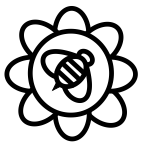
TASMANIAN BEEKEEPING SURVEY 2021 REPORT

Tasmanian Beekeeping Survey: Fast Facts for 2020-21

379 registered beekeepers, up **47%** from 2018-19
28,512 registered hives, up **29%** from 2018-19
89% of hives were wooden Langstroth hives, **11%** were Poly hives

1,012 tonnes of honey produced, up **151%** from 2018-19
82% of honey came from public land and **18%** came from private land
The farm gate value of honey was **$12.8 million**, up **74%** from 2018-19
Leatherwood accounted for **76%** of honey production and **73%** of honey value

A farm gate value of **$542,249** for other bee products including wax, nucleus hives, honeycomb, queens and package bees, up **16%** from 2018-19



10,244 hives supplied for pollination services, down **10%** from 2018-19
$2.0 million in pollination services provided, up **10%** from 2018-19

A total value of **$15.3 million** for honey, bee products and pollination services for the Tasmanian beekeeping industry, up **59%** from 2018-19

Tasmanian beekeepers produce a range of iconic bee products and deliver essential pollination services to the agricultural sector.

In 2019, the Department of Natural Resources and Environment Tasmania (NRE Tas) conducted a survey of Tasmanian beekeepers to improve understanding of the size, value and future needs of the Tasmanian beekeeping industry. This survey coincided with a challenging season for beekeepers, with bushfires and seasonal conditions impacting production, especially for leatherwood honey. The results of the 2019 survey are available at www.nre.tas.gov.au/beekeeping-survey.

Seasonal conditions improved in 2020. In the absence of an industry survey for that year, figures reported in the 2019-20 Tasmanian Agri-Food ScoreCard were estimates based on industry advice.

To update industry data, a second survey was sent to 361 beekeepers registered with Biosecurity Tasmania in October 2021, with further distribution through regional beekeeping associations. Responses were received from 183 beekeepers who collectively reported a total of 20,948 hives. To estimate the size and value of the entire industry, data from these responses have been extrapolated to the 28,512 hives that were registered with Biosecurity Tasmania at the time of the survey.

This report summarises key findings from the 2021 survey and compares results to those from the 2018-19 baseline survey.

AgriGrowth Tasmania
Department of Natural Resources and Environment Tasmania

Tasmanian Government

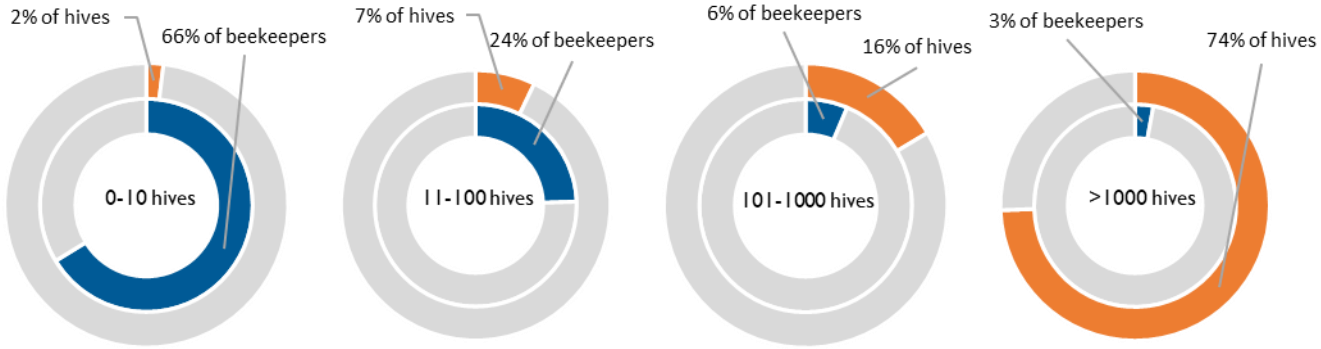
HIVES

Hive ownership

Most beekeepers are hobbyists and small operators, with around 66% of beekeepers maintaining ten hives or fewer. These beekeepers account for around 2% of the total number of hives reported in the survey.

