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APIARIST'S ADVOCATE

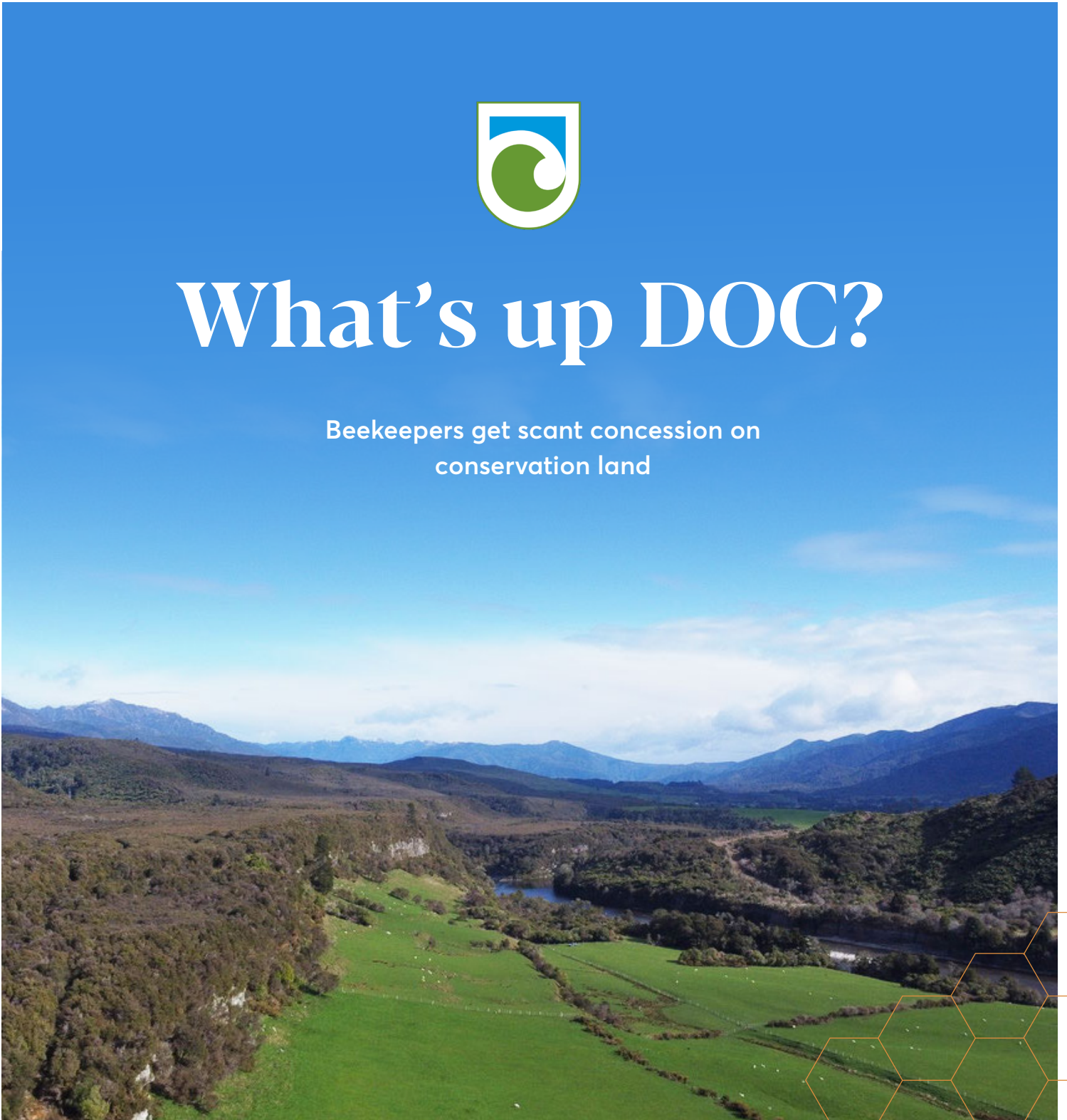


News, Views & Promotions – for Beekeepers – by Beekeepers



What's up DOC?

Beekeepers get scant concession on
conservation land



DOC's Treatment a Bitter Pill for Beekeepers



BY PATRICK DAWKINS

While beekeepers across New Zealand struggle as honey prices sit below the cost of production, many are also facing loss of their best hive sites as the Department of Conservation (DOC) denies beekeeping in certain areas, or forces apiarists from the land with excessive fees. How does the concessions process work, and is DOC showing any sympathy for the plight of the beekeeper?

DOC estimates there could be anywhere from 9000 to 18,000 beehives placed on the approximately 8-million hectares of conservation land in New Zealand, with 60 concessions currently in place. While historic data on beekeeping concessions granted is not readily available, those numbers are almost certainly on the decline, with only six new concessions granted in 2022 to October.

The reduction in use of conservation land for beekeeping purposes would not be surprising, given that registered beehive numbers in New Zealand have reduced in each of the last three years in the face of a falling honey market, for both mānuka and non-mānuka varieties. Despite drastically reduced returns to beekeepers, DOC has made no adjustment to their charges for beekeeping since concession prices were increased in the mānuka boom years, meaning some beekeepers have walked away from sites. However, even among those who wish to maintain their existing 'DOC sites' and attempt to make a go of it, the Department appears increasingly reluctant to allow beekeepers to maintain hive placements, stating concerns of the unknown impact the introduced honey bees could have on native conservation land.

However, in several such areas DOC's conservation efforts are limited, or none at all according to beekeepers. They say the only effort to maintain access or reduce pests is coming from them, effort that has or will stop when they are removed from the land.

HOW THE PROCESS WORKS & WHAT IS PAID

If a beekeeper wishes to place beehives on any of the conservation land in New Zealand, then a beekeeping concession must first be applied for. Discretion to grant that concession is solely in the hands of DOC and, even if granted, it comes with a long list of conditions. Those conditions include payment of an annual per-hive fee (\$30 for non-mānuka sites, \$75 for mānuka), as well as an annual "management" fee (\$150-\$500) and one-off "processing" fee (a minimum of \$2065) for each application. On top of that, a successful applicant may also be required to pay extra if they plan to use helicopters to place hives. Stacked on top of that again is the "monitoring fee" charged to beekeepers when DOC audits the hives on concession sites, and charged whether fully compliant or not.

While each concession period previously lasted 10 years, most appear to now be for periods of only three years, after which

The Aorere Goldfields area, to the left of photo, in Golden Bay where beekeeper Auner Cain has been given three years to remove his hives by DOC as the land is on the outskirts of an Ecological Management Unit.

time the applicant will be required to re-apply and subject to a fresh processing fee, thus increasing the cost to the beekeeper. Processing fees are payable regardless of success or denial of applications.

The number of sites used by each concessionaire, and the number of beehives placed on each site, varies. However, the maximum stocking rate DOC allows for is 40 beehives per site.

As of October, only six concessions applied for in 2022 had been approved.

WHAT INFLUENCES DOC'S DECISION?

DOC's actions are governed by the Conservation Act 1987 and (as detailed in *To Bee or Not to Bee?* this issue) they must strike a balance between a range of factors, of which conservation of the land is top priority.

For beekeeping activities a key consideration is whether the impact of European honeybees, a non-native species, can have adverse effects on the native flora and fauna.

In 2015 DOC's science team wrote up Beekeeping National Guidelines which heavily influences decisions, while Dr Catherine Beard's 2016 *Honeybees on Public Conservation Lands* report to the Department has guided their thinking.

Then, there is the issue of "EMUs", Ecological Management Units. It's an acronym some beekeepers are learning about the hard way.

ECOLOGICAL MANAGEMENT UNITS

The Aorere Goldfields in Golden Bay were once home to – as the name suggests – extensive goldmining operations in the second half of the 1800s. These days abandoned remnants of those operations remain amongst the scattered native bush of largely kanuka, mānuka and kamahi, which is home to both native and exotic wildlife. Among the introduced species are approximately 100 of Freebees Honey's honey bee colonies, but not for long it seems.

Freebees Honey is owned by Avner Cain, who is the sole operator of about 300 hives and who says he followed the traditional path of "beekeeper, manager and then owner", taking over the business in 2020.

Essential to the sustainability of Freebees Honey is the mānuka honey gathered from the Goldfields sites, but Cain says following renewal of his application this year, he has been given three years to get the hives off because they fall within an EMU.

"It's my only profitable honey. The rest is lucky to cover costs. Loosing those sites makes my business no longer viable," Cain says.

"I finally got to business ownership and then three years in and I might be out of business. It is really hurtful."

