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Apiarist's Advocate

News, Views & Promotions - for Beekeepers - by Beekeepers

UMF Members Vote 'No' to Sweeping Constitutional Changes

UMF 'No' Vote Makes for Uncertain Future

A spanner of gigantic proportions was thrown into the works of beekeeping and honey industry bodies Unique Mānuka Factor Honey Association (UMFHA) and Apiculture New Zealand (ApiNZ) when in early March members of the former voted 'no' to sweeping constitutional changes which would have welcomed more beekeepers into their fold. The Special General Meeting where the motion was put forward has also been criticised for its lack of forum to debate the changes.

While UMFHA leadership were confident it was in the honey marketing group's best interest to take on advocacy work for beekeepers – a core role of many of their members' businesses – it was a beekeeper of 70 years' experience who appears to have been the major obstacle to that path.

Arataki Honey owner Russell Berry – regularly outspoken on matters of apicultural interest and a member of industry body New Zealand Beekeeping Inc's (NZBI) executive council – says he and wife Annette Berry worked tirelessly over several weeks to rally fellow UMF members against the proposed changes.

"It was a huge job. I phoned a lot of people," Berry says, estimating he spoke to between 25 and 50 of the approximately 80 UMFHA members.

The motion put forward at an online SGM on February 28 – in which Berry claims he was not allowed adequate time to speak against the motion, a claim supported by several others in attendance – would have not only seen the UMF group open up membership to beekeepers who don't pack honey, but put them on a pathway to more encompassing levies on members. That path also included advocacy for legislative change to bring about industry wide honey levies.

The threshold required for constitutional change was at least 50% of members needed to cast a vote and at least 75% of them in favour of the motion. Online voting was open from Friday February 28 until 5pm Tuesday March 4 and by the afternoon of March 3 UMFHA CEO Tony Wright was able to assess the numbers and determine that the 75% mark would not be met. Final numbers released on March 5 revealed 29 against, 23 in favour and 23 who did not vote.

"The feedback we got through the entire process has been pretty supportive, so in a sense it was a little disappointing," UMFHA chairman Rob Chemaly says of the result.

A written statement from his equivalent at ApiNZ, independent chair Nathan Guy removed the "little", assessing it as "disappointing".

"Apiculture New Zealand is disappointed that some of the Unique Manuka Factor Honey Association membership has voted not to support the formation of a stronger, more sustainable industry good body," Guy stated.

"The new association was well designed to support both commercial beekeepers and exporters, and would have ensured the gains made by ApiNZ, its professionalism, strong networks and industry expertise would have been retained and built on to better support members."

The landing spot for ApiNZ's beekeeping members who are not already UMFHA aligned is now less clear, as Guy reinforces the intent is still to "wind-up" ApiNZ at a March 25 online SGM.

"The considerable challenges faced by the industry has seen many beekeeping and export businesses downsize or leave the industry. With fewer members, Apiculture NZ has become financially unsustainable based on its model of voluntary membership and voluntary funding," Guy's statement reads.

However, with ApiNZ named as the management agency for the industry's American Foulbrood Pest Management Plan (AFB PMP), the ApiNZ "wind-up" may equate more to a "wind-down" in operations while still remaining in existence.

"Until a new management entity is appointed by the Minister for Biosecurity, ApiNZ will need to continue in that role, and have a board of directors and an adequate number of members," Guy states.

It is understood the Minister, Andrew Hoggard, is intending to make a decision on the management entity for the Pest Management Plan in the coming weeks – following a months' long review – which may make the ApiNZ position clearer should the role be officially alleviated from them.

Shaping as a potential – at least temporary – landing spot for overseeing the AFB PMP is NZBI, as an incorporated group with beekeeping advocacy at their core. By rallying against the

Arataki Honey owner, beekeeper of 70 years' experience and UMF Honey Association member Russell Berry appears to have played a key role in mobilising a vote to defeat constitutional change at the group.

UMFHA vote Berry, as a founding and executive member of the group, has also strengthened NZBI's position to attract b eekeeping members.

"I am looking after the future of the beekeeping industry in New Zealand," Berry says.

"It is very dangerous when you ask marketing people to look after beekeeping matters. They don't know anything about grafting, they don't know anything about AFB, they don't have any interest in pollination. It is two entirely different things. It is very much essential that it should be run as two separate things.

"The NZ Beekeeping executive are all commercial beekeepers and we are working alongside Southern North Island Beekeeping Group. Between us we can represent beekeepers very well."

UMF Honey Association chairman Rob Chemaly was leading the group's SGM which has been criticised for muting at least one member's attempt to speak openly.

The beekeeping stalwart says Arataki Honey, based out of Hawke's Bay and Rotorua, has been an UMFHA member since approximately the Association's second year of operation, in the early 2000s. While his opposition to the UMFHA proposal was based on the philosophical disagreement that a group which for quarter of a century has been focused on adding value to the UMF brand for members' use should extend itself to matters of beekeeping, he had other concerns of a more practical nature.

An email from Berry, with help from NZBI consultant Ian Fletcher, to many of his fellow UMFHA members ahead of the vote raised displeasure at ongoing funding to Mānuka Charitable Trust and concern that UMFHA does not list enough assets on its balance sheet to account for the "very real income it supports". There was also scepticism that legislative changes required to enforce levies would be possible within the next election cycle and that "beekeepers will become second class members of their own industry" with "a weakened ability to respond to and lobby as a united industry on biosecurity issues, which really matter".

Regardless of where members of the apiculture industry's opinions rest on the matters of constitutional change within the most well-funded industry group, there must surely be respect for Berry's tenacity and energy at 82 years old, primarily assisted by his 86-year-old wife.

"My good wife Annette worked all hours of the day and night. Hunting down addresses, writing emails for me. She has been a vital part of this and we have been doing it for two or three weeks now. Basically, all other work has ceased," Berry says.

James Annabell, chief executive of Egmont Honey which exports a lot of packed mānuka honey in the multifloral category, raised the question at the SGM of whether the proposal to move mānuka honey into a Horticulture Export Authority (HEA) arrangement could lead to a ban on bulk and/or multifloral mānuka honey exports.

"I had no comfort around what the HEA could do," Annabell says.

"Whether it was through lack of consultation or lack of an open forum it wasn't sold very well."

And Berry has taken umbrage at that lack of an open forum at the online SGM, where he was muted.

"If you have a special general meeting and have a resolution on the table, I believe you have to allow people to speak for the resolution and against it, so people there can make up their mind which way to vote, and that wasn't done," Berry says.

Those 'for' the motion were given "heaps" of speaking time he says.

"Nobody was allowed to speak against it. That is wrong. I was indicating that I wanted to speak against it. I think they muted me. I was waving my hands around and they turned me off."

Annabell was concerned at proceedings.

"Russell is a stalwart and it was awkward to see him shut down and muted when he was being respectful. It was concerning for him not to be able to say his piece," the Egmont Honey chief executive says.

Chemaly is adamant he chaired the meeting appropriately, and says he hasn't given any thought to resigning his position

Unique Mānuka Factor™
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The UMF Honey Association's role for over 20 years has been to advocate for mānuka honey selling members on the world stage, that will continue, but beekeeper advocacy has been shunned by enough members to take it off the table.

despite the criticism and attempting to lead the organisation down a path members were not willing to tread.

"There was a huge amount of discussion and quite a number of questions were asked and answered. I think there wasn't any lack of discussion. I thought there was quite a lot," Chemaly says.

With those holding office at UMFHA seemingly at odds with the thinking of a significant chunk of their membership, it is uncertain times. However, some things are certain the board chair reinforces.

"UMFHA as an organisation continues to do what we have been doing for 20 years or so. That hasn't changed and was never ever going to change frankly. This was an attempt to draw in the industry in total, but that doesn't appear to have achieved the target we are after," Chemaly says.

"I guess that is democracy at its best. If this were an election we would say 'the members have spoken'. We acknowledge that and respect that of course. Move on."

What that "move on" will look like for all – individuals and groups – is the question hanging over the apiculture industry.

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"Huge" and "Shocking" Levels of Hive Mortality has US Beekeepers Scrambling

As beekeepers across the United States of America assessed their hives in January and February for the first time in the northern hemisphere's late-winter and early spring devastating levels of colony death became apparent. Now reported to be 62% among commercial beekeepers' colonies, beekeepers and scientists are searching for answers while desperately trying to build back hive numbers for crucial food production.

Every year approximately two thirds of the US's 2.7million beehives spend time in California to pollinate almond orchards in early spring, before many move off to carry out the same role in other food crops and to make their own food – honey. This year, beekeepers and growers have been left scrambling as the calendar turned to the new year and unexplained hive deaths mounted all over the vast country.

"It has been very stressful the last few months," says Steve House, managing director of California Almond Pollination Services (CAPS) who *Apiarist's Advocate* readers met in May 2024.

Large-scale, unexplained colony die off is not new to the US, with the worst case having occurred between 2006-08 when it was dubbed "colony collapse disorder" or "CCD". However, hastily completed surveys of beekeepers, from hobbyist to large scale commercial, are showing the latest bee-killing phenomenon to be on an even larger scale.

"I have never experienced 'CCD' in the past, so to me this is huge and shocking!" House, who, past retirement age, has spent almost all his working life as a beekeeper.

An attempt to conceptualise the bee deaths has seen honey bee science non-profit Project Apis m. (PAM) carry out two surveys, an initial approach to beekeepers on January 28 and then a follow up on Feb 12. From the 702 survey respondents, which were estimated to represent 1.835 million of the country's colonies, the loss rate was found to be 62% among those with 500 or more hives, 54% among 'sideliners' with 50-500 hives and 50% in hobbyist beekeepers' colonies.

The survey covered the period of June 2024 to February 2025 and thus included hive deaths in the US autumn. The most recent

Hiveware from dead honey bee colonies is piled high in California as hive deaths mount to the millions in the US coming out of winter.

