

South Australian Varroa Program

Detection Response & Transition to Management Plan

South Australian Varroa Program: Detection Response & Transition to Management Plan

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Information and recommendations in this Plan have been prepared by PIRSA based on advice provided by SAVIAC. SAVIAC has drawn information from the national varroa response and management arrangements, experience and consultation with members of the respective groups they represent and taking account of specific requirements of the SA primary industry sectors. SAVIAC members have based their advice on the best available knowledge at the time though recognising that new information and knowledge will continue to evolve from the experiences of those dealing with varroa. It is therefore critical that this Plan is regularly reviewed by PIRSA in consultation with Industry to incorporate changes as they arise.

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1 Background

European Honey Bees (EHB - *Apis mellifera*) provide an average pollination value to Australia's food production sector of \$14.2B pa (Karasiński, 2018). Many horticultural sectors rely on pollination provided by EHB. It is estimated that between 65-75% of fruit and vegetable crops in Australia are pollinated by honeybees. It is estimated that spread of Varroa destructor mite (Varroa) will infest and significantly deplete Wild European Honey Bee (WEHB) colonies within 5 years, as well as a significant portion of unmanaged/ poorly managed EHB hives.

Varroa reduces the physiology of the EHB by weakening brood and worker bees, resulting in decreased production. Varroa can also be a vector for several viruses such as the deformed wing virus. Varroa is unlikely to affect native bees but virus transmission to native bees may occur.

Based on international experience, the establishment of Varroa in Australia, suggests that apiarists will experience loss of productive colonies and would need to adopt costly control measures (Barry et al. 2010). WEHB populations would also suffer and be reduced. This would produce a reduction in pollination capability and without management, would subsequently affect many horticultural and agricultural industries and impact on the State economy (Barry et al. 2010).

Australia exports live bees to a number of countries, with the value of live bee exports over the 2021-2022 estimated at approximately A\$2.5 million, with growing environmental and disease pressures (especially Varroa) on honey bees in export destinations like Canada, these markets are likely to become more valuable in coming years.

The South Australian apiary industry pollinates agricultural and horticultural crops valued at an estimated \$1.7 billion and produces more than \$12million¹ worth of honey bee products annually.

Varroa can be spread via both human and EHB mediated movement, including via:

- human movement of honey bee commodities including bees, bee colonies, apiary products, hive components, apiary appliances and beekeeping plant exposed to and/ or been in contact with EHB and/ or Varroa,
- EHB movement including via foraging, drifting, robbing, mating, swarming and/ or absconding.

¹ Source; PIRSA farmgate value, 2023

1.1 Situation – National

On 22 June 2022 Varroa destructor mite (Varroa) was detected in sentinel hives at the Port of Newcastle, NSW as part of routine surveillance.

Initially the incursion was deemed technically feasible to eradicate and the NSW Department for Primary Industries (NSW DPI) implemented an emergency response which was aimed at eradication of Varroa through euthanasia of managed hives and control of Wild European Honey Bee (WEHB) populations, delimiting surveillance and movement controls to manage the response.

On 19 September 2023, initiated by multiple factors including the increase in new detections and the subsequent expansion to a control area greater than 16,000 km², the response program triggers were reviewed and it was deemed no longer technically feasible to eradicate Varroa from Australia. This decision was made by the Consultative Committee on Emergency Plant Pests (CCEPP) and agreed by the National Management Group (NMG) and as a result the focus of the response shifted to transitioning to the management of Varroa.

In February 2024, the National Response Plan was amended to include nationally coordinated and implemented response activities which would support the honey bee and pollination dependent industries to transition to managing Varroa.

As of May 2024, all control orders, associated management zones, movement and testing requirements have been revoked within NSW. NSW remains the only jurisdiction with confirmed evidence of Varroa in European Honey Bees (EHB).

Since the revocation of the NSW control order, there has been increases in the spread and number of reported detections of Varroa across NSW. During the current unstable Varroa population build up phase, NSW beekeepers are reporting significant reinfestation rates post treatment, hence requiring retreatment, and where Varroa numbers are high, monitoring intervals are now being suggested to reduce from 16 weeks to a 4 week interval.

To ensure the sustainability and business continuity of apiary and pollination industries, jurisdictions are adopting risk assessed approaches to wider movement of colonies from apiaries in NSW where there has not been a prior Varroa detection.

Queensland (Qld), Victoria (Vic) and South Australia (SA) are aiming to prevent entry and slow the spread of Varroa into their jurisdictions. While Western Australia (WA), Northern Territory (NT) and Tasmania (Tas) have geographic barriers which inhibit natural spread and are committed to remaining free from Varroa incursions.

1.2 Situation - State

Prior to the detection in NSW in June 2022, all Australian states and territories were free of Varroa.