EMUs make up about a third of public conservation land, and thus more than 2.5-million hectares. They are areas deemed to be of high conservation value by DOC using Zonation software and "in-house experts".

In the instance of the Aorere Goldfields, Cain's apiaries sit inside the Parapara Ridge EMU, which Doc describes as "altitudinal sequence from hard-beech through hard-silver beech to silver-beech forest on mix of argillite, schist and mudstone". DOC's warning to Cain stated "no expectation of continued operations in these ecologically sensitive areas" due to "potential adverse effects of introduced bees to areas of high ecological importance".

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The Golden Bay beekeeper is aware the issues of land conservation and honey bees is one far bigger than he can shape and says he is grateful to receive three years concession at least, but something still doesn't seem right.

"My sites are not in the beech forest but on the border of the EMU, where it's low growing mānuka, poor soil, the area has been heavily gold mined, burned several times and they even diverted a river. It has goats, pigs, hares, wasps, you name it. It is nothing like a pristine environment.

"The wasps will create way more damage to the beech forest than any bees. If I lose a swarm it will die within a year due to varroa. My few hives on the outskirts will have very little impact."

Hives have been on the sites since 2006 and have never been known to collect beech honey dew, according to Cain, who has been working them since 2013.

In the 10 years Cain has kept bees in the area, he is not aware of any work DOC has done to control introduced species or improve the land. Conversely, Cain has maintained track access to hives and controlled wasps at his own expense.

His high level of frustration at DOC's decision and resulting limited communications comes at the across-the-board nature of the Department's plans.

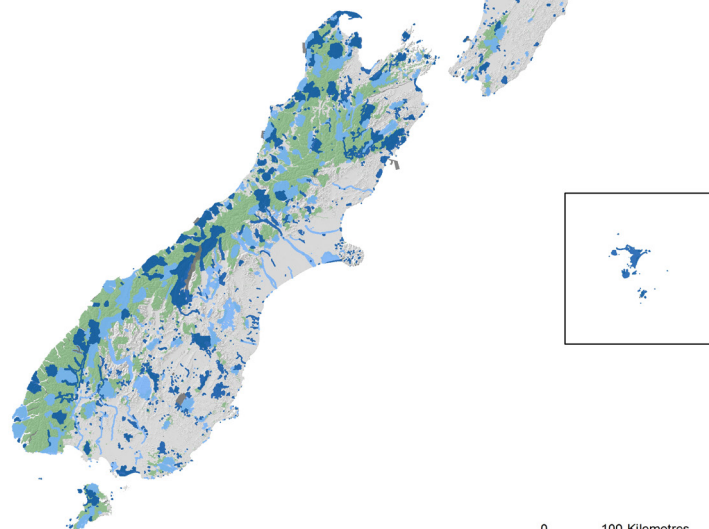
"If someone has an established business inside an EMU, DOC should look into it closely and actually consider what is on the line," Cain says.

Prescription Management Units

Rank

- Top 850
- Outside of top 850
- Not ranked
- Public Conservation Land

The dispersal of the approximately 8-million hectares of conservation estate in New Zealand overseen by DOC, with land classified as Ecological Management Units in dark blue.



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"There should be case-by-case decisions made, not one sweeping change which means a lot of beekeepers will lose their hive sites."

DOC'S CONFUSED APPROACH

While the Beekeeping National Guidelines which help inform DOC's decisions specifically encourage beehives "not to be placed in or near EMUs", national permissions advisor Bryn Shepherd says there is no sweeping rule.

"DOC currently does not have any policy to cancel or 'wind up' active beehives concessions in or near EMUs," Shepherd says.

"However, on expiry of those concessions, should a new concession activity be submitted to continue that activity, DOC will (in line with the Beekeeping Guidelines) assess the suitability of allowing this activity to continue in or near EMUs. Due to the specifics of each application, DOC has not made a blanket 'rule' to automatically decline beehives in or near EMUs."

That view contrasts with written reply to an applicant, from DOC, which states "The Department is currently in the process of phasing out the granting of beehive concessions that are within or nearby Ecological Management Units".

A LOT OF FEES & LITTLE TO SHOW FOR IT

Regardless of DOC's mixed-messages around their handling of EMUs, Shepherd says that "for beehive concessions, a DOC science advisor is also assigned to assess the suitability of the specific application".

For Cain and his hopes of a more understanding review of his beekeeping operations, there has been no evidence his application has been individually assessed.

"They didn't cite any information to me. There is no report, no background data or research. There is no reasoning. They have just decided EMU areas are not having honey bees anymore," Cain says.

"I wouldn't believe they did a report. Otherwise, I want to see it."

In the case of a declined application, DOC may share a Decision Support Document which typically include input from a decision maker, a science advisor, a community ranger who engages with local Māori, and a permissions advisor who drafts the document, according to Shepherd. In the instance of Freebees Honey and Cain, his application has technically been approved, for three years at least.

DOC's reasoning for not providing more information to all beekeepers applying for concessions is not for lack of resources. Cain says his processing fee alone was first estimated at the "standard" rate of \$2682, before being invoiced \$5177.50. When this fee was questioned DOC claimed "an error when processing" and it was re-invoiced at \$3112.50.

It is unclear how many beekeepers, or concession applicants more generally, may have been overcharged because of such errors.

DOC collected \$9.4million in concession fees for activities on the conservation estate in the year to 30 June 2022, but did not detail beekeeping among the 15 accounting categories. Activities as varied as skiing, boating, vehicle access and filming were all categorised, but data specific to beekeeping is not publicly available.

BEEKEEPER FRUSTRATION WIDESPREAD

Cain and his Freebees Honey business are far from alone in their



Auner Cain, owner of Freebees Honey in Golden Bay, says he has seen no evidence that DOC has fully considered the specifics of his concession to place hives application, despite paying \$3112 just to "process" the application.

plight to maintain access to 'DOC-sites', as they are known in beekeeping circles.

Further south in Blackball on the West Coast, Glasson Apiaries owner Gary Glasson says he has given up all six of the DOC sites they once held, in the wake of increasing fees and overbearing bureaucracy.

"I let them go because it was all becoming too much of a pain really. Too onerous. More and more expensive," Glasson says.

He spent 10 years undertaking pest control for a local wildlife trust, including serving on its board, but gave that up when it became clear DOC was not valuing his contribution to the conservation estate and continuing to charge a range of concession fees.

"I went to DOC and talked about offsetting the hive sites with that work, like mines do. I was told 'no, no we need the money for other things'. So, I decided to stop doing all that work," Glasson says.

Another beekeeper, speaking under condition of anonymity due to their ongoing use of DOC sites, says they have been dealing with the Department for decades and describes an "arrogant, dictatorial and unapproachable corporate culture" and a "faceless bureaucracy that wants to destroy our livelihood".

WILL THEY LISTEN TO ANYONE?

So what recourse do beekeepers have in the face of an unapproachable and seemingly unconcerned public department?

DOC claims to "work with Apiculture New Zealand to make sure processes are well connected with the industry, and beekeepers are kept informed," via their website.

Apiculture New Zealand (ApiNZ) has approached DOC requesting it review fees for beehive concessionaires, noting difficulties with the honey market both nationally and internationally. However there has been no action towards change from DOC, with Shepherd admitting that a review started in 2021 has been "temporally delayed" and "work is ongoing".

Honey bees' propensity to forage on the dew secreted by a scale insect which lives in the bark of native beech trees has led DOC to limit or exclude beehives on the conservation estate close to beech forests.

ApiNZ chief executive Karin Kos describes dealings with DOC as "frustrating" due to the inertia in communications and decision making, or complete lack of, but says the Department has been made aware of the struggles of the honey industry and they are continuing to press for change.

It appears DOC is not listening to the beekeepers on the ground or the industry body representing them. So, Cain went directly to his local member of Parliament, who also happens to be the Minister for Primary industries, Damien O'Connor, but his plight was not taken up with any authority.

"The Minister said that because it is a conservation matter, he would forward my letter to the Minister of Conservation. All they said was they would carry out the due process. I really hope they will reconsider the decision," Cain says.

Just a few years into his hard-earned climb to business ownership, Cain says DOC's unjust ruling might soon end the dream.

"They told me to prepare to lose those sites in three years, but there is no equivalent mānuka site I can shift the hives to. When I bought the business, I bought it thinking that was my mānuka area, to go along with a kānuka area, another of rata. Three areas and I can't afford to lose my most valuable, completely unexpectedly. If I knew I was soon going to lose the mānuka sites, I might not have bought it.

"I will be very upset if I lose this concession. It seems so unfair. There is no justice behind it at all."