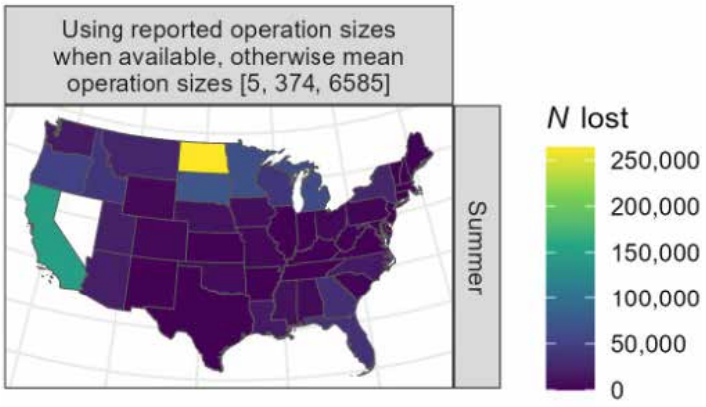
data available from New Zealand's annual colony loss survey of beekeepers is from 2023 where the combined autumn and winter loss rate was 29.5%.

In response to the crisis, the U.S. Department of Agriculture's Agricultural Research Service (USDA-ARS) has mobilised researchers to analyse field samples collected from 114 colonies in California, including both failing and surviving colonies.

California is ground-zero for the crisis as the almond orchards bloom to welcome the new season, but beekeeper Blake Shook, who lives in Texas but has various beekeeping businesses and migratory hives, including in California, puts that into context.

"A lot of people are assuming this is a California issue. It really has nothing to do with California," Shook says.

ESTIMATED NUMBER OF COLONIES LOST IN EACH STATE



"These losses are nationwide, it just so happens it takes most of the country's honey bee population to pollinate the almond crop … it is the first major event of the season, so most of us are going through our bees for the first time in California, or assessing them in other parts of the country to get them ready to send to California."

Shook has 20 years' experience as a commercial beekeeper and brokers hives into California's almond orchards. Like the entire industry, he has few answers for what is clearly a wide-spread problem of bee health.

"I am getting bees from all over the country, from all different kinds of beekeeping operations, from all different skill levels, all different treatment methods, different corners of the country and I started seeing pretty fast roughly 50% loss rates on loads coming in from over-wintering sheds, or hives which had been over-wintered in California, or those coming from out of state.

"You get a truck load of bees in and half are dead or at least not up to the quality needed or we are used to seeing. This is coming from fantastic beekeepers. The best in the country … dedicated beekeepers who for 20 years have had phenomenal bees. In some cases they were seeing 80 to 90% losses. They haven't changed their practices, they have the same treatment methods, varroa mite levels were not high, they were doing all the right things, yet seeing massive losses."

House is fulltime on the ground in California and, like Shook, his business specialises in brokering hives into almond orchards. He has seen some large orchards flowering recently without hives placed in them.

"CAPS started out in December 2024 with over 30,000 hives available from beekeepers across the USA wanting us to contract their hives for almond pollination. In mid-January 2025 we started getting calls from our beekeepers telling us that they are having serious die offs and will not be able to provide hives this year. By the end of January we had less than 14,000 hives available for pollination," House says.

It's a dire situation and some beekeepers are taking advantage of growers' desperation.

"In the past two to three weeks I received calls from growers looking for well over 20,000 hives. Some did find poor quality at very high prices. Some have gone without hives this year. Unfortunately, a few greedy beekeepers took advantage of the short supply of hives and increased the price of pollination by $50 to $75 per hive over the customary rates, and using hives that would not normally make minimum grade."

On March 1 beekeepers tuned in as PAM executive director Danielle Downey presented their survey results to a live Zoom and YouTube audience of more than 1000 interested parties between the two platforms.

"We don't have all the answers yet, but we feel great about the team we have assembled," Downey says of the USDA-ARS response.

"The consequences of these losses will take some time to understand, years."

The samples those scientists have taken from hives will undergo pathogen screening, testing for pesticide residues and pollen diversity, metagenomic analysis to attempt to determine previously unknown pathogens, and assessment of gut bacteria diversity.

Unhelpfully, the news of widespread honey bee colony loss comes at the same time as newly-elected president Donald Trump has made sweeping cuts to jobs at the Department of Agriculture in hopes of cost-saving.

The survey asked 'Recognising this is just a guess, what factors caused your colony losses this year?' to which 'other' was far away the most common response, after (in order) varroa; queen failure; weather; pesticides; disease; and starvation.

"It's evident, bees are balancing on a razor's edge," Shook says.

"Bees are tough. They are made to endure weather and a rough weather event shouldn't wipe them out. Yet it can. I think they are facing so many pressures from so many angles: pesticides, herbicides, nutrition, a lack of clean forage. There is nowhere in the country you can put bees where there aren't already bees, because of urbanisation and monoculture farming.

"We can easily identify a dozen factors negatively impacting our bees today, so it doesn't take much to nudge them over the edge. I think that is what we are seeing this year. Something has nudged them over the edge, but there is a litany of problems that have built them to a point of collapsing."

From a New Zealand perspective, until any clear reason or reasons for the huge spate of hive deaths is unearthed, practical action to take to counter such a phenomenon occurring among the country's bees cannot be known. However, author of the

Colony Loss Survey among beekeepers in New Zealand, Pike Stahlmann-Brown of Landcare Research points to a growing similarity in hive management between the US and New Zealand.

"As pollination becomes an increasing driver of the economics of beekeeping, there is a lot more shifting of hives," Stahlmann-Brown says.

"We are not becoming California, or South Australia – where the migration of hives into almond orchards is huge – but with kiwifruit, cherries and avocadoes all needing hives for pollination the result is a lot of hives in close proximity and then dispersal of those hives to wider geographic areas."

New Zealand's geographic isolation has, thus far, seemingly been a major preventative of such colony collapse though, as Dr Richard Hall, Biosecurity New Zealand's principal scientist for honey bee health, points out.

"We have a colony loss survey that has been performed every year since 2015. Our colony loss rates are lower than many other countries and have never gone above 14% for winter colony losses in the nine years the survey has been running," Hall says.

"The colony loss rates in other countries will be due to many factors that are independent from our own honey bee population. Our biosecurity protections for honey bees provide good protection from health issues that may affect other countries."

All the same, we need to remain vigilant Hall says and he encourages any beekeeper who witnesses widespread colony loss or if they suspect an exotic pest or disease to call the Ministry for Primary Industries hotline of 0800 80 99 66.

Approximately two thirds of the beehives in the US are required each spring to pollinate almond orchards, meaning the latest honey bee die offs will significantly limit production as some entire orchards go without and strength of surviving colonies is reduced.

In the US the scramble continues though and while answers might be some time away – if ever – from coming, the impact on food production, the economy, beekeeping businesses and beekeeper wellbeing is now.

"Beekeepers are going to have a hard time recovering. This is a huge financial loss to many beekeepers, some will not survive," House says, adding "the effects will be felt for years to come".

Bulk Monofloral Mānuka Honey Exports Hit Record Levels in 2024

Bulk monofloral mānuka honey exports reached a record 1,471 tonnes in CY2024, an increase of 54.3% over the CY2023 volume. The United Kingdom accounted for over half that volume at 769 tonnes, up 64.6% year on year, while China saw a near 15-fold increase.

BY BRUCE ROSCOE

According to Statistics New Zealand, the bulk mānuka honey was shipped at an average free-on-board price of NZD26.90 per kilogram, a discount of 49.7% to the NZD53.47/kg achieved for retail pack monofloral mānuka honey. (Free-on-board or FOB prices do not include shipping or insurance costs.)

Shipments to the UK returned NZD17.13 per kilogram, 36.3% less than the average price for all markets and 68.0% less than that achieved in the retail pack mono mānuka category (all markets).

Shipping containers of monofloral mānuka honey left the shores of New Zealand for the world market at record levels in 2024, and with them lost value to an industry that can return nearly twice as much by putting the honey in retail-ready packs.

The value from downstream processing into retail packs that was forfeited to offshore honey companies and retail brands as a result of the bulk exports amounted to NZD39.1m. (The lost value is calculated by multiplying the volume of bulk mānuka honey sold

TABLE 1: Trend in Monofloral Manuka Honey Exports, CY2019-CY2024 (tonnes, millions of NZ dollars, NZD per kilogram)(a)

	CY2019	CY2020	CY2021	CY2022	CY2023	CY2024
Bulk monofloral mānuka						
Volume	404.5	1,221.8	995.0	812.2	953.4	1,471.5
Value	17.6	42.0	30.7	24.4	25.6	39.6
Price	43.6	34.4	30.9	29.8	26.8	26.8
Retail pack monofloral mānuka						
Volume	4,094.9	5,076.0	5,383.8	5,476.6	5,409.9	5,592.1
Value	225.3	302.4	303.5	291.4	289.3	297.0
Price	55.0	59.6	59.6	56.4	53.2	53.5
Bulk price discount to retail pack price (%)						
	(20.7)	(42.2)	(48.2)	(47.1)	(49.5)	(49.7)
Added value lost to offshore mānuka honey brands (NZDm) (b)						
	4.6	**30.7**	**28.6**	**21.6**	**25.1**	**39.1**
Six-year total lost added value (NZDm)						**149.7**
Total bulk and retail pack monofloral mānuka volume						
	4,499.4	6,297.9	6,378.7	6,288.8	6,363.3	7,063.6
Bulk volume as % of total						
	9.0	19.4	15.6	12.9	15.0	20.8
Retail pack volume as % of total						
	91.0	80.6	84.4	87.1	85.0	79.2

Notes:
(a) Calendar years. All dollar values and prices are FOB.
(b) Volume x (retail pack price less bulk price)
Source: Statistics New Zealand

by the difference in the bulk and retail pack FOB export prices.)