There are currently no known detections of Varroa within South Australia

South Australia is relatively isolated from eastern states with limited commercial hive movements from interstate. While movements that do occur are closely associated with providing pollination services to industries like almonds, lucerne and small seeds, pome fruit, citrus and canola. The reduction of feral / wild European honey bee colonies may see an increase in the number of managed hives being sought from interstate to support pollination dependent industries.

SA beekeepers are highly reliant on the interstate supply of queen bees with an estimated 60-70,000 queens required per year. South Australia does have a small queen breeding industry, but this is unable support the commercial quantity of queen bees that are required.

South Australia has implemented risk assessed permitted entry conditions for apiary products, equipment, bees and colonies which will contribute to preventing entry of Varroa.

As Varroa becomes more widespread interstate, there exists multiple road, freight and natural incursion pathways through which EHB or WEHB could move, thus elevating the risk of a Varroa incursion occurring in South Australia. Given these pathways Varroa will eventually be detected within South Australia.

Continuing spread and ongoing detections in NSW, combined with reduced ability to trace movement activity increases the risk of spread to other States. In South Australia, the incursion risk increases where interstate movement and hive congregations occur, such as during the pollination of almonds, lucerne and the movement of bees.

In order to provide confidence that Varroa was not within the State, an initial surveillance and sampling program was instigated. Between June 2022 and July 2023, PIRSA and SA apiarists collected and submitted over 7100 samples with no detections of Varroa being recorded. PIRSA continues to seek suspect samples be submitted for confirmation.

Since June 2022 PIRSA has implemented risk assessed movement permits and remained in consultation with industry through the South Australian Varroa Industry Advisory Committee (SAVIAC), as well as providing updates to the wider South Australian apiary industry through multiple communication channels.

2 Intent

The intent of this plan is to define the activities that would be undertaken to

- prepare beekeepers to manage Varroa and
- respond to Varroa detections within South Australia or within another State/Territory that has previously been considered free from Varroa.

Once Varroa is detected within South Australia, the Department of Primary Industries and Regions SA (PIRSA) will for the first 30 days post initial detection, assist to manage the impact and spread of the incursion in South Australian through the initial provision of management and surveillance tools i.e sticky mats and acaricides.

PIRSA will provide ongoing support of Varroa specific activities through advice, education and training opportunities delivered through State and National programs to support the honey bee industry and pollination dependent industries through to February 2026.

An incursion of Varroa into South Australian is expected to significantly reduce populations of feral/wild European honey bees. This will have both positive and negative impacts on the environment and community. While the environmental and community issues resulting from the entry of Varroa are acknowledged they are not covered in this plan.

This Plan takes account of, and complements, the National Varroa Mite Response Plan and its corresponding activities. The National plan and associated cost shared funding structure are scheduled to conclude in February 2026.

The desired end state is to have all participants within SA's beekeeping community prepared with the most up to date knowledge on how to and who actively engage to manage Varroa which results in the growth and sustainability of both apiary and pollination dependent industries.

2.1 Aim

Assist apiary industry, including both commercial and recreational beekeepers and pollination industries to prepare for the eventual establishment of Varroa in SA in order to:

- Maintain freedom from Varroa for as long as is achievable, whilst balancing business continuity.
- Once detected in SA, minimise impact of Varroa.
- Provide business continuity through a risk-based approach.

2.2 Objectives

The objectives of this Plan include:

- Describing the agreed approach and activities to the first detection in SA of Varroa.
- Maintaining business continuity for honey bee and pollination dependent industries as much as practicable without undermining response efforts and objectives.
- Supporting the Apiary Industry and other affected industries to transition to living with Varroa.
- Ensuring that all community, industry and government stakeholders involved in, or affected by the response activities are appropriately engaged to support the response with high levels of engagement.
- Ensuring that all community, industry and government stakeholders involved in, or affected by the response activities have access to support and,
- Ensuring that all program activities are conducted safely.

3 Existing regulatory arrangements

Varroa destructor, more specifically varroosis i.e. parasitism of bees by mites in the genus Varroa, remains notifiable in all jurisdictions of Australia.

In South Australia, matters relating to bees are regulated under the Livestock Act 1997. Gazette Notices issued under the Livestock Act provide the entry conditions that must be met by beekeepers when seeking entry of apiary commodities into South Australia. PIRSA maintains plain English guidelines and application forms to aid in complying with the Gazette requirements. These documents are accessible through the [Varroa mite page](#) on the PIRSA website.

South Australia will maintain appropriate risk-based border controls to prolong the anticipated entry of Varroa. This will allow South Australian apiarists the longest possible timeframe to gain the necessary

knowledge and skills to enable them to implement the tools to undertake the long-term management of Varroa.

Currently the conditions for entry into South Australia from other jurisdictions for bees, colonies, apiary product and associated apiary plant and equipment are defined under [Gazette notice](#) issued in December 2023

These movement conditions include pre and post entry sampling to confirm negative status, decontamination, treatments, training requirements and originating jurisdiction health certificates. The implementation of these measures aims to prevent entry of Varroa. Each entry permit is assessed individually on the basis of the information and evidence provided with the application.