Unfair and unjust in the beekeeper's eyes, but is anyone of consequence listening? 🐝



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To Bee or Not to Bee – DOC's Dilemma



The Department of Conservation oversees approximately 8-million hectares of New Zealand's land, much of it valuable for the purpose of beekeeping. What's their attitude towards the honeybee and what has shaped it? And, how does their thinking fit within the global context? Science writer Dave Black looks into the evidence, and finds the answers to those questions are shaped by 'ethics' just as much as any science.

BY DAVE BLACK

For all sorts of reasons New Zealand has an attitude problem when it comes to 'non-native' species, including introduced bees. They represent an uneasy colonial history, can compete with or displace other existing species we like, and might introduce novel diseases and challenges that damage our economic productivity. Immediately the irony of the situation must be obvious. This is a country that owes its existence and prosperity to the movement of species, human, bovine, and ovine, to point out a few. This creates an extra set of problems if you administer the contentious assets that represent the nation's natural and cultural heritage, the bit we grandly call our 'conservation estate'.

NEW ZEALAND CONSERVATION

It wasn't until the 1960s that the tension between the economic value to resource development and the ecological value of the remaining undeveloped land finally surfaced. The Maruia River Declaration, a public petition in 1975, demanded a stop to the logging of native forest and ultimately led to the formation of the Nature Conservancy. In 1987 the Conservation Act formed the Department of Conservation (DOC) and established three land agencies with separate but conflicted responsibilities (DOC, Landcare, and the rapidly defunct NZ Forestry Corporation) after a lengthy period of government prevarication¹.

The Act defined conservation imprecisely and merely read; "Conservation means the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations."² In New Zealand, the purpose of conservation remained as action to preserve the *status quo*; conservation means *preservation*. More than that, it was mainly about preserving the past, our 'heritage', albeit with a nod to our future 'options'. Any activity on DOC land now required a permit, a 'concession', unless it had been specifically excluded from the requirement in law³.

WHAT DOC HAS TO MANAGE

Beekeepers were not the only ones to respond to the demand for mānuka honey and its high economic value. DOC too found itself with statutory obligations to both facilitate and adjudicate new activities in the land it was responsible for and now one was beekeeping. On one hand it had a role to play in furthering the

country's prosperity and business growth agenda, while potentially taking the opportunity to lessen its cost to the taxpayer by exploiting some arguably underutilised assets. Besides the value of the honey (mānuka is not the only plant; nectar not the only resource), the land could also provide a critical ecosystem service



Catherine Beard's 2015 report recommends to DOC that a precautionary principle is used to inform the management of honey bees on public conservation lands, in the interests of both conservation and economics.

supporting the health of an agricultural pollinator used elsewhere. There was also a duty to *tangata whenua*, both as 'trustees' of land temporarily affected by the *tiriti* (Treaty of Waitangi) reconciliation process, and because it is charged with maintaining somewhat inseparable cultural values; *whenua*, *taonga*, and social cohesion generally, for which local employment and trade matter.

On the other hand were a series of occasionally quite novel issues challenging for their conservation role. There was the problem of mānuka hybridisation if several varieties were present in an area for example. Issues arise like degrading a local *taonga*, or interfering with the plant's natural distribution – with its function as one instance in a natural ecological succession, or from varieties that support conflicting uses, such as oil, or honey or *rongoā Māori*. If the plants are selected or planted for some commercial purpose, how are the liabilities and benefits distributed? And, more opaquely, what intellectual property rights exist that must be managed? What's a fair way of assigning uses to competing commercial businesses, and how could you enact borders between users (such as beekeepers) anyway?

Siting honeybee colonies on conservation land had obvious, but not necessarily better understood, issues. There are access routes (and public nuisance), stocking rates, foraging distances, effects on local pollinator networks (pollinators and the pollinated, both for native and exotic species), and the movement of pathogens (concern about PSA became Myrtle rust worry^{4,5}).

THE 'PRECAUTIONARY PRINCIPLE'

To try and understand the possible issues from honeybees DOC commissioned a risk analysis that was published in 2015⁶, authored by Catherine Beard. The problem for a risk analysis is that there were few studies about the problem anywhere in the world, and even fewer relevant in New Zealand conservation areas⁷. That is still true; hardly anyone studies invertebrates. The quality of the studies available leaves a lot to be desired. Mostly observational, these provide equivocal results, seldom provide experimental measurements of effect on species 'fitness' (like growth and reproduction) and fail to deal with the details of resource use in complex, dynamic ecosystems over time. The evidential deficiency means we can't make 'possible' mean 'probable'.

Even when a study reports an effect we don't always know what it means. For example, honeybees displacing bumblebees at flowers (and vice-versa) may not be advantageous to either pollinator, but it was an advantage for the flower, improving cross pollination rates⁸. We cannot assume competition between pollinators is 'a bad thing'⁹.

“The evidential deficiency means we can't make 'possible' mean 'probable'.”

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One of the scientific studies referenced by the DOC analysis concluded like this: "This review shows that there are potentially many and varied effects of honey bees on native flora and fauna. Some suggestions of negative effects by honey bees are reasonable, but they are seldom supported by incontrovertible evidence. Those concerned about the conservation of native species should place effects by honey bees in context. Thus far, the effects of introduced honey bees appear to be relatively subtle, especially in comparison to other introductions and habitat loss. No evidence exists to indicate drastic effects by honey bees on native systems, or radical alteration of native communities. Until data are available, characterization of the honey bee as a serious conservation threat is unwarranted."¹⁰

Regardless of their limitations it's fair to say most expert review papers¹¹ on the topic conclude that when honeybees are introduced to environment beyond their 'native' range some negative effects on indigenous ecologies are **possible**, and DOC's assessment was no exception. Consequently, as one of the most useful reviews (to me) from Victoria Wojcik and her collaborators notes, "Recently, some beekeepers have seen access to public and private natural lands questioned, limited, or rejected because of concern that wild bees are being put under undue stress due to competition with managed honey bees for food. Decisions made in these cases have largely been based on opinion rather than on scientific evidence or have made use of published resources that suggest precautionary approaches to managing honey bees and conserving wild bees that are not based on direct experimental evidence. Management decisions have also focussed

strongly on the origins of honey bees, as it is the mandate of some public and private organizations to support native species, and thus not to promote non-native species."¹²

While acknowledging the uncertainty¹³ land managers feel they have to reach a decision and can't pay for endless scientific projects. The 2015 DOC analysis concludes "Despite the lack of conclusive scientific evidence for the impact of honeybees in the natural environments of New Zealand, they do pose a very real threat to indigenous biodiversity. Therefore, it is recommended that the

"The cautious 'better safe than sorry' precautionary principle is an ethical position, not a scientific one, one in which the obligation to do no harm is more important than the obligation to do some good. That's not surprising from an organisation charged with keeping things as they are."

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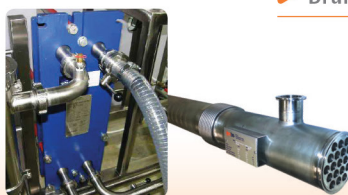


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precautionary principle is used to inform the management of honeybees on public conservation lands in the interests of both conservation and economics.” Housing hives in conservation areas was a complex issue anyway; the uncertainty about what ecological effect they might have didn’t make it any easier. The cautious ‘better safe than sorry’ precautionary principle is an ethical position, not a scientific one, one in which the obligation to do no harm is more important than the obligation to do some good. That’s not surprising from an organisation charged with keeping things as they are.

SO THAT’S THE POLICY, BUT IS IT ‘RIGHT’?

Ecosystems always change; it’s change that is ‘natural’. Some changes are rapid, perhaps a result of natural disasters or invasive species, and occur in decades or a few millennia. Some changes take many millions of years, only observable in the aeons and eras of the palaeoecological record. It’s not easy to separate the overlying perspectives. As far as the inhabitants go, as ecosystems are in a constant state of flux sometimes distinguishing between an agent of change or an entity just taking advantage of change isn’t straightforward¹⁴.

“What is it that makes one species native and another not? How long is it before a resident species becomes native? When does range expansion or dispersal become invasion? Does being native have any special value?”

“... the idea that we can sift through and sort out who belongs and who doesn’t at an arbitrary point in time based on an incomplete natural history is kind of flawed.”

The first, perhaps unconscious, value judgement conservationists all around the world make is one Jonah Peretti has described as ‘nativism’¹⁵. ‘Non-native’ species are disparaged for driving beloved ‘native’ species to extinction and polluting ‘pristine’ natural environments, but ‘nativeness’ is not either in itself a sign of evolutionary fitness or of a species having desirable qualities. What is it that makes one species native and another not? How long is it before a resident species becomes native? When does range expansion or dispersal become invasion? Does being native have any special value?