In the six years to December 2024, the lost value has reached NZD147.9m. (2019 is the first full year for which export data in the bulk and retail pack monofloral mānuka honey categories are available. Our summary analysis of these data is presented in Table 1. Market-specific data are shown in Tables 2-3.)

The bulk exports have occurred on a smokestack scale. The 2024 volume of 1,471 tonnes converts to about 4,900 300-kilogram drums. At 80 drums per 20-foot shipping container, on average each six days in calendar 2024 a container laden with bulk monofloral mānuka honey left New Zealand.

Although UK data in the bulk monofloral mānuka honey trade are the standout, unwelcome surprises are seen for several countries. Exports in this low-value category to Germany, Japan, and the US — three countries that should represent high-value markets — ballooned by 94.4%, 28.0%, and 202.1% (the volumes were 272 tonnes, 143 tonnes, and 131 tonnes; see Table 2).

The emergence of a Chinese preference for bulk over retail pack monofloral mānuka should send shock waves through an industry divided into those who view bulk exports as a legitimate source of earnings and those who believe that they more represent a cannibalistic betrayal.

Exports in this category to China grew nearly 15-fold to 51.5 tonnes and catapulted the world's second largest economy into sixth place in the markets for bulk monofloral mānuka honey. At the same time, shipments to China of retail pack monofloral mānuka fell 22.0% to 800.9 tonnes. The decline for Hong Kong was 48.8% to 78.2 tonnes.

TABLE 2: Volume Growth in Top 10 Bulk Monofloral Manuka Honey Export Markets, CY2024 vs. CY2023 (a)

	CY2023	CY2024	% Incr.
UK	467,039	768,954	64.6
Germany	139,947	272,078	94.4
Japan	111,796	143,071	28.0
US	43,307	130,837	202.1
Canada	107,069	60,826	(43.2)
China	3,497	51,471	1,371.9
Indonesia	1,005	9,510	846.3
UAE	0	6,025	--
South Korea	4,040	5,457	35.1
France	8,992	5,323	(40.8)
Other	66,705	17,935	(73.1)
Total	953,397	1,471,487	54.3

Notes:
(a) Kilograms; year-on-year % change.
Source: Statistics New Zealand

TABLE 3: Top 10 Bulk Monofloral Manuka Honey Export Markets Ranked by Volume, CY2024

	Volume(a)	% of total	Value(b)	Price(c)
UK	768,954	52.26	13,170,673	17.13
Germany	272,078	18.49	9,321,607	34.26
Japan	143,071	9.72	3,223,954	22.53
US	130,837	8.89	6,363,102	48.63
Canada	60,826	4.13	4,093,270	67.29
China	51,471	3.50	2,046,522	39.76
Indonesia	9,510	0.65	84,426	8.88
UAE	6,025	0.41	62,816	10.43
South Korea	5,457	0.37	305,911	56.06
France	5,323	0.36	234,540	44.06
Other	17,935	1.22	683,305	38.10
Total	1,471,487	100.00	39,590,126	26.90

Notes:
(a) Kilograms
(b) NZ dollars
(c) NZ dollars per kilogram
Source: Statistics New Zealand

"Me too!" shouts were heard from Indonesia (9.1 tonnes from 1 tonne in CY2023), United Arab Emirates (6.0 tonnes from zero), and South Korea (5.5 tonnes from 4.0 tonnes).

Bulk monofloral mānuka honey export growth symbolises a growing confidence on the part of offshore retailers that they can do as well or better under their own brands than under brands of New Zealand honey companies.

Brand New Zealand itself may also be under threat. Following the coffin lid-nail defeat on home ground of the mānuka certification trademark case in May 2023, offshore brands may now feel unhindered in feeding either Australian or New Zealand bulk mānuka into their retail mānuka honey products.

Despite the growing lost value to New Zealand's mānuka honey industry, Apiculture New Zealand devoted just 14 words to the subject of bulk honey exports in its February 2024 document, "New Zealand Honey Strategy 2024-2030, Thriving Together, Futureproofing New Zealand Apiculture".

BACKGROUND TO THE "LOST VALUE" CALCULATION

The lost value calculation presented in Table 1 has been enabled by the introduction by New Zealand Customs Services of export categories for bulk and retail monofloral mānuka honey in August 2018, following the finalization of a scientific definition for monofloral mānuka honey by the Ministry for Primary Industries in December 2017. Export statistics for the categories first appeared in trade data for July 2018. Therefore, the first full year for which the data are available is 2019. Thus, six years of data for the categories are now available and can be downloaded from the Statistics New Zealand website.

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HONEY

Bulk Mānuka Honey – Should it Stay, or Should it Go?

With bulk monofloral mānuka honey exports hitting record levels in 2024, we talk to a range of honey producers, packers and exporters to find out if and how such sales of New Zealand's highest-quality honey fits within their business, and if they believe there should be a future for it.

On an average day in 2024 more than four tonnes of monofloral mānuka honey left New Zealand in bulk, that's more than a dozen drums a day, with 2.1 tonne of that heading to the UK alone. The 54.3% increase on 2023 is more fully explored in *Bulk Monofloral Mānuka Honey Exports Hit Record Levels in 2024*, which includes a 'lost value' equation of NZD39.1m in monofloral mānuka honey value to New Zealand in 2024 alone due to the decreased per-kg returns for bulk (NZD26.90), compared to that which is 'retail packed' (NZD53.47). Over the past six years that 'lost value' equates to just shy of NZD150m.

"If you have 50 percent more bulk mānuka honey out there on those shores, in competition with what is packed here in New Zealand, we will never be able to compete," says Blanche Morrogh, owner of Kai Ora Honey.

The Northland business both packs its own brand for domestic and export sale and sends mānuka honey offshore in bulk.

"It is a difficult one to balance because people need cash flow and it has to go somewhere," Morrogh says of the decision of their business and the wider industry to offer bulk international sales alongside retail-ready product.

'High Quality Japan Made' states this advertisement for 'Pure New Zealand Mono Floral Manuka Honey' in Japan.

For an industry seemingly awash in mānuka honey (read ***A Honey Industry in the Dark***) honey sales, regardless of the form the honey is packed in and the value it returns, have benefit in reducing surplus and bringing money into the industry.

Therefore, even the Unique Mānuka Factor Honey Association (UMFHA), which promotes quality in packed monofloral mānuka honey, is aware that any change to the rules around bulk exports needs to be very carefully considered.

"I would like to see a process of consultation with the wider industry on understanding the pros and cons, financial implications etcetera before we consider any recommendations. Before we talk about a change pathway we have to be very clear on the rationale for change and why it would lead to better outcomes," UMFHA chief executive Tony Wright says.

Many of UMFHA's licensees export mānuka honey in bulk as well as retail packs.

For beekeepers though, many of who have gone out of business or downsized in recent years in the face of a dramatic drop in the price of their most prized – mānuka – honey, a change in approach which has the potential to add value to their produce is surely appealing.

"If we were to sell just bulk we wouldn't have a viable business," says Jason Campbell, owner of mānuka honey specialty business Wilderness Valley Honey, south of Auckland.

Wilderness Valley exports retail packed mānuka honey and sells excess honey in bulk domestically.

"I would love to get to a point where all our honey is packed into a jar, plus some others' honey, because that is really the only way you can do it and give beekeepers a decent price. You have to sell it at higher margins. If we send overseas in bulk the margins will never come back. We are giving them to an overseas company," Campbell says.

The number of registered beekeepers with more than 50 hives has dropped from a high of 1332 in 2019 to 807 in data released by the Ministry for Primary Industries in February. In that time total registered hive numbers have plummeted 42%, from 918,026 to 533,838.

"I don't hear about many people coming into the industry, just people going under," Campbell observes, and without the option of selling in bulk, on the domestic market at least, his business may not have survived either.

"If we weren't selling some of our honey in the drum, we would still have honey sitting in the shed, not making money. There is a catch-22 at play."

In Whanganui, Johann Ander exports mānuka honey to the world, in both bulk and retail packed form, and has done since 2013. Some years they have sent as much as 100 tonnes of mānuka honey in a drum to Japan alone. He notes that, in terms of revenue to his business, retail packed mānuka honey is set to surpass that of bulk, despite the volume of the latter being in the order of five times as high. The added value doesn't come easy though.

"Going international can carry a large upfront investment, especially if you are packing jars," Ander explains.

"You spend a lot just on getting it into jars, then a lot travelling to shows, and marketing it, all in the hope of a sale. It can be risky. There's more money in it, but there is more money up front. More risk, more reward and it's not for everyone and certainly requires a high level of expertise. With bulk, a lot more honey goes out the door and it is ready to go out the door, so payment is immediate."

Ander believes the 'lost value' of NZD39.1million to the industry in 2024 due to bulk monofloral mānuka honey exports compared to that volume going into retail ready packs is not such an easy calculation. The change in rules required to predicate a change from bulk to packed honey would muddy the values and the calculation.

"If everyone has packed honey, you will still get a premium, but there would be a lot more packed honey in jars. Supply and demand will mean more competition and thus reduced price. Also, when you go to your buyer forcing them to buy your honey at five times the price, they are going to hunt around," Ander says.

Packing honey in New Zealand would benefit the wider New Zealand economy though he – and others – points out, with packing materials and labour sourced domestically.

Is there a risk of international bulk mānuka honey buyers seeking Australian honey if the bulk supply line from New Zealand is shut off? Ander believes the commitment to New Zealand mānuka honey from his Japanese buyers is firm.

"They are very specific with the honey they buy. They would never change their brand like that. That is not to say others won't, but all my clients definitely wouldn't."

A major exporter of bulk and packed honey, Midlands Apiaries says bulk monofloral mānuka exports will continue to form part of their business model and, sales manager for North America and Europe, Nick Kerr believes it needs to remain that way for the mānuka honey industry to grow.

