

Report on the American Foulbrood National Pest Management Strategy

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Ministerial Foreword

American foulbrood is a serious bee disease, and imposes significant costs on New Zealand beekeepers each year. For over a century, New Zealand beekeepers have realised that they could not control American foulbrood in isolation, but needed to manage it as an industry working together.

For the past ten years, American foulbrood has been directly managed by the beekeeping industry, under a National Pest Management Strategy. The industry has seen many changes in this time. Some of these have been positive, such as the ever-increasing demand for pollination services, and the rise of manuka honey as a specialty product. Other events have been more challenging, notably the arrival of the varroa bee mite in New Zealand.

It is therefore timely to review the existing strategy, and consider whether it should be retained and how it can be improved. This report by the Ministry of Agriculture and Forestry surveys the strategy and its effectiveness, and suggests some changes.

The most important part of the review process is what happens after this document is published. I urge all those with an interest in beekeeping in New Zealand to consider the contents of this document and provide feedback. These submissions will be invaluable in determining the future of American foulbrood control in New Zealand.

Hon Jim Anderton
Minister for Biosecurity

Executive Summary

American foulbrood is a serious disease of bees. Since 1998, American foulbrood has been managed by the beekeeping industry via a National Pest Management Strategy. This strategy is due to expire on 30 September 2008.

As a review has been notified prior to that date, the strategy will remain in force until completion of the review.

The strategy has failed to achieve its primary objective of reducing the incidence of American foulbrood so that a maximum of 0.1 percent of New Zealand beehives were infected in 2008. The current incidence is 0.3 percent, a similar infection rate to when the strategy began.

There are some mitigating factors, including possibly better disease reporting by beekeepers, changing industry practices increasing the risk of disease spread, and the arrival of varroa. Managing varroa has been the major focus for the beekeeping industry since 2000, and has consequently taken attention away from American foulbrood control.

The management agency for this strategy is the National Beekeepers' Association of New Zealand Inc (NBA). Since the strategy commenced, the NBA underwent a split in 2002, and there is no longer a single national body representing beekeepers interests.

Notwithstanding the failure to achieve the strategy's primary objective, most beekeepers spoken to during the preparation of this document appear broadly supportive of the strategy. There is a near-universal perception in the beekeeping industry that some form of regulatory control over American foulbrood is required, and without the strategy disease levels would be higher. Many beekeepers also had criticisms of some operational aspects of the strategy, and suggestions for improvements.

Limited resources appear to be a factor in the failure of the strategy to attain its objectives. There is scope for a considerable increase in levy rates within the existing levy order, but it is unclear if the industry would support a significant increase in the cost of the strategy, even if it resulted in lower levels of American foulbrood.

This report assesses the Order in Council that underpins the strategy, and suggests a number of changes. Most of these changes could be described as incremental improvements rather than major modifications.

MAF invites submissions from individuals and organisations with an interest in American foulbrood control and the beekeeping industry. The closing date for submissions is **Friday 28 November 2008**.

Questions are provided throughout the document to assist in providing feedback, and submitters are welcome to comment on any other matters relating to the strategy.

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1. Background

1.1. AMERICAN FOULBROOD

The bee disease American foulbrood is caused by *Paenibacillus larvae larvae*, a spore-forming bacterium that only infects honey bee larvae. American foulbrood usually infects bee larvae between one and two days old. Spores are fed to larvae in contaminated food provided by worker bees. The spores germinate in the larval gut, and the resulting vegetative rods invade the haemocyte, causing death around the time of pupation.

Once infected, most hives are unable to limit the spread of the bacteria, and an increasing percentage of developing bees will become infected. Eventually the hive population is no longer able to sustain itself, and the hive dies.

American foulbrood spores are extremely durable and long-lived, with reliable reports of spores more than 50 years old being viable.

Spores can be spread from hive to hive by exchange of hive parts and bees during routine beekeeping operations, by bees “robbing” honey from an infected hive and by bees naturally drifting from hive to hive.

1.2. AMERICAN FOULBROOD CONTROL IN NEW ZEALAND

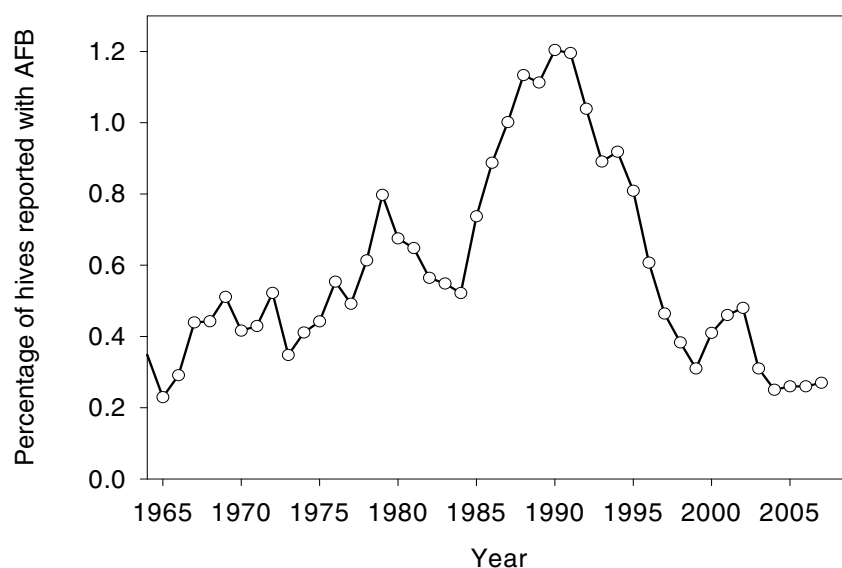
American foulbrood was first reported in New Zealand in 1877, after being introduced on bees imported from Europe. The disease devastated the newly-established beekeeping industry, with honey production dropping by 70 percent. As a result, beekeepers began to lobby for legislative controls to limit the spread of American foulbrood, eventually leading to the Apiaries Act 1906. This law placed statutory obligations on beekeepers to control American foulbrood in their hives, and legislative controls over American foulbrood have remained in place ever since.

From 1904–1998, control of American foulbrood was largely the responsibility of the Department of Agriculture and its successors. Government inspectors advised beekeepers on the recommended methods of the day to deal with American foulbrood, as well as carrying out hive inspections.

In the 1980s, government policy moved away from direct support of the agricultural sector, and embraced the concept that industries should pay for and control the services they required. The number of government apiary inspectors was greatly reduced, and they were obliged to charge for services provided to the beekeeping industry.

American foulbrood levels reached a modern peak of 1.2 percent of hives reported as infected in 1990. This may have been due to an influx of new, inexperienced beekeepers carrying out kiwifruit pollination coinciding with cut-backs in MAF apiary inspections. From 1991, the NBA contracted MAF to carry out specified disease control activities, and mobilised its own members to carry out inspections. Beekeepers embraced the new industry-led programme with enthusiasm, and by 1998 disease levels had been reduced to 0.38 percent of hives.

Figure 1.1: Percentage of hives reported with AFB



The Biosecurity Act 1993 provided opportunities for industry groups to gain the legal powers necessary to manage their own disease control programmes. It was envisaged that a wide range of industry groups would develop industry-led pest management strategies, and the Crown would largely remove itself from the management of endemic diseases.

In response to these pressures, the NBA began preparing a National Pest Management Strategy (NPMS) application in 1994. The strategy design was strongly influenced by research on the spread and control of American foulbrood conducted by MAFtech (later HortResearch) in the late 1980s and 1990s. After lengthy debates within the industry, and a protracted development period, this strategy began in September 1998.

1.3. PRINCIPLES UNDERLYING THE NPMS

The beekeepers that developed the NPMS were heavily influenced by research findings on foulbrood control. This research highlighted the role of beekeeper management in spreading American foulbrood infection within beekeeping businesses, and identified simple management practices that reliably reduced the incidence of American foulbrood. Some businesses had succeeded in completely eliminating American foulbrood from their operations by scrupulously following a range of simple management practices, and the researchers suggested that there was no theoretical reason why all New Zealand beekeepers could not do the same. This objective of entirely eliminating American foulbrood from New Zealand is explicit in the strategy proposal document, but was not included in the Order in Council making the strategy, as it would not be achievable in the ten-year span of the strategy.

The proposal suggested that the previous history of American foulbrood control in New Zealand had been dominated by the interplay of two factors. Beekeepers unintentionally infected new hives by transmitting spores from hive to hive in the course of beekeeping operations. MAF inspected as many hives as possible, and burnt those found to be infected with American foulbrood. Where the volume of hives burnt exceeded the number of new infections, national disease levels went down. When new hives were infected faster than they could be burnt, disease levels increased.

The NPMS proposal suggested a dramatic change from this model. Irrespective of industry wishes, MAF was relinquishing its previous responsibility for disease control. This placed the responsibility for controlling foulbrood squarely on beekeepers. The key principle of the strategy was extremely simple – to ensure that every managed (that is, non-feral) beehive in New Zealand was inspected at least once each year by someone who was capable of recognising the symptoms of American foulbrood. The operational activities of the strategy sprang from an attempt to achieve this goal.

Hence, all beekeepers were required to submit an annual Certificate of Inspection to the management agency, in which an approved person (that is, one whom the management agency was confident could diagnose American foulbrood) certified they had inspected the beekeepers' hives and found them free of disease.

Beekeepers could gain exemption from the need to present a Certificate of Inspection by entering into a Disease Elimination Conformity Agreement (DECA) with the management agency. A DECA was a legal agreement in which the beekeeper specified the methods they would use to control American foulbrood, and also undertook to pass a test on identifying and managing this disease (see Section 4.5.3). The management agency was responsible for reviewing DECAs each year and suspending them if disease levels were not adequately controlled.

In order to avoid the difficulty and expense of employing an approved person to inspect all their hives, a beekeeper would be strongly motivated to gain and retain a DECA. This would particularly apply to commercial beekeepers, with hundreds or thousands of hives needing annual inspection. Under this model, rather than be “policed” by an external agency like MAF, beekeepers would take responsibility for their own disease management. In order to retain their DECA, beekeepers would have to adopt management practices that minimised the risk of spreading foulbrood during routine beekeeping operations.

A range of other measures in the strategy required beekeepers to destroy American foulbrood-infected hives within seven days of finding them, and prohibited the selling of infected hives and materials. These requirements were largely derived from the previous Apiaries Act 1969.

1.4. CHANGES IN BEEKEEPING INDUSTRY DURING NPMS

All agricultural sectors can be expected to undergo some change in the course of ten years. Key changes in the beekeeping industry likely to affect the implementation of the strategy are summarised below.

1.4.1. Varroa

When the strategy was developed, American foulbrood was the primary disease of economic significance to beekeepers in New Zealand. Beekeeper meetings were strongly focused on foulbrood management. In 2000, *Varroa destructor* was detected in Auckland. This parasitic mite attacks and kills honey bee colonies, and internationally is considered a more significant threat to bees than American foulbrood. Since 2000, varroa has spread southwards from Auckland, and is now found throughout the North Island, and in the upper South Island. Varroa has displaced American foulbrood as the main focus of beekeeper concerns about disease. Managing varroa impacts has been a primary concern of beekeeping industry organisations and of MAF. The management agency has been heavily involved in representing beekeeper interests in relation to varroa during this period, and this has undoubtedly diverted attention away from the American foulbrood strategy.

When varroa first moves into an area, there are generally substantial losses of managed colonies and almost complete mortality of feral colonies. If any of these colonies killed by varroa contain foulbrood spores, it is likely these spores will be “robbed out” by surviving colonies, and may initiate new foulbrood infections. Additionally, hives heavily infested with varroa may display signs of brood disease that can be mistaken for American foulbrood, increasing the difficulty of carrying out foulbrood inspections. In the short-term, varroa is likely to increase foulbrood levels, even setting aside the shift in beekeeper focus away from foulbrood control.