New species do not suddenly spring into existence perfectly suited to their natal habitat and no other. They would not be displaced if they were. Ecosystems are almost always a blend of long-term residents and ‘new’ arrivals, and the idea that we can sift through and sort out who belongs and who doesn’t at an arbitrary point in time based on an incomplete natural history is kind of flawed. Nor does it look as though the mode of transport is a reasonable criterion to add. The practical result of a ‘natural’ arrival on the wind, rather than a container-ship stowaway, is the same.

If we are to retain a sense of ‘nativeness’ maybe it should be redefined. Does the interloper now possess a genetic adaptation to the new range¹⁶ and, do pre-existing inhabitants show an adaptation to the exotic species, that is, recognise a loss of novelty?¹⁷ Maybe. If we were being honest, we might admit that ‘belonging’ had more to do with their charisma and our identity than it should.

WHAT'S 'BELONGING' ANYWAY?

There are more than 16,000 species of bees catalogued worldwide¹⁸. Of the 41 species known in New Zealand eight have been imported by man in the last 150 years, six imported themselves (five from Australia; one from Europe), while the remaining 27 have never been found anywhere else¹⁹. Somewhat over a third of the bee species here are 'alien'. However, there is plenty of evidence to suggest these introduced bees are not the same as the populations they originated from²⁰. A recent British attempt to reverse environmental degradation and re-introduce a bumblebee species that arrived in New Zealand between 1885 and 1906 found that the bees had diverged from the originating strain and would have to 're-adapt' if they were returned 'home'²¹. It's exactly what any bee breeder would expect, but the non-native status of honeybees in New Zealand is not up for debate. What is contentious is whether non-native honeybees are 'a bad thing'.

AND MĀNUKA?

And what of the 'native' plant that brought the issue to everyone's attention? The most up-to-date information we have has mānuka originating in Australia, diversifying in more than 80 species (one of them *Leptospermum scoparium*) that expanded their range into several areas of the southern Pacific^{22,23}. The New Zealand 'flavour' *L. scoparium*, arrived via Tasmania, or directly, between two and five million years ago as a trivial part of the native flora. Now two

varieties of the species are currently recognised here, although there may be up to five geographical segregated, physically different varieties or 'ecotypes'²⁴.

Just as our *Apis mellifera* separated from its ancestor, if you look closely enough the varieties of *L. scoparium* we have here differ between themselves, and from the current Australian species. These became a much more significant contributor to local vegetation after Man's arrival 700-800 years ago cleared a good deal of the forests. It's not clear whether mānuka's 'Aussie' tolerance to fire assisted this or if much of this trait had been lost since its arrival²⁵, but undoubtedly mānuka's success was coupled to human success.

IMPENDING DECISIONS

The former Chief Executive of UK's Woodland Trust is one of a growing group of scientists that argue the native/non-

"... the non-native status of honeybees in New Zealand is not up for debate. What is contentious is whether non-native honeybees are 'a bad thing'."

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native distinction is no longer useful and potentially a threat to biodiversity. It may actually be the view of a majority of scientists²⁶. He sees 'native' as a social construct, merely "*tokens of nationality [that] are not fixed entities, they are transitory arrangements of geopolitical serendipity*"²⁷. We need to see humans as part of the natural world and develop a more thoughtful and balanced view of non-native species²⁸, particularly as we deal with a warming planet. Writing for the online magazine Yale Environment 360, science journalist and author of 'The next Great Migration', Sonia Shah senses the change in mood and wonders if policy-makers are prepared for the transformation that climate change will bring²⁹.

The Precautionary Principle is not meant to be an excuse for inaction, or universally applied to every decision, a grown-up version of hiding under the bed-sheets. It's not self-evidently appropriate. In principle, it's a useful strategy faced with irreversible change and potentially catastrophic consequences, but it doesn't necessarily address and resolve conflicts. Co-existing in the evolving ecosystems that sustain us all means we need to consider a much more intelligent approach to maintaining and enhancing biodiversity than building an Ark permits, even if we do need the occasional lifeboat.

No matter the vessel, DOC appears unnecessarily wary of including the honey bee. 🐝

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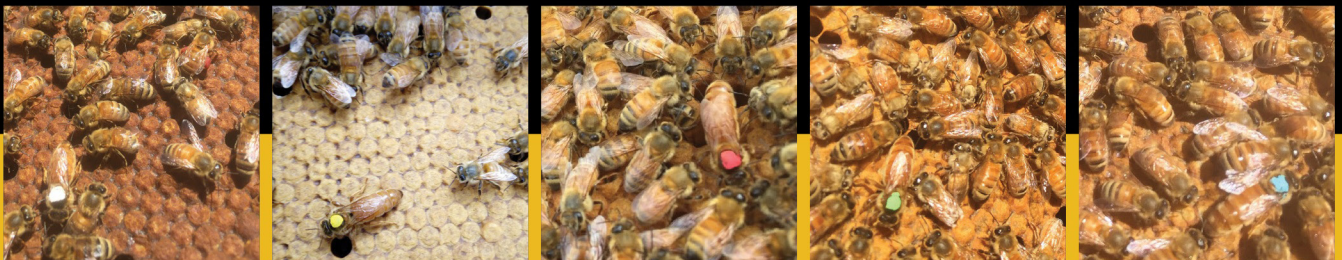


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Price – It's Not a Sustainable Unique Selling Point

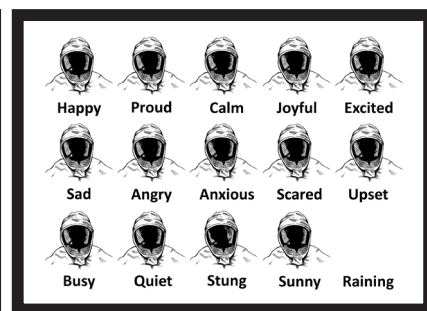


Now, as much as ever, the issue of capturing maximum value for New Zealand's range of honey varieties is front of industry discussions. It's an issue faced daily by one of the country's leading honey packers, Airborne Honey in Canterbury. General manager of sales, JOHN SMART, offers some food for thought for the industry...

Price is not a unique selling point, but as beekeepers and packers we fall into the trap of thinking we are building a sustainable business by using price to increase market share. If we want to play this game, then our competition is the lowest cost honey producer and packer in the world – a competition we will never win.

Honey is also competing against jam, nut butters and other spreads, which are not 100% anything and not necessarily 100% sourced from New Zealand. Consequently, these products have ability to manipulate the cost of the ingredients to maintain an acceptable gross profit.

In recent years the New Zealand honey industry has derived significant increased value from selling mānuka honey under the



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UMF/MGO commercial trademarks. With more than 250 registered honey brands and 10,000 beekeepers, many are focused on producing mānuka honey based on a structure that encourages competition between beekeepers.

Production for premium priced mānuka appears to have increased above the level of demand. Prices have thus declined to clear stocks, making mānuka an everyday honey in supermarkets world-wide – just take a look at the images from the recent opening of Costco in Auckland.

To help reduce the competition between suppliers, there has been a lot of talk about using the cooperative model to create stability in the industry. The best way to validate this idea is with the market in mind. In other words, who the cooperative needs to displace to get market share and at what price? Or is there a new market for the honey?

The other issue cooperatives face is they are often forced to purchase a beekeeper's entire crop. This is a production led approach which distorts prices.

The opportunity in my mind is providing a solution to the changes in food production during the last 40-50 years. Processed food makes up a large proportion of a first-world country's diets. It seems bizarre that the natural food our human bodies have consumed for many thousands of years is no longer the natural choice.

The ball is in our court to change this, with help of research to demonstrate that honey as food contains the natural properties which cure the ailments of our first-world lifestyle.

It is this market led approach, linked closely with production, that lays the foundation for a sustainable industry. We see examples of this approach demonstrated with other primary industry products, built around plant variety rights, genetics, sustainable fibres, producer collectives and brand names etc.

New Zealand is in a unique position, retaining much of its natural flora which the bees can forage, producing many honey varieties and blends. Airborne is also in a unique position with our own in-house laboratory analysing over 40,000 batches of multiple honey varieties since 1985. Testing up to 60 parameters in each batch of honey.

With this information we believe New Zealand honey has a role to play as a food that is the natural choice. 🐝



Large quantities of mānuka honey pack the shelves of the recently opened Costco shop in Auckland as prices get reduced to make saleable a supposed over-supply.





Pricing Agricultural Emissions



Few, if any, New Zealanders have the insight into global trade networks and connection to primary industry which experienced international trade negotiator and now apiculture industry advisor and horticulturalist Ian Fletcher can offer. The former top bureaucrat runs the rule over the Government's contentious plan to price agriculture emissions with some damning conclusions and advice for improvement...