"If the New Zealand honey industry goes away from bulk monofloral mānuka exports we are in trouble," Kerr says.

"We need to be open to it. The growth is going to come from products other than mānuka honey in a jar, and the most efficient way to do that is shipping in bulk and getting it there cost effectively."

Further to that, there are specific cases where jarring in New Zealand is less sustainable, both environmentally and economically.

"For markets like Europe where glass is popular, and plastic is frowned upon, particularly in Germany, then if we can supply bulk for them to fill it makes a lot more sense than for us to import

glass jars from China, fill them here, then send it to the other side of the world. Bulk, in those instances, is more efficient and a more sustainable model," Kerr says.

In the Wairarapa, beekeeper and mānuka honey exporter Stu Ferguson carries out a similar practice in exporting mānuka honey drums to Germany from his Hunter Reilly Honey business, using BeeApp to track and trace all the way to the consumer.

"There are bulk exports and there are bulk exports," Ferguson says.

"Our exports are going into specialty, custom-made jars which are manufactured in Germany. So, it doesn't make any sense to have the jars shipped out here, us fill them, then ship them back.

"We make a little bit of money, they make good money and the system works to my thinking. The integrity remains with the product.

"However, when mānuka honey is sent offshore in bulk only for it to be blended down with some other type of honey, yet still get a mānuka label put on it, then the integrity of the product is removed. The key is maintaining traceability from New Zealand to the consumer, which proves integrity. With that, plus a standardised quality mark for the whole industry for packed honey, we could add extra value."

Improved traceability of bulk mānuka honey exports is also much-needed in Morrogh's view.

"I am not saying that bulk isn't a good opportunity for export sales. It is a large part of our economy. We should be able to trace that process though. There needs to be an extra layer of responsibility on those we sell it to to report back so that we can see where it is going to. People need to understand how selling bulk honey is impacting the industry as a whole," The Kai Ora Honey owner says.

Ferguson believes with modern computer software a much-improved traceability system is well within the mānuka honey industry's grasp, while Morrogh believes international bulk honey buyers could be made to pick it up.

"The value in the product is to the countries to which we are exporting it, so we should be able to force them into tracing it. The bigger retailers like Holland & Barrett or Rouse are having their customers hold them accountable with ESG (environmental, social and governance) reports and the likes. Therefore, having a traceable model for honey allows a stronger relationship between the bigger buyers and their consumers by understanding intimately the supply chain and how everyone is affected," Morrogh says.

The ultimate in brand protection is a geographic indicator she says, and she sits on the board of Te Pitau Ltd which is lobbying industry and government to seek to establish that Champagne-type security for mānuka honey. Short of that, there is still more the industry can be doing to make the best of bulk exports.

"Some will argue that the problem is cheap honey prices within New Zealand and undercutting [on the shelf] and a race to the bottom. That is all the case," Morrogh says, adding "but when you have a 50% increase in bulk product leaving New Zealand without any accountability over what happens to it, that is a problem too."

Mānuka Charitable Trust Moves Towards a New Trademark for Honey and Oil

A seemingly sidelined player in the shakeup of industry representation in recent months, the Mānuka Charitable Trust (MCT) held a publicly advertised Zoom meeting recently to advise on their latest work to protect mānuka honey for New Zealanders – only to exclude two *Apiarist's Advocate* correspondents. Since then, details of a new plan to trademark mānuka have emerged.

The February 21 online meeting hosted by MCT was promoted to followers of the Trust's Facebook page to "join us for an insightful hui". The post came less than a week after the page also promoted "inclusivity" as one of the core principles which "guide everything we do". However, the antithesis was the order of the day when the hui was pronounced to *Apiarist's Advocate* as an "exclusive session" and entry was denied.

In a phone call days after the hui, Kristen Kohere-Soutar, executive chair of MCT's operating arm Te Pitau Ltd, stressed there was nothing to hide in the meeting and put the decision to exclude down to "miscommunications" which were "all on our side". The hui was intended to provide an update to Māori beekeepers on the Trust's work, past, present, and future, so they could be more informed entering key votes on industry representation with the Unique Mānuka Factor Honey Association (UMFHA) and Apiculture New Zealand (ApiNZ), she says.

"We wanted to hear from people and have a free and frank discussion regarding the Trust's programme of work. We wanted to hear from, particularly, Māori beekeepers in order that anything that gets reported has the effect they give it," Kohere-Soutar says.

Māori businesses can have different ownership structures to many others and operating practices unique to the culture, so communications are often tailored to that, the Te Pitau chair says.

"Just like when you have a subset of scientists doing work for the industry, not everyone will turn up for the meetings. It is not ethnically driven or a segregation-based reason. It was to get separate issues across to Māori beekeepers."

MANUKA

The brandmark registered in five key markets for mānuka honey as a certified trademark by the Mānuka Charitable Trust.

While the Trust was hesitant to share specifics, *Apiarist's Advocate* has seen a copy of a document from MCT which details a certification trademark (CTM) owned by the Trust which proposes fees ranging from 6c/kg to 15c/kg for use of the brand (pictured in Figure 1) on honey depending on UMF or MGO (methylglyoxal) rating. Each 10ml of mānuka oil would also be subject to a 6c fee if using the mark.

Kohere-Soutar says the meeting on February 21 detailed both their advocacy for a geographic indicator (GI) designation for mānuka honey – think 'Champagne' wine and France, 'Scotch' whisky and Scotland – and the new CTM approach.

Thus far CTMs for the mark have been applied for in the major mānuka honey markets of the European Union, UK, USA, Singapore and Australia, while in China a less restrictive trademark has been registered.

While the concept of CTMs are not new to the Trust – who upon creation in 2020 took up the mantle of seeking to gain them in key markets for the term 'Manuka Honey' – successfully obtaining them would be. Applications failed in all overseas jurisdictions and then, most recently, at home in the Intellectual Property Office of New Zealand in 2023.

"What we have learned from litigation was New Zealand exporters need to make it clear, beyond doubt, to the consumer that mānuka only comes from Aotearoa New Zealand. We believe our certified trademark is a way of bringing that distinctiveness to the market," Kohere-Soutar says of the revamped approach.

There is potential for the new trademark to be offered by a licencing body, much like the UMF brand is by UMFHA. However, the next step is to seek government funding to advance more research into what that business model might look like.

"Our legal advisory committee has recommended to industry leadership and our largest exporters that we rally behind the Trust's newly registered certified trademarks which should be developed in sympathy and partnership with other value accretion marks such as UMF. That is entirely an industry discussion. We are not saying one or the other. We want to go into partnership."

The Trust has formed an "industry advisory committee" with representatives from UMF, Comvita, Mānuka Health and Mānuka Doctor advising on the project.

Screenshots from an online hui hosted by the Mānuka Charitable Trust on February 21, which this publication was denied entry to due to "miscommunication" from the Trust.

While that work takes place, Kohere-Soutar says obtaining a geographic indicator to provide protection for New Zealand's mānuka honey industry is still priority number one.

"The rationale for the GI is that it provides exclusive use of the term 'manuka honey' that will be recognised by most markets in the world. We have put a paper out to Minister Potaka, with the support of our industry partners, advocating for this and we strongly recommend the government amends the legislation for the wine GI to include food categories in order that mānuka can be added.

"We also said that we have no explanation for why a GI is not on the policy agenda for the commerce minister. We have strongly advocated that this is the most comprehensive and easy to do with the exemption of the infrastructure needed in government and industry to do it. It is the best way to preserve the value, the mana and the mauri (essence) of manuka."

According to the Te Pitau chair, the February 21 meeting reinforced to those in attendance that they should consider how the industry could achieve a GI for mānuka honey when casting their votes on the future of UMFHA and ApiNZ.

"If you are looking for answers to this industry, which is facing challenges, the GI pathways document we have developed shows how that can be done," she says.

The MCT has not made this document available for viewing.

More detail on these projects will be provided at another hui via Zoom, March 17 at 7pm.

Those wanting to attend that meeting can email info@manukacharitabletrust.org and are encouraged to follow MCT's Facebook page for further updates.

Mānuka

The Mānuka Charitable Trust have been using this version of their certified trademark in website (www.manukacharitabletrust.com) and social media promotions.

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Comvita Acknowledges "Erosion of Trust" as Operating Losses Deepen

Comvita acting CEO Brett Hewlett is seeking to build a more trustworthy culture following revelations that staff falsified sales figures.

BY BRUCE ROSCOE

Comvita acting chief executive officer Brett Hewlett has acknowledged an "erosion of trust" and the need for a "cultural reset" and "willingness to confront the truth". He made the remarks in a virtual meeting to discuss the company's interim results which bled red ink. A restructuring of the beleaguered business is expected to produce positive results in the next 18 months, but offer reduced returns to their honey suppliers.

Comvita Limited's interim results for the half year to December 2024 show a total sales decline, operating and net losses, increase in net debt, and double-digit sales declines in the key markets of China and Australia/New Zealand.

The mānuka honey flagbearer was rocked in December and February by revelations of false accounting in China and Singapore, where Comvita staff under pressure to show profit growth had cooked the books in consecutive years. Profits had been overstated by NZD1m in the year to June 2023 and NZD3m in the year to June 2024.

As a result of the irregularities, Comvita has recalculated income statement and balance sheet data in five categories in its interim financial statement. Owing to a separate accounting error, the value of inventory as stated at June 2024 was restated at a value higher by NZD1.4m.

The losses continue to pile up for New Zealand mānuka honey giant Comvita with interim half year results to December 2024 showing net loss ballooning to NZD6.5m, from NZD2.5m.

The irregularities — uncovered not by management or auditors but by a staff whistleblower — and error recall the confusion engendered by Comvita's issue in September 2024 of full-year accounts carrying substantial corrections to those issued a month earlier.