Most hives are owned by a small number of beekeepers, with 3% of beekeepers owning more than 1,000 hives, accounting for 74% of hive ownership reported in the survey. The 24 beekeepers who identified as "commercial/professional beekeepers" accounted for 92% of hive ownership and collectively employed 71.8 FTE.[1]

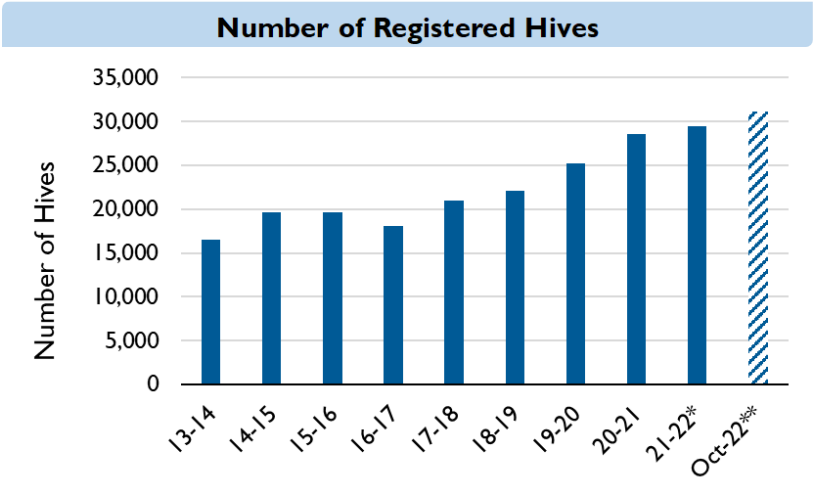
Nearly 89% of hives were wooden Langstroth hives and 11% were Poly hives (e.g. polypropylene or polystyrene). Warré, Flow, Top Bar and Layens hives were used in small numbers by hobbyists.



Future intentions

Compared to 2018-19, the proportion of beekeepers planning to maintain their current number of hives in the coming year increased by 10%. Overall, a net increase of 9% in the number of hives was indicated for the coming twelve-month period, down from 13% in 2018-19. Across all registered hives, this represents 2,617 additional hives by October 2022.

Reasons given for plans to increase hive numbers included meeting demand for pollination services;[2] increasing honey production;[3] and increasing production of queens or other bee products. The main reasons given for plans to decrease hive numbers included lack of time or retirement.



34% proportion of respondents planning to increase hive numbers (by 1,964 hives in total)

56% proportion of respondents planning to maintain hive numbers

4% proportion of respondents planning to reduce hive numbers (by 41 hives in total)[2]

* Number of hives for the 2021-22 Financial Year is shown at May 2022.
** Number of hives at October 2022 is a projection based on a net increase of 9% over the coming year at the time of the survey.

[1] Includes business owner. An FTE is defined here as one who works approximately 1,800 hours in a 48-week period (based on a 38-hour week).
[2] There was an anticipated increase of 1,266 hives reported by those respondents who mentioned pollination as a factor in their decision to increase hive numbers.
[3] There was an anticipated increase of 488 hives reported by respondents who cited honey as a factor in their decision to increase hive numbers.
[4] Percentages in text boxes in this report may not total 100 since not all participants responded to all questions.

HONEY

Honey Production

Survey respondents who reported honey production in 2020-21 produced a total of 630 tonnes of honey from 16,953 hives for an overall yield of 37.18 kg of honey per hive – nearly double the yield reported in 2018-19. Across all registered hives, this represents an estimated total production of 1,012 tonnes, up 151% from the 403 tonnes reported in the 2018-19 survey.[5]

While this is a significant increase from the low baseline of 2018-19 when leatherwood flowering was greatly reduced, the volume reported for 2020-21 is broadly consistent with anecdotal industry estimates of "typical" annual production volumes. The number of beekeepers reporting "below average" yields was down by 21% compared to 2018-19, with more beekeepers reporting "average" production. Several of the largest commercial producers reported "above average" production.

82% of the total production volume was derived from public land and 18% was derived from private land.

