
<td>20,000 tonnes</td>
<td>$400,000</td>
</tr>
</tbody>
</table>

# needs to cover collection costs and program management
A 2c/kg marketing levy would gross $400,000 per annum and is comparable to funds raised by the cherry industry – an industry with a similar GVP. In 2018 the cherry marketing levy funded mainstream and social media advertising in each state, in-store sampling and export market development (Hort Innovation, Cherry Fund Annual Report, 2018).

A 2c/kg marketing levy is recommended for consideration by industry.

**Beekeeper Levy Payments Compared to Agricultural Industries of a Similar Size**

Table 16 compares honey bee industry GVP, Government matching payments for R&D, industry levy payments and levy as a share of GVP to similar sized industries managed by AgriFutures Australia and Hort Innovation.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Industry GVP</th>
<th>Government Match R&amp;D</th>
<th>R&amp;D Levy</th>
<th>Biosecurity and NRS</th>
<th>Marketing Levy</th>
<th>Levy as share of GVP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honey bee</td>
<td>127,000,000</td>
<td>300,000</td>
<td>289,000</td>
<td>612,312</td>
<td>0</td>
<td>0.72</td>
</tr>
<tr>
<td>Ginger</td>
<td>37,000,000</td>
<td>159,000</td>
<td>332,000</td>
<td>N/a</td>
<td>0</td>
<td>0.90</td>
</tr>
<tr>
<td>Cherries</td>
<td>120,000,000</td>
<td>638,000</td>
<td>504,000</td>
<td>N/a</td>
<td>381,000</td>
<td>0.74</td>
</tr>
<tr>
<td>Watermelon</td>
<td>96,400,000</td>
<td>100,000</td>
<td>512,000</td>
<td>N/a</td>
<td>0</td>
<td>0.53</td>
</tr>
<tr>
<td>Sweet potato</td>
<td>88,000,000</td>
<td>255,000</td>
<td>493,000</td>
<td>N/a</td>
<td>997,000</td>
<td>1.69</td>
</tr>
<tr>
<td>Olives</td>
<td>125,000,000</td>
<td>357,707</td>
<td>415,000</td>
<td>N/a</td>
<td>0</td>
<td>0.33</td>
</tr>
</tbody>
</table>


From the table it can be seen that the honey bee industry’s levy burden is comparable to other similar sized industries (e.g. cherries) however its focus is on biosecurity rather than promotion. Beekeepers viewing this data may point out that these comparison rates do not include fees charged by states for hive registration, biosecurity (Western Australia) and rental of public land apiary sites.
Analysis of State-Based Fees

Analysis of state based fees shows a range of registration, biosecurity and apiary site costs. Results are presented in Table 17.