In the longer term, varroa greatly reduces numbers of feral colonies, which may act as a reservoir of American foulbrood infection. By making beekeeping more difficult, varroa also increases the level of skill and motivation needed to remain a beekeeper. In the longer term, the effects of varroa on American foulbrood levels may be neutral or even positive.

1.4.2. Beekeeper and hive numbers

Beekeeper numbers have declined substantially over the course of the strategy. Hive and apiary numbers have also declined, but by a less significant margin. This is because the majority of those quitting beekeeping are hobbyists, who collectively own less than 10 percent of the hives in New Zealand. Following the arrival of varroa in 2000, hive numbers dropped each year. Since 2004, they have steadily increased, largely due to rises in the price of commercial pollination and manuka honey.

Table 1.1 Beekeeper, apiary and hive numbers

Years	Registered beekeepers	Registered apiaries	Registered hives
1999	4914	21793	302988
2000	4956	22443	320113
2001	4756	22045	317690
2002	3973	20258	305152
2003	3727	20270	299618
2004	3211	19592	292530
2005	2911	19281	294886
2006	2694	18954	300728
2007	2602	19288	313399
2008	2594	20488	344123

As the strategy is funded by a levy on apiaries, with a fixed charge of the initial apiary registered by each beekeeper, declining beekeeper numbers and apiary numbers will decrease strategy revenue. However, costs should also fall. In some respects, having the number of beekeepers fall by over a third over ten years should have simplified the tasks faced by the management agency.

1.4.3. Pollination

Demand for commercial pollination hives has increased in the past ten years. In the upper North Island, this has been driven by expanding production of kiwifruit and avocados. Beekeeper charges for pollination services have risen sharply, and to a large extent the horticultural industry is funding the costs of varroa control incurred by North Island beekeepers.

While commercial pollination is less significant in the South Island, there has been a major increase in demand in hives to pollinate specialist seed crops such as carrots in mid-Canterbury. This trend is expected to continue.

To pollinate horticultural crops, large numbers of hives are collected from a dispersed area, placed in close proximity to each other in orchards or farms, and then removed. This

intermingling creates opportunities for American foulbrood to spread, as does the intensive management employed by beekeepers to prepare their hives for pollination. Pollination therefore increases the risk of American foulbrood spreading.

1.4.4. Manuka honey

Since 1998, there has been a huge increase in the value of manuka honey, due to publicity about its potential antibacterial effects. This has led to something of a “gold rush” mentality among some beekeepers, and intense competition for apiary sites in areas where manuka is present. This has resulted in concentrations of hives not normally experienced in other honey-production areas, posing similar risks to those faced by pollination hives. Some beekeepers attempt to keep their manuka-producing apiary locations secret, and it is suspected that this discourages them from complying with the legal requirement to register all apiaries with the management agency.

The manuka boom has also attracted new entrants to the beekeeping industry, and caused the rapid expansion of some existing businesses. Both these factors have led to increasing numbers of hives being managed by people with limited beekeeping experience. In the past, this has been associated with increased American foulbrood levels.

1.4.5. Industry Organisations

At the time the strategy was implemented in 1998, the National Beekeepers’ Association of New Zealand was the sole national representative body for beekeepers.

In 2002, a group of beekeepers broke away from the NBA and affiliated with Federated Farmers New Zealand Inc, a large rural lobby group. This led to the creation of Federated Farmers Bees (often referred to as the Bee Industry Group), a sector group within the Federated Farmers structure. The split appears to result from a combination of policy and personal differences. The two groups now compete for members and to represent beekeepers interests.

Of the two groups, the NBA has more members, and appears to have a greater geographical spread of membership. Federated Farmers Bees membership is largely based in the South Island, notably around Canterbury. Few hobby beekeepers belong to either group, and a significant number of commercial beekeepers are also not affiliated to either organisation. Because of low hobby beekeeper membership, even if the membership of the two groups were combined, they would not form a majority of beekeepers, although they would own an overwhelming majority of hives. It should also be noted that some commercial beekeepers belong to both groups.

2. Governance

As management agency for the strategy, the NBA is responsible for implementing the activities in the Order in Council that makes the strategy, and the related Biosecurity Levy order. This includes collecting and administering levies, developing annual plans, organising the mail-out of documents to all beekeepers and collating the material subsequently returned, keeping a register of apiaries, and maintaining beekeeper support for the strategy.

The NBA has a regional structure of 11 branches and an executive council headed by an elected president. Office-holders are almost exclusively commercial beekeepers, who act in a voluntary capacity. As small business owners in their own right, they often have a limited amount of time they can contribute to association activities.

The NBA has traditionally employed a single part-time paid employee in the role of executive secretary, who has borne much of the burden of administration duties. It now has a Chief Executive Officer and an Executive Secretary. Since 2004, the management agency has been supplemented by a manager with specific responsibilities for administering the Strategy.

It is notable that since the strategy began in 1998, the NBA has had six presidents. This is a reasonable indication of the degree of turnover in leadership positions within the organisation. High turnover is not in itself a bad thing – it may be a sign of democratic renewal and industry participation. But high turnover combined with limited administrative capacity, means that there has been less institutional knowledge and experience built up than could be expected.

There has also been limited separation between governance and management of the strategy. While several presidents have set up or endorsed “operational committees” and the like, few have been able to maintain a hands-off approach to strategy management. This has resulted in limited continuity from one executive team to the next.

Appointment of specialist administrators since 2004 has helped to separate out administration of the strategy from administration of other elements of the NBA. But this is a relatively recent innovation, and one that will not necessarily be maintained in future.

Another recent development has been the appointment of the Chairman of Federated Farmers Bees onto the management committee. This is the first time a non-NBA member has held a management position in the strategy. Given that the NBA members make up only a portion of the beekeeping industry, there would seem to be obvious advantages in attempting to draw upon the widest possible pool of candidates to administer the strategy.

Most NBA national executive members and presidents are self-employed beekeepers, who are unfamiliar with the separation between management and governance normally practiced in regulatory agencies. The absence of induction materials for new executive members, or even basic information on the structure, principles and objectives of the strategy, has made it harder for the NBA to demonstrate sound governance. On a more positive note, those elected to leadership positions within the NBA have a passionate interest in the beekeeping industry and a genuine desire to reduce the impact of American foulbrood. In future, the management agency needs to look at how it can best harness the enthusiasm and skills of the beekeeping industry.

Do you have any comments on strategy governance?

How could governance be improved?

3. Strategy Funding

The American foulbrood national pest management strategy was originally funded by a commodity levy paid under the Commodity Levies (Bee Products) Order 1996. The levy was struck at a rate of \$50 for the first apiary and \$22 for each subsequent apiary. Beekeepers owning fewer than 11 hives on no more than three apiaries were exempt from paying any levy. The levy was used for a variety of purposes, including running the NBA, funding a marketing programme for honey, and paying for the American foulbrood strategy. The strategy at this time also included a significant research budget. In 1998, the strategy received 31 percent of funds collected under the levy, equating to levy rates of \$15.50 for the first apiary and \$6.82 for each successive apiary. This levy expired on 2 December 2002.

In late 2002 there was a split in the Association, with a substantial number of members leaving to set up a new industry body within the Federated Farmers group. This new group is Federated Farmers Bees, often referred to as the Bee Industry Group. Given that membership of both bodies is optional, most hobbyists and many commercial beekeepers belong to neither organisation. These changed circumstances dictated that a new levy structure was required, that would separate funding of the strategy from membership of the NBA and any other discretionary activities such as marketing.

A new levy under the Biosecurity Act was gazetted on 23 October 2003. This levy has two components – a fixed \$20 charge for the initial apiary registered, and a lesser amount for all subsequent apiaries. The initial rate struck for subsequent apiaries was \$8 per apiary, which increased in stages to \$9.50. The levy order fixes the initial charge at \$20, but allows the charge for subsequent apiaries to be increased up to a maximum of \$15.17.

Strategy income is determined by the levy rate, the number of apiaries registered at 31 March of the previous levy years, and the collection rate. Because the accounts for the strategy were not fully separated from those of the Association prior to the new levy being imposed, it is difficult to compare strategy funding levels prior to 2003. Funding since that time is shown

Table 3.1: Strategy income

Year	Levy rate	Strategy income
2003	\$20 + \$8.00	\$127,965 ¹
2004	\$20 + \$8.00	\$233,494
2005	\$20 + \$8.00	\$236,909
2006	\$20 + \$8.00	\$221,827
2007	\$20 + \$8.50	\$245,167
2008	\$20 + \$9.50	\$267,250 ²

¹It is assumed this is low because it was the first year of the levy, which was enacted late in the year

²Provisional

This table confirms that the strategy income has been reasonably static for the past five years. Recent levy rises have been an attempt to boost income to keep pace with rising costs.

In discussing operation of the strategy with past and current management agency members, limited resources are frequently cited as a constraint on strategy operations. This includes additional efforts to improve with Annual Disease Return and Certificate of Inspection compliance, improved field verification of beekeeper-supplied information, and prosecution of beekeepers who breach strategy rules.

The current levy order permits the levy on “subsequent apiaries” to be raised from its current level of \$9.50 to a maximum of \$15.17. If levy income was substantially higher, it is

reasonable to assume that the management agency would have more options available in addressing non-compliance, and could implement more measures to reduce foulbrood levels in line with the objectives of the strategy. Some beekeepers have suggested that large efficiency gains are possible simply by re-directing current spending. It is difficult to assess these claims without specific proposals being presented.

The management agency appears to believe there is little will within the industry for higher charges, even if the funding is used to actively pursue the objectives of the strategy. If this is the case, there is a strong argument for amending the objectives of the strategy to make them less ambitious. The industry has not had a recent debate about the appropriate level of expenditure on American foulbrood control. Over much of the past decade, the management agency has not taken a very proactive stance in promoting the objectives of the strategy to beekeepers. It is reasonable to assume that industry awareness of the strategy and its objectives has declined since the strategy began in 1998.

To some extent, the industry is faced with a choice. Over the past decade the management agency has generally spent around \$230 000 per annum, and broadly maintained American foulbrood levels at 0.3 percent of hives infected each year. If there is a serious desire to reduce infection levels to 0.1 percent as in the original objectives, then is likely a higher level of funding is required. Making a conscious choice to maintain funding (and consequently, disease levels) at current levels is preferable to setting an optimistic target and failing to provide the funding to achieve it.

Do you have any comments on strategy funding?

If a more aggressive approach to disease reduction is appropriate, is additional funding required?

Is the current level of funding and activity preferable to a more active and expensive strategy?

4. Strategy Effectiveness

The primary objective of the NPMS is described as follows:

(1) The primary objective of the strategy is to manage American foulbrood to reduce the reported incidence of American foulbrood:

- (a) during the 4 years beginning on 1 July 1999, by an average of 10 percent each year of the reported incidence of American foulbrood cases in the year beginning on 1 July; and*
- (b) during the 5 years beginning on 1 July 2003, by an amount sufficient to ensure that the reported incidence of American foulbrood cases in the year beginning on 1 July 2007 is 0.1 percent or less.*

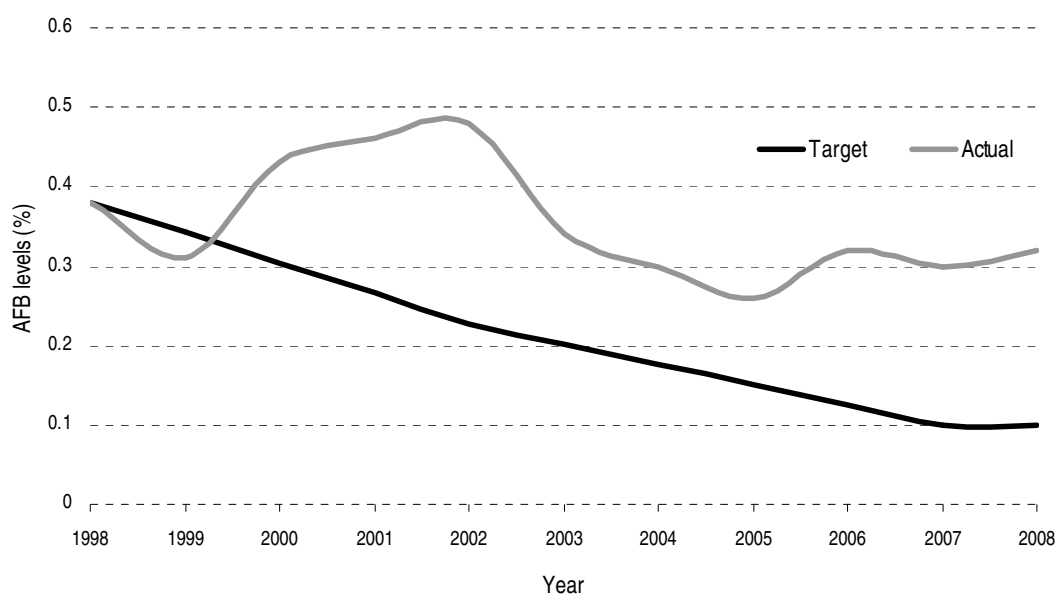
Actual levels of American foulbrood reported are shown in the table below, along with the percentage of Annual Disease Returns received by the management agency each year.