Below Average		Average		Above Average	
17%	proportion of respondents (32 beekeepers) who indicated 'below average' honey production.	**22%**	proportion of respondents (40 beekeepers) who indicated 'average' honey production.	**8%**	proportion of respondents (14 beekeepers) who indicated 'above average' honey production.
13%	proportion of hives owned by beekeepers who reported below average production.	**22%**	proportion of hives owned by beekeepers who reported average production.	**44%**	proportion of hives owned by beekeepers who reported above average production.

Honey Value

Survey respondents reported a total farm gate value of $6.7 million from 530 tonnes of honey for an average price of $12.63 per kilogram of honey, down by 31% from the average of $18.27/kg in 2018-19.

Significantly higher yields and a larger number of hives offset the lower honey price, taking the estimated farm gate value to $12.8 million across all registered hives – up 74% from 2018-19.[6]

1,012 tonnes amount of honey produced

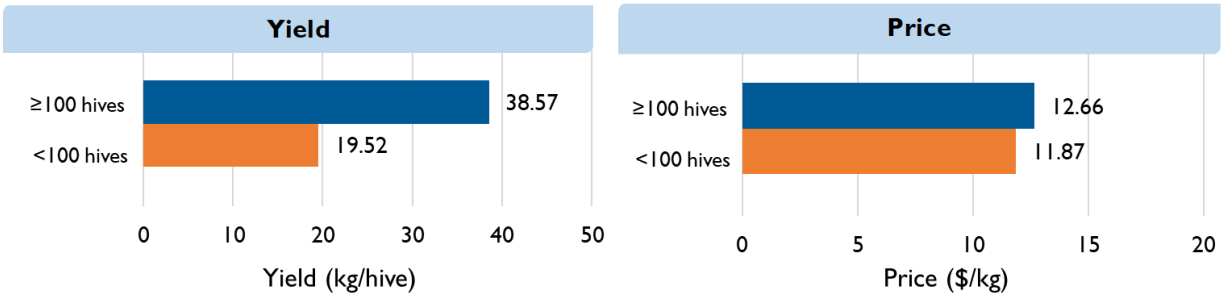
$12.63/kg average honey price

$12.8 million total value of honey

Photo supplied by Karla Williams

[5] 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.
[6] Based on estimated production of 1,012 tonnes of honey.

Compared to 2018-19, there was less variability in honey prices, with a smaller difference in the price obtained by apiarists with 100 or more hives and the price obtained by smaller producers. However, the difference in honey yield between the two groups increased, with an average yield of 38.57 kg/hive for apiarists with 100 or more hives – nearly double the yield of smaller producers.