Present testing rate for **entry of bee colonies into South Australia** is outlined below. This testing rate does not relate to surveillance beekeepers are recommended to be conducting in apiaries already within SA refer [Section 5](#).

- 0-64 colonies proposed to enter – All colonies must be tested.
- 65-640 colonies proposed to enter – minimum of 65 hives must be tested, and testing must be conducted from **each apiary** that has supplied bee colonies into the movement (per load) as equally as possible.
- Greater than 641 - 10% hives must be tested from **each apiary** that has supplied bee colonies into the movement (per load) as equally as possible.

This testing/ sampling rate is referred to as All/64/10% and is referred throughout the Plan.

Case Study 1

Casey is a commercial beekeeper who manages 700 hives and as part of that management, regularly moves all of those hives to Victoria each year. Casey must test his hives before he returns to South Australia and as part of the All/64/10% approach, he must sample at least 10%, or 70 of those hives as equally as possible across loads before they return.

3.1 Movement risks from other jurisdictions to SA

Jurisdictions with confirmed Varroa detections can be considered High risk, hence by association trade or movement of high-risk apiary commodities, bees and colonies into a non Varroa jurisdiction can be considered a high-risk movement.

This action by a non Varroa jurisdictions can put at jeopardy movement with other non Varroa jurisdictions.

South Australia acknowledges that these high-risk movements between confirmed and non Varroa jurisdictions will occur and need to occur to sustain business continuity requirements of apiarists and pollination dependent industries and poses additional risk to movements between the non Varroa jurisdiction and South Australia.

South Australia will continue to implement the risk assessed permit application process from the non Varroa jurisdictions and until such time that the non Varroa jurisdiction incurs a confirmed Varroa detection. Once this detection occurs, SA will modify its entry requirements, refer [Section 3.5](#).

3.2 Detection or change in regulation by a non Varroa jurisdiction.

Should a jurisdiction have a detection of Varroa, that jurisdiction may have the same regulatory requirements imposed as other Varroa positive jurisdictions, refer [Section 3.5](#).

3.3 Intra jurisdictional zoning

South Australia does not intend to recognise any intrastate management zoning within other jurisdictions and will classify the entire jurisdiction as one, and as such will implement movement controls on a jurisdictional basis.

3.4 Re-entry of SA based apiarists upon detection in a previously non Varroa jurisdiction.

South Australian apiarists returning to SA will be required to abide the same legislated entry permit conditions outlined in the Gazette Notice - 22 December 2023, that are imposed on all beekeepers seeking entry into SA.

SA apiarists operating within another jurisdiction must comply with the entry, sampling, movement and potential treatment conditions of that jurisdiction prior to re-entry to SA.

3.4.1 Repatriation of SA registered beekeepers

When an **initial** detection of Varroa has been confirmed from a previously non Varroa jurisdiction (Vic/Qld), PIRSA will seek to repatriate SA based and registered beekeepers as soon as possible by working with interstate agencies to identify the detection source.

Depending on the jurisdiction requirements, this may mean that a beekeeper within 25km of an Infected Premise may need to hold in place or can move to an area of lower risk while the tracing is completed by the jurisdiction in which they are operating, refer [Section 4.2](#).

SA beekeepers that have operations within 25km of an Infected Premise must notify PIRSA.

To provide confidence that Varroa has not been unknowingly introduced into South Australia, PIRSA will seek additional post entry testing requirements for SA based beekeepers returning to South Australia. An example of additional testing is sampling the apiaries which have returned from interstate 30, 60 and 90 days post re-entry into South Australia at the all/64/10% sampling rate ([Section 3](#)),

Repatriation can occur where,

- The detection site or infested premise (IP) is **greater than 25km** from the operating area of the SA registered apiary.
- If the detection site or infested premise (IP) is **less than 25km** from the operating area of the SA registered apiary, testing is undertaken prior to return to show that Varroa is not present and further testing is undertaken at 30, 60 and 90 days intervals after returning to SA.
- Based on apiarists' records, there is no known association with the detection site.
- The duration of operations in the jurisdiction where Varroa has been newly confirmed has been less than 12 weeks.

- If the re-entry occurs within 12 weeks, the sampling/ testing with negative results conducted to enter the jurisdiction will be accepted for re-entry into SA, i.e., no need to resample/ retest.
- If longer than 12 weeks, re-entry sampling at all/64/10% rate will be required to ensure negative status still exists.

SA will not allow the repatriation of colonies that have had Varroa detection. The beekeeper will need to seek alternatives to repatriation which could include, sale of hives within the Varroa positive jurisdiction, establishment of an operation within a Varroa positive jurisdiction, or potentially the voluntary destruction of the colonies. The subsequent repatriation of the used hive components, apiary appliances and beekeeping plant would be subject to existing permit entry conditions.

