

TASMANIAN BEEKEEPING SURVEY 2019 REPORT

Tasmanian Beekeeping Survey: Fast Facts for 2018-19



257 registered beekeepers
22,092 registered hives
70% of hives reported in the survey are owned by **2%** of beekeepers
An anticipated increase of **13%** in hive numbers over the coming year



403 tonnes of honey produced
Honey production estimated to be down by **58%** for commercial beekeepers
A farm gate value of **\$7.4 million** for honey
Leatherwood accounted for **43%** of all honey production
Manuka accounted for **42%** of honey value



A farm gate value of **\$468,658** for other bee products including wax, nucleus hives, honeycomb, queens and package bees



An estimated **9,147** hives supplied for pollination services
\$1.8 million in pollination services provided



A total value of **\$9.6 million** for honey, bee products and pollination services for the Tasmanian beekeeping industry

Tasmanian beekeepers produce a range of iconic bee products. They also deliver essential pollination services to the agricultural sector and it is estimated that approximately 85% of around \$164 million of Tasmania's pollination-dependent crops would be at risk without pollination services.

To build a better understanding of the size, value and future needs of the beekeeping industry, the Department of Primary Industries, Parks, Water and Environment (DPIPWE) has developed the Tasmanian Beekeeping Survey in consultation with the beekeeping industry.

In September 2019, the survey was sent to 241 Tasmanian beekeepers registered with Biosecurity Tasmania, with further distribution through regional beekeeping associations. Responses were received from 166 beekeepers who collectively reported a total of 16,999 hives. To estimate the size and value of the entire industry, data from these responses have been extrapolated to the 22,092 hives that were registered with Biosecurity Tasmania at the time of the survey.

It is recognised that there is an unknown number of additional unregistered hives that will not be captured in these estimates. It is also acknowledged that this survey coincided with a particularly challenging season for beekeepers, with bushfires and seasonal conditions impacting production, especially for leatherwood honey. As a result, the figures presented for the 2018-19 season should not necessarily be considered as representative of a 'normal' Tasmanian season.

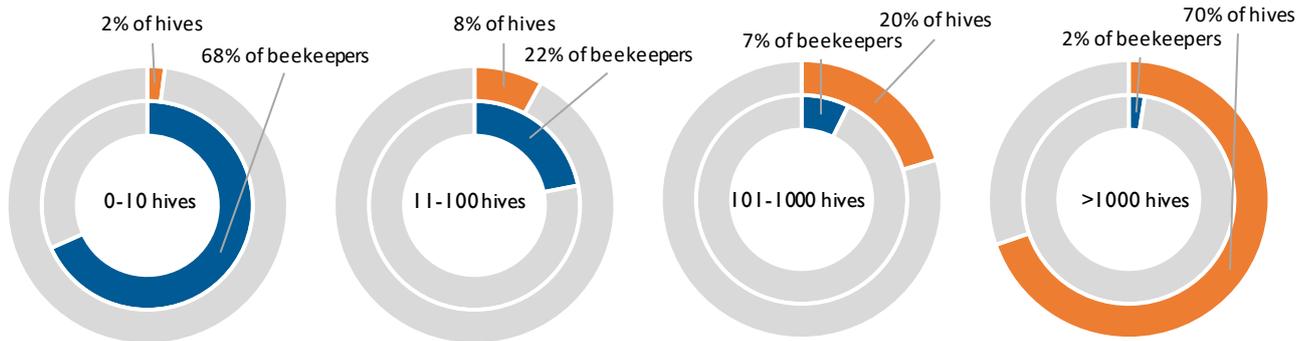
This report summarises key findings from the survey.



Hive ownership

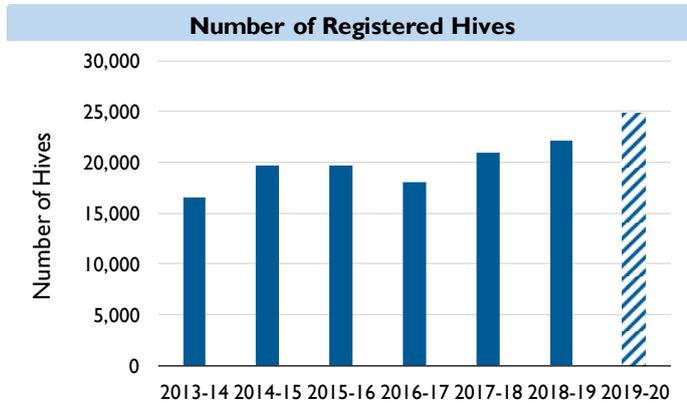
The vast majority of beekeepers are hobbyists and small operators, with around 68% of beekeepers maintaining ten hives or fewer. These beekeepers account for around 2% of the total number of hives reported in the survey.