Table 4.1: Annual levels of American foulbrood reported

Year	% ADR Return	Reported disease level
1998		0.38%
1999	76%	0.31%
2000	85%	0.43%
2001	70%	0.46%
2002	75%	0.48%
2003	70%	0.34%
2004	79%	0.30%
2005	82%	0.26%
2006	84%	0.32%
2007	83%	0.30%
2008	91%	0.31%

Graphically, these disease levels are shown on the light-coloured line below. The dark line is the line that would be required to meet the strategy objectives outlined below.

Figure 4.1: American foulbrood incidence – target versus actual



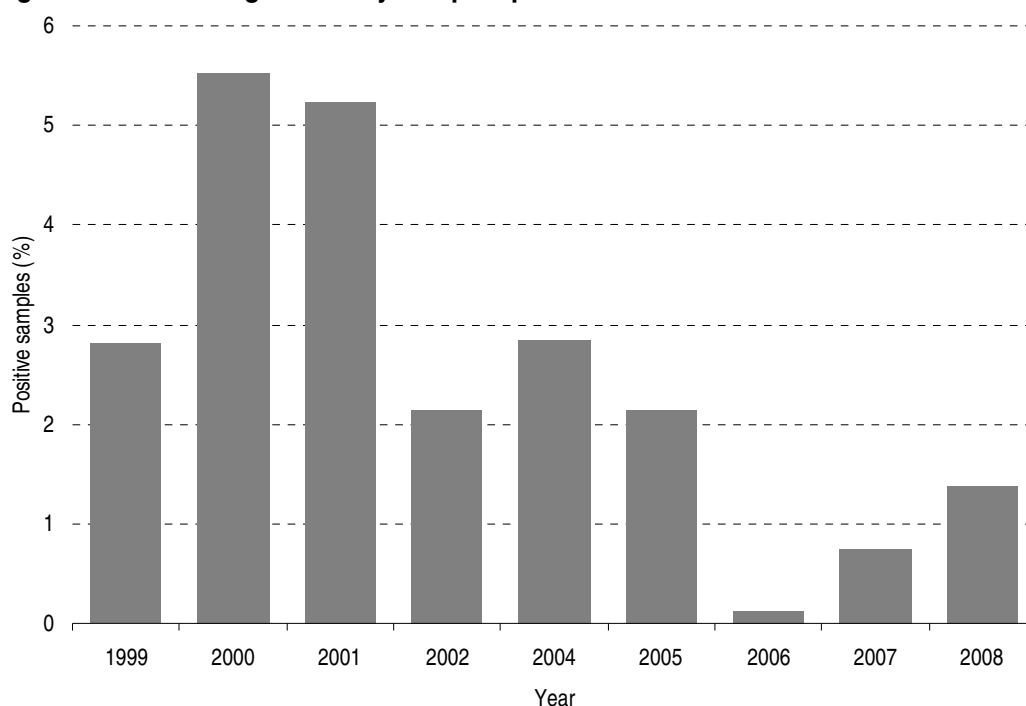
4.1. ACTUAL VERSUS REPORTED DISEASE INCIDENCE

Of necessity, these figures only include the cases of American foulbrood reported to the management agency. Since there are undoubtedly cases where infected hives are not reported, the reported levels are an underestimate of disease levels. The only measurable factor that affects reporting rates is the percentage of Annual Disease Returns received by the management agency. All else being equal, an increase in the percentage of returns should lead to an increase in reported disease levels. In the past two years, the management agency has put considerable effort into improving return rates. The increase in returns from a low of 70 percent in 2003 to 91 percent in 2008 may mask some decline in American foulbrood rates. However, there are no grounds for believing changes in reporting rates significantly alter whether or not the strategy has met its primary objective.

4.2. SPORE COUNTS

To assist in tracking American foulbrood levels, the management agency also contractsASUREQuality and HortResearch to collect and test honey samples each year for the presence of American foulbrood spores. These results are shown below. Despite increases in spore levels in the past two years, the overall trend shown is one of a decline in the number of samples containing American foulbrood spores.

Figure 4.2: Percentage of honey samples positive for American foulbrood



Note: no sampling was done in 2003

Samples for this programme are collected by mailing sample kits to beekeepers and requesting them to collect honey samples during the harvesting season. There is no ability to verify the manner in which samples are collected, leaving open the possibility of beekeepers only submitting samples from batches of honey they believe to be disease-free. However, unless the likelihood of biased sampling behaviour has increased over time, the evidence suggests spore levels in harvested honey have decreased over the past 10 years.

There have been variations in the number of samples collected (approx. 500 samples/year). Changes in the sampling methodology have increased the degree to which samples are collected from beekeepers and regions with high disease levels. These changes do not appear likely to cause the overall decline in spore levels observed.

The best way to reconcile these results with the level of infected hives is to look at what is being measured. Infected hives detected and destroyed prior to the autumn harvest season will not result in honey containing American foulbrood spores being harvested. Better spring disease inspections and more rapid elimination of infected colonies could account for the decline in spore levels observed. Under these circumstances, it would be expected that disease levels would gradually decline, as the opportunity for cross-infection is reduced. There is no obvious explanation for why this has not happened.

4.3. RETAIL PACK TESTING

In 1992, HortResearch carried out a survey of 22 retail packs of honey purchased from retail outlets in Hamilton. Much of the honey purchased belonged to nationally available brands, so this information should be broadly applicable to the rest of New Zealand.

In 2007 the management agency contracted HortResearch to do a similar survey, this time testing 45 packs of commercially-packed honey using the same method. The results are given in the following table.

Table 4.2: Commercial honey containing foulbrood spores

Year	No. of samples	% containing foulbrood spores
1992	22	31.8
2007	45	0*

* Four samples were too contaminated to test.

Given the small sample sizes, and the fact the testing has only been conducted twice means not too much should be read into these results. However, they are consistent with the pattern shown in the annual spore testing results above. This strengthens the case that American foulbrood spore levels in honey are falling. The reason why this has not been reflected in a similar reduction in new cases of American foulbrood being reported is unknown.

What do you believe are the principle reasons the strategy has failed to achieve its targets for disease reduction?

Are these targets appropriate?

What changes would be required to make these targets achievable?

What do you believe is the reason that spore counts in honey have fallen, while the number of diseased hives has remained more constant?

4.4. SECONDARY OBJECTIVES

The strategy has three secondary objectives:

- (a) *To locate all places where beehives are situated and ensure that each honey bee colony is inspected at least once each year for American foulbrood; and*
- (b) *To identify American foulbrood cases in beehives; and*
- (c) *To eliminate American foulbrood in beehives by destroying any American foulbrood cases and associated bee products, and destroying or sterilising associated appliances.*

The first part of the first objective can be quantitatively assessed. The management agency recently carried out a survey which assessed the degree to which beekeepers were complying with the legal requirement to register apiaries. Two areas of New Zealand were surveyed by

helicopter, all apiaries were noted and the position was estimated with GPS, and the results were compared to the Apiary Register data for the relevant area. Ground visits were then undertaken to determine whether hives were marked with a registration number as required by clause 20 of the strategy.

Table 4.3: Registered and unregistered apiaries

Region	% apiaries unregistered	% apiaries where hives correctly marked
Taiari (Otago)	20	42
East Cape (NI)	47	34

In the Taiari region of Otago, 20 percent of apiaries sighted from the air were unregistered. The majority of these belonged to hobby beekeepers.

In the East Cape region of the North Island, 47 percent of apiaries were unregistered, almost all of which were commercial manuka production sites. A number of these apiaries belonged to two semi-commercial beekeepers that were also unregistered. The region surveyed is noted for manuka honey production, and this has encouraged new entrants to the industry and a culture of secrecy among industry participants. It is unlikely this level of non-compliance is representative of the North Island as a whole, but it is still represents a significant level of non-compliance with the strategy.

Do you have any comments on unregistered or unmarked apiaries?
 How can compliance with the requirement to register and mark hives be improved?

4.5. OTHER STRATEGY COMPONENTS

4.5.1. Annual Disease Returns

Clause 27 of the Order in Council requires all beekeepers to provide the management agency with an Annual Disease Return updating their hive information. This information provides the basis for New Zealand’s statistics on beekeeper and hive numbers, and American foulbrood incidence.

Table 4.4: Annual disease returns received by management agency

Year	% ADRs received
1999	76%
2000	85%
2001	70%
2002	75%
2003	70%
2004	79%
2005	82%
2006	84%
2007	83%
2008	91%

Beekeeper compliance with this requirement has varied between 70 percent and 91 percent. This largely reflects the degree of effort the management agency and its contractors devote to following up with those who fail to submit an annual return by the 1 June due date. Given the importance of this information to the strategy and the broader beekeeping industry, the lack of compliance over much of the past decade is disturbing. The recent improvement in

compliance is very encouraging, but also highlights the limited effectiveness of previous efforts to encourage beekeepers to comply with strategy requirements.

Many beekeepers who do not submit an ADR are hobbyists who dislike paperwork, or new entrants to the industry who simply do not understand this requirement. Because the ADR information provided the basis on which apiary levies are calculated, the management agency has strong grounds to believe that some commercial beekeepers deliberately fail to submit returns, particularly if the number of apiaries they own is expanding. By doing so, they continue to be levied on a smaller number of apiaries than they actually possess, with little risk of penalty.

Failing to submit an ADR is an offence against section 154q of the Biosecurity Act 1993. No prosecutions have been taken to date, largely due to the costs involved. The management agency has recently approached MAF seeking assistance in taking action against the most serious offenders. The outcome of this request has not yet been determined.

Other possible sanctions available to the management agency are to carry out default inspections on the hives of beekeepers who fail to provide an ADR, or to suspend or withdraw the Disease Elimination Conformity Agreement (see 4.5.3) of beekeepers who fail to submit ADRs.

Do you have any comments on Annual Disease Returns?
 How can compliance with the requirement to provide Annual Disease Returns be improved?

4.5.2. Certificates of Inspection

Under the strategy, all beekeepers must annually provide the management agency with a Certificate of Inspection (CoI) unless they have been exempted from doing so. The CoI must be signed by an authorised person or a person who is responsible for disease management in a Disease Elimination Conformity Agreement (DECA). An exemption from providing a CoI is granted to all beekeepers that have entered into a DECA with the management agency (see below). At present, only 21 percent of beekeepers are required to supply a Certificate of Inspection, and almost all of them are hobby beekeepers. Compliance with this measure is shown in the table below.