BY IAN FLETCHER



The Government published its 'Pricing Agricultural Emissions' document on 11 October. It has not been well-received. The proposals drew on the work of the He Waka Eke Noa (HWEN) partnership of primary industry groups (itself controversial), as well as input from the Climate Change Commission, and the Government's own work.

Ian Fletcher, uniquely placed to analyse the Government's plan to price agriculture emissions.

The outline is familiar: a farm-based, split gas (ie methane separately) levy, converging over time with NZ Emission Trading Scheme (ETS) pricing. Levies could be offset by approved (by Government) mitigation technologies, or vegetative sequestration (planting trees). All to start in 2025, with an transitional processor levy (essentially a rural carbon tax) if the timing is too tight. Levies set by Ministers. A complex, semi-independent governance arrangement, and separate arrangements for Māori land and landowning arrangements, at least so far as levy distribution is concerned. And all trumpeted as a world first that will somehow make our products more attractive. How should it be viewed? Let's consider the substance, the process, timing, governance, and global context.

THE SUBSTANCE

On substance, this is close to the HWEN framework. What will the impact be? There must be some impact, otherwise the scheme would not be effective. Already, there is a lot of pushback, with opponents pointing to the number of farming enterprises (and families) displaced, significant hectares lost to exotic forestry, and reduced production. The Government document repeatedly sets the goal of actual changes at farm level as its test. They want production to fall.

Farming in New Zealand is economically efficient. So production grows until the marginal cost of production is the same as marginal revenue. These proposals raise costs (that's their intent). So at any given level of technology, production will fall, and that loss of production will be concentrated on marginal land or otherwise affect the least efficient enterprises, where marginal returns are the least. Only if we have enough market power to impose price increases on overseas consumers will production not fall – and if we had that power we would already be using it. This makes farming less profitable. And it's all in addition to economy-wide policies like fuel taxes and road user charges.

The International Monetary Fund's recommended approach is for countries to pursue these goals through whole-economy carbon pricing, balanced by transfers to the vulnerable, and to allow for transitions. This is at odds with the Government's sector-specific approach – why not provide an on-ramp to a beefed-up ETS, with compensating changes in other taxes, so economy-wide price signals are clear and the result is efficient and effective (biggest emission cuts at least cost), and capable of being linked to similar schemes globally? The Government's answer is that, firstly, they really want farmers to change (this feels a bit vindictive), and, secondly, because there's no time to get a wider scheme right. They don't mention the election – but a wider scheme would be a big change to the whole tax framework, which would be a target for the Opposition.

Which leads to process and timing...

THE PROCESS

On process, the HWEN partnership had potentially done a lot of the government's heavy lifting: getting a lot of organised farming groups at least grudgingly onside (including Apiculture New Zealand). Yet, the Government seems to have blown that earlier advantage, acting as if HWEN's work has been over-ridden. The tighter rules on sequestration and role of Ministers setting the levy rates seem to be the main targets of industry reaction, but the real point is the HWEN's work has been devalued and set aside – 'disrespected' would be the teenager's word, and that seems right.



A lot of hard-earned goodwill lost. The opponents of HWEN had looked a bit shrill and marginal; now they look prophetic and like the ones with integrity. Industry groups look to have been duped.

THE TIMING

And timing. The Government's consultation document is breathless with urgency: good ideas or better policies are repeatedly dismissed or delayed to get a scheme started quickly. The document has a fall-back, the proposed interim processor levy. Given a fallback, why not consult properly on that, implement it calmly, and spend the time needed to get a farm-levy system right? The urgency might make sense if there was no fall-back, but it looks politically contrived and the resulting levy scheme is obviously half-baked.

GOVERNANCE

Yet again (like Three Waters) a potentially workable system is to be burdened with top-heavy and over-complex, introverted governance. This is called a levy, but it's a tax. The government will set the rate, and the consultation makes clear they will set the rate to meet emission targets. That goal is likely to override industry inputs. Over time the levy rates will converge with the ETS prices. ("If you want someone to accept the thin end of the wedge, don't show them the thick end", as a colleague once said).

I think the Government needs to come clean and say what the actual levy rates would be, at least for the first few years (the proposal links them to evolving ETS pricing, for non-methane

gases). Otherwise farmers are asked to agree to something in principle, without the numbers to actually know what it means for them, individually. This feels manipulative. As a community we should be able to come clean with each other.

Secondly, this is a tax. It should be set by the Parliament, not Ministers. This is an arrogation of power.

WHAT COULD BE DONE BETTER?

Sequestration is a mess. The treatment of small blocks, existing forest, shelter belts, and riparian plantings all needs clarification.



The Groundswell movement has been a leader in opposition to the manner in which the Government has gone about planning the pricing of agriculture emissions, including HWEN. While that opposition once looked "shrill and marginal" "now they look prophetic and like the ones with integrity" says Ian Fletcher.

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This proposal will, if it works, lead to a huge increase in exotic forestry plantings. The economic, social and environmental consequences all need better consideration. But the Government should also look beyond trees. Carbon capture technologies are advancing, and we should not exclude new developments that do better than trees. The Government should not see reduced agricultural production as the only route to reduced emissions, otherwise it's just punitive. The prospect of a future glut of forestry production has also not been considered.

The same applies to mitigations – technologies that reduce emissions within the farming system. It's a good idea. But the Government is only funding the development of existing ideas. That seems very static. Why not fund innovation prizes for the development of better ideas, or practices?

Finally, the Government insists it's all a world first and that others will gratefully look to our lead. I think others will gratefully take our markets as our prices rise and production falls. Others will implement their own policies, and set compensating tax adjustments in place to protect local production as far as they can (the EU has explicitly said this; there is real debate in Ireland and the Netherlands now on agricultural emissions proposals – and they won't see New Zealand as a leader, but as a competitor). It's naïve (at best) or disingenuous (at worst) to argue otherwise.

Overall? 4/10 – could do better; see me after class. I think the rural electorate will come to a similar view. This is an important issue, and deserves a serious process that builds consensus.

Whatever the (limited, in my view) merits of the proposal, the rushed and ill-conceived process has set it all back.

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



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AFB 'Vaccine' Researchers Seek Beekeeper Input



Recently Dr Heather Hendrickson's lab has been in full swing hunting down the final pieces of a bacteriophage cocktail to treat the bacterium *Paenibacillus larvae*. The University of Canterbury senior lecturer updates us on the latest research her team has been working on and a new survey available to beekeepers to help secure future funding to continue the fight against American foulbrood (AFB).

BY TAYLOR HOUSTON

Since 2018, the Hendrickson Lab has been running the Active Bacteriophages for AFB Eradication project (ABAtE) with the purpose of "finding bacteriophages that would be able to kill the honeybee pathogen *Paenibacillus larvae* (*P. Larvae*) which is the causative agent of AFB," says Hendrickson.

Initially based out of Massey University in Auckland, in 2022 Hendrickson's lab moved to University of Canterbury.

Finding funding for research projects is regularly a struggle for scientists, but Hendrickson has come up with a way beekeepers can help the ABAtE funding drive, without contributing a single cent of their own. A simple survey on how beekeepers would receive any potential American foulbrood (AFB) treatment, which might emerge from their research, will go a long way in determining the value of their project in the eyes of potential grant providers.

Thus far, the beekeeping community has been hugely supportive of their work and has sent Hendrickson and her colleagues over 400 soil samples from apiary sites all around the country. This has led to the scientist and her team developing mixtures of many different phages or 'bacteriophage cocktails' that are able to protect against 93% of *P. larvae* strains.

"It's actually surprisingly simple to find bacteriophages," says Hendrickson when asked on the process of isolating phages from soil.

"Soil samples are placed in a buffer and left to sit until these tiny bacteriophages are released from the soil. The buffer is then filtered through a very fine filter that only lets phages pass through."

Much like pouring gasoline on a grass lawn will leave patches of dead grass, these bacteriophages are then poured onto a bacterial 'lawn' of *P. Larvae*.

"You then look for places where the bacterial lawn is killed because of the bacteriophages you poured on," she explains.

This process led the scientist to a fascinating observation. "All of the phage positive soil samples have come from healthy hives," remarks Hendrickson, "which indicates that healthy hives already have these bacteriophages in them, protecting honeybee larvae from an AFB infection."

So far the Hendrickson lab has isolated 26 unique bacteriophages which successfully kill all known strains of *P. larvae* except two. These two strains are known to originate around the Otago region. This year Hendrickson and her colleagues are aiming to find unique bacteriophages which target these final two strains of the AFB pathogen.