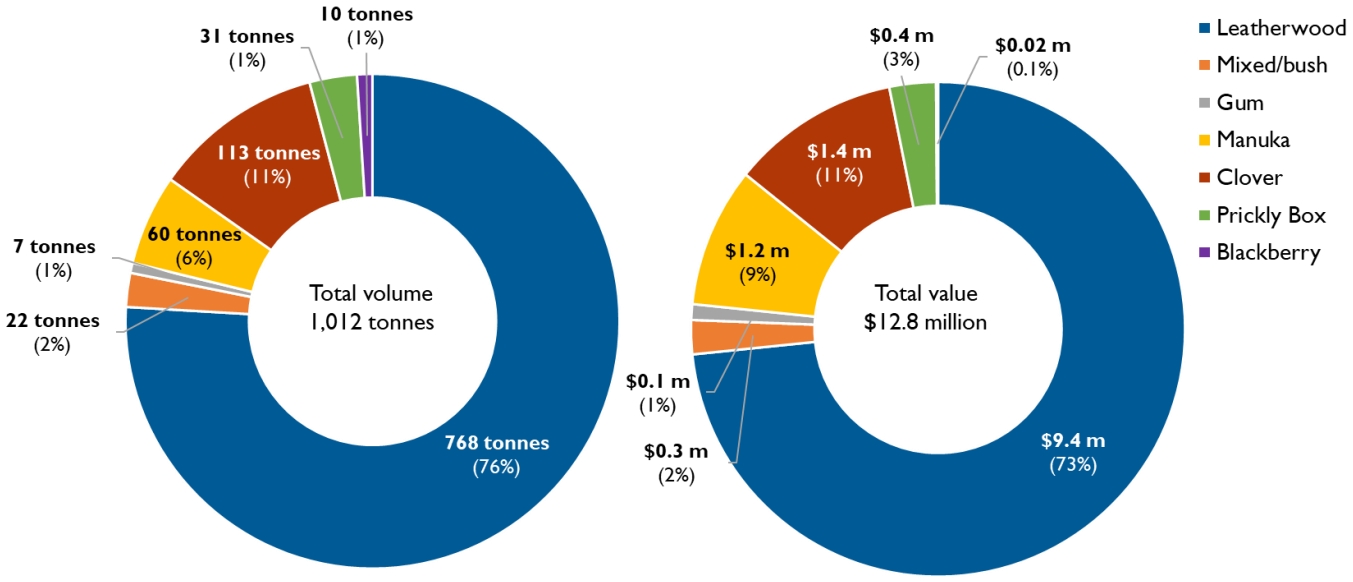


Comparison of honey yield and price for apiaries with fewer than 100 hives (orange) and 100 hives or more (blue).

Honey Varieties

Improved seasonal conditions in 2020-21 saw a four-fold increase in the estimated volume of Leatherwood honey compared to 2018-19. The 768 tonnes of Leatherwood honey produced in 2020-21 accounted for 76% of total honey production and were worth $9.4 million (73% of total honey value). Industry has reported that leatherwood production volumes were excellent in 2019-20, meaning that the values reported in this survey are likely to be down on the preceding year.

Production of clover honey was three times the volume reported in 2018-19 and was the second most valuable variety at $1.4 million. Industry reported an oversupply of manuka honey beginning in 2019-20 which resulted in lower manuka prices in 2020-21 and a 62% reduction in the value of manuka honey value compared to 2018-19.