The majority of hives are owned by a small number of beekeepers, with 2% of beekeepers owning more than 1,000 hives, accounting for 70% of all hive ownership reported in the survey.



Future intentions

A net increase of 13% in the number of hives is anticipated over the coming year. Across all registered hives, this represents 2,785 additional hives.



Number of hives for 2019-20 is a projection based on a net increase of 13%

- 46%** proportion of respondents planning to increase hive numbers (by 2,356 hives in total)
- 46%** proportion of respondents planning to maintain hive numbers
- 4%** proportion of respondents planning to reduce hive numbers (by 213 hives in total)¹

Reasons given for plans to increase hive numbers

- Meeting demand for pollination services²
- Increasing honey production³
- Increasing production of other bee products
- Replacing hives lost in bushfires and rebuilding hive numbers after previous poor seasons

Reasons given for plans to reduce hive numbers

- Ill-health
- Retirement
- Lack of time
- Loss of leatherwood sites

¹ Percentages in text boxes in this report may not total 100 since not all participants responded to all questions.

² There is an anticipated increase of 1,536 hives reported by those respondents who mentioned pollination as a factor in their decision to increase hive numbers. The majority of these respondents are already established providers of pollination services.

³ There is an anticipated increase of 938 hives reported by respondents who cited honey as a factor in their decision to increase hive numbers.

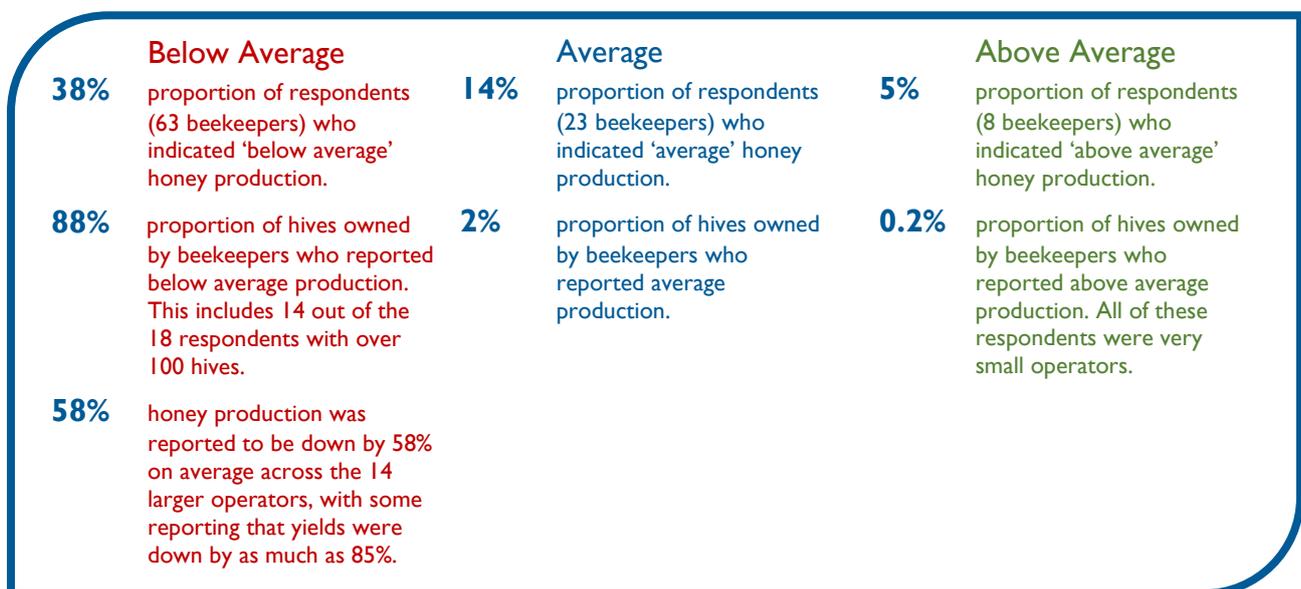


Honey Production

Survey respondents who reported honey production in 2018-19 produced a total of 297 tonnes of honey from 15,493 hives for an overall yield of 19.19 kg of honey per hive. Across all 22,092 registered hives, this represents an estimated total production of 403 tonnes⁴.