Table 4.5: Compliance with Certificate of Inspection

Year	% of beekeepers not holding a DECA who return a CoI
1999	42%
2000	?
2001	34%
2002	47%
2003	8%
2004	?
2005	14%
2006	18%
2007	22%
2008	30%

The marked variation in compliance is believed to reflect the amount of follow-up carried out by the management agency on those who have not returned a CoI by the due date (15 December each year). Because the number of hives involved is small and spread over a large number of owners, ensuring they have been inspected as required by the strategy has not been seen as a high priority by strategy managers in the past.

The dominant influence of commercial beekeepers in administering the strategy may also contribute to the low priority accorded to this area. Some hobby beekeepers spoken to in the course of writing this report were unclear of their responsibilities, and found the information provided to them by the management agency difficult to interpret.

Given the low level of compliance to date, the beekeeping industry needs to question whether this element of the strategy serves a useful purpose. If it does, a new approach is needed to increase support among eligible beekeepers.

Why is Certificate of Inspection compliance so poor?

How can the effectiveness of the Col programme be improved?

Are there any alternative ways of ensuring hives currently covered by a Col are inspected for disease?

4.5.3. Disease Elimination Conformity Agreements

A Disease Elimination Conformity Agreement (DECA) is a legal agreement between a beekeeper and the management agency, in which the beekeeper specifies the disease-control regime that will be applied to their hives. The management agency supplies template forms that beekeepers can customise to reflect their own management practices. The management agency assesses these, and if they are in accordance with sound principles of disease control, accepts them. This exempts the beekeeper from the need to supply an annual Certificate of Inspection for his or her hives.

Clause 39 requires the management agency to review each DECA annually. Given there are currently 2045 DECAs in force, this is far beyond the capacity of the management agency to carry out. In practice, at best the management agency annually scrutinises a list of beekeepers with increasing disease levels, and compares it to a list of DECA holders. While this is a pragmatic use of resources, it scarcely complies with the requirements of Clause 39. This report suggests the clause be modified to set a more achievable target.

In practice, very few beekeepers have been audited to assess the degree to which they comply with their DECA. This would be a labour-intensive and expensive exercise, and therefore the management agency has rarely become involved unless a significant outbreak of American foulbrood has been reported. Even then, the management agency has generally been reluctant to suspend or cancel a DECA, which would force the hive owner to find another suitably qualified beekeeper that could inspect the hives and sign a Certificate of Inspection. This may reflect that fact that beekeepers facing a crisis in disease levels often have other management problems, and are unlikely to be in a position to pay anyone else to inspect their hives. Demanding a Certificate of Inspection from someone who is not in a position to supply one may be a step the management agency has been unwilling to take.

Although not required by Clause 37, the management agency has always intended that beekeepers holding a DECA be required to demonstrate proficiency in diagnosing American foulbrood symptoms, and basic knowledge of American foulbrood control. A multi-choice competency test, and accompanying training module, was developed by the management agency. Unfortunately, the test was not finalised until after the strategy was in place. By necessity, the initial beekeepers who applied for a DECA were granted one without first passing the competency test. However, in signing their DECA they undertook to sit the test at an unspecified date in the future. The practice of signing up beekeepers to a DECA with only the assurance that the beekeeper will sit a competency test at an unspecified point in the future has continued until the relatively recent past. In addition, few training courses or opportunities

to sit the test were provided for a number of years. As a result, in 2005 only 41 percent of beekeepers who held a DECA had passed the competency test. This had risen to 49 percent in 2007. Over the past year, the management agency has rolled out a nationwide programme to encourage beekeepers to attend the training module and sit the test, boosting the number of beekeepers who have passed the module to 62 percent. This is a commendable achievement, and highlights the lack of progress in earlier years. This momentum needs to be maintained for several more years.

How can the DECA programme be made more effective?

4.5.4. Enforcement

There have been suggestions that the enforcement powers available in the strategy are inadequate. Breaches of certain strategy rules are offences under section 154q of the Biosecurity Act. This is the only enforcement provision in the strategy.

Section 154q reads: ...

*Every person commits an offence against this Act who—
Without reasonable excuse, fails to comply with a strategy rule included in a national pest management strategy where that rule specifies that a breach of the rule creates an offence under this paragraph.*

The major objection that has been raised to this enforcement power is not so much the size of the available penalties (in the case of an individual a maximum fine of \$5000, and in the case of a corporation a maximum fine of \$15 000 can be imposed), but the need for a successful prosecution in order for any penalties to be imposed.

MAF is the lead enforcement agency for this section of the Biosecurity Act. However, MAF has traditionally not become involved in the implementation of a pest management strategy, reasoning that the purpose of a strategy is to enable an industry self-management. The management agency and MAF do not appear to have worked together on this issue in the past, to determine if there was a basis for the two parties to cooperate on enforcement matters.

A management agency may take private prosecutions under this section of the Act. The Animal Health Board has secured six convictions under section 154 for breaches of the Bovine Tuberculosis national pest management strategy in the past three years.

However, mounting private prosecutions is expensive, both in time and legal costs. The Animal Health Board has annual compliance expenditure of around \$250,000, which exceeds the total cost if the American foulbrood strategy. This funding supports two full-time staff members addressing compliance and enforcement matters. If a prosecution is being contemplated, the Animal Health Board employs private investigators who have specialised skills in gathering evidence and taking witness statements. A barrister then prepares a case to take to court. The Board estimates the past three prosecutions together cost around \$20,000 in private investigator costs and \$15,000 in legal fees. The weight of evidence gathered meant none of these cases was defended – legal costs would rise in a defended hearing.

When looking at the comparative level of resources, it should be remembered that the Animal Health Board monitors some 79,000 herds of livestock, a far larger challenge than the 2600 beekeepers the American foulbrood strategy is concerned with. The number of prosecutions taken is still extremely low. The Board makes the point that they regard their communications programme as being the ‘front end’ of enforcement, as most farmers are willing to comply with strategy requirements if their obligations, and the reasons for them, are clearly spelt out.

A network of Regional Animal Health Committees provides a pool of farmers committed to Tb eradication who are willing to provide advice, assistance or an informal warning to colleagues who are not meeting strategy requirements.

The American Foulbrood management agency has suggested the ability to impose fines on beekeepers would be a more workable enforcement option. The Biosecurity Act does enable imposition of fines by inspectors (appointed under the Act) in respect of a breach of section 154(p) and 154(s). However, there are no powers within the Biosecurity Act capable of being conferred on a management agency that would enable it to impose fines for breaches of section 154q.

More broadly, there are likely to be concerns about granting the power to a non-governmental agency to impose fines without proving in a court of law that an offence has been committed. Even if such provisions were available, it is by no means certain that Crown Law or the Ministry of Justice would approve their use in a pest management strategy. Such provisions would raise Bill of Rights issues, and may be contrary to the Legislation Advisory Committee's guidelines on legislative provisions relating to enforcement. Unless the Biosecurity Act is amended, it seems likely that section 154q will remain the basis of enforcement actions.

This report notes that compliance is a broader issue than just applying sanctions. Issues such as the way a management agency communicates with beekeepers, explains the legal obligations beekeepers face and follows up on suspected breaches of strategy rules also have to be addressed. Most people will comply with legal obligations if: (a) the extent of obligations are clearly understood, (b) the obligations are not seen as too onerous, and (c) compliance with the obligations are seen as a means of ensuring something valuable, such as an economic benefit. There will always be a small minority that need sanctions to comply, and these need to be dealt with in a manner that encourages others to comply.

Since the creation of Biosecurity New Zealand as a business unit within MAF in 2004, there has been increased emphasis on the government's role in the management of pests present in New Zealand. There may be scope for increased co-operation between MAF and the management agency on strategy enforcement. The management agency has recently written to MAF requesting assistance in dealing with non-compliance, and a response is pending.

Does the strategy have adequate enforcement powers?

How can compliance with strategy objectives be improved?

4.5.5. Register of Apiaries

Clause 23 of the Order in Council requires the management agency to keep a register of all beehives notified to it. The apiary register, also known as the apiary database, has its origins in a paper-based system begun by MAF in the 1960s. This was initially computerised in the 1980s, with the current PowerBuilder database dating from the mid-1990s. The database is hosted on an SQL server owned by AsureQuality. The database is managed by AsureQuality.

The register is jointly funded by the management agency and MAF, with the MAF contribution coming from the surveillance and incursion response budgets. There is no written agreement between MAF and the management agency on use and ownership of the register, which both parties accept is undesirable. A legal opinion obtained by MAF in 2008 suggests that ownership of the information in the database belongs to the management agency, as it was collected as part of the strategy. Ownership of the database software belongs to MAF, as the organisation that paid for their development.

The management agency uses the database to record beekeeper, apiary and hive details, track American foulbrood levels and distribution, organise surveillance activity, carry out a spore testing programme and issue levy invoices.

MAF uses the database to carry out surveillance for exotic pests and diseases, and to respond to incursions, such as varroa. Information on the database is also used when compiling statistical reports on New Zealand agriculture, and in issuing export certificates for live bees.

The New Zealand Food Safety Authority (NZFSA) also uses the register in issuing export certificates for honey and other bee products. This has caused some controversy in the beekeeping industry, in part because NZFSA does not contribute towards running costs of the register. NZFSA in turn responds that all certification is carried out on a user-pays basis, and any increased costs in issuing export certificates will be passed back to industry in the form of higher charges.

More significantly, some honey-importing nations have required not only that apiaries supplying honey for export be free of American foulbrood, but also hives in the general vicinity of those apiaries be free of the disease. In these circumstances, one beekeeper reporting American foulbrood to the management agency in line with strategy requirements could rule honey from all apiaries in the area ineligible to be sent to several major markets. This was an obvious disincentive to report cases of American foulbrood, and led to significant opposition in the industry to multiple uses of the apiary register. In 2004-2006, NZFSA was able to successfully negotiate with importing nations the removal of most “area freedom” requirements for American foulbrood. The few exceptions are for very minor markets (e.g. French Polynesia) or low-volume products.

The apiary register is also used to advise beekeepers of DoC and regional council possum control operations, to identify the owner of hives to landowners and the public, and to manage risks associated with toxic honey.

Beekeepers are still unclear on who uses the register, and for what purpose. It would be desirable if all interested parties were able to come to agreement on use of the register.

Do you have any comments on the Apiary Register?

5. Proposed changes to the strategy

In this section, the clauses in the existing strategy are set out along with any proposed changes marked between two horizontal lines. Comments are set out in bold.

1. Title and commencement

- (1) This order may be cited as the Biosecurity (National American Foulbrood Pest Management Strategy) Order 1998.
- (2) This order comes into force on 1 October 1998.

It is necessary to update (2) with the date the revised strategy will take effect from. This is dependent on the length of time taken to review submissions, and on whether the range of concerns identified by submitters mean the Minister appoints a Board of Inquiry under section 63 of the Biosecurity Act 1993.

No suggested commencement date is given, as this cannot be predicted until submissions close.

Clause 1

Do you have any suggested changes to this clause?

2. Interpretation

- (1) In this order, unless the context otherwise requires:

“Act” means the Biosecurity Act 1993.

“American foulbrood case” means a honey bee colony displaying any of the clinical symptoms of American foulbrood.

“Apiary” means a place to which clause 16 applies or a place notified as an apiary in accordance with clause 17.

“Appliance” means any beehive, comb, extractor, or other object, that is being or has been used in connection with beekeeping.

“Authorised person” means a person appointed under section 103 (1) (b) of the Act for the purposes of the strategy.

“Bee product” means honey, honeydew honey, beeswax, venom, propolis, pollen or royal jelly; and includes any other product collected by honey bees, derived from honey bees, or derived from a bee product.

“Beehive” means a thing constructed for the keeping of honey bees and that is being used or has been used for that purpose; but does not include an introduction cage or a mailing cage.

“Beekeeper” means a person who owns beehives.

“Certificate of Inspection Exemption” means an exemption granted under clause 36.

“Disease Elimination Conformity Agreement” means the document signed in accordance with clause 37.

“Honey” means the fluid, viscous, or crystallised substance produced by honey bees from the nectar of blossoms or from secretions of, or on, living parts of plants other than blossoms, which honey bees collect, transform, or combine with substances of their own, and store in combs.