"We would love for beekeepers across the country, and especially from the Otago region to continue sending us soil samples," Hendrickson says.

While the potential to effectively 'vaccinate' a hive against future AFB infections using bacteriophages will be a boon to beekeepers, the implications of the project extend far beyond the beehive.

"The funding we are looking for is to continue developing bacteriophages for not just apiculture, but for industries such as kiwifruit, aquaculture and stone fruit. We want to put forward a project that will allow us to build a pipeline of rapid bacteriophage development that could help a lot of different industries," she says.

Hendrickson has released a new, short survey to gather information from beekeepers about their experiences with AFB which will be hugely important in her bid to secure future funding.

"The grant we are writing now is to investigate how stable this bacteriophage cocktail is when applied to a hive. That's really important, for beekeepers to know how long they would



The ABAtE research team, Heather Hendrickson, left, and Danielle Kok, say beekeepers completing a survey on the potential use of their research findings will aid their chance of securing ongoing funding for the project.

have protection and how often they would have to retreat," says Hendrickson.

One survey question asks beekeepers a price they would be willing to pay to treat AFB in their operation, which Hendrickson says is an important piece of information for them to gather – and beekeepers to answer as accurately as possible – if research is to continue.

"We need to know what an AFB treatment is worth to beekeepers so we know if we can produce bacteriophages for that price. If beekeepers did low-ball their answers, it would influence the feasibility of the project if we cannot produce bacteriophages for what beekeepers are willing to spend."

Data from the survey will stay within the ABAtE team and will not be released to anyone.

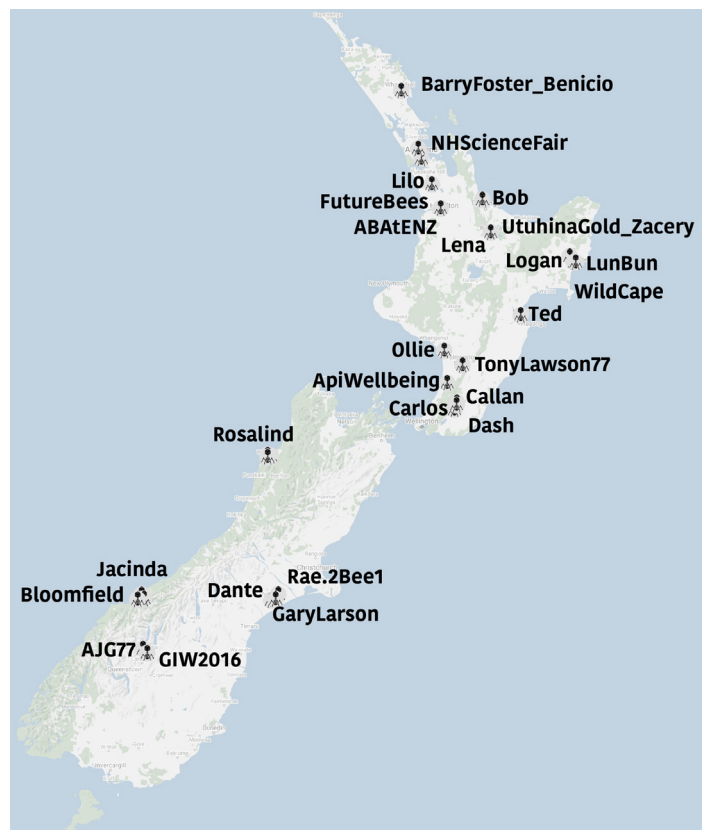
"We respect the privacy of beekeepers and ensure that there are no ways that individual operations can be located or evaluated based on the information," the research lead explains.

With only two strains of *P. Larvae* left to find phages against, it seems the end could be insight for Hendrickson's phage hunt. However, the science her lab has developed over the years is bound to spill over to other industries where the phage hunt starts anew.

If you would like to participate in the ABAtE survey and assist their funding drive, please follow the link:

www.surveymonkey.com/r/DQWZXRF

If you would like a free soil sampling tube and return envelope, please email danielle.kok@canterbury.ac.nz 🐝



The ABAtE team has collated a wide range of bacteriophages from around New Zealand from soil samples submitted to them, with the goal to combine them into a cocktail of phages which can be applied to beehives to help prevent AFB forming.

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Last month we met John Syme, a lifetime beekeeper whose connection to apiculture in New Zealand goes back 161 years. The Canterbury apiarist's contribution to beekeeping has not just been in the hives though and the Syme name is also associated with honey extraction and crane equipment. Despite creating several innovative pieces of equipment, engineering was always a side-line to beekeeping, but we learn that it was almost much more than that and Syme equipment is still in regular use around the country.

BY MAGGIE JAMES



John Syme in his Staveley workshop, Canterbury, where his 1970 TK Bedford beekeeping truck is undergoing an overhaul. Photo: Maggie James.

Engineering seemed to come naturally to John Syme, with an ability to record details and designs to mind, he was self-taught from a young age and the skills have reaped reward as a supplementary income stream to his beekeeping career.

These days the 82-year-old's well organised and clean workshop in Staveley, Canterbury, houses not just assorted beekeeping gear, but a wide range of honey processing equipment that he is well known for manufacturing. As well as that there is one of the two helicopters he has built and, taking pride of place, the once busy beekeeping truck – a 1970 TK Bedford currently undergoing an overhaul.

THE PATENTED SYME 2-IN-1 HONEY AND WAX SPINNER

Perhaps Syme's most recognised invention is the 2-in-1 honey extractor and wax spinner which he first designed in 1969, saying "there was nothing in the world like it", at the time.

He developed the extractor after getting the idea from looking at a washing machine spin clothes.

"I thought, why not do that with honey using centrifugal force and gravity, instead of spinning with the legs on the floor where the honey was only off one side of the spinner, which was spinning horizontally," Syme says.

"I found it worked and I made a super-duper one and it worked even better."

The 2-in-1 model spins the honey from the frames, whilst separating the honey from the cappings, removing the need for a hummer. It also proved that "cold" extraction was possible – doing away with the need for a hot room. Beech dew and clover honey, common honeys in Canterbury, were extracted from cold. Up to 10-tonnes can be removed from the frame in eight hours. After extracting three loads, the cappings are spun.

Knowing he was onto a good thing, Syme took out a world patent on his invention, with the help of a Government grant which provided venture capital to businesses seeking to create work.

Syme was unsure of the demand for further exports at that time, with the global beekeeping industry hit by an unexplained phenomenon of bee deaths. He says he came close to setting up a multi-million-dollar industry manufacturing extractors for both potential domestic and overseas buyers. However, this did not proceed as the Government of the day decided to stop providing export incentives.

While he regrets not pushing for export growth, his reasoning was solid – he was a proven multi-generational commercial beekeeper, but a self-taught engineer. Engineering management and marketing is another ball game, and Syme chose to look after his bees first and foremost.

FIRST HONEY EXTRACTION PLANT IN JAPAN

While small-scale production of Syme honey house equipment was contracted out under the direction from the Symes Apiaries base in Staveley, a chance meeting in 1998 opened the door to an export market, 30 years after his first extractor manufacture.

At the 1998 National Beekeepers' Association conference, in Ashburton, Syme noticed a young Japanese couple sitting by themselves. In typical, amicable John Syme fashion, he introduced himself to newly arrived in the country, Motoshi (Moto) and Yoko Suzuki. Six months later Moto contacted Syme about work and then spent four years with Symes Apiaries.

Each winter the Suzukis travelled back to Japan to keep in touch with beekeepers. When beekeepers on Hokkaido Island, in northern Japan, became interested in Syme's plant,



The Syme 2-in-1 honey extractor and cappings spinner was first designed in 1969 and while it found some popularity in New Zealand and even Japan, John Syme says growth of the engineering businesses was limited due to his focus on beekeeping.

representatives were sent to Staveley to inspect.

Hokkaido beekeepers placed an order for manufacture of the first honey extraction plant in Japan, made of stainless steel, meeting international food safety compliance and capable of extracting honey at 100 frames in one, ten-minute cycle. All componentry fitted into a six-metre shipping container and in 2012 Syme flew to Japan to undertake the installation. At the time honey extraction in Japan was largely by hand and highly labour-intensive.

"I sold about 19 extractors throughout New Zealand, but I believe the plant to Japan was the first to be exported from New Zealand, and I was 70 by then!" Syme says.

Sadly these days the high cost to the beekeeper with extraction equipment is not always necessary, Syme laments, saying that,

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once the industry became corporate, overseas manufacturers moved in on the New Zealand market, selling high-priced plant manufactured overseas.