First-half sales fell 5.3% to NZD99.7m, the operating loss reached NZD5.2m, net debt grew 2.3% to NZD81.6m, and China and Australia/New Zealand sales declines were 12.2% and 19.2%. Cash flow as defined by earnings before interest, tax, depreciation and amortization (EBITDA), plummeted 89.5% to NZD958,000. The net loss ballooned to NZD6.5m from NZD2.5m.

Comvita indicated it will be in breach of banking covenants for the remainder of the year to June without "further covenant relief".

(Income statement value comparisons are with the first half to December 2023; balance sheet value comparisons are with the previous balance sheet date of 30 June 2024.)

HARBINGER OF ASSET SALES

In a likely harbinger of further asset sales, in December Comvita sold one of two olive tree plantations in Queensland. The NZD2.8m sale was made at a loss of NZD399,000, according to the interim financial statements filed with the New Zealand Exchange on 25 February.

On the same day, acting chief executive officer Brett Hewlett presented his "Back to Basics" report to a virtual meeting about the results. He went off script to admit to an "erosion of trust" in Comvita, which he said needed a "willingness to confront the truth" and a "cultural reset".

A "complete restructure" had "simplified" the business in China, the United States, and Europe/Middle East/Africa. Subsidiaries in the United Kingdom and Europe had been closed in favour of a distributor model. Payroll had been cut by 67 staff. Total cost-cutting was expected to save NZD10m-15m over 12 months.

Hewlett's report said a "steadily improving cost-of-goods situation" would underpin expected stability in profit margins. "Improving cost of goods" means lower prices paid to beekeepers. And less honey would be purchased as Comvita continued to reduce inventory, which at December 2024 stood at NZD120.8m, down NZD15.0m from the value recorded six months earlier.

Hewlett presents with the air of knowledge of products and markets and numbers. Shareholders will want him to continue to act as acting chief executive. Comvita faces an up-mountain task. It is saddled with debt and heavily dependent on China at a time of soft Chinese demand. Hewlett conceded that high debt was more concerning than high inventory.

A turnaround will hinge on whether the company can achieve its goal of generating sufficient free cash flow, and whether a demoralised staff can rally to the cause. The "tearing down" of

"silos" (teams working in isolation) and fostering of a "culture based on trust, transparency, and collaboration", as expressed in Hewlett's report, must succeed.

Comvita believes that the mānuka honey category is "growing globally" and that "new segments are evolving". Hewlett reminded that Comvita's "long-term trend is positive" and that "growth is never a straight line".

A QUESTION FOR THE AUDITOR

Encouragingly, sales in the United States, which has overtaken China to become New Zealand's largest market for monofloral mānuka honey, grew 12.0% to NZD14.6m. A large customer had been won. Highlights included a "refresh of the brand value proposition", Hewlett said.

Results for the year ended June 2024 were presented as "audited". Just announced interim results were "unaudited". In Comvita's case, investors may feel entitled to ask, "What's the difference?"

Comvita's auditor, who was engaged in 1998, charged the company NZD497,000 (an average NZD2,000 each business day of the year) for services rendered in the year to June 2024. It may be time for a "value proposition refresh", in Comvita-speak. Investors and securities analysts — or anyone else — cannot be expected to view future earning statements with confidence.

Comvita shares closed at 70 cents on 28 February, down 70.2% on the year-ago price. The shares are trading at a 67.5% discount to the company's net asset, or book value, of NZD2.15 per share.

Losses Continue to Mount at Me Today

Me Today Limited reported an interim net loss of NZD2.4m on 28 February. The company, whose accumulated losses stood at NZD54.1m at 31 December, has not recorded a net profit in any year.

The company is in talks to sell the remains of King Honey Limited, which it acquired for NZD32m in 2021, but admits to "uncertainty as to whether a transaction will conclude". King Honey's several beekeeping operations have already been dismantled.

Me Today net debt stood at NZD14.0m and inventory at NZD13.5m. Sales amounted to less than a third of either amount at NZD3.7m in the half year to December.

Between the balance sheet dates of June 2024 and December 2024, Me Today's net assets (equivalent to shareholders' equity) sank 64.7% to NZD1.3m, perilously close to the red-flag zone of negative equity.

In its interim results announcement, Me Today focused on marketing efforts in China, where it has signed a "full suite of commercials (sic) agreements" with a "large sports nutrition company".

Me Today shares closed at $0.071 on 28 February, which represents a premium of 203.2% to net asset value of $0.023 per share.

John Berry on Wasps

BY JOHN BERRY

I went out specifically to poison a wasp nest on a friend's place today. I was hoping to get some live-action photos to go with this article, but they were aggressive from about 20m and very defensive within five. It is by far the biggest nest I've seen in several years and is definitely not one of this season's – they just don't get that big within one year. Rather than take photos I ended up just sprinkling it with carbaryl. I was able to get it directly in the hole and it will quickly spread right throughout the nest and it will be dead within a few hours.

Queen wasps hibernate in places such as wood piles over the winter and start their nests in places like old mouse holes. They have to raise and feed their larvae themselves and a lot of these early workers are very small. The nests generally get the size of a soccer ball over the summer and in autumn they start rearing queens and drones which mate and then the whole cycle starts again.

In New Zealand sometimes nests survive the winter, usually by eating your bees, and these nests can get truly enormous. Wasps can sting as many times as they like.

All wasp nests are potentially dangerous and the bigger the nest the worse the danger. Individual wasp that are out foraging, or even raiding a beehive, are generally not aggressive.

Small nests will react to stimulation like being walked on, but the truly large nests – some which must get close to a cubic metre – are at another level entirely. The first intrusion into their territory acts in a similar way to cocking a trigger and the second intrusion leads to the trigger being pulled. This is why when a nest is disturbed by a group of trampers, it is the people further back that suffer the consequences.

I find that provided I walk quietly and move slowly I can generally dust an entrance without any protective gear at all and then quickly but quietly leave the scene. If however the entrance is hard to access, such as under a pampas grass or in a confined roof space, you need all the protection you can get, with a minimum of two layers of clothing.

Wasp stings are chemically quite different from bee stings and I find them much more painful and long lasting. Even with full bee gear on some stings can get through. When being attacked I have found the two best options are to, one, freeze (this is what I generally do if I have all my gear on and the majority of them soon lose interest) or, two, run like hell dodging around as many trees et cetera as possible. This is the preferred option when you have underestimated the need for protective clothing.

Standing in one spot, waving your arms, screaming , while trying to squash them is not a good option.

Wasps are a major predator of bee hives. Before varroa they were probably the major cause of death, worse even than PPB (that's 'piss-poor beekeeping' to the uninitiated) and are still a serious problem. As a general rule if the bees are doing alright you don't get too much problem with them, but as the season starts to wind down in the autumn and resources for all insects dwindle you will start to see attacks. Bees can, and do, defend themselves and attacking a hive comes at a cost. They will always pick on the weakest first, but as the season gets progressively colder they get braver.

Wasps can operate at lower temperatures than bees. They eat the bees, they steal the honey and they stop the bees from wintering down properly and the continual fighting means that bees that should have lived all winter can die from stress and even when colonies survive the attacks they can come into spring extremely weak. Under prolonged attack, bees can lose the will to resist and you will see wasps freely entering hives. You can tell when wasps have been stealing honey by the way frames of honey are pockmarked with holes. Bees are much more methodical and work from an edge when consuming honey.

I had some apiaries that never had a wasp problem, some that had it occasionally and some that had a major problem every year. In the past you had five options.

A recent find of a large wasp nest by John Berry, at least 1m in length.

THE FIVE TRADITIONAL OPTIONS

One. Move the hives out for the winter.

Two. Put in entrance blocks. I preferred a very small gap of about 15mm on either side of the entrance. This allows for some through ventilation, but hives will get damp inside. This however is better than being dead. There are some fascinating and often quite complicated designs of entrance blocks, some of which work pretty well, but the main secret is to put the blocks in before they are needed. They help, but if the attack has already started they often don't help enough.

Three. Hunt down and poison the nest. I had one apiary where we would regularly get up to 30 nests within 200m of the hives and

we never got all of them. Tracking down nests can be very time-consuming, but it was still one of our most common options and I have found many hundreds over the years. Generally speaking, wasps fly in a straight line when returning home. They will normally be in a weedy rough corner or bank. I have found them in the middle of pasture, but that is very unusual.

Four. Genetically selecting hives that show resistance to wasp attacks. It would be fair to say that stroppy black bush bees generally show plenty of this, but it is absolutely possible to breed the same trait into beautifully quiet bees. If you do end up with a bit of a wasp disaster then always take advantage of it by assessing the survivors for possible breeders.

Five. Trapping. I have tried quite a few over the years with mixed success. I think the main trouble is that in many cases you are just dealing with such a huge biomass that you can only trap a small percentage. Having said that, one of the most successful methods I have ever found was to just leave top feeders on for the winter. For some reason the wasps seemed to go into them and then not be able to get out.

Top feeders to beehives can prove effective wasp traps in John Berry's experience, but there are far better ways to manage the problem.

A MODERN SOLUTION

In recent years other options have become available and that is poison baits, namely *Vespex* (with the active ingredient fipronil) but also market newcomer *Hawkeye*. They are expensive and don't always work first time, but they have been an absolute game changer. I put Vespex out anywhere I see wasps and for those apiaries that always have a problem I will start putting them out after Christmas, way before I have any problems. You will kill the nests while they are still small and you will be doing both your bees and the local ecosystem a huge favour.

The first time I used a bait was in an apiary that had been attacked by the same nest for two seasons. I knew exactly where it was but was not prepared to abseil 50m down an unstable red metal cliff. There was a hive that had already been killed

that autumn so I removed all the frames and simply placed the container of poison inside the empty hive. Problem gone. On another occasion I turned up at an apiary where no damage had been done, but there were literally thousands of wasps flying around and the bees would not leave the hives. Put out some baits in proper bait holders and two days later not one to be seen.