Case Study 2

Jane is a commercial beekeeper who has moved her hives to Victoria for pollination when it is confirmed that Varroa has been found in another apiary 15kms from where she is located. Pending any other restrictions required by Victorian authorities, Jane could apply for permit to bring her hives back to South Australia but the conditions of entry would require that she test her hives at the all/64/10% rate to show that Varroa is not present and then also test her hives at that rate at 30, 60 and 90 days after they return to South Australia.

3.5 Entry of high-risk apiary commodities (bees/ colonies/ queens) free from Varroa, from jurisdictions with Varroa detections

In the event that Victoria and/or QLD have Varroa detections and SA does **not** have a confirmed detection, in order to maintain business continuity for apiary and pollination operations, South Australia will alter the entry requirements to allow entry of apiary commodities including bees, colonies and queens from apiary operations which have had **no** detections or **no** prior management / treatment for Varroa from within the jurisdiction where there has been confirmed detections (NSW/VIC/QLD).

Apiary operations seeking entry into SA, regardless of source jurisdiction, that are **within 25km** of a newly confirmed detection of Varroa, PIRSA will.

- conduct a risk assessment of the entry application request.
- require surveillance sampling of hives within apiary (all/64/10%) utilising one of the approved sampling methods.
- If upon conducting this surveillance, nil Varroa is detected, movement may be approved through the issuing of an entry permit by the Chief inspector of Stock (CIS) with the requirement that further testing is to be undertaken at 30, 60 and 90 days intervals after returning to SA.
- If upon conducting this surveillance the presence of Varroa is detected, the beekeeper will need comply with the notification, surveillance and treatment requirements of the relevant jurisdiction.

Important Note

Jurisdictions with confirmed Varroa detections, any entry made by a SA registered beekeeper into a jurisdiction post its initial detection is conducted at the beekeepers' own risk as repatriation provisions

outlined in [3.4.1](#) will not apply and subsequent entry into SA will be subject to the standard entry permit requirements. This may include the refusal of entry if Varroa has been detected or is being treated in a beekeeper's hives.

3.6 Entry of bees, colonies & queens managed for Varroa.

The principal aim is to initially prevent the entry of Varroa in SA for as long as feasible, hence the acceptance of commodities (with mitigation measures applied) which are shown to be low risk and free of Varroa are permitted under the current entry permit conditions.

It is recognised that Varroa will eventually be detected within SA and the entry of commodities which are being managed for Varroa will only be considered once there are confirmed detections of Varroa within South Australia (refer [section 4.7](#)).

4 Detection - within borders of SA

Upon detection of Varroa **within** South Australian borders, it is intended that apiary and pollination dependent industries be supported to manage Varroa incursions and slow the spread across South Australia through the delivery of activities outlined in this Plan and the National Varroa Mite Response program.

The SA Government does not seek to impose enforced euthanasia of hives with confirmed Varroa detections as one of the management tools.

4.1 South Australian intra state zoning

Kangaroo Island will retain its zoning a sanctuary for Ligurian bees. There will otherwise be no intrastate zoning within South Australia following detection of Varroa in South Australia.

4.2 Confirmation and delimiting surveillance for initial SA detection

Actions described in section [4.2](#) and [4.3](#) will occur within the first 30 days of an initial detection within SA borders.

Upon notification of the **initial** detection of Varroa in SA the affected beekeeper will have an order placed upon their operation under the Livestock Act to request the affected apiary remain in place to enable assessment of movement records which will assist in defining the incursion extent. It's intended that this order will be issued regardless of whether the initial detection is made in a commercial or recreational beekeeper's hives as a means of allowing tracing of the detection site to occur. The Order will remain in place for the shortest possible timeframe.

4.2.1 Confirming the presence of Varroa

- Examination of samples provided – in-field confirmation by a PIRSA Apiary Officer + SARDI confirmation will define a confirmed detection. Samples will be confirmed by entomological identification and genomic testing will occur to determine if the detection is an extension of the known infested area or a new incursion in Australia. This confirmatory testing of suspect samples is a free service to available to all beekeepers. This service will cease 30 days post initial SA detections.

4.2.2 Delimiting surveillance

- Upon a confirmation of a Varroa detection, PIRSA will examine movement records to aid in conducting surveillance of other apiary sites of the same operation to quickly assess the potential extent of spread to additional localities.
- PIRSA may assist in conducting delimiting surveillance and/or provide surveillance materials to beekeepers to assess the extent of the Varroa detection. This will also be offered to all known apiary operations within 10km of a detection site. A buffered map, bounded by recognised road and tracks will aid in identifying a targeted area to allow beekeepers to contact PIRSA. Surveillance material will be provided at the rate dependent on the number of hives within the apiary (all/64/10%).