"Many honey facilities around New Zealand are using extraction equipment imported from overseas, but more could have been sourced locally and probably at a lower price," Syme says.

"The gear that I made over 50 years ago is still efficiently used in many established and modern honey houses today."

TRUCK MOUNTED CRANE AND FOUR-HIVE PALLETISATION

The engineering innovations of Syme have not been limited to the honey house either. In the early '70s the business's 1970 Bedford TK truck was fitted out with an attached oil crane controlled from the tip where hives were attached. Syme believes he had the first beekeeping truck in the world fitted to remove hives with such a crane. Following this innovation, others in the industry developed radio-controlled cranes.

When some 20 years later Symes Apiaries were among the first to incorporate four-hive palletisation of beekeeping operations, the truck crane innovation made a perfect pairing.

The 2000-hive business included large sites in the Mid Canterbury foothills for beech honey dew production to Germany. Then, when specialist seed cropping ramped up on the Canterbury Plains in the 1990s, beehives for pollination were in demand. More than ever, the Symes' needed to be quickly geared up to move large numbers of hives easily twice yearly – overwintering on the dew for the first crop, shifting hives onto the Plains for seed crops and white clover honey flow, then back onto the foothills for the next dew crop.

"The income of exporting dew to Germany with prompt one-off payment, combined with increasing small seed production pollination contracts, was a dream come true for us," Syme says.

It was at this stage that Syme designed pallets to accommodate four hives. Because of his earlier development of a truck-mounted hive crane, Symes Apiaries were able to promptly adapt and were amongst some of the first to use the four-hive palletisation concept.

TODAY'S PROJECT

Syme's workshop is still a busy place today and the 1970 TK Bedford still holds a prominent place – currently undergoing a complete mechanical overhaul that will leave it as good as the day it was bought new for \$7500.



John Syme, with Mt Somers in the background, proudly alongside the 1926 Essex sedan which he and wife Daphne restored after the vehicle caught a shed beam during a snowstorm. Photo: Maggie James.

You needn't look far to see that he and wife Daphne have the skills to undertake projects ... a 1926 Essex four door sedan, in fine condition, provides the evidence. It was first bought by John's grandfather David Syme, and has a refurbishment story of its own to tell.

Much to the horror of the Symes, during a heavy snow storm in 1973 the shed roof caved, resulting in a heavy beam landing on top of and squashing the whole right-hand side of their beloved two tonne Essex.

The radiator was crushed, the right front light had to be totally rebuilt and unavailable parts had to be made by John, while Daphne undertook a total remake of all the inside upholstery. The couple took three years to rebuild the vehicle during their spare time.

The Essex is now in road worthy condition and with 88,256 miles on the clock (thought to be second time round!) when I visit. It has been utilised for the weddings of two granddaughters.

It's a long time since I have been in a 1926 vehicle, and, on the day of interview, I could not resist being driven by John from the homestead to the 1970s honey house to view the renovation of the Bedford. There he passed on some advice given by his father, and which seems to have helped encourage the beekeeper's innovative engineering spirit.

"If something's broken you can't make it worse by trying to fix it".

If you wish to discuss any aspect of this story with John and Daphne Syme, email: johndaphsyme@gmail.com 🐝

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Humm – Streamlined Honey Testing

Humm – it's ordering honey testing and managing results with the convenience of online banking. In a world where so many business activities have been hastened and made more efficient by use of the internet, in 2019 Ecrotek Beekeeping Supplies asked, *why is honey testing any different?*

The answer is, it needn't be, and thus Humm was born and is now simplifying and streamlining the honey testing process for beekeepers, whether they have one sample or many. It's an online portal where beekeepers can order sample jars and return courier bags and receive them the next day, book tests, print their own labels, track their sample's progress, view test results, customise reports and order additional testing. Humm puts more control in the hands of the beekeeper.

WHY HUMM, WHY NOW?

While existing laboratories were providing the honey industry adequate testing in lab, Ecrotek customers raised the need for greater control and efficiency in the process of submitting samples and ordering results.

While the beekeeping supply company has provided a user-friendly portal at www.myhummm.co.nz, Australasia's largest food testing agency Gribbles Scientific carries out the all-important honey testing from their IANZ accredited lab in Mosgiel, Dunedin. All up, it makes for a simple process...

"So good! I don't have to email the lab and ask them to split sample A off report 1 and Sample C off report 3, etc."

**– Twyla MacDonald,
Tai Tokerau Honey**

STEP 1 – GET THE GEAR

With Humm, getting honey samples to the Gribbles lab is not only simple, but free. Once the beekeeper has their myHumm login details, it's simply a matter of letting the lab know – via myHumm – how many batches need testing and the amount of sample jars and labels required. They will be on the way for next-day delivery, along with return courier bags – all at no charge!

STEP 2 – SELECT YOUR TESTS

Choosing what honey tests are required from Gribbles wide range is then easy when using myHumm – drag from the list of test types and drop alongside the appropriate batches. You can even create groups of common test types for fast application to batches.

STEP 3 – LABEL AND SEND

Either hand label your sample jars, or print coded labels using the sticker sheet provided. Then it's in the courier bag and off to the lab.

STEP 4 – WATCH THE PROGRESS

Ever wonder how long away your honey test results are? With the myHumm portal you can view progress with just a couple of clicks/swipes.

STEP 5 – COLLATE RESULTS HOW YOU WANT THEM

Perhaps the biggest benefit of Humm is the ability to generate fully customisable reports of test results ... no more hindering would-be honey buyers with screeds of PDF files. Humm lets the beekeeper choose what results they want on each report, saving time, improving accuracy of information to buyers, and preventing over-sharing of the beekeeper's honey results.

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– Darryl Rogers, Alpine Honey

AND A BONUS...

These days many beekeepers need follow up honey tests once an initial result is returned – think a mānuka five-attributes test once the 3-in-1 results prove favourable. Additional testing inside 30 days (that's how long they hold your honey samples at the lab) couldn't be easier with Humm providing the platform to place another quick order, as well as a filing system for storing your results.

GET ONLINE AND GET EFFICIENT

Humm is simple to get started with and has been saving beekeepers time and energy since its inception three years ago. With the main honey testing season soon upon us, now is the time to streamline your testing processes and get results at your fingertips with Humm.

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Growing Fruitful Clubs



Club Catch-Up celebrates those dedicated folk who make our beekeeping clubs hum, and every club has them. How many people have been instrumental in the advancement of two beekeeping clubs though? In Levin there's a beekeeper who has given to The Buzz Club Otaki, as well as the Manawatu Beekeepers Club, in about as many was as possible, and has the life memberships to prove it.

Frances Beech is down to two hives now – a standard Langstroth and a 30-frame long-bar – where there once was 20, but in her 70s the passion to keep bees is still strong. That is unsurprising, being that she has not only kept her own hives for pollination of her commercial orchard, but taught beekeeping basics courses, Disease Elimination Conformity Agreement (DECA) courses, served as secretary of the Manawatu Beekeepers Club and donated earnings from teaching to the club coffers, and been instrumental in founding another club closer to home.

Now retired from Victoria Line Orchard, Beech reflects on how she first came to keep bees.

"About 20 years ago my husband was made redundant at 50 and so we bought a piece of land in Levin and we grew heritage fruit trees. Of course, fruit trees need pollination. So, I became a very unwilling beekeeper to a very aggressive hive and decided the best thing I could do was actually learn what the hell I was doing. Gary Milne, at Southern Sun Queen Bees, came to my rescue. I worked with some of his crew over the summer period to learn what I was doing. And I sat my DECA," Beech recalls.

"I just found it so fascinating. At the end of the year, I had six hives. At the end of the next year, I sort of had 18. I settled out at about 20, so I could also work the orchard with my husband."

The couple sold their fruit and honey at the Paraparaumu Beach Market for years.

Once she had dived into beekeeping head first, it wasn't long before Beech was taking a leading role at the Manawatu club and she took a shine to teaching others.

"I found that I was actually quite good at teaching and so I took one-on-one lessons with people and taught them beekeeping, right through to the DECA courses. Then I was asked to actually be the tutor for the DECA course as there was no one in the Manawatu or Horowhenua taking them."

Beech's affinity for teaching led to her holding larger beekeeping-basics courses, for which she donated the earnings to the Manawatu club which was struggling at the time.

"It's been a really good network and I've certainly enjoyed the people I've worked with over the years," she says, although retired from organized teaching now.

Her propensity to help others is what eventually led to Beech becoming one of the founding members of the Buzz Club Otaki, which brought the benefits of a club beekeeping community closer to home for her and others in the area who no longer have to head north to the Manawatu or south to Wellington to meet with like-minded apiarists.