German wasps *(Vespula germanica)* have been here since the Second World War and common wasps *(Vespula vulgaris)* came in much later. It is thought that German wasps are worse for beehives, but they are both pretty bad and the only real difference I see is that common wasps are even more aggressive around the nest. It's not an infallible method, but if the wasp has black dots that are not connected to the black stripes then it's probably a German wasp.

You can still kill nests the old-fashioned way by upending a beer bottle full of petrol down the hole . Don't light it (unless you really, really want to). Carbaryl is dodgy stuff which is why it is no longer available, but it can still be found in grandad's spray cabinet. I can't recommend using it, but a heaped teaspoon works every time. Pyrethrum wasp powder is remarkably ineffective and squashing them with the tin often has more effect. Squashing Queen wasps in the spring is probably a waste of time as there are thousands of them, but it does make you feel better.

There was, and for all I know still is, a market for wasp lavae in Japan for those keen to die… I mean diversify. *(Editor's note: indeed there is, we profiled a wasp hunter in February 2024 in Wasp Hunter Needs Beekeepers Help)*. At a pinch, fly spray will kill a small nest but will probably take several visits and several cans. It is not suitable for large nests. For difficult to get at nests you can pack powdered insecticide into the end of a piece of hose and then blow it in the entrance. You can get compressed air versions of this if you want to get into serious wasp control.

Wasps are a public nuisance and for some reason the public think that beekeepers are responsible for dealing with them. I have never charged for destroying a nest in someone's garden, but I probably should have. If I was doing it for a living rather than a public service I would want at least $300 before I climbed fully togged up into a confined roof space to kill a nest before it kills me and before I expire from heat exhaustion. Better make that $500.

Biological controls have been imported over the years, but unfortunately have had little effect. Paper wasps don't attack bees, but probably do compete with other wasps for a lot of the same food and probably help a little bit.

They are amazing, beautiful and complex social insects which unfortunately cause immense damage to apiculture, viticulture and our native ecology.

Show them no mercy. They won't show you any.

Know where there is a significant German wasp nest? John Eason would like to know about it. See this article for more information.

John Berry is a retired commercial beekeeper from the Hawke's Bay, having obtained his first hive in 1966, before working for family business Arataki Honey and then as owner of Berry Bees. He now keeps "20-something" hives.

A Visit to Betta Bees

This month Maggie James visits the 1500ha Otago farm of Invermay Agricultural Research Centre, the home of Betta Bees. There she talks through the queen breeding business with hands-on owners Frans Laas and Rob Waddell, including their procedures for delicate instrumental insemination (II*).

BY MAGGIE JAMES

Betta Bees is potentially the country's most advanced queen bee breeding programme, due to its focus on II queens to assist genetic improvement.

Before visiting this writer understood that Frans had retired, but he quips "I am trying very hard to retire out of the business which we are building up".

"For six years prior to obtaining the business, operations had scaled down, and at this stage it is not lucrative enough to employ someone. At present, with the industry as it is, this is a bit hard. We do have a successor plan problem, and are putting out feelers for individuals who would be highly interested and motivated to train in honey bee breeding."

He and Waddell took on ownership of Betta Bee Research Ltd in December 2022, with the pair both having worked as contractors for a few years for the beekeeper-shareholder owned operation which was established in 2004.

Waddell adds, "We seek someone already active in the commercial sector looking after 40 plus hives, with competency in general beekeeping operations and with an understanding of seasonal requirements. They must have a real interest in the honey bee."

As for their bees, "our primary focus is breeding for gentleness and honey production, and we are aiming for varroa resistance in New Zealand," Frans explains.

"We also need an isolated mating area for Varroa Sensitive Hygiene (VSH) queens. This is critical and we intend this to be not too far down the track."

BACKGROUNDS

The skill set of the ownership duo includes Frans employment at Invermay Agricultural Research Station 1978 to 1984 at which time he was made redundant due to government restructuring. Soon after he acquired a couple of hives, and when hobbyist-beekeeper Laas required a queen he contacted Neil Walker of Millburn Apiaries. He worked for him for two years.

Then over a six-year period Frans, who had previously studied at Otago University, returned to complete a Bachelor of Science (BSc) in Zoology, followed by a post graduate Diploma in Wildlife Management, then a Master of Science (MSc) in Wildlife Management.

For eight years Waddell, a registered nurse, has worked as a beekeeper and has now taken on undergraduate studies in genetics at Otago University.

Betta Bees owners Rob Waddell, left, and Frans Laas are using instrumental insemination to seek to breed bees displaying gentleness, good honey production and varroa sensitive hygiene.

Betta Bees' road to genetic improvement has been a long one, having begun with a collection of contributing beekeepers' best stock in 2004. By 2010 temperament of the stock was said to be much improved and now every one to two years new genetics from reputable beekeepers are introduced.

CHASING VSH

Betta Bees have a focus on the VSH trait which, through good documentation and practises, they are attempting to breed into their bee populations. The duo are avid followers of the Harbo technique, with major interest on a tiny facet of American entomologist Dr John Harbo's research. Amazingly with attention on this small aspect there is much of the prior knowledge obtained on varroa control that is not needed.

"Our aim is to reduce mite growth rate in the hive, thereby reducing the use of chemicals," Waddell says.

According to Harbo, worker daughters, aged over one week old, of VSH queens with uncapping behaviour can detect via smell the presence of infested productive varroa. They start removing or cannibalising the soft infected larvae in worker brood three to four days prior to emergence (the pink eye stage). In short, worker bees with the VSH trait break the reproductive cycle of varroa at only one place.

VSH bees do not disturb a varroa infested cell if the mite is not producing progeny. Harbo states in a colony 5-15% of varroa infested cells are occupied by non-reproductive mites. VSH is not a line of bee, nor a breed, it is a trait which, with careful documentation and observant beekeeping practises, can be bred into honey bee populations to produce varroa resistance.

Rob Waddell undertakes another II run of queen bees. Generally 36 queens can be inseminated in an hour.

Betta Bees are collaborating with other beekeeping entities using the Harbo method for evaluation and selection of VSH stock. There is also co-operation with the national honey bee genetic improvements Future Bees Project, University of Otago. In spring

the project will give assistance for contract laboratory analysis of the top 25 VSH Betta Bees colonies.

IT STARTS WITH THE VIRGIN QUEENS

At the time of this interview virgin queens are emerging into modified Nicot hair roller cages. On their emergence the cage is clicked into a JZBZ queen cage. Once the queen transits into the JZBZ a 2mm bung of queen candy is added to the cage neck, giving the virgin instant nutrition. On the base of the cage, the centre bar of the JZBZ had been snipped out, enabling attendant workers in the queen bank access to the captive virgin.

"Virgins are heaviest at day 10 in their cell and on day 12 at emergence they are already starting to progressively lose muscle mass," Frans explains.

The queen cells had been removed from their hive on the night of Day 10 and placed in a Midlands incubator. Humidity is created with a well wrung out wet rag. The duo find that this incubator does not delay virgin emergence.

The 25 virgins due to hatch from this graft are crucial and are transferred to virgin banks. Ten to 11 queens will be banked in each double brood box hive, with a Cloake board separating the mated laying queen in the bottom box. Generally, for every 100 virgins banked, 20 will not be successful.

Because the pair have experience of worker bees not always keeping the queen warm, they hope to use a 3D printer to print their own cages and eliminate the use of JZBZ cages. Watch this space!

EVALUATION AND BREEDING YARD

The home base apiary would have to be the most picturesque I have seen in New Zealand. The highest apiary point is just 35m above sea level and the hive site immediately below is 30m above sea level and when the river floods the valley it can come within metres.

The yard holds 120 north-facing hives with full-depth boxes. Twenty are double-brood box breeder queen hives for drone and queen stock, virgin banks, and grafts. There are 100 full-depth nuc boxes also.

Grafting, using textbook Cloake board method, and II are undertaken in a large purpose-altered solar powered shipping container. Amenities include hot water, ceiling LED lighting, CO_2 for anaesthetisation of virgin queens, plus a heat pump run at 25°C to keep the drones active, then at 20°C during insemination.

This grafting yard comes with an extra stress factor. Once the first drone frame is added to the brood box, the precise dates for all grafting and inseminations are determined!

THE CLOCK STARTS

Forty-five days prior to the first graft, a drawn-out drone frame is added to the bottom brood box of evaluation hives for 10-12 days. Then it is transferred to the top brood box. The drones are now confined in the hive between a bottom and top queen excluder. The empty space in the bottom box is replaced with a frame of worker comb or foundation.

On the week of 17 February at least 120 virgins, five to six days old were to be inseminated. Sometimes virgins up to ten days old will be inseminated, but due to potential degradation this is the maximum age.

THE CAVALRY ARRIVES AND II RUNS BEGIN

For the past three years a band of four skilled and unselfish beekeepers descend on the yard for three to four days. This is the

Betta Bees drone cage. Containing drone bees, prior to harvesting their semen, is an integral part of II procedure.

field and record team comprising queen rearers Frances Trewby (Southland) and Jacob Adams (Adams Gold, Canterbury), plus Otago hobbyists Jane Dawber and Geoff Gray. Payment is a cup of coffee at the end of the day!

On the day prior, or on the morning of, II drones are collected and placed in a Betta Bees drone cage box. This is a cut down plastic queen excluder with a wooden frame creating depth.

Drones are captured from the top brood box of the drone source hives before 11am (flight time). A long, tall line of Pinus radiata slightly north of the apiary provides shade until 10.30am. Drone collection starts at 8.15am, with two hours of shade provided by the trees for the task.

Each box holds 50-100 drones which will supply 25-35 micro litres of semen per box. Each queen will receive 10mcl of homogenised semen.