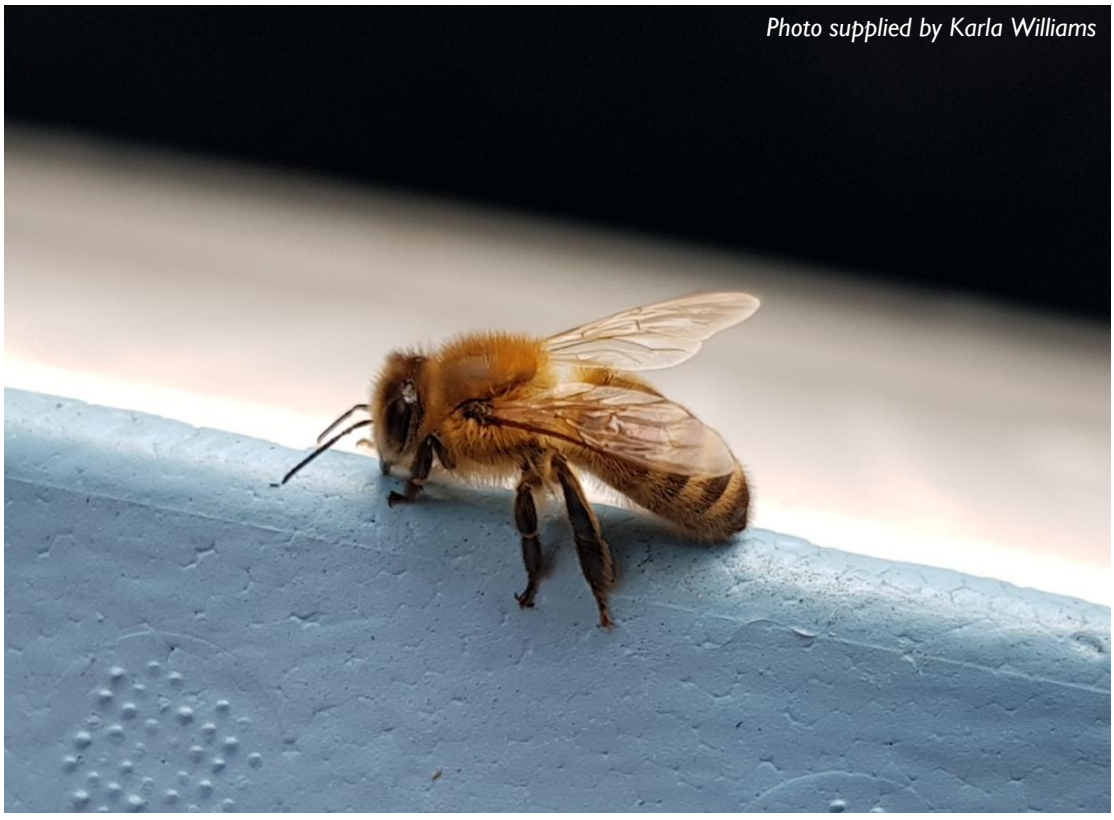
Other Bee Products

Respondents reported a total of 6,692 kg of beeswax from 14,367 hives, representing 0.47 kg of wax per hive. Extending this finding across all registered hives, total beeswax production can be estimated at 11.4 tonnes.[7]

For those who provided a monetary value for the beeswax they produced, the value reported was $155,630 from 6,562 kg of beeswax, representing $23.72 per kg of wax and a total value of $269,295 across all registered hives. This is nearly twice the total value reported in 2018-19, driven by higher prices and increased production.

A value of $160,870 was reported for other bee products including nucleus hives, honeycomb, queens and package bees from a total of 9,190 hives. Extending this across all registered hives, the value of other bee products can be estimated at $272,954 across the industry, down by 18 per cent from 2018-19.[8]

11.4 tonnes	amount of beeswax produced
$269,295	value of beeswax
$272,954	value of other bee products including nucleus hives, honeycomb, queens and package bees



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[7] Assuming that 85% of registered hives produce beeswax. This assumption is based on the finding that survey respondents who reported wax production accounted for 85% of hive ownership for respondents to this question.
[8] Assuming that 55% 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 55% 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 2020-21 collectively owned 55% of hives reported in this survey, and the median apiary size of those beekeepers who provided pollination services was 100 hives. These beekeepers provided 53% of their hives for pollination. Extending these figures across all registered hives represents an estimated 10,244 hives provided for pollination services, down by 10% from 2018-19.[9]

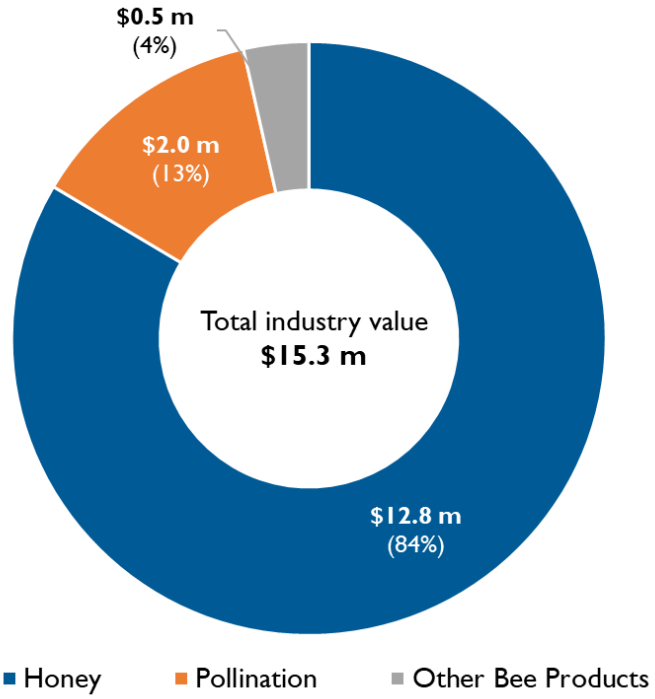
While the number of hives provided for pollination decreased, value of pollination services per hive increased by 21% to $193 per pollinating hive. Across all registered hives, this represents around $2.0 million generated by pollination services, up by 10% from 2018-19.[10]

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 (including clover and herb species), canola seed, lavender seed, apples, radish and fennel.