"When I first started the Otaki group, that was actually my husband's fault," Beech explains.

"He refused to answer the telephone anymore. I was receiving so many calls from people in the area wanting me to go out and help them. So, he said to me, 'whatever you do, I am not going to answer the telephone anymore. I'm not your secretary'."

That led to meetings once a month for a whole year where Beech would mentor for 45 minutes on basic beekeeping and Andrew Beech (no relation), the AP2 for Kapiti, would take another 45 minutes on the hands-on things like assembling equipment.

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Frances Beech right, has been instrumental in teaching beekeeping in both Manawatu and Horowhenua-Kapiti regions, and earned life memberships to two clubs.

With around 50 to 70 people attending meetings, it was decided to form an official club.

Now, more than a decade on, Buzz Club Otaki is thriving, much like the Manawatu club up the road is. It's no coincidence that Beech has her fingerprints all over both and thus in 2016 the Manawatu Beekeepers Club awarded her life membership and the next year the Buzz Club presented the same award to the one-time accountant and payroll manger, turned orchardist and apiarist.

"I'm quite proud of the Buzz Club and the people who have stepped in and kept it going, because it could have easily flopped.

People like Rusty Barrett, the inaugural president, and the committee he set up."

Now, her input at both clubs is less, having slowed down since the passing of her husband nine years ago, but the passion for bees will always be there.

"I should have started with bees when I was 18. I really should have. I absolutely love it," Beech says, adding "the world absolutely disappears when you have your head in a beehive". 🐝

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Printed Magazine Back in Time for Christmas — Order Now!



BY PATRICK DAWKINS – EDITOR

After a successful dip of our toe in the water of printing *Apiarist's Advocate* back in winter, a second printed magazine will be available in December and readers can order now.

Much like the June print run, *Print Reads Summer 22: The Best of Apiarist's Advocate July-December 2022* will bring together a range of the stories featured in the eMagazine and online over the previous six months. We like to provide our readers with a variety of options for consuming the stories we create, and the printed "best of" magazine will add to the other mediums.

Like the winter "best of" magazine here, a slick summer bi-annual version of *Apiarist's Advocate* is set to be distributed in December to those who order now.



For employers it's a great addition to the workplace – and there is a discount for orders of four or more copies. For any type of beekeeper it makes for a great addition to home or office and provides a snapshot of beekeeping in New Zealand to be kept for posterity.

Print Reads will run to around 50 pages and prices have remained the same as in winter – \$29 (which includes GST) for one copy, or \$25 per copy for orders of four or more.

As a beekeeper reading this you may want a copy of your own, but it will also make for a great Christmas gift for any other beekeepers in your life.

Once the December eMagazine has been put together, we will be in position to sift through all the great stories from July-December and the printers will fire up, and magazines will be delivered in mid-December to those who have placed orders.

While not all apiarists will be blessed with a lot of time off through the busy summer months, there will surely be a few minutes for most to sit back, relax and catch up on the best of *Apiarist's Advocate* from the second half of 2022. Get your order in now, because the winter print run sold out!

To place your order visit apiaristsadvocate.com/printreads 🐝

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The Damning Debilitating Disaster of Deformed Wing Virus



BY JOHN MACKAY

Many have heard myself and others like Dr Richard Hall (MPI) speak on Deformed Wing Virus (DWV) – or as I prefer to call it: *Hive Killer 1*. This was the virus that finally kicked our interest in bee pathogens into gear over a decade ago.

Since then, much has been learned about this virus – in particular, the presence of different strains of the virus. Much the same way we've had Alpha, Delta and Omicron variants of the COVID-19 virus, DWV has two major strains (and two minor ones), imaginatively-named DWV-A, B, C and D. We have developed new variant-specific tests for A, B and C to show that only DWV-A is present in New Zealand and similar work by Richard and the team at MPI also shown this single strain present.

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A new paper sought to confirm the differences between these strains in how they are vectored by varroa and their virulence differences: Transmission of deformed wing virus between *Varroa destructor* foundresses, mite offspring and infested honey bees (Piou et al., September 2022 open access). The paper, researched in France, looked at the virus strains in the mites, the bees they infected, and in the mite progeny.

However, the mites and bees used in this work were shown to have high levels of strain B of DWV – and this strain appeared to repress DWV-A when varroa was present and indeed, grow to higher viral levels – likely indicating the replicative ability of DWV-B in both varroa and the bees they infected. Our New Zealand strain (DWV-A) had levels in varroa that mirrored the bees they had infected. Like the nosema story from the September *Apiarist's Advocate* describing the double whammy effects of both nosema species, then the paper describes a similar effect of varroa vectoring both DWV-A and B with a mortality rate over double that of a single viral strain.

Of particular note was the viral levels in the varroa offspring: closely related to their mother's viral levels, thought to be due to shared feeding sites on pupa, rather than infected mites laying infected eggs (where virus couldn't be detected). However, it looks like the mites are infectious as soon as they emerge from the cell, reinforcing the importance of timing varroa treatments appropriately.

So what? We don't have DWV-B here in New Zealand it seems? And this work was done in a background of DWV-B in the mites. Maybe so, but it highlights the general timing of varroa infectivity to the colony (as soon as they emerge) as well as that virus-free bees are little protection when you have a dirty hypodermic needle called varroa sharing the DWV around.

Further reading: MPI fact sheet: www.mpi.govt.nz/dmsdocument/50080-Deformed-wing-virus-Fact-sheet 

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What the New China OMAR Can Teach us About Data Sharing



BY DARREN BAINBRIDGE

I can understand why the Ministry for Primary Industries (MPI) and China would want to know the “Place of honey gathering”, as recent changes to the Overseas Market Access Requirements (OMAR) now requires of exporters. This information would be a very useful metric for analysing and reporting what regions of New Zealand are producing and exporting certain types of honey. Also, if there is an any issues with quality or authenticity, tracing it back to region could be very useful.

However, as an industry supporter a question that arises is, where was the industry consultation on this new requirement and could it lead to a future constraint being placed on the types of honeys that may be accepted, based on the region of gathering?

Then we get to data sharing, and whenever that topic comes up so does the conversation about data security and who's using our data and for what purpose (looking at you China). There could be malicious intent, political gain or, in this case, possibly public safety.

If this requirement has really come about in the name of public safety, then why is there a new requirement to report the “Place of honey gathering” on our harvest declarations when this information is already known? We already have a national register

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MyApiary's Darren Bainbridge battles through an encounter with an upset bee to bring us this month's Management Matters.



of apiary locations and the apiary registration number is already a reporting requirement on our harvest declarations. The answer has to do with data sharing, or the lack thereof between agencies which has made life harder for all of us.

Data can be shared safely if there is the political will to do so. Inter-agency data sharing could stop this type of scope creep of the ever-increasing reporting and audit requirements put on us, while keeping the information out of view from prying eyes (again looking at you China). In this case, the region of gathering for each apiary registration ID in our national register could have easily been shared with MPI for food safety purposes, without any other identifiable information needing to be shared.

Here's an example of the type of data sharing that can prove very useful. Government agencies like, NIWA, LINZ and Stats NZ publish a lot of data that we can make use of. In the case of reporting the "Place of honey gathering", MyApiary has been able to make use of public data published by Stats NZ to link the regional council area of all the apiary locations stored in our database, without having to share any identifiable information. This allows users of MyApiary Manager and Extraction products to meet the new China OMAR requirements without any intervention required on their part. At MyApiary we can now simply fill-in the new field, on our user's behalf, when generating harvest dec's at the time of harvesting.

But, why the need to do this in the first place? Has MPI (as they say) worked in our best interest? or simply bowed to external political pressure without looking at the alternatives? No matter how hard those conversations might have been.

AND HERE'S WHY I'M BEST MANAGING BEEKEEPING DATA AND NOT BEES!

But the bees had other ideas...

Each year we all try our best to coerce our little friends to do as we wish and remain civil, but they always manage to one up us. After what has been one of the best springs in the Waikato in years, with nectar starting to come in as early as August, my personal hives have been booming.

I have been making splits, by removing the old queen, to try and prevent swarming. Then, boom!, the one you think isn't going to swarm (you know, the one with lower bee numbers and no queen cells is sight at the time of inspection) burps a huge swam. Tidying

up after this queen's little adventure outside the hive, and swack, one got me through the veil right between the eyes.

My eyes can be squinty at the best of times, but this is a whole new level!!

Darren Bainbridge is the founder and general manager of MyApiary, a provider of beehive, apiary and honey house management software, as well as beekeeping business advisory and consultancy.

www.myapiary.com 🐝

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