4.2.3 Surveillance of apiaries in which Varroa is suspected.

If deemed appropriate PIRSA may undertake surveillance to events where no samples are provided but Varroa suspected (i.e., observation of WEHB, photo only provided) PIRSA may conduct trapping and sampling (alcohol wash, acaricides/ sticky mats, bait traps, sentinel hives or a combination of), for minimum of 3 rounds of sampling across 14-day period.

4.3 Provision of management tools upon detection

Under existing permit conditions, PIRSA is presently authorised to utilise acaricides for surveillance purposes. Once a detection is confirmed, PIRSA will apply to the APVMA through the NSW DPI to be added to the emergency permit for control purposes which allow the wider distribution of acaricides for control. PIRSA will also apply on behalf of SA based resellers to be listed on the emergency permit for control applications.

PIRSA has a supply of surveillance materials (sticky mats and plastic mesh grid) and synthetic acaricides (Bayvarol) which will be distributed to beekeepers within 25km of the affected area to conduct surveillance. Apiary operations with organic certification can utilise the alcohol or soapy water wash, sugar shake or sticky mats to conduct surveillance without affecting their certification.

PIRSA will initially support the provision of acaricides for surveillance and if needed control (once approved) to beekeepers for a period of 30 days post initial detection within SA on a voluntary basis. Beekeepers will not be forced to use synthetic acaricides but if they choose not to, they must source their own authorized product.

PIRSA will establish distribution points dependent on the locality of the confirmed detection.

Acaricides and surveillance materials will be issued once specific criteria have been met.

- PIRSA will only provide materials to registered beekeepers.
- Apiarist/ Hive Brand and hive numbers are provided; AND
- Confirmed detection from beekeeper surveillance (alcohol wash, sugar shake or soapy water wash) – sample provided for SARDI analysis; AND
- Mite numbers in sample meet threshold/ criteria – under slowing the spread principle current suggested economic threshold is 9 mites per 300 bee sample; AND

- Initially sufficient acaricides and surveillance material will be provided to undertake surveillance sampling at a rate (all/64/10%) of hives within the affected apiary,
- once PIRSA is listed on the emergency permit for control, beekeepers will be provided with acaricides to treat all hives that meet threshold (9 mites / 300 bee sample) within an affected apiary AND
- Apiarist agrees that they understand and will comply with directions for use for the product.

Should beekeepers seek to utilise an alternative approved product to treat, they will be provided with a list of resellers to source an approved product of their choice.

The longer-term access to acaricides will be through resellers providing beekeeping supplies at the industry's cost.

Available treatment options can be found on the [AHBIC website](#)

4.4 Resellers

PIRSA will work with NSW DPI and APVMA to nominate interested SA based resellers/suppliers to be included on the emergency permits for control to enable sale/ issue of acaricides within SA.

Resellers will need to compete in the open market with national and interstate suppliers/ resellers to access acaricides.

The South Australian Department of Health has indicated the existing nominated products do not require licensing for sale and distribution. This may change as additional products are made available to the apiary industry.

Resellers would need to abide by label conditions for storage, distribution and recording requirements. If importing acaricides resellers will need to abide to APVMA importation regulations.

4.5 Notification to all registered beekeepers

Upon confirmation of Varroa being detected within South Australia, notification will be provided to all registered beekeepers (both recreational and commercial) via Biosecurity Notice distributed by email/SMS. The notice will also be posted on PIRSA website and social media avenues to ensure that non-registered beekeepers are also made aware of the detection.

The notification will outline the area, defined only by Local Government Area (LGA) where the detection has been confirmed.

PIRSA recognizes the importance of encouraging all beekeepers in South Australia to become registered, as they are required to do under the Livestock Act, but also acknowledges that there are likely some beekeepers in South Australia who are not currently registered. Options to engage with non-registered beekeepers are being considered within communication material that supports this Plan. Communications with beekeepers will include direct contact with registered beekeepers but also more general avenues to also allow non-registered beekeepers to understand the important role that they play in managing Varroa.

Beekeepers operating within the affected LGA, should undertake sampling to determine the presence/ absence of Varroa within their own apiaries and operations but South Australia will not mandate surveillance by apiarists.

Varroa destructor (varroosis) will remain notifiable, similar to AFB and will require apiarists to manage accordingly.

If apiarists suspect they have detected Varroa, they must immediately contact the Exotic Plant Pest Hotline 1800 084 881.

4.6 Detection Data

PIRSA will gather information from apiarists which will allow the apiary and pollination industries, Government and public to monitor spread of Varroa across SA and aid in targeting messaging and engagement activities. All information collected would be de-personalised to LGA level for public viewing. This information will also contribute to National Varroa distribution mapping.

Information to be gathered will include:

- Registration details.
- Locality of apiary sampled / affected – GPS location/ grid coordinates/ rural address.
- Date of sampling event
- Number of hives within apiary sampled.
- Presence (includes number of mites observed per sample) or absence of Varroa.