Once the drones are harvested from the top box, the drone frame is shaken and put in the bottom brood box of another hive. This frame transfer is recorded. The drone frame gap in the top box is now replaced with two or three drone cages. The upper excluder is removed, and these cages are pulled out of the hive as required for II, and the drone mother is recorded.

The drone cages are relayed by the team to the two beekeepers in the container undertaking II. This continues for a period of five to seven hours, with 36 queens generally inseminated per hour.

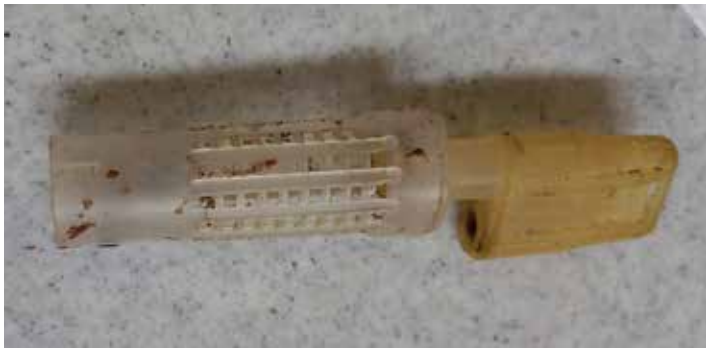
Twenty-four hours prior and on the day during insemination virgin queens are administered C02 at low flow for five minutes to anaesthetise them prior to II, after which they are returned to their cage with a plug of candy.

A major issue for the Betta Bees operation is rogue queen cells, previously raised virgins, and at times unknown mated rogue queens in these nucs. Therefore, the team of volunteers "derouge" the 120 nucs prior to installation of the new II queen and, at the same time, the team check that each nuc is healthy and has sufficient stores, brood and bees.

Adding to the eight frames in the nuc, the field team introduce the inseminated queen and varroa treatment with four strips of Bayvarol (as per manufacturer's instructions) between brood frames, plus a double size frame feeder containing 2:1 syrup.

The mammoth task requiring much precision by the unsung volunteer heroes is now complete!

On release by the workers the II queen is laying within three days. If a queen is not laying within five days it is no good, is



By joining JZBZ and Nicot hair-roller queen cages, virgin queens can be contained upon hatching.

transferred out of the evaluation yard. Otherwise, to increase their chance of success the newly inseminated queens are left undisturbed for 28 days, before their next evaluation.

After overwintering in the yard, these inseminated queens will be evaluated in spring, and some will be available for sale August/early September. Currently there are silver queens available for late August at $1000+GST each. There will be gold queens available January 2026. The three categories of Betta Bees laying queens are detailed on their website.

It's a detailed process and proves what all beekeepers know – genetic improvement in honey bees is no simple task.

II = instrumental instrumentation, previously known as AI (artificial insemination). The term was changed so as not to be confused with artificial intelligence.

More information regarding Betta Bees can be obtained by emailing Frans Laas, frans@bettabees.nz

Daylight Robbery

It's getting to that time of year – when robbing bees become far more common. You surely haven't had time in a 'robby' apiary to divert your mind to why, and how, this commotion of bees is occurring. Luckily, resident science writer Dave Black has given it some thought.

BY DAVE BLACK

Humans have known for a long time that stealing honey from bee's nests is a pretty risky, if potentially rewarding, foraging tactic. Bees know it too, and yet, it's surprisingly unusual – except in the European honey bee *Apis mellifera*. It might be true that domesticated bees are being monitored more carefully, but there is relatively very little evidence of wild bees robbing. It's not crazy to suggest that, far from being a natural behaviour, the amount of robbing we see amongst managed European honey bees is an aberration, at least in part a consequence of our management of them and their environment. Have we somehow changed the risk/reward calculation?[1]

ROB OR 'AGGRESSIVELY COMPETE'

It's not at all clear that open nesting bees are more likely to be robbed than cavity nesters, or whether large stores of food are more or less vulnerable than small ones. In nature the open-nesting Dwarf honey bees (*A. florea, A.andreniformis*) are not known for being aggressive or robbing, although tiny *A. florea* bees have been seen abehaving aggressively towards *A. mellifera* at feeders, and on the rare occasions they were seen robbing, were far more successful at stinging *A. mellifera* while escaping the same fate[2].

The Asian honey bee (*A. cerana*) and *A. mellifera* are known to rob each other (*mellifera* generally, but not always, wins). Giant honey bees (*A. dorsata*), despite their size, are not known for avarice, but will sometimes rob Asian honey bee nests. In turn much smaller Asian and Koschevnikov's honey bees (*A. koschevnikou*) have been spotted pilfering Giant honey bee nests. Stingless bees too are known to 'rob', or at least 'aggressively compete' for a food resource being sequestered by other nests or other species.

In general however, while robbing happens, evolution seems to have crafted a careful détente among bees; warfare is rare. The bees must assess the robbing risks and benefits that present and abandon situations where overly aggressive foraging becomes too risky. Observation shows that colonies preferentially target "winnable" weak and perhaps diseased colonies and quickly call off attacks when strong colonies mount an effective defence.

OPPORTUNISTIC CONFLICT

The direct challenge during robbing is between the robbers and the guards from the opposing colonies. We can see that foragers specialise in providing particular 'services', collecting resin, nectar, pollen, or water for example, and in bees at least, there are no

It's not a pretty sight – honey bees 'robbing' a beehive of its stores.

specialised 'soldier-type' individuals likely dedicated to seasonal, opportunistic conflict, either offensive or defensive.

The 'guard' bees are young-ish bees (two to three weeks old) on their way to becoming outside workers. The health and immunocompetence of guard bees is on the wane, but not lost[3]. While their exposure to disease risk increases (they check any and every bee that enters) they are not guards for long (a day or two prior to foraging full-time) and when they are seriously challenged their job is to recruit reinforcements from the unemployed, older foragers who harass and sting the intruder.

What seems to be characteristic of 'robber' bees however is that they have little of their life-span left[4]. They are the oldest bees at the end point of what is a progressive loss of immunocompetence as bees transition from in-hive tasks to outside tasks. In short, they are a small and expendable suicide-squad.

THE LOGISTICS OF CONFLICT

Their opportunism presents their colony with a problem though. The decision to rob requires both an increase in forager numbers to simultaneously fight bees from the victim colony and sustain the sudden increase in foraging activity, foraging which at least in part now involves something sticky, viscous, and slower to handle than any floral nectar.

The colony can't abruptly over-commit and possibly sacrifice all its foragers if it wants to survive. In addition the robber's colony has to rapidly find the labour to vet the arrivals and to receive the bounty. Many bees will have to stop what they were doing and take up guarding or receiver bee and food-storing roles when all of a sudden high numbers of aggressive bees are found on the threshold with a large quantity of nectar and honey. Are they friend or foe, coming or going?

Once a beehive undertakes robbing of a nearby colony foragers switch from a waggle dance such as this to 'tremble' dancing to recruit more receiver bees instead.

Guards from robbing colonies must also elevate their defensiveness, even towards their own foragers, just in case. If the conditions are right for robbing, will another colony look to rob them while everyone is busy or away? The dilemma is, how does a colony assess whether the risk is worth the reward? The fact that it requires so much coordination and 'risk-mitigation' suggests it is not just opportunist after all.

ALL IN IT TOGETHER

In the set of dances known to regulate foraging two have been observed to have some relevance in regulating the workers that rob. When receiver bees can't process the food arriving, rather than performing recruitment 'waggle' dances, the foragers switch to 'tremble' dancing to recruit more receiver bees instead. Tremble dancing is understood to trigger several different kinds of alternative behaviours, an instruction the equivalent of, "Stop that and go and make yourself useful". A forager may also produce a 'stop' signal. This is an alarm often directed at a dancer recruiting ('waggling') for a destination that turned out to be 'dangerous' (as a result of wasp or spiders attack for instance), but can be co-opted to discourage recruitment when the level of competition or aggression is too high.

Robbing is a decision that requires consensus from the whole colony, even when it's making the best of a bad situation. From the colony's point of view robbing needn't have the adversarial and exceptional connotation we apply, it is merely one point on a spectrum of foraging behaviours. If robbery can be managed in the normal course of events it will be, if it can't, it won't be. So-called 'silent' robbing even occurs in the midst normal foraging and, behaviourally, cannot be distinguished from other foraging. Beekeepers hardly ever notice it.

In broad terms the causes of this 'aberrant' foraging are reasonably predictable. Bees take the risk because there is very little or no food that is easier to harvest. It's feast, or famine. A seasonal floral resource shortage will eventually force them to both exploit any stored food they discover and to be more defensive of their own stores. Sometimes that can be pinned on us. Nutritional stress from competition with each other and lack of floral diversity is significantly greater when large colonies of honey bees are densely packed into small areas, or where crop and grazing land bloom results in boom-and-bust periods of resource availability, and becomes even more pressing if temperatures drop and nectar processing becomes more energetically expensive.

Most beekeepers know the signs.

Dave Black is a commercial-beekeeper-turned-hobbyist, now retired. He is a regular science writer providing commentary on "what the books don't tell you", via his Substack Beyond Bee Books, to which you can subscribe here.

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Short n' Sweet

A short note in time for the shortest month, an ode to 'little'. After all, my occupation is one of farming tiny livestock, a manipulator of the minute.

February has found me stuck on a carousel of harvesting honey and extracting. Round trips of three to four hundred kilometres. Breath-taking, rugged coastal views constitute my office. A lot of the honey has been harvested, and the start of March will see us on the final migratory leg for the season, bringing our bees home to their wintering grounds.

From humble beginnings, my beekeeping expertise is flourishing. Little did I realize the responsibility of being part of a team like this.

Inspection of hives finds nothing out of the ordinary. Most hives are still pumping with full boxes of brood. American foulbrood has not been detected this year during harvest rounds, yet although we avoid this bogey, I am finding the odd hive at various stages of breaking down from mite infestation and sacbrood – the ugly aftermath plain to see on the brood frames.