“Honey bee” means *Apis mellifera*; and includes its eggs, larvae, pupae and semen.

“Honey bee colony” means a group of honey bees living in a beehive; but does not include a queen honey bee and attendant worker honey bees for the time being held in a mailing cage or an introduction cage.

“Identification code” means the code given to or used by a beekeeper in accordance

with clause 19.

“Introduction cage” means a cage used for introducing a queen honey bee to a beehive:

“Mailing cage” means a cage used for transporting a queen honey bee and attendant worker honey bees.

“Moveable-frame hive” means a beehive containing frames in which the combs are built, and where the frames may be separately and easily removed from the beehive for examination without causing damage to the combs.

(2) Unless the context otherwise requires, terms and expressions used in this order have the same meaning as in the Act.

It is proposed to amend the definition of “Apiary” to remove the reference to Clause 16, as it is also proposed that this clause, dealing with transitional matters from the Apiaries Act 1969, be deleted.

It is also proposed to slightly modify the definition of honey to make it consistent with the Codex Alimentarius, which is the standard definition of honey used in international trade. It is not expected this change will have any impact on strategy operations. The Codex definition reads

“Honey is the natural sweet substance produced by honey bees from the nectar of plants or from secretions of living parts of plants or excretions of plant sucking insects on the living parts of plants, which the bees collect, transform by combining with specific substances of their own, deposit, dehydrate, store and leave in the honey comb to ripen and mature.”

Clause 2

Do you have any other suggested changes to this clause?

STRATEGY

3. National American Foulbrood Pest Management Strategy – This order makes the National American Foulbrood Pest Management Strategy.

No amendment is proposed to this clause.

Clause 3

Do you have any suggested changes to this clause?

4. Pest – The organism *Paenibacillus larvae larvae*, also known as *Bacillus larvae*, the cause of the disease known as American foulbrood, is the pest to be managed in accordance with the strategy.

It is proposed that this clause be amended to read

“The organism *Paenibacillus larvae larvae*, **formerly** known as *Bacillus larvae*, is the pest to be managed in accordance with the strategy.”

This reflects the time elapsed since the bacterium that causes American foulbrood was re-named, and general acceptance of the reclassification as a *Paenibacillus* species.

5. Objectives of strategy

- (1) The primary objective of the strategy is to manage American foulbrood to reduce the reported incidence of American foulbrood:
 - (a) During the 4 years beginning on 1 July 1999, by an average of 10 percent each year of the reported incidence of American foulbrood cases in the year beginning on 1 July; and
 - (b) During the 5 years beginning on 1 July 2003, by an amount sufficient to ensure that the reported incidence of American foulbrood cases in the year beginning on 1 July 2007 is 0.1 percent or less.
- (2) The secondary objectives of the strategy are to:
 - (a) locate all places where beehives are situated and ensure that each honey bee colony is inspected at least once each year for American foulbrood; and
 - (b) identify American foulbrood cases in beehives; and
 - (c) eliminate American foulbrood in beehives by destroying any American foulbrood cases and associated bee products, and destroying or sterilising associated appliances.
- (3) For the purposes of this clause, “reported incidence” means, for each period of the 12 months beginning on 1 July in any year, the number of American foulbrood cases expressed as a percentage of the total number of honey bee colonies notified to the management agency.

The degree to which the strategy has achieved its objectives was discussed in Section 3 of this report.

Primary Objective

The primary objective of reducing reported cases of American foulbrood has not been achieved, with the current rate only slightly lower than the rate reported in the first year of the strategy.

If a numerical target is desirable, the target should provide the management agency with an ambitious but achievable target. One possibility is to simply retain the existing target of reducing incidence to 0.1 percent in ten years. This was obviously considered achievable by the NBA at the time the strategy was proposed.

A different way of setting a numerical target would be to look not at the number of hives infested with foulbrood, but the number of beekeepers reporting foulbrood. Since foulbrood is largely the result of beekeeping management practices, a large part of the strategy is aimed at changing how beekeepers manage their hives, to reduce the likelihood of foulbrood being spread. Having a target set in terms of beekeeper numbers rather than hive numbers might focus more attention on the need to change beekeeping practices. This approach also has obvious drawbacks, in that it would treat infection of a hobbyists single hive as equivalent to a much larger outbreak in a commercial business.

On the other hand, some beekeepers believe that the current infection rate is acceptably low, and that a different approach, and more resources, would be required to significantly lower disease levels. If this is accepted, then setting numerical target much below the current level of disease is unlikely to achieve anything unless additional resources are provided. A more appropriate target in this case would be a maximum level of infection, which the management agency must strive not to exceed.

Clause 5(1)

What should the primary objective of the strategy be?

Why is this objective better than the alternatives?

Why do you believe this objective is achievable?

Do you have any other suggested changes to this clause?

Secondary objectives

Of the three secondary objectives only objective a) is quantifiable. The degree to which this objective has been met is discussed in Section 4 of this report.

All three secondary objectives remain valid, and could be retained without change. Some beekeepers have suggested adding a fourth secondary objective: educating beekeepers about how to eliminate American foulbrood. While education was a prominent feature of the Pest Management Strategy Proposal that led to this strategy, carrying out education does not require the exercise of statutory powers, and education was therefore not referenced in the Order in Council. Some beekeepers believe that beekeeper education has not been given sufficient priority by the management agency, and that including it as an objective would signal its importance.

Clause 5(2)

Should any of the existing secondary objectives be removed or changed?

Should any new secondary objectives be added?

Do you have any other suggested changes to this clause?

6. Management agency – The management agency responsible for implementing the strategy is the National Beekeepers' Association of New Zealand Incorporated.

The requirements of a management agency are set out in section 84 of the Biosecurity Act. The agency may be a department, regional council or body corporate. The key criteria are:

- **accountability to those funding the strategy;**
- **acceptability of the agency to those providing the funding, and subject to the provisions of the strategy;**
- **the capacity of the agency, including its employees and contractors, to manage the strategy.**

At the time the strategy was implemented in 1998, the NBA was the sole national representative body for beekeepers. At this time, it was taken for granted that any industry-wide disease control programme would be managed by the NBA.

In 2002, the NBA split into two organisations (see section 1.4.5). Both the NBA and Federated Farmers Bees aspire to represent beekeeper interests, and could potentially oversee an industry-wide disease management programme.

As the existing management agency, the NBA clearly meets the legal requirements needed to become the management agency of a national pest management strategy. It also has ten years experience in managing a strategy, which any alternative organisation would not have. However, under NBA management the strategy has failed to meet its primary objective, which means it should not automatically be considered the right organisation to continue as management agency.

Federated Farmers Bees is not an incorporated society, and therefore could not act as management agency without becoming incorporated. Federated Farmers New Zealand, the parent organisation, is incorporated and therefore has the ability to become a management agency. Federated Farmers has significant management, policy and legal capability that could assist a management agency. However, it is primarily an industry lobby group for the rural sector, and is not involved in direct management of disease control programmes in any other industry. It is unknown whether Federated Farmers would be willing to become involved in the day-to-day management of a bee disease.

Another alternative is to create and incorporate an organisation specifically to assume the role of management agency. This could be structured to provide better representation of beekeepers, and would not have other responsibilities to distract it from strategy management. A key drawback is that a significant amount of time and effort would be required to develop the rules of the organisation, get agreement on membership and voting rights, and carry out incorporation. It is not clear that there is any group in the beekeeping industry with the will and resources to carry out these tasks.

This is the path followed by the short-lived Varroa National Pest Management Strategy, which carried out surveillance for varroa in the South Island. A Varroa Management Agency was incorporated, whose members were beekeeping industry organisations and South Island regional councils and local territorial authorities. The regional councils provided much of the resource required in the establishment process, with some support from MAF.

Clause 6

Should the NBA remain as the management agency for this strategy? If so, why?

What alternative organisation should take over management of the strategy? Why do you believe they are suitable?

Do you have any other suggested changes to this clause?

7. Term of strategy – The strategy remains in force until 30 September 2008.

While no end date for the strategy can be determined until the commencement date is known, the duration can be determined.

At the time the American foulbrood strategy was originally implemented, consideration was given to the appropriate length. The original strategy was in place for ten years. This duration was chosen after weighing up the significant administrative costs of putting in place a strategy, against the desire to ensure a strategy should not be in place for so long that changing circumstances made it no longer appropriate. The review sees no reason to differ from the ten-year term selected when the strategy was first put in place.

The Biosecurity Act requires that a strategy should be reviewed every five years, although it appears no mid-term review of this strategy was notified. In addition, a Minister may order a review of a strategy at any time, according to a range of criteria in section 88 of the Act.

Clause 7

What is your preferred duration for the strategy?

Why do you think this length of time is appropriate?

Do you have any other suggested changes to this clause?

8. Powers used to implement strategy

- (1) The powers conferred on a management agency under sections 128, 135, and 136 of the Act may be exercised to implement the strategy.
- (2) The powers conferred on an authorised person under sections 106, 109, 119, 121, 122, and 130 of the Act may be exercised to implement the strategy.

These powers are detailed below.

Section 128	Power to act on default
Section 135	Options for cost recovery
Section 136	Failure to pay
Section 106	Power to require assistance
Section 109	Power of inspection
Section 119	Power to seize abandoned goods
Section 121	Power to examine organisms
Section 122	Power to give directions
Section 130	Declaration of a restricted place

No changes are proposed to this clause.

Clause 8

Do you have any suggested changes to this clause?

9. Strategy rules – Clauses 10 to 40 contain the strategy rules

Clauses 10 – 40 are listed below. No change is proposed to this clause.

Clause 9

Do you have any suggested changes to this clause?

GENERAL OBLIGATIONS

10. Obligation to supply information

(1) This clause applies to –

- (a) Beekeepers;
- (b) Persons who own or occupy land or have owned or occupied land on which a honey bee colony, bee product, or appliance is or has been located;
- (c) Persons who are or have been in charge of a honey bee colony, bee product, or appliance;
- (d) Persons who are or have been in charge of the keeping of honey bees;
- (e) Persons who are or have been in charge of a diagnostic laboratory.

(2) An authorised person may require a person to whom this clause applies to provide information held by that person that the authorised person believes, on reasonable grounds, is necessary for the purpose of monitoring the presence, former presence, absence, or distribution of *Paenibacillus larvae larvae* or the honey bee.

(3) A person required to provide information in accordance with this clause must provide that information within the time specified by the authorised person.

(4) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

Clause 10

Do you have any suggested changes to this clause?

11. Obligations to keep honey bees in moveable-frame hives –

(1) A person who keeps honey bees must keep those honey bees in moveable-frame hives.

(2) A person who keeps honey bees and who has an exemption in accordance with clause 12 is exempt from the obligation in subclause (1) of this clause if those honey bees are kept in accordance with the exemption.

(3) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

Clause 11

Do you have any suggested changes to this clause?

12. Exemption from obligation to keep honey bees in moveable-frame hives

(1) An authorised person may exempt a person from the obligation in clause 11 (1) if that person has applied in writing for an exemption and the exemption is required for 1 or more of the following purposes:

- (a) Scientific research:
 - (b) Rearing of queen honey bees:
 - (c) Packages of honey bees for stocking beehives:
 - (d) Public display.
- (2) The exemption must be given in writing and must specify the period of time for which the exemption applies and may specify conditions on which the exemption is granted.

No change is proposed to this clause.

Clause 12
Do you have any suggested changes to this clause?

13. Access to beehives

- (1) Every person in charge of the keeping of honey bees must ensure the normal access to honey bees, bee products, and appliances is kept free from vegetation that would impede or prevent inspection.
- (2) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

Clause 13
Do you have any suggested changes to this clause?