4.7 Changes to entry permit conditions once a Varroa detection occurs within South Australia

Once a detection is confirmed within SA, the State would have the same risk profile as other jurisdictions with confirmed detections of Varroa, as such the movement of commodities which being managed for Varroa should not face additional restriction of entry to the State. This is consistent with the principles outlined in the Intergovernmental Agreement on Biosecurity (IGAB) with regard to efficient movement and reducing red tape.

PIRSA propose within 30 days of initial confirmed detection within SA, the permit entry conditions, and Gazette notice would be modified or rescinded with entry conditions reverting to utilising a Health Certificate to allow beekeepers to declare commodities for entry but continue to prohibit entry of apiary commodities with Varroa and other notifiable apiary pest and diseases.

Further changes to existing entry and notification requirements of apiary commodities managed for Varroa (currently prohibited entry) will require careful consideration by Government and Industry, as it would require regulatory changes to rescind the notifiable occurrence status of Varroosis in SA.

5 Surveillance

5.1 Surveillance versus monitoring

The intent of surveillance is to determine the presence or absence of Varroa in the apiary or area, while monitoring is a tool used for identifying the level of mites within hive or apiary. Monitoring provides a guide for management decisions in combination with Integrated Pest Management principles.

These two techniques are different as they require differing levels of confidence and numbers of hives washed in an apiary.

The response plan focuses on surveillance to determine when Varroa enters the state and the rate of spread across the state.

5.2 Surveillance requirements for beekeepers

Prior to Varroa being detected within SA, it is recommended that beekeepers, undertake regular hive surveillance for pests and disease, preferably a minimum of 4 - 6 times per year, this surveillance will be dependent on environmental conditions. However, this will not be a mandatory requirement.

Post the initial detection of Varroa in SA, based upon the present experience in NSW, the frequency of surveillance may need to be increased to potentially every 4 weeks particularly where apiary operations are in close proximity to known areas of Varroa occurrences.

To aid in the collation of nationwide data for hive health and monitoring Varroa presence/ absence and spread, beekeepers are encouraged to undertake voluntary surveillance of hives and submit sample results and suspect detections.

Varroa Development Officers (VDO's) will provide advice, support and assist individuals and groups in conducting surveillance and sampling to improve confidence in collection of suitable representative samples. Samples suspected of containing Varroa will be required to be provided to SARDI for analysis and confirmatory diagnosis.

5.3 Recommended surveillance techniques

There are a number of surveillance techniques that have varying levels of effectiveness. In line with the national recommendations PIRSA recommends that in the absence of Varroa beekeepers conduct surveillance at least 4 – 6 times per year. Recommended techniques include alcohol washing, sugar shake or soapy water wash. Detailed descriptions of these techniques can be found at BeePestBlitz.com.au and they are also outlined at National Varroa Management workshops.

PIRSA recommends that for surveillance, beekeepers should randomly test hives in an apiary following these guidelines.

Number of hives in an apiary	Hives sampled
<64 hives	100% hives
>65 hives	sample 65 hives.

Suspect samples containing Varroa should be sent to SARDI for analysis and confirmatory diagnosis. A sample submission process is outlined at (link to PIRSA sampling page), with sample containers, labels and data sheets available from PIRSA offices. Confirmatory analysis of suspect samples by SARDI will be conducted free of charge for beekeepers.

Case Study 3

Peter is a commercial beekeeper who manages 85 hives. In order to survey for Varroa mite, he should sample 65 of those hives, chosen randomly from across his apiary. He should repeat that

process 4-6 times every year with a new random sample of 65 hives chosen from his apiary every time he chooses to sample. Peter knows that this means that many of the hives within his apiary will be sampled several times every year.

Case Study 4

Mary is a recreational beekeeper who manages 5 hives. In order to survey for Varroa mite, she should sample all of those hives and repeat that process 4 - 6 times every year.

5.4 Surveillance and monitoring data

PIRSA will provide an online portal for the submission of surveillance and monitoring results and will encourage the submission of both negative and suspect positive results.

Information submitted will aid in providing information about the presence/absence/extent of Varroa in SA, aid as a decision support tool for apiarist wanting to travel to a particular area and manage risk appropriately and contribute to the national mapping of Varroa.

5.5 Compliance surveillance

PIRSA will operate compliance surveillance as is determined necessary. This could include checks on movement permits, random surveillance at congregation events, and in response to notifications.

Compliance will be undertaken to manage the risk of further spread of Varroa, by continually assessing the higher risk movement of hives, equipment and products and conducting spot checks / audits to ensure compliance with permits and recording requirements.

In some circumstances, compliance activities may involve issuing of an order (Section 38) control Varroa.