These yields are substantially lower than anecdotal reports of typical yields of 58 kg per hive due to unusually low honey yields in the 2018-19 season.

This is consistent with the finding that 38% of beekeepers, accounting for 88% of hive ownership, reported that their honey production was below average in 2018-19. Reduced flowering in leatherwood was a major factor impacting honey production in 2018-19 for many of the state's largest beekeepers who rely on this resource for the majority of their production.



Using beekeepers' estimates of how much their 2018-19 production deviated from a typical season to estimate how much honey would be produced in a 'normal' season resulted in an approximate theoretical yield of 56 kg per hive which would equate to around 1,175 tonnes of honey across all registered hives, consistent with anecdotal reports from industry.

Honey Value

Survey respondents reported a total farm gate value of \$5.2 million from 285 tonnes of honey for an overall price of \$18.27 per kilogram of honey. Across all registered hives, this represents an estimated farm gate value of \$7.4 million⁵. Reduced supply of honey in 2018-19 is known to have increased prices for some honey products, partially offsetting reduced production for some beekeepers.

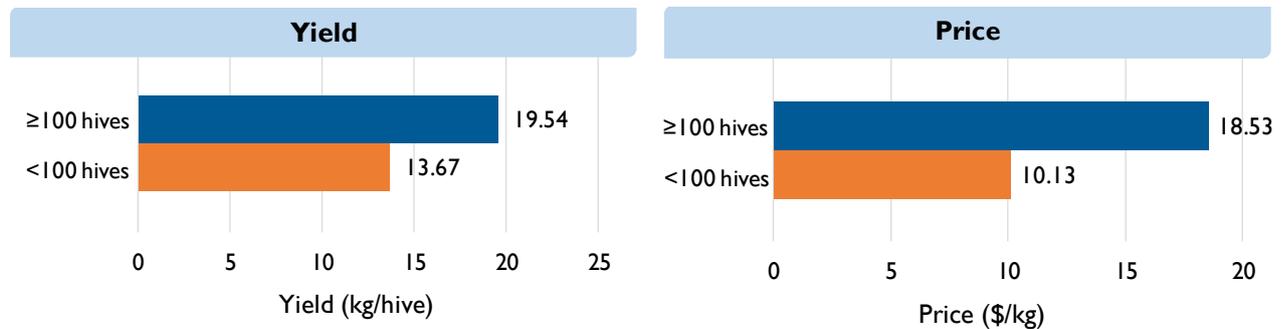
403 tonnes	amount of honey produced
\$18.27/kg	average honey price
\$7.4 million	total value of honey

⁴ Assuming that 95% of registered hives produce honey. This assumption is based on the finding that survey respondents who reported honey production accounted for 95% of hive ownership for respondents to this question.

⁵ Based on estimated production of 403 tonnes of honey.



A wide range of honey prices was reported, reflecting the diversity of honey products sold and different marketing arrangements, such as direct selling or wholesaling. Among beekeepers with 100 or more hives (who account for 91% of all reported hives and 96% of honey production), a price per kilogram range of nearly \$40 was reported. In general, the larger, commercial apiaries with 100 or more hives tended to produce more honey per hive and achieved a greater price per kilogram, but some smaller producers of medicinal honey products reported prices of up to \$100 per kilogram.