14. Restrictions on use of drugs

- (1) No person may use any drug, substance, or mixture of substances in relation to apiaries, honey bees, appliances, or bee products that has the effect of masking, obscuring, or concealing symptoms of American foulbrood or increasing the difficulty of detecting the disease or *Paenibacillus larvae larvae*.
- (2) The provisions of subclause (1) do not apply where a drug is used in accordance with an approval granted under section 25 (2) of the Apiaries Act 1969.
- (3) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

In most countries where bees are kept, beehives are treated with antibiotics for disease control. The targets of these treatments are American foulbrood and European foulbrood (*Melissococcus pluton*), a bacterial disease found in most beekeeping regions except New Zealand and Western Australia. The antibiotic oxytetracycline is widely applied to hives in spring to treat infections of European foulbrood and American foulbrood.

While antibiotic treatments have been demonstrated to rid hives of American foulbrood when applied correctly, regions that use antibiotics generally have higher levels of American foulbrood than those that do not feed drugs. This may be because beekeepers are given a false sense of security by antibiotic feeding, and cease to practice disease isolation techniques. Additionally, if antibiotics are applied in the wrong dosage or at the wrong time, the treatment will be ineffective.

One effect of antibiotic treatment is to mask the presence of American foulbrood. While antibiotics remove the clinical signs of American foulbrood, they have limited effect on any American foulbrood spores that are already present in the hive. (European foulbrood is not a spore-forming bacterium, meaning antibiotic treatment is effective).

Once the antibiotics are eliminated from the hive, established American foulbrood infections often return. Because the hives are free of clinical signs for a period following the application of antibiotics, there is considerable potential for disease to be spread by routine beekeeping management during this period.

As a result, countries with comparable beekeeping industries to New Zealand that also feed antibiotics tend to have much higher levels of American foulbrood infection than New Zealand. Because of these high disease levels, it is difficult for the affected industries to cease antibiotic feeding, as the transition to drug-free management would be extremely challenging. The New Zealand beekeeping industry has been determined not to move down the path of antibiotic use. The absence of antibiotics in New Zealand honey production is seen as a key advantage in some export markets such as Japan.

In the event that European foulbrood became established in New Zealand, the American Foulbrood strategy would constrain the use of antibiotics in both the initial response phase and in ongoing management. It is unclear if this possibility was thoroughly considered at the time the strategy was originally drafted. The authors of this report have not consulted extensively on the preferred response of beekeepers to an incursion of European foulbrood, nor should support for use of antibiotics in this event be assumed. However, it is likely that some groups would favour a relaxation of the prohibition on feeding antibiotics in this event, if only for a transitional period. The beekeeping industry needs to consider this question, and decide whether the current prohibition is appropriate.

It would be possible to allow the use of antibiotics conditional on the presence of European foulbrood by adding another clause to the effect:

In the event of European foulbrood becoming established in New Zealand or an area or areas in New Zealand, the Director-General of the Ministry of Agriculture and Forestry may, at the request of the Management Agency, approve the use of a drug or substance or mixture of substances prohibited by clause 14(1) subject to such conditions as the Director-General sees fit.

Such an approval may be general or specific and shall be notified by the Director-General in the Gazette.

Clause 14

Is an absolute ban of feeding antibiotics appropriate?

In the event of an EFB incursion, do you think antibiotics should be used to reduce hive losses?

If so, should antibiotic usage be open-ended or for a defined period only?

Do you have any other suggested changes to this clause?

NOTIFICATION OF PLACES AS APIARIES

15. Prohibition on keeping bees in place other than apiary

(1) No beekeeper may permit beehives owned by that beekeeper to be situated in a place for more than 30 consecutive days unless-

(a) The provisions of clause 16 apply; or

(b) That place has been notified as an apiary, in accordance with clause 17, by that beekeeper.

(2) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

It is proposed to delete 15(1)(a) referring to Clause 16, as this clause is no longer relevant. An explanation is given under Clause 16. The remainder of this clause should be retained.

Clause 15

Do you have any other suggested changes to this clause?

16. Transitional provision for notification of apiaries

- (1) A beekeeper is not obliged to notify the management agency of a place as an apiary if –
- (a) That place was registered as an apiary under the Apiaries Act 1969; and
 - (b) That beekeeper was the person who registered the apiary under the Apiaries Act 1969 or the person who had notified the Registrar of his or her occupancy under section 6 (2) of the Apiaries Act 1969; and
 - (c) That beekeeper owned the beehives in that apiary on 1 October 1998 and continues to own those beehives; and
 - (d) Where there is more than 1 beehive in that apiary, each beehive owned by the beekeeper is situated 200 metres or less from another beehive owned by the same beekeeper.
- (2) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

It is proposed to delete this clause. The clause was necessary when the strategy was first implemented, as it allowed all apiaries previously registered under the Apiaries Act 1969 to transition to the national pest management strategy without beekeepers needing to re-register the apiaries. The final elements of the Apiaries Act 1969 were repealed with the passing of the Animal Products (Ancillary and Transitional Provisions) Act in 1999. As the requirement to register apiaries under the NPMS has been in place for ten years, this clause is no longer required.

Clause 16

Do you have any other suggestions relating to this clause?

17. Place may be notified as apiary –

- (1) A place may be notified as an apiary by a beekeeper if-
- (a) One beehive or a group of beehives owned by the beekeeper is situated in that place; and
 - (b) In the case of a group of beehives, each beehive within that group is situated 200 metres or less from another beehive owned by the same beekeeper.
- (2) Where the beehives in a place are owned by more than 1 beekeeper, that place must be notified as a separate apiary by each beekeeper.
- (3) The notification of an apiary must be in writing and must include the full name and address of the beekeeper and number of honey bee colonies in the apiary, the name and initial of the occupier of the place where the apiary is situated, the road name (if any) and address of the place where the apiary is situated, and a written description of the location of the apiary, including a Land Information New Zealand Topographic May 260 Series grid reference.
- (4) The notification must state whether the beehives are situated in the apiary for all of the calendar year or for specified months of the calendar year.

A change is proposed to 17(3), to provide for geographical locations to be described using either Geographical Positioning System (GPS) or traditional map grid references.

It is suggested that this clause be amended to:

(3) The notification of an apiary must be in writing and must include the full name and address of the beekeeper and number of honey bee colonies in the apiary, the name and initial of the occupier of the place where the apiary is situated, the road name (if any) and address of the place where the apiary is situated, and spatial coordinates with co-ordinate system used describing the location of the apiary i.e. “Latitude and Longitude”/ “Easting and Northing” values and the co-ordinate system used, or map grid reference and map series used.

It is noted that the Interpretation Act 1999 definition of ‘writing’ includes electronic formats, so there is no need to amend this clause in order to permit apiary descriptions to be provided via email.

Clause 17

The suggested wording allows both traditional grid references and GPS readings to be used in identifying hive locations. Do you think it is appropriate to allow more than one format for hive locations? If not, please state your preferred format and the reasons you support it?

Do you have any other suggested changes to this clause?

18. Seasonal apiaries –

(1) A place notified to the management agency as an apiary where the beehives are situated for specified months of the calendar year is a seasonal apiary.

(2) Despite anything to the contrary in this order, a seasonal apiary continues to be an apiary as long as beehives owned by the beekeeper who notified the place to the management agency as an apiary are situated in that place for more than 30 consecutive days in any year beginning on 1 July.

No change is proposed to this clause.

Clause 18

Do you have any suggested changes to this clause?

19. Allocation of identification code

(1) When a beekeeper first notifies a place to the management agency as an apiary, the management agency must give that beekeeper written notice of a code to be used as an identification code for that beekeeper.

(2) Where a code number was allocated to a beekeeper under section 5 of the Apiaries Act 1969, the beekeeper may continue to use that code.

No change is proposed to this clause.

Clause 19

Do you have any suggested changes to this clause?

20. Marking of apiaries

(1) Where the beekeeper does not have an identification code at the time that beekeeper notifies a place to the management agency as an apiary, the beekeeper must, within 30 days of the receipt of that identification code, mark the identification code on the outside of a beehive within that apiary or on a sign within that apiary.

- (2) Unless subclause (1) applies, a beekeeper must mark the beekeeper's identification code on the outside of a beehive within each apiary or on a sign within each apiary, where the beehives are owned by that beekeeper, -
- (a) Within 7 days of the date that apiary is notified to the management agency; or
 - (b) On or before 31 October 1998, if clause 16 (1) applies.
- (3) The identification code must be marked on the beehive or the sign in such a manner that a person may, at any time, readily locate and read the identification code for that apiary.
- (4) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

It is proposed to remove clause 20(2)(b) “On or before 31 October 1998, if clause 16(1) applies”, as removal of Clause 16 is also suggested. These transitional measures relate to the start-up of the strategy, and appear to be no longer required.

Clause 20

Do you have any other suggested changes to this clause?

21. Removal of identification code

(1) Unless subclause (2) applies, no person other than the beekeeper may, without the written permission of the management agency, remove the beekeeper's identification code marked on a beehive or in an apiary or alter it in such a way that the identification code no longer clearly applies to that beehive or apiary.

(2) Where a beekeeper transfers the ownership of a beehive marked with identification codes, the beekeeper must

(a) Remove all the identification codes or alter all the identification codes in such a way as to make it clear that identification codes no longer apply to that beehive; and

(b) Notify the management agency of –

(i) The name and address of the transferee; and

(ii) The alteration or removal of the identification codes.

(3) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

The management agency advises that very few notifications of the removal of hive marking are received by the management agency. As this information does not appear to be crucial to the success of the strategy, and is not being currently supplied, the review proposes that the requirement to advise the management agency when markings are removed be deleted.

It is suggested that 21(2) be reduced to:

“Where a beekeeper transfers the ownership of a beehive marked with identification codes, the beekeeper must remove all the identification codes or alter all the identification codes in such a way as to make it clear that identification codes no longer apply to that beehive”

Clause 21

Do you believe it is necessary for beekeepers to advise the management agency when they have removed markings from their hives when hives are sold?

If you support this requirement, how can compliance be improved?

Do you have any other suggested changes to this clause?

22. Use of marks similar to identification codes

(1) No person may knowingly mark a beehive or an apiary or knowingly use a mark on a beehive or in an apiary where –

(a) That mark is likely to be mistaken for, or confused with, an identification code; or

(b) That mark is an identification code, and that identification code was not allocated to the person marking or using the code.

(2) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

Clause 22

Do you have any suggested changes to this clause?

23. Register of apiaries –

(1) The management agency must keep a register of all apiaries notified to the management agency or registered under the Apiaries Act 1969, and may from time to time amend or delete any entry in the register.

(2) The register must include all the information supplied to the management agency in accordance with clause 17 and all other relevant information supplied to the management agency or to an authorised person in accordance with the strategy rules.

Some issues relating to the register are briefly discussed in 4.5.5.

It is proposed to change this clause. At present, it requires the management agency to “..keep a register of all apiaries notified to the management agency..”. In the future, it is possible that information on apiaries could be included in broader land-use databases. The following change is intended to allow the management agency more flexibility in how it manages information on apiary locations. Note that this does not prevent maintenance of a stand-alone apiary database as it currently the case.

It is proposed to add a new clause as follows:

(3) The management agency may carry out the obligation specified in clause 23(1) by making appropriate arrangements with a third party to keep a register on its behalf or by using another appropriate database kept by another entity.

Clause 23

Do you see any problems in the management agency using an alternative database?

What measures could the management agency take to ensure the database meets the requirements of the strategy?

Do you have any other suggested changes to this clause?

24. Place ceasing to be apiary

(1) Unless that place is a seasonal apiary, a place notified to the management agency as an apiary ceases to be an apiary if no beehives owned by the beekeeper who notified that apiary are situated in that place.

(2) Where an apiary has been notified to the management agency as a seasonal apiary, that place ceases to be an apiary if no beehives owned by the beekeeper who notified that apiary have been situated in that place for more than 30 consecutive days in any year beginning on 1 July.

(3) When a place ceases to be an apiary, the beekeeper must notify the management agency in writing within 30 days

(4) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

Clause 24

Do you have any suggested changes to this clause?