In addition to compliance activities required to ensure that apiarists are complying with movement conditions imposed under the *Livestock Act 1997*, PIRSA may deploy compliance resources to ensure compliance with:

- Registration requirements,
- Biosecurity sampling and record keeping requirements,
- EHB biosecurity, specifically exposure, robbing, swarming and neglect.

6 Communications and Engagement

6.1 Stakeholders

Stakeholder groups, including the beekeeping industry, honeybee pollination dependent agricultural and horticultural industries, local communities, and organisations, are being engaged where possible to raise community awareness of Varroa.

In South Australia there are 2 primary representative bodies for beekeepers:

- South Australian Apiarists' Association (SAAA),
 - focused on commercial beekeepers.
- Beekeepers' Society of SA (BSSA),
 - focused on recreational beekeepers.

The Minister established a SA Varroa Industry Committee (SAVIAC) to provide industry advice and feedback to PIRSA to aid in the development of plans and policies. Membership consists of:

- an independent Chair
- 2 x representatives of SAAA
- 2x representatives of BSSA
- 1x representative of Australian Honey Bee Industry Council (AHBIC)
- 1x representative with commercial beekeeper with knowledge of, and experience in, managing Varroa.
- 2x representative from Pollination dependent industries
- PIRSA Biosecurity provide an executive officer and 2 advisors to provide National and State context.

SAVIAC maybe an outcome bound advisory body i.e., once the management plan is adopted the committee may be dissolved. Should this be the case, PIRSA recognises there is a requirement for ongoing industry advice and representation, it may choose to investigate options for a State level Apiary Advisory Body.

PIRSA acknowledges that not all apiarists are affiliated with either of the aforementioned representative bodies and it is suspected there are significant numbers of unregistered apiarists.

To aid engagement and communication with the widest cross section of the apiarist community, PIRSA will communicate through Biosecurity Notices distributed to all registered beekeepers and also broadcast the same information for general public and unregistered apiarists via its social and digital media avenues.

7 Resourcing and Industry Support

A combination of resources including direct funding and labour resources will be maintained for the duration of the program to February 2026 to support the delivery of the National and State level response plan activities.

A summary of the [National Varroa Mite Response plan](#) can be found on the PIRSA website.

7.1 Resources supported by PIRSA.

PIRSA will continue to provide in kind support and funding to complement and aid the delivery of the national and state activities.

- Provide management, coordination and oversight of the SA program.
- Contribute to National Varroa Coordination Team.

- Provide State level support to ensure accessibility of Varroa management tools, and support communication, engagement, and liaison with apiarists and affected industries.
- Provide resources to undertake compliance actions that support the adherence for management of Varroa by all beekeepers.

PIRSA is a signatory of the Emergency Pest Plant Response Deed (EPPRD) and contributes in-kind support and financially to national response programs.

7.1.1 Family and Business (FaB) mentor service

All beekeepers will be provided free access to the PIRSA Family and Business (FaB) mentor service to support them through the management of Varroa. FaB Mentors provide a confidential one on one service and work closely with a network of providers to connect beekeepers to services they may require.

These services and networks include,

- Financial counselling
- Local health networks
- Emotional wellbeing and counselling services
- Government and non-government assistance
- Community organisations and donations.