Wasps have been a major disturbance at some of our summer sites, although, the bees can rob each other just as effectively.

One site we took honey from was a bit of an eye opener. Maybe it was due to being the first fine day after a week of rain, whatever the cause it seemed like they were expecting us at 8am on a Monday morning. Being only a small site we knuckled down with the job, but by the end of it the truck was swamped, waves of bees cascading like a waterfall off the back row of boxes.

We managed to lose most of the bees after uncovering and driving slowly down the road with short stops to let the bees dissipate, a standard drive home until we queued for roadworks – directly across from an apiary site. They could smell us. Our load was an irresistible ultraviolet beacon. Within 10 minutes there was a visible bee-line to our truck and our driver was on the horn. Just another pitfall to be wary of as we cart golden goodness around the country.

Where would I rather be? Hazy days of summer along the coast.

Goldenrod in full flower and delivering honey with a taste you wont soon forget.

At the other end, the honey flowing from the extractor tells another story. Honey tasting reveals small batches with unique flavours. The blackberry and other light honey has all been packed and the plant is now mānuka fuelled. So far it tastes reasonably mānuka-ry, and sample testing will tell us the rest.

Beekeeping is about upskilling yourself. I would not have believed last year that I would be capable of running the extraction plant single-handedly, but where there's a will, there's a way.

When one small batch of honey came through with an odd taste, I delved into my second love, botany. I recalled a paddock next to that site, choked by a tall yellow flowering weed I was not familiar with. Investigation followed and our crop was identified as goldenrod, which, along with small amounts of fennel, I could see growing and are possible contenders for that funky taste. The other usual culprit for foul taste is tree-orchid in our light honey, although this year it seems to have passed us by unscathed.

Whether I'm in the field or in the shed, the warm weather is holding. I may be sweating but at least I have stopped dreaming of queen bees (did someone mention autumn requeens?).

Short and sweet, I'll leave you with that thought, and hopefully we have some reprieve from the buzz-iness of it all in the near future.

-Aimz

Aimz is a second-generation commercial beekeeper in the Bay of Plenty who took up the hive tool full time at the end of the 2024 honey season. Formerly a stay at home mum to four kids, she has now found her footing in the family business.

A Geography Lesson

With a Chinese naval fleet undertaking live firing in the Tasman Sea, former head of New Zealand's security bureau Ian Fletcher explains how security in this area of the world has changed.

BY IAN FLETCHER

There's a lot to write about this week. But the most sobering topic has been the Chinese naval squadron manoeuvring off Australia. I fear many New Zealanders haven't seen what this means.

In the past, when New Zealand and Australia have become embroiled in conflicts, those conflicts have been abroad. In foreign countries, far from home. Ships have been used to take our men and equipment off to war. Yes, the Japanese raided Northern Australia in WW2, and Japanese submarines raided Sydney. But neither was a serious challenge to Australia, and certainly not to New Zealand.

Events over recent days show that this has changed. China, which is not a foe, but which is a potential foe, has shown that it can operate in our waters, in force. Like some commentators, I assume that the Chinese squadron was accompanied by a submarine, adding to its combat effectiveness.

For Australia, this is a direct challenge. Australia is building up its navy significantly, with the implicit role of moving north in the event of conflict, to support the Philippines and to assist the US and perhaps Japan to blockade China. Even if Taiwan falls to the Chinese, a naval blockade of China would starve China into submission, as China's supplies of oil and food are delivered by sea.

Now, Australia must expect that its navy may be challenged in home waters. That challenge would make shipping to and from Australia uninsurable, and be at minimum very disruptive. Airports, ports and air bases would be vulnerable too. Australians now know they have a home defence problem. The price of supporting the US just went up, sharply, in the same week that the US turned out to be a whole lot less reliable than anyone expected.

Chinese warships in the Tasman Sea. (Supplied: ADF)

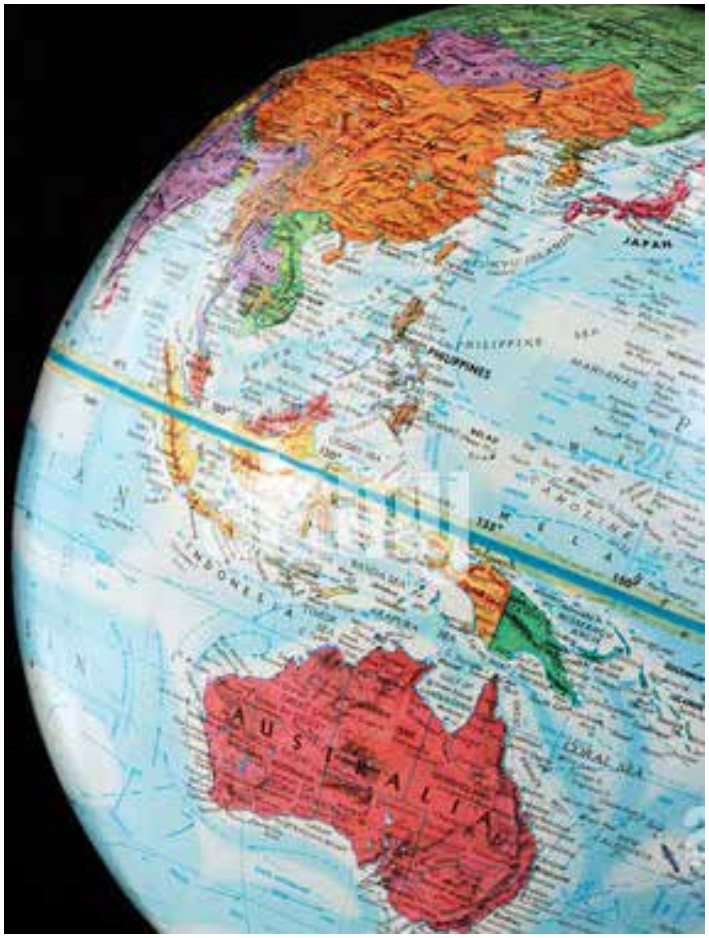
Of course, the Chinese have had this capability for some time. What's happened is that they have now shown everyone, and made the home defence issue a public one. Defence is a major political issue in Australia, as it should be. The sudden, remarkable unreliability of the US is the topic Australians may be avoiding, but hopefully mature debate will come.

For New Zealand, the lessons are even more stark. We would be completely vulnerable to aggression by a squadron of the sort we have just seen. We have no meaningful air force to provide cover or deterrence, and our three useful ships and four useful planes are concentrated in Ohakea and Devonport. I'm not sure that Australia could provide air cover right across the Tasman for long. So, we're easy targets.

We depend on shipping for imports of fuel (especially aviation fuel and diesel), without which we couldn't sustain normal life. We depend on internet connections to the rest of the world (and we have seen that internet cable-cutting is now a practised skill in many places). We are sitting ducks.

Could it be worse? Antarctica beckons as a source of minerals, and its demilitarised status is eroding. We offer a gateway. And we have no real way to assert ourselves or fend off aggression or blackmail. And, back to the submarine we hypothesise has been with the Chinese squadron: the Southern Ocean already offers nuclear-powered submarines a nautical motorway, where they can sail around the world quickly, and take off-ramps into the Indian and Atlantic oceans. Just look at a globe.

What can we do? We need to recognise two things: firstly, this is not a new capability on China's part. But flaunting it is a new policy. It's a warning, and an implicit threat. Australia is the main target, but we're caught up. Secondly, our defences are negligible. The current Minister of Defence, Judith Collins (who has far too many other roles) refers to the NZDF as being in intensive care. She aims, she says, to "get it into the ward". This will not do. "National security" used to be vapid, show-off stuff for our politicians. Now, they need to grow up and take it, and us, seriously.



While New Zealand's isolation geographically might have historically been considered to benefit the country's security, in the modern world it is also a major cause for concern warns Ian Fletcher.

What should the action list look like? First, we need what's actually called a "War Book": it's a proper, previously-agreed plan as to how we would deal with disruptive conflict, aimed at preserving as much of our way of life as we could until things were over. Without internet, GPS, transport fuels, and reliable international air and sea links you can imagine this will be a tough book to write. It would necessarily be like civil defence planning, written in a way that engages the whole community.

Secondly, we need to decide how to beef up defence. This is no longer optional, nor a matter for gestures (for example, buying a new plane for the PM and calling it "strategic airlift" is simply a fraud on the taxpayer). If we don't take this seriously, my view is the Australians will make us. They are likely to elect a new, much less friendly government by May, and I really hope we have a better story to tell by then.

People's Liberation Army-Navy (PLA-N) Jiangkai-class frigate Hengyang has been spotted in the Tasman Sea. (Supplied: ADF)

In my (controversial) view, the big decision ought to be to re-acquire a proper air force (ie with combat jets, drones and some air refuelling capacity so planes can operate right across the Tasman). Shockingly, eye wateringly, expensive, and very hard to do quickly. But equally hard to see the alternative now. I hesitated writing this, knowing just how our national discourse has settled on the idea that we don't need an air force. But now, we do. We should be prepared to change our minds when the facts change.

Other countries face bigger challenges with similar populations, and make a virtue of getting things sorted and being fully committed to preserving national life. Think Finland, for example. We can do this, if we actually want to.

So, the Chinese ships have taught us a geography lesson. We're a small population living on a big, long thin archipelago in the middle of a deep, cold ocean. Out nearest neighbour (other than New Caledonia) is still a long way away even as the missile flies. We're not yet on our own, but geography means the isolation we once thought kept us safe might one day just leave us stranded. Gulp.

Ian Fletcher is a former head of New Zealand's security agency, the GCSB, chief executive of the UK Patents Office, free trade negotiator with the European Commission and biosecurity expert for the Queensland government. These days he is a commercial flower grower in the Wairarapa and consultant to the apiculture industry with NZ Beekeeping Inc.

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