25. Destruction of beehives posing risk

(1) Where –

- (a) One or more beehives have been situated for more than 30 consecutive days in a place that has not been notified to the management agency as an apiary; and
 - (b) The provisions of clause 16 do not apply; and
 - (c) An authorised person has complied with subclause (2); and
 - (d) The beekeepers has not notified the management agency of that place as an apiary before the expiry of the time limits in subclause (2) (b) or (c), whichever is the later, -
an authorised person may destroy the beehives and all honey bees, bee products, and appliances associated with those beehives.
- (2) Before action is taken under subclause (1), an authorised person must make reasonable attempts to find the owner of the beehives by –
- (a) Making inquiries, including inquiries of the occupier of the place where the beehives are situated; and
 - (b) Fixing 1 weatherproof notice to 1 of the beehives instructing the owner to notify the management agency of that place as an apiary within 30 days of the date of the notice; and
 - (c) Publishing a notice in a daily newspaper circulating in the place where the beehives are situated and a notice in the official journal of the management agency; and each notice must include the location of the beehives and an instruction to the owner of the beehives to notify the management agency of that place as an apiary within 30 days of the date of the last publication of that notice.

It is proposed that section 1(b) be removed, as it refers to Clause 16, a transitional clause that this report recommends deleting.

A more substantial change is also proposed for this clause. The intent of Clause 25 is to allow for the destruction of abandoned or unregistered apiaries where the owner cannot be identified or contacted, while providing reasonable safeguards over the destruction of private property.

The management agency has reported problems with this clause, relating to the notification provisions that must be followed before hives can be destroyed. In the view of the management agency, the process is unnecessarily protracted and expensive.

Typically, when an unregistered apiary is reported, the management agency sends a local authorised person or contactor to investigate. In most instances, the owner of the hives can be readily identified either through hive markings, or by talking to the owner or occupier of the land.

In the small number of cases where this does not result in the owner being identified, the authorised person generally places a notice on the hives as per section 2(a) above. After 30 days has elapsed, the management agency then places a public notice in the local newspaper and New Zealand Beekeeper journal, as required by section 2(b). This results in unidentified hives remaining in place for a minimum of 60 days, and the management agency incurring costs associated with placing public notices.

While Clause 25 does not prevent the management agency from placing a notice on the hive and placing public notices concurrently, there has generally been a reluctance to incur the cost of advertising until other avenues have been exhausted. Additionally, the management agency has no record of hive owners responding to public notices either in local newspapers or in the industry journal. Given the apparent ineffectiveness of public notices in locating hive owners, it is proposed that the requirement to place public notices be removed.

It is proposed to:

Retain 25(2)(a) requiring the authorised person to make enquiries'

Retain 25(2)(b) requiring the authorised person to place a notice on the hives for 30 days,
Remove the existing 25(2)(c) requiring the management agency to place public notices in daily newspapers and the official journal of the management agency,
Insert a new 25(2)(c) requiring the management agency to maintain records available to the public of any unidentified hives destroyed, and the steps taken to identify the hive owner.

Insert a new 25(2)(d) providing for the management agency to destroy unidentified hives believed to be infected with American foulbrood within seven days, after taking reasonable steps to identify the owners of the hives within that period.

Clause 25

Is it appropriate to reduce the steps taken by the management agency to identify the owner of unregistered or abandoned hives?

Are the steps indicated above an appropriate way of trying to identify the hive owner?

Should the management agency have the power to destroy any hives infected with American foulbrood within seven days of detection if the owner cannot be identified?

Do you have any other suggested changes to this clause?

26. Notification of American foulbrood

(1) Where an American foulbrood case is discovered in a beehive, the person in charge of the keeping of the honey bees must, within 7 days of becoming aware of the case, notify the management agency and the beekeeper, in writing, of the American foulbrood case.

(2) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

There has been widespread non-compliance with the requirement to notify the management agency within seven days of each foulbrood case being discovered. This is demonstrated in the significant number of American foulbrood cases reported to the management agency each year on Annual Disease Returns, which have not previously been notified to the Agency.

This provision appears to serve an important purpose and should be retained. In the event of a serious foulbrood outbreak, it may be prudent for the management agency to notify nearby beekeepers and warn them to impose particular safeguards against the spread of the disease.

Clause 26

Is having beekeepers report cases of American foulbrood to the management agency within seven days of detection an important part of the strategy?

If so, how can compliance with this requirement be improved?

Do you have any other suggested changes to this clause?

27 Annual Disease Return

(1) On or before 1 June in each year, every beekeeper must, for all beehives owned by that beekeeper, complete and send to the management agency an Annual Disease Return.

(2) An Annual Disease Return must be in the form provided by or obtained from the management agency and must contain –

- (a) The number of honey bee colonies in beehives owned by that beekeeper; and
 - (b) The location of each beehive where an American foulbrood case was found and the dates on which those cases were discovered; and
 - (c) The dates on which the ownership of any beehives was transferred to or from the beekeeper and, in each case, the number of beehives transferred and the name and address of the transferee and transferor; and
 - (d) Any change to the information supplied to the management agency in accordance with clause 17.
- (3) A breach of this rule, without reasonable excuse, is an offence under section 154 (1) of the Act.

It is proposed to insert a new 27(3) making provision for electronic Annual Disease Returns and self-reporting onto a database, should the management agency wish to make these options available. Suggested wording is as follows:

27(3) A beekeeper may carry out the obligation stipulated in clause 27(1) by completing in hard copy or electronic format a form provided by or obtained from the management agency for that purpose, or by entering the information required by this clause on an on-line database notified by the management agency.

The existing 27(3) will become 27(4), but will otherwise remain unchanged.

Clause 27

Is the proposed wording about electronic databases appropriate?

Do you have any other suggested changes to this clause?

28. Obligation of beekeeper to destroy honey bees and materials

- (1) Where an American foulbrood case is discovered in a beehive, the beekeeper who owns that beehive, must within 7 days of becoming aware of that case, destroy by burning all honey bees, bee products, and appliances associated with that honey bee colony unless directed otherwise by an authorised person.
- (2) The provisions of this clause do not apply to –
- (a) A beekeeper who is acting in accordance with the relevant provision of a Disease Elimination Conformity Agreement between the beekeeper and the management agency; or
 - (b) A person acting in accordance with a permission, regulation, or authorisation provided for in sections 52 or 53 of the Act; or
 - (c) A person acting in accordance with an exemption given under clause 30.

No change is proposed to this clause.

Clause 28

Do you have any suggested changes to this clause?

29. Prohibition on dealings with materials associated with American foulbrood

- (1) No person who suspects or knows that a honey bee colony is or was displaying any of the clinical symptoms of American foulbrood may use or expose –
- (a) A bee product associated with that honey bee colony; or
 - (b) An appliance associated with that honey bee colony, other than an appliance sterilised by a method approved by the management agency, -
in a manner that allows honey bees access to that product or appliance.

(2) The method approved by the management agency must be a method generally recognised by the scientific community as effective in sterilising appliances contaminated with American foulbrood.

(3) The provisions of this clause do not apply to a person referred to in clause 28 (2).

(4) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

Clause 29

Do you have any suggested changes to this clause?

30. Exemptions for research, education, and training

(1) The management agency may, by notice in writing, exempt any person from the obligations in clause 28, the prohibition in clause 29, or the prohibition in clause 31, for the purpose of research, education, or training relating to American foulbrood or *Paenibacillus larvae larvae* for such a time not exceeding 12 months and on such conditions as the management agency thinks fit.

(2) The management agency may grant an exemption only if, in the opinion of the management agency, the exemption will not allow the exposure or spread of American foulbrood or *Paenibacillus larvae larvae* beyond the area specified in the exemption.

(3) The management agency may at any time withdraw or amend the exemption –

(a) If the management agency is satisfied on reasonable grounds –

(i) That the conditions on which the exemption was granted have been breached; or

(ii) That the exemption is resulting, is likely to result, or has resulted in the exposure or spread of American foulbrood or *Paenibacillus larvae larvae* beyond the area specified in the exemption; or

(b) At the request of the holder of the exemption.

(4) American foulbrood may be communicated, released, or spread for the purposes of section 52 (a) of the Act in the circumstances set out in an exemption given under this clause.

No change is proposed to this clause

Clause 30

Do you have any suggested changes to this clause?

31. Dealing with products from honey bee colony with American foulbrood

(1) No person may transfer ownership or possession to any other person, or remove from the place where they are situated, any honey bees, bee products, or appliances associated with any honey bee colony where that person knows or suspects that the honey bee colony is or was displaying any of the clinical symptoms of American foulbrood.

(2) A person is exempt from the prohibition in subclause (1) if that person –

(a) Is a person to whom clause 28 (2) applies; or

(b) Is acting in accordance with the written consent of an authorised person.

(3) An authorised person may grant consent only if, in the opinion of that authorised person, there is unlikely to be any significant risk of exposure or spread of American foulbrood to any beehives or honey bee colonies caused by the actions authorised by the consent.

(4) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

INSPECTION

32. Certificate of Inspection

(1) Every beekeeper must ensure that every honey bee colony in every beehive owned by that beekeeper is inspected for American foulbrood cases by an authorised person on or after 1 August and on or before 30 November each year commencing in 1999.

(2) The inspection specified in subclause (1) may, if the beekeeper agrees, be carried out by a person named as a person responsible for disease management in a Disease Elimination Conformity Agreement between any other beekeeper and the management agency.

(3) Within 14 days after the inspection is completed or before 15 December of each year, whichever is the earlier, every beekeeper must complete a Certificate of Inspection in a form provided by or obtained from the management agency and forward to the management agency the Certificate of Inspection together with the statement made in accordance with clause 33.

(4) The obligations in subclauses (1) and (3) do not apply to a beekeeper who holds a Certificate of Inspection Exemption from the management agency.

(5) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

The report notes that compliance with the requirement to provide a Certificate of Inspection to the management agency annually is extremely poor. In the first year of the strategy (1999), 42 percent of eligible beekeepers supplied a Certificate. This fell to 8% in 2003, and has now risen to 30% in 2008. More information is provided in Section 4.5.2 of this document.

This is due in part to the management agency not prioritising follow-up contacts with beekeepers who fail to provide a certificate. This low level of compliance suggest that this component of the Strategy is unlikely to achieve its purpose of ensuring all hives are inspected annually, and the results communicated to the management agency. As discussed in Section 4.5.2, this is not an acceptable level of compliance. The options appear to be:

- a) Take measures to improve compliance, such as education and enforcement**
- b) Change the requirement, so that it is easier for beekeepers to comply with.**

Clause 32

The Certificate of Inspection is the only assurance the management agency has that hives owned by a beekeeper without a DECA are being inspected annually. Is this assurance necessary for the success of the strategy?

If so, how can compliance with this requirement be improved?

If not, what alternative measures could be imposed?

Do you have any other suggested changes to this clause?

33. Statement by person inspecting honey bee colonies

(1) Every authorised person, or person referred to in clause 32 (2), who carried out an inspection under clause 32 must complete and sign a statement confirming –

- (a) That the inspection of the honey bee colonies was carried out by that person; and
- (b) The location (including the road name, if any, and the address of the place) of the honey bee colonies inspected; and
- (c) The number of honey bee colonies inspected in each place; and
- (d) The name and initial of the occupier of the place where the honey bee colonies are situated; and
- (e) The date of the inspection; and
- (f) The location and number of American foulbrood cases (if any) and the dates on which those cases (if any) were found; and
- (g) A record of the actions taken (if any) by the person inspecting, in respect of each American foulbrood case found.

(2) A breach of this rule, without reasonable excuse, is an offence under section 154 (q) of the Act.

No change is proposed to this clause.

Clause 33

Do you have any suggested changes to this clause?

34. Obligation to notify beekeeper of American foulbrood case

Where an authorised person, or person referred to in clause 32 (2), discovers an American foulbrood case during any inspection carried out under this strategy, the person who found that case must notify in writing the beekeeper who owns the beehive in which that case was found of the case.