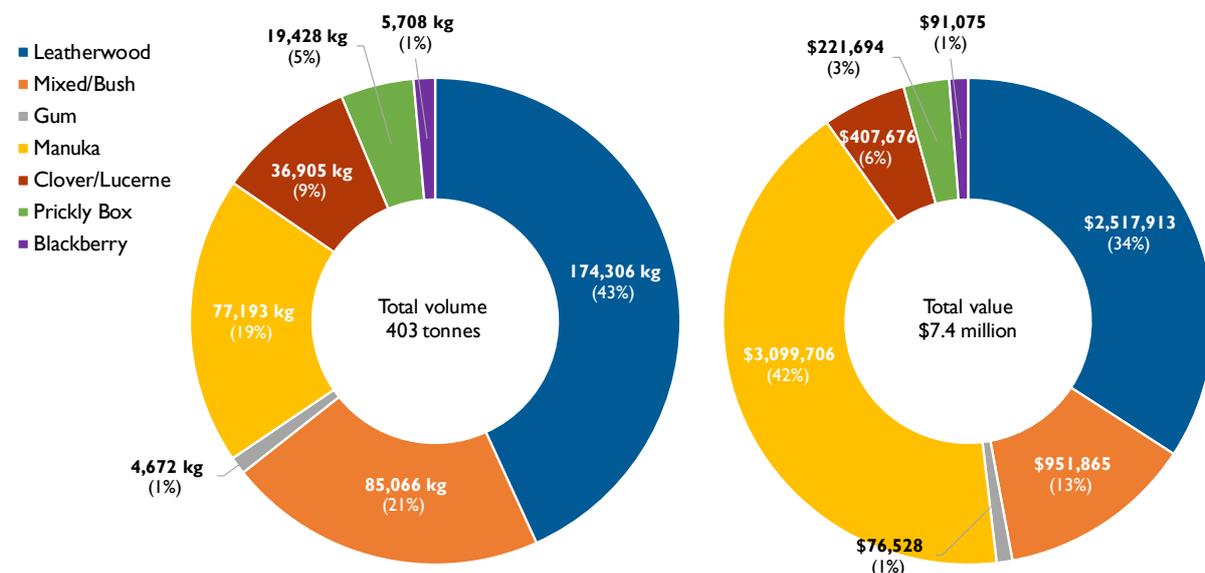
Comparison of honey yield and price for apiaries with fewer than 100 hives (orange) and 100 hives or more (blue)⁶.

Honey Varieties

Despite reduced flowering, destruction of trees in bushfires and subsequent restricted access to leatherwood resources in 2018-19, leatherwood was still reported as the dominant variety of honey (174 tonnes, or 43% of estimated total production of 403 tonnes)⁷. Manuka honey production was less impacted by seasonal conditions and made up 19% of total production in 2018-19.

For beekeepers with fewer than 100 hives, leatherwood accounted for a much smaller proportion of production (11%). This demonstrates that leatherwood honey is mainly produced by a small number of large, commercial operators. For hobbyists, mixed/bush honey was the main variety produced (35%), followed by manuka (16%) and prickly box (13%).

With a reduced leatherwood honey harvest in 2018-19, manuka became the most valuable honey variety with an estimated farm gate value of \$3.1 million, accounting for 42% of the total estimated honey value of \$7.4 million for all registered hives⁸.



⁶ Yield was estimated for each size group by dividing the total volume produced by each group by the total number of hives for each group. Price was estimated for each size group by dividing the total value of each group by the total production volume for each group.

⁷ It is possible that some respondents may have reported 'typical' proportions of their different honey varieties, without adjusting for differences in the 2018-19 season.

⁸ Based on relative price differences between varieties as advised by industry.



Other Bee Products

Respondents reported a total of 4,976 kg of beeswax from 14,111 hives, representing 0.35 kg of wax per hive. Extending this finding across all registered hives, total beeswax production can be estimated at 6,894 kg⁹.

For those who provided a monetary value for the beeswax they produced, the total value was \$98,062 for 4,958 kg of beeswax, representing \$19.78 per kg of wax and a total value of \$136,345 across all registered hives. It is noted that the range of beeswax prices reported was extremely wide, with reports anywhere from negligible amounts such as 4 cents per kilogram up to \$60 per kilogram.

A value of \$240,570 was reported for other bee products including nucleus hives, honeycomb, queens and package bees from a total of 7,928 hives. Extending this across all registered hives, the value of other bee products can be estimated at \$332,312 across the industry¹⁰.

6.9 tonnes

amount of beeswax produced

\$136,345

value of beeswax

\$332,312

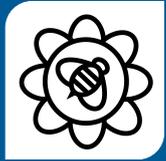
value of other bee products including nucleus hives, honeycomb, queens and package bees



Photo supplied by Karla Williams

⁹ Assuming that 88% of registered hives produce beeswax. This assumption is based on the finding that survey respondents who reported wax production accounted for 88% of hive ownership for respondents to this question.