Table 17: Summary of State/Territory fees and services by jurisdiction

<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Government Fees and Charges</th>
</tr>
</thead>
</table>
| Australian Capital Territory | • Canberra beekeepers are required to register their hives, effective May 2016, under amendments to the *Animal Diseases Act 2005*. Registration is free and valid for three years for both commercial and non-commercial beekeepers [https://www.environment.act.gov.au/parks-conservation/plants-and-animals/animal/licensing/registration-for-bee-hives](https://www.environment.act.gov.au/parks-conservation/plants-and-animals/animal/licensing/registration-for-bee-hives)  
  • ACT Apiarists Association note a lack of commercial beekeeping in the territory and the absence of formal regulation and fees regarding beekeeper activity on public land (GHD, 2015) |
| NSW | • Beekeepers with one or more hives, even if registered in another state / territory, are required to register with DPI under the *Biosecurity Act 2015*.  
  • In 2019, beekeeper registration under the *Biosecurity Act 2015* costs $120 or $90 for two years if registration is completed online [www.dpi.nsw.gov.au/__data/assets/pdf_file/0006/722850/Fees-and-charges.pdf](https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0006/722850/Fees-and-charges.pdf)  
  • It is understood that registration charges are currently under review. In 2017 Amateur beekeepers rejected a DPI offer of no fees for those with 2 hives or less ([www.beekeepers.asn.au/news/2017/8/11/regofees-where-we-are-now](https://www.beekeepers.asn.au/news/2017/8/11/regofees-where-we-are-now))  
  • The formal regulation and enforcement of hive placement is largely absent in the NT aside from activity in national parks and adjacent borders. There are no charges for apiary sites on public lands (GHD, 2015) |
| Queensland | • Registration of bee hives with the Department of Agriculture and Fisheries under the *Biosecurity Act 2014*.  
  • Registration is required if 1 or more hives are kept. Registration fees are paid by commercial beekeepers (i.e. those who claim primary producer status on their tax return) No registration fees are paid if bees are kept for non-commercial purposes. [https://www.daf.qld.gov.au/business-priorities/biosecurity/policy-legislation-regulation/fees](https://www.daf.qld.gov.au/business-priorities/biosecurity/policy-legislation-regulation/fees)  
  • Fees for apiary sites in state forests and protected lands are $94 for <6 months; $140.30 for 6 months to 1 year; $252.60 for 1 to 2 years; $357.90 for 2 to 3 years; $449 for 3 to 4 years; and $526 for more than 4 years. Transfer of an apiary permit costs $63.60 [https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/niche-industries/beekeeping/permits-national-parks](https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/niche-industries/beekeeping/permits-national-parks) |
| South Australia | • Registration of bee hives with Primary Industries and Resources South Australia under Livestock Act 1997.  
  • Registration is required if 1 or more hives are kept. There are no registration fees for beekeepers with 1 to 4 hives. Beekeepers with 5 hives or more pay $1/hive per year for registration [www.pir.sa.gov.au/biosecurity/animal-health/bees/beekeeper_registration](https://www.pir.sa.gov.au/biosecurity/animal-health/bees/beekeeper_registration) |
<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Government Fees and Charges</th>
</tr>
</thead>
</table>
| **Tasmania**      | • Annual licence fees for each crown land or park site held by the beekeeper incurs an annual cost of $98 and transfer of an apiary permit costs $425 (Loretta Braunack, Department of Environment, Water and Natural Resources, pers. comm., January 2019).  
• There is no compulsory requirement for registration of bee hives in Tasmania. However, all urban beekeepers are encouraged to register with DIPIPWE to allow monitoring of hive health. Registration fees for 2019 are $0 for <5 hives; $25 for 6 to 20 hives; $50 for 21 to 50 hives; $100 for 51 to 100 hives; $150 for 101 to 200 hives; and $300 for >200 hives [https://dpipwe.tas.gov.au/Documents/Code%20of%20Practice%20for%20Urban%20Beekeeping.pdf](https://dpipwe.tas.gov.au/Documents/Code%20of%20Practice%20for%20Urban%20Beekeeping.pdf).  
| **Victoria**      | • Registration of bee hives with Department of Economic Development, Jobs, Transport and Resources under *Livestock Disease Control Act 1994*  
• Beekeeper registration for those with less than 5 hives is $30 or free if completed online; $30 for those with less than 50 hives; and $0.60/hive for those with more than 50 hives [http://agriculture.vic.gov.au/agriculture/livestock/honey-bees/beekeeper-registration-and-hive-disposal](http://agriculture.vic.gov.au/agriculture/livestock/honey-bees/beekeeper-registration-and-hive-disposal).  
| **Western Australia** | • Registration of bee hives with the WA DPIRD is compulsory and in 2019 costs $75.50 for 3 years regardless of the number of hives kept [https://www.agric.wa.gov.au/invasive-species/biosecurity-fees-and-charges](https://www.agric.wa.gov.au/invasive-species/biosecurity-fees-and-charges).  
• Additionally an Agricultural Produce Commission (APC) fee is charged (annually) to assist in bee pest and disease surveillance (i.e. training), particularly for exotic pests such as the *Varroa* mite. The APC has determined a two-tier fee for service charge as of 2017. Service charge per beekeeper per annum is $25 which is used for education and communication activities; service share per bee hive in production is $1.20 per hive used for disease control/monitoring and disease research purposes [https://apcwa.org.au/producers-committees/beekeepers](https://apcwa.org.au/producers-committees/beekeepers).  
• The Parks and Wildlife Service manage beekeeper access to Crown land throughout WA. Annual rental rates in the south-west zone are $92 for a single site or $148 for five sites and in the remote zone annual rent is $46 for a single site or $71 for five sites. Transfer of site costs $13 and variations to a site cost $110 in the south-west zone and $55 in the remote zone [https://www.dpaw.wa.gov.au/plants-and-animals/animals/beekeeping-on-crown-land-in-western-australia](https://www.dpaw.wa.gov.au/plants-and-animals/animals/beekeeping-on-crown-land-in-western-australia). |

Table 5 shows a range of registration, biosecurity and apiary site fees and charges that vary from no cost in jurisdictions such as the NT and ACT to between $5,000 and $10,000 per annum for larger beekeeping operations in mainland states.
Levy Review Conclusions and Reform Recommendations

Review of the National Honey Levy shows that at its current rate it is insufficient to deliver R&D and Biosecurity priorities for the honey bee industry. Industry has also expressed interest in establishing a statutory Marketing levy. Investigation of an Ad Valorem levy was completed to provide industry with advice on switching the National Honey Levy from cents per kilogram to a share of value. Instigation of a whole new levy for pollination has also been completed and provides potential to capture revenue from a segment of the industry not currently paying the National Honey Levy.

Viable options for honey bee industry levy reform are summarised in Table E4 of the Executive Summary for ease of reference. It is now up to industry to review this analysis and select levy reform options that meet its needs for both the short and long term.
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