Beekeepers who did not provide pollination services cited various reasons including concerns about chemical residue and crop spraying; insufficient apiary size to be practical or economical; and uncertainty about how to enter the market.

10,244 number of hives provided for pollination services

$2.0 million value of pollination services



[9] Assuming pollination services are provided by 68% of registered hive ownership, and that these beekeepers provide 53% of their hives for pollination services. This assumption is based on the finding that survey respondents who reported providing pollination services accounted for 68% 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.

[10] The 2019 Bee Industry Futures Report estimated that approximately 85% of around $164 million in pollination-dependent crops would be at risk without pollination services.

Participant Feedback

Three themes were identified in feedback: *leatherwood resources*, *training and support*, and *biosecurity*.

- *Leatherwood:* A number of respondents raised concerns about access to leatherwood, the availability of apiary site licences on public land, and the protection of existing leatherwood trees.

  Under the $750,000 *Bee Industry Futures Report* commitment from the 2018-19 State Budget, the Tasmanian Government has allocated $500,000 for infrastructure upgrades to improve access to leatherwood and other valuable floral resources on public land, with up to $200,000 already committed through two rounds and a third round of nominations scheduled for the second half of 2022. As part of the *Bee Industry Futures Report*, $40,000 has also been allocated to support research into medicinal and other benefits of leatherwood honey, and $20,000 has been provided to support the Tasmanian Honey Library validate the origin of Tasmanian-labelled honey.

  In November 2019, a Memorandum of Understanding (MOU) was agreed between the Tasmanian Beekeepers Association, the Australian Honey Bee Council and Sustainable Timbers Tasmania to formalise a collaborative approach on shared issues, including access to and management of leatherwood on Permanent Timber Production Zone land. The MOU recognises the productive relationship between the apiary and forest industries.

- *Training and Support:* Several participants highlighted the importance of information and mentoring for new beekeepers.

  The *Bee Industry Futures Report* has committed to support industry resilience and transition. This has included $120,000 for the Bee Industry Emergency Winter Colony Management Scheme, and $40,000 through the Strategic Industry Partnerships Program for a Project Officer to work with industry to evaluate its workforce development needs.

  There is also an opportunity for greater education regarding the use of sprays around pollinating bees, and for additional training and support for beekeepers wishing to offer pollination services.

- *Biosecurity:* Feedback from some respondents indicated an appreciation of the importance of biosecurity for the future of the industry. These responses were received before the current *Varroa destructor* (Varroa mite) incursion in New South Wales.

  Continued progress towards best-practice biosecurity is a major theme of the *Bee Industry Futures* initiative. Registration of Tasmanian beekeepers will be required under Tasmania's *Biosecurity Act 2019* and the conditions of registration are being finalised following a period of consultation. Registration will include a need to understand and adhere to the Australian Honey Bee Industry Biosecurity Code of Practice.[11]

  On 6 July 2022 Tasmania's existing bee import restrictions were strengthened due to the current Varroa mite incursion on the mainland to prohibit the importation of queen bees. This will remain in force for six months with the option to extend or revoke the prohibition as required by the circumstances.[12]

[11] https://beeaware.org.au/code-of-practice/
[12] https://nre.tas.gov.au/biosecurity-tasmania/animal-biosecurity/animal-health/bees

CONCLUSION

Conclusion

This survey provides an opportunity to understand the current size and value of the Tasmanian beekeeping industry and to measure changes in the industry since the baseline survey in 2018-19. The data reported will inform the ongoing implementation of the *Bee Industry Futures* initiative by industry in collaboration with the Tasmanian Government. This report has been made available as a resource to beekeepers as an industry reference document and as a tool for all operators to benchmark their performance.

Photo supplied by Karla Williams

Acknowledgements

NRE Tas thanks all the beekeepers who took the time to complete this survey. We also acknowledge the assistance and support of the Tasmanian Beekeepers Association, Southern Tasmanian Beekeepers Association and Tasmanian Crop Pollinators Association.

If you have any questions about this survey please contact FarmPoint at farmpoint@nre.tas.gov.au or 1300 292 292.

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