It is proposed to insert the words “or under the authority of the Biosecurity Act 1993” after the words “any inspection carried out under this strategy”. This would impose a legal requirement on anyone carrying out officially mandated inspections, such as exotic disease surveillance, to advise the beekeeper of any American foulbrood detected.

Clause 34

Is it appropriate to require anyone carrying out official hive inspections to notify the hive owner of any American foulbrood detected?

Do you have any other suggested changes to this clause?

35. Obligation to specify approved methods

- (1) The management agency must approve the methods by which an inspection under clause 32 must be carried out.
- (2) The methods approved by the management agency must be methods generally recognised by the scientific community as effective in the detection of American foulbrood.

No change is proposed to this clause.

Clause 35

Do you have any suggested changes to this clause?

CERTIFICATE OF INSPECTION EXEMPTION

36. Certificate of Inspection exemption

- (1) The management agency must, from time to time, notify beekeepers of the opportunity to obtain a Certificate of Inspection Exemption.
- (2) The management agency must grant a Certificate of Inspection Exemption to any beekeeper in relation to beehives owned by that beekeeper if that beekeeper enters into a Disease Elimination Conformity Agreement with the management agency.
- (3) The management agency must, by notice in writing to the beekeeper, revoke a Certificate of Inspection Exemption if requested, in writing, at any time, by the beekeeper to do so, and the Disease Elimination Conformity Agreement is cancelled at the time of the revocation.

No change is proposed to this clause

Clause 36

Do you have any suggested changes to this clause?

37. Disease Elimination Conformity Agreement

(1) A beekeeper and the management agency may at any time enter into, or amend, a Disease Elimination Conformity Agreement if –

(a) The beekeeper agrees to implement the agreement by ensuring that the persons named in the agreement as the persons responsible for disease management supervise or carry out the procedures and practices specified in that agreement; and

(b) The management agency is satisfied –

(i) That the practices and procedures set out in the agreement are, if carried out, sufficient to reduce or maintain at zero the overall annual rate of American foulbrood cases in beehives owned by the beekeeper; and

(ii) The beekeeper is likely to implement the practices and procedures set out in the agreement; and

(iii) The persons named in the agreement as responsible for disease management are sufficiently familiar with and are suitable persons to supervise or carry out the practices and procedures specified in the agreement.

(2) The Disease Elimination Conformity Agreement must specify –

(a) The methods to be used for the inspection of honey bee colonies for American foulbrood; and

(b) The number of inspections to be carried out each year; and

(c) The times during the year when the inspections will be carried out; and

(d) The systems to be used to record the time of inspections, the results of inspections, and the actions taken in respect of American foulbrood cases and associated bee products and appliances; and

(e) The systems to be used to record movements of appliances and bee products in and out of an apiary; and

(f) The methods to be used to destroy American foulbrood cases and associated appliances and bee products, including, where necessary, the movement of such cases, appliances, and bee products; and

(g) The methods to be used to sterilise appliances salvaged in relation to any American foulbrood case; and

(h) The methods to be used to sterilise and disinfect appliances used in inspecting honey bee colonies for American foulbrood; and

(i) The name of the natural persons who are –

(i) Responsible for disease management; and

(ii) Responsible for liaising with the management agency in relation to the agreement.

(3) The Disease Elimination Conformity Agreement must require the destruction of American foulbrood cases and associated bee products.

(4) The methods specified by a Disease Elimination Conformity Agreement for inspection or sterilisation are not required to be methods approved under clause 29 or clause 35, but must be methods generally recognised by the scientific community as methods effective in detecting American foulbrood or in sterilising appliances contaminated with American foulbrood.

No change is proposed to this clause.

The review notes that 2045 beekeepers (79 percent of all beekeepers) currently have entered into a DECA. This includes almost all commercial beekeepers, meaning that in excess of 95 percent of hives in New Zealand are covered by a DECA. Issues around DECAs are discussed in Section 4.5.3 of the review document.

Clause 37

Do you have any suggested changes to this clause?

38. Amendment of Disease Elimination Conformity Agreement by management agency

(1) The management agency may, at any time and by written notice to a beekeeper given in accordance with subclause (2), amend a Disease Elimination Conformity Agreement if, following consultation with the beekeeper, the management agency is satisfied on reasonable grounds that the overall annual rate of American foulbrood cases in the beehives owned by the beekeeper is –

- (a) Not zero and is not decreasing; or
- (b) Not zero and is not likely to decrease unless the amendment is made.

(2) If the management agency amends a Disease Elimination Conformity Agreement, it must give written notice to the beekeeper specifying the decision and the reasons for the decision.

No change is proposed to this clause.

Clause 38

Do you have any suggested changes to this clause?

39. Review of Certificate of Inspection Exemption

(1) The management agency must review each Certificate of Inspection Exemption annually and may at any time revoke it by written notice to a beekeeper given in accordance with subclause (2) if, following consultation with the beekeeper, the management agency is satisfied on reasonable grounds that –

- (a) The beekeeper has breached the Disease Elimination Conformity Agreement; or
- (b) The overall annual rate of American foulbrood cases is increasing in the beehives owned by that beekeeper.

(2) If the management agency revokes a Certificate of Inspection Exemption, it must give written notice to the beekeeper specifying the decision and the reasons for the decision.

(3) The Disease Elimination Conformity Agreement is cancelled at the time of the revocation.

At present, beekeepers and the management agency have 2045 DECAs in force. Each of these beekeepers will hold a Certificate of Inspection Exemption under Clause 36. Clause 39(1) requires the Management Agency to review each of these exemptions annually. Given the resources available, no meaningful review of this many certificates is possible.

It is proposed to amend clause 39(1) to read:

(1) The management agency must annually monitor disease levels among beekeepers holding Certificate of Inspection Exemptions and may at any time revoke a Certificate by written notice to a beekeeper given in accordance with subclause (2) if, following consultation with the beekeeper, the management agency is satisfied on reasonable grounds that-

The remainder of this clause is retained without change.

Clause 39

Is removing the requirement for the management agency to review all DECAs each year, and substitution with a requirement to monitor disease levels appropriate?

Are there other alternatives to the annual review of all DECAs?

Do you have any other suggested changes to this clause?

INSPECTIONS AND AUDITS

40. Inspections and audits

(1) On or after 1 September each year and on or before 31 May of the following year, the management agency must –

(a) Audit beekeepers' compliance with their obligations in accordance with the strategy to complete and send to the management agency Annual Disease Returns, Certificates of Inspection, and notifications of American foulbrood cases; and

(b) Audit the accuracy of the statements regarding American foulbrood made in Annual Disease Returns, Certificates of Inspection, and notifications of American foulbrood cases; and

(c) Audit beekeepers' compliance with the provisions of clauses 28, 29, and 31 and the obligations in any applicable Disease Elimination Conformity Agreements; and

(d) Carry out surveillance of beehives to detect American foulbrood cases; and

(e) Carry out work, other than the work specified in paragraphs (a), (b), (c), or (d), to enable the management agency to measure the success of the strategy in achieving its primary objective.

(2) In carrying out the matters specified in subclause (1) (b) to (e), the management agency must ensure that a selection of honey bee colonies is inspected based on the results of the actions taken under subclause (3).

(3) In carrying out the matters specified in subclause (1) (b) to (e), the management agency must –

Take samples for spore testing from honey bee colonies and beehives selected in a manner to be determined by the management agency; and

(b) Carry out statistically significant sampling to verify the statements regarding American foulbrood made in Annual Disease Returns, Certificates of Inspection, and notifications of American foulbrood cases; and

(c) Analyse the Annual Disease Returns, Certificates of Inspection, notifications of American foulbrood cases, and the results of the spore testing conducted under paragraph (a).

The review recommends changing the audit requirements imposed by this clause. These requirements are highly prescriptive, and if followed to the letter would impose a significant burden on the management agency. The following amendment is proposed to 40(1):

40(1) The Management Agency must carry out an audit in relation to a beekeeper where it has reasonable grounds to suspect that one or more of the following applies:

(a) there has been a significant or recurring failure on the part of that beekeeper to comply with any or all of his/her obligations under the strategy

(b) statements made in any or all of the following are inaccurate, misleading or false in a material particular

(i) Annual Disease Returns

(ii) Certificates of Inspection

(iii) Notifications of American Foulbrood cases.

Clause 40(1)(c) would be deleted. The remainder of the clause would remain unchanged.

Clause 40

Is it appropriate to reduce the level of mandatory auditing the Management Agency must carry out?

Is the proposed level of auditing adequate to achieve strategy objectives?

Do you have any other suggested changes to this clause?

FUNDING AND COMPENSATION

41. Funding of strategy

The strategy is to be funded by the National Beekeepers' Association of New Zealand Incorporated from the commodity levy paid under the Commodity Levies (Bee Products) Order 1996.

The review recommends that Clause 41 be updated to reflect a change in the funding mechanism. The Commodity Levy Order referred to above was revoked in December 2002. Since that time, the strategy has been funded by the Biosecurity (American foulbrood – Apiary and Beekeeper Levy) Order 2003.

Clause 41

Do you have any other suggested changes to this clause?

42. Compensation

No compensation is payable by the management agency in respect of losses incurred as a direct result of the strategy.

No change is proposed to this clause.

Clause 42

Do you have any suggested changes to this clause?

6. Submissions

Any person may make a submission in writing on this proposal to the address provided below.

6.1. REQUIREMENTS FOR SUBMISSIONS

Submitters are asked to include the following information in their submissions:

- the title of this document;
- your name and title;
- your organisation's name (if applicable);
- your address and contact details (e.g. phone, fax and email);
- whether, in the event a Board of Enquiry is appointed, you wish to be heard in respect of your submission;
- when commenting on the proposed changes to the strategy, submitters are requested to state which clause they are referring to;
- those aspects of the proposed changes that the submission supports or opposes;
- the reasons for the support/opposition identified;
- any specific alternatives to the proposed changes that the submitter wishes to recommend.

6.2. CLOSING DATE FOR SUBMISSIONS

All submissions must be received by MAF no later than **5pm, Friday 28 November 2008**.

Please address submissions to:

Holly Foran
MAF Biosecurity New Zealand
PO Box 2526
WELLINGTON

Email: holly.foran@maf.govt.nz

Facsimile: 04 894 5687

6.3. PROCESS FOLLOWING RECEIPT OF SUBMISSIONS

This report is treated in the same way as a new proposal for a new pest management strategy, and must follow the same Biosecurity Act processes.

The submissions received will be analysed by MAF, and a Summary of Submissions will be produced and made available to the public.

MAF must determine if there is a significant body of persons who will be affected by the proposed strategy who are opposed to the proposed strategy. The next stages in the process depend on whether there is or is not opposition from this body of persons to the proposed strategy.

6.3.1. No significant opposition to proposed strategy

The Minister has to consider a report on the strategy from the chief executive of MAF.

He must also be satisfied on reasonable grounds of the matters specified in section 57(1) of the Biosecurity Act 1993 and that there is likely to be adequate funding for the implementation of the strategy for its proposed duration or 5 years whichever is shorter (section 69(2)).

The Minister must also be satisfied that the strategy proposed does not significantly differ from the proposal notified under section 62.

The Minister recommends to the Governor-General the making of an Order-in Council. The GG makes the Order under section 68.

The Minister must lay a copy of the Order before the House (section 70).

6.3.2. Significant opposition to the proposed strategy

A board of inquiry must be appointed by the Minister (section 63) to inquire into and report on every proposal in the strategy. All submissions received under section 62 must be forwarded to the Board and every person who made a submission has the right to be heard at the inquiry.

The Minister must consider the report and recommendations of the Board of Inquiry and a report (on the report of the Board) by the chief executive of MAF and must also be satisfied of the matters set out in section 69(2).

The Minister recommends to the Governor-General the making of an Order in Council and the rest of the process is as for 6.3.1.