¹⁰ Assuming that 50% of registered hives produce other bee products. This assumption is based on the finding that survey respondents who reported production of other bee products accounted for 50% of hive ownership for respondents to this question.



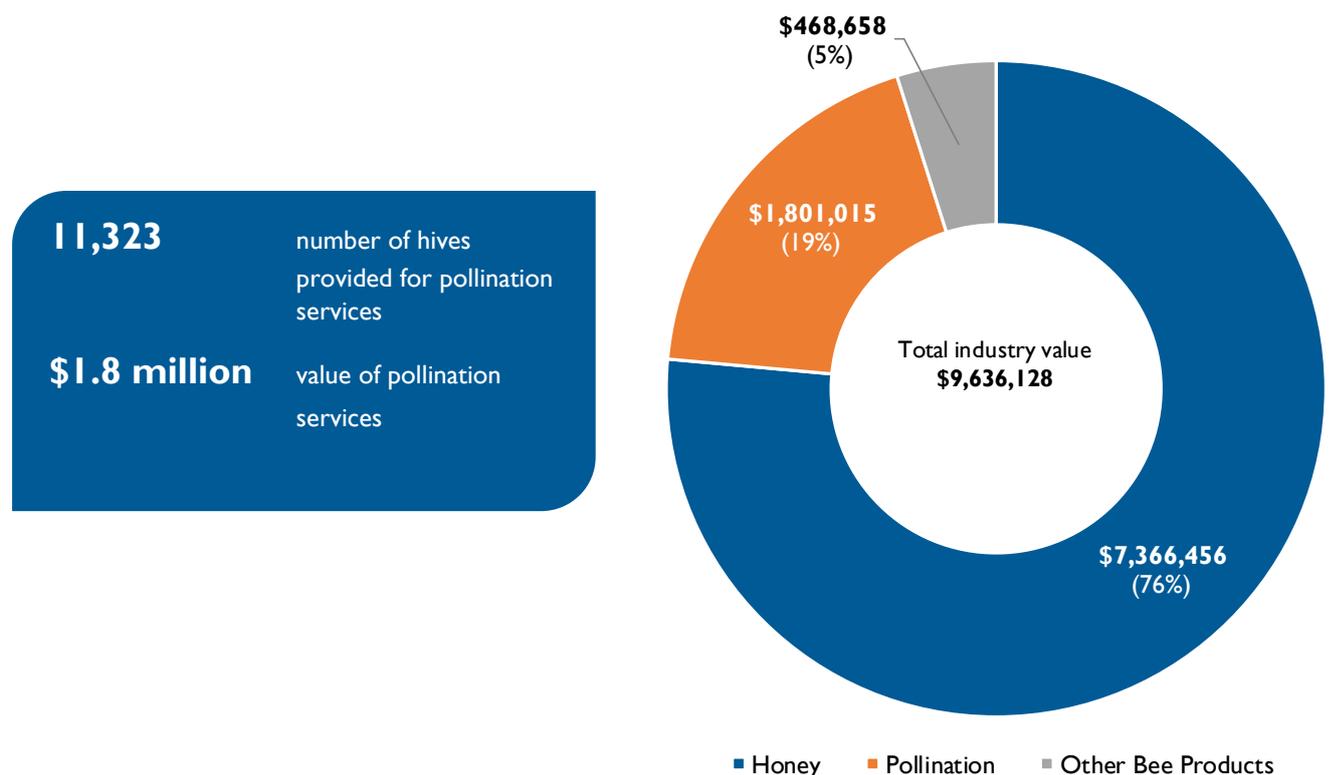
Pollination Services

Pollination services are provided by a relatively small number of large operators. The nineteen beekeepers who indicated that they provided pollination services in 2018-19 collectively owned 76% of hives reported in this survey, and the median apiary size of those beekeepers who provided pollination services was 134 hives. These beekeepers provided 63% of their hives for pollination. Extending these figures across all registered hives represents an estimated 11,323 hives provided for pollination services¹¹.

The reported value of pollination services was \$1.3 million from 7,943 hives, or \$159 per pollinating hive. Across all registered hives, this represents around \$1.8 million generated by pollination services.

Respondents identified a range of crops for which they provided pollination services, including cherries, pome fruit, blueberries, raspberries, brassica seed, carrot seed, onion seed, pasture seed, canola seed, lavender seed, blackberries, avocado, fennel, pyrethrum, quince and apricots.

The peak window for pollination reported in the survey was from mid-September to early November (for crops such as cherries, apples and blueberries), with additional periods of activity continuing throughout the summer months for crops with a high pollination requirement such as vegetable and pasture seed crops.



¹¹ Assuming pollination services are provided by 81% of registered hive ownership, and that these beekeepers provide 63% of their hives for pollination services. This assumption is based on the finding that survey respondents who reported providing pollination services accounted for 81% of hive ownership for respondents to this question. This estimation also assumes a representative response from crop pollination providers in this survey; given the relatively small number of large pollination providers, data for this part of the industry is particularly susceptible to participation bias.



Participant Feedback

Four common themes which emerged from survey participants' feedback were *leatherwood resources, training and support, pollination, and biosecurity.*

- *Leatherwood:* Around 34% of those who provided feedback mentioned leatherwood, often with reference to the poor 2018-19 season. Feedback noted that despite the poor season, leatherwood remains the industry's most reliable nectar source due to its normally reliable annual flow when compared to resources with less regular flowering behaviour such as eucalypts and prickly box. A number of respondents raised concerns about access to leatherwood, the number of apiary site licences on public land, and restrictions on beekeeping in the Tasmanian Wilderness World Heritage Area. Other survey participants called for planting of leatherwood and protection of existing leatherwood trees.

Under the *Bee Industry Futures Report*, \$500,000 has been earmarked to fund selected infrastructure upgrades to improve resource access. The Report also notes that funding will be made available to support leatherwood honey research, and that the procedures relating to apiary access to public land will be reviewed.

Regarding access to leatherwood and protection of leatherwood resources, a memorandum of understanding was recently signed between the Tasmanian Beekeepers Association, the Australian Honey Bee Industry Council and Sustainable Timbers Tasmania (STT) to ensure that beekeepers will continue to have the maximum practical access to leatherwood trees on land managed by STT.

- *Training and Support:* Several participants highlighted the importance of information and training for new beekeepers. These comments were often connected with remarks about succession planning and the need to create a supportive environment for new entrants to the industry.

The Bee Industry Futures Report has committed to support industry resilience and transition. This includes providing funding for a Project Officer to work with industry to evaluate its workforce development needs and assess whether existing Government programs might be available to assist.

- *Pollination:* Beekeepers who did not provide pollination services cited various reasons including concerns about chemical residue and crop spraying; the potential for greater returns through honey production; insufficient apiary size to be practical or economical; weak hives after a series of poor seasons; lack of interest; and uncertainty about how to enter the market.

The Bee Industry Futures Report is supporting pollination workshops offered by the Tasmanian Crop Pollination Association, and is also offering grants to encourage research and innovation in pollination services.

- *Biosecurity:* Feedback from some respondents indicated an appreciation of the importance of biosecurity for the future of the industry.

The Bee Industry Futures Report has committed to ensuring that all beekeepers are compliant with the Australian Honey Bee Industry Code of Practice, and currently 78% of commercial beekeepers have completed the Biosecurity for Beekeepers course to meet the training requirement of this Code of Practice. The Bee Industry Futures Report has also undertaken to introduce compulsory registration under Tasmania's new *Biosecurity Act 2019*.

CONCLUSION

Conclusion

This survey provides a snapshot of the Tasmanian beekeeping industry for 2018-19 and will inform the implementation of the Bee Industry Futures Report by industry in collaboration with the Tasmanian Government. This report has been made available as a resource to beekeepers as a snapshot of the industry and a tool for all operators to benchmark their performance.



Photo supplied by Karla Williams

A survivor from the 2018-19 bushfires.

Acknowledgements

DPIPWE thanks all of the beekeepers who took the time to complete this survey. The Tasmanian Beekeepers Association provided valuable suggestions regarding the development of this survey.

If you have any questions about this survey please contact our AgriGrowth Liaison Officers at farmpoint@dPIPWE.tas.gov.au or 1300 292 292.