7.2 Resources supported by the National T2M Response

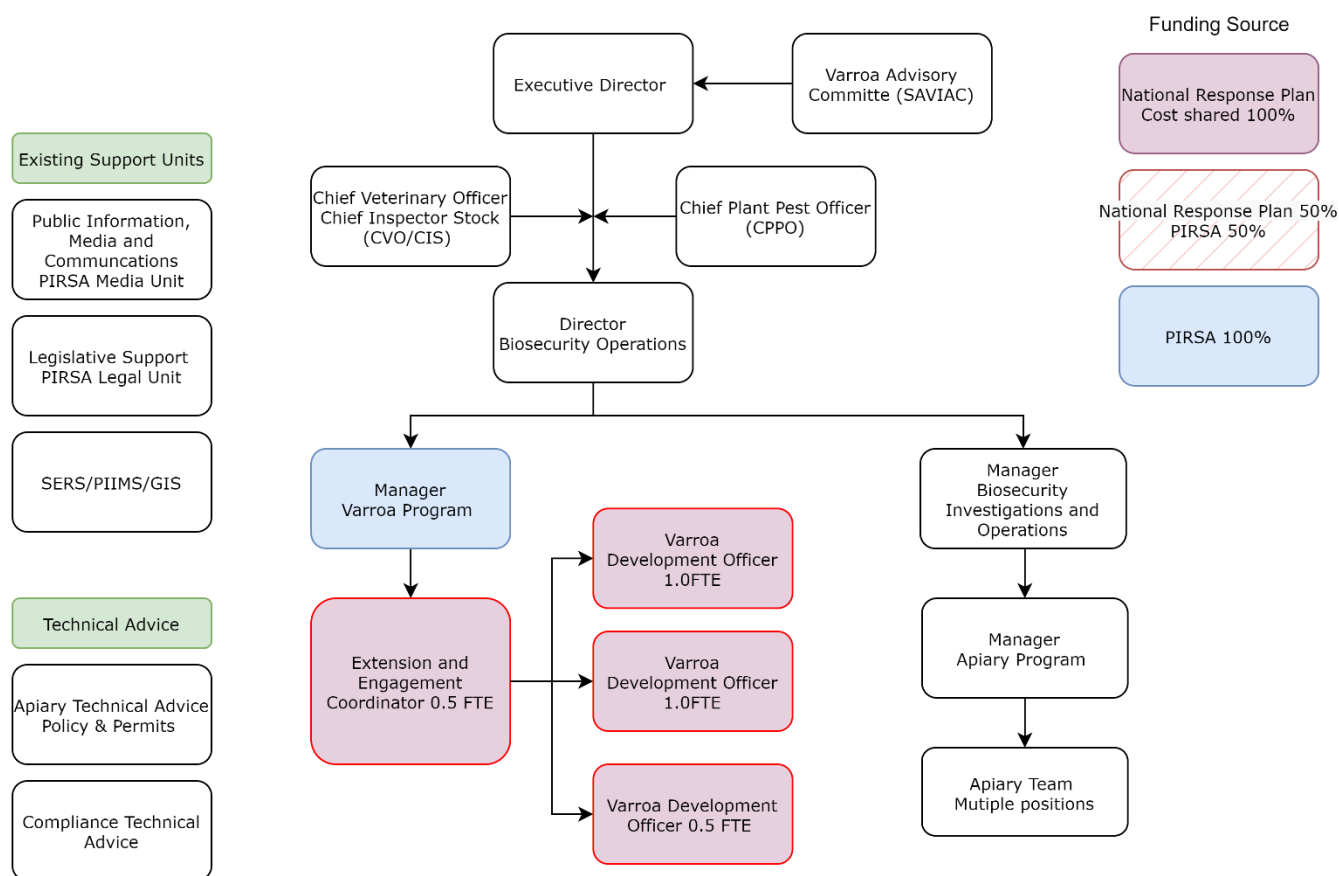
Under the National response plan, several positions are proposed to be positioned within South Australia (SA) to support the delivery of the National Varroa Mite Response plan activities until February 2026,

- An Extension and Engagement Coordinator (EEC) to support SA and NT VDO's,
- 2 x Varroa Development Officers (VDO)

VDO support from the SA cohort may be required to assist with surge capacity in Northern Territory (NT) and vice versa. The NT VDO will be supported through the SA based EEC.

At the conclusion of the National Program and if Varroa has not been detected, PIRSA, the apiary and pollination dependent industry representatives will need to assess the ongoing resources, support and the appropriate funding mechanisms required to deliver ongoing actions to support Varroa management and preparedness in SA.

7.2.1 Organisational Structure



7.3 Education, Extension and Training Resources

The current National Varroa Mite Response Plan has a strong focus on education, training and awareness activities to support beekeepers and pollination industries to transition to managing Varroa and its impacts. A summary of the National Response Plan and its associated activities can be found [\(link\)](#)

The knowledge pool of Varroa management with an Australian context is growing, resource materials will be modified accordingly as the tools and techniques for best practice management become more defined.

A variety of education and training resources will be made freely available to beekeepers via the National and State programs to support their transition to managing Varroa. These resources include.

- Regionally delivered full day face to face training with targeted sessions for recreational and commercial beekeepers.
- Online information and education sessions
- Resource materials to support self-paced learning and
- Access to resource materials to enable education and extension activities to be conducted beyond the response plan duration.

One day face to face training (expected 50+ participants at each) will be delivered across 8 regional workshops, conducted via contracted training organisations. These will be delivered in each of the following regions.

Table 1: Proposed full day face to face workshop locations. Subject to change.

Location	Venue	Region	Date	Focus
Clare	Clare Golf Club	Mid North	Sat 20-Jul-24	Open to all
Renmark	Renmark Hotel	Riverland	Sat 27-Jul-24	Open to all
Adelaide	Kooyonga Golf Club	Adelaide Metro	Sat 3-Aug-24	Open to all
Berri	TBA	Riverland	Mid Nov – Early Dec	Open to all
Murray Bridge	TBA	Mallee	Mid Nov – Early Dec	Commercial
Mount Gambier	TBA	Limestone Coast	Mid Nov – Early Dec	Open to all
Port Lincoln	TBA	EP	Mid Nov – Early Dec	Open to all
Adelaide	TBA	Metro	Mid Nov – Early Dec	Recreational

The online and face-to-face training resources are non-accredited (not mapped to nationally recognised units of competency) and will be available for use in training for all training providers beyond the 24-month T2M period.

Additional half-day courses and shorter information sessions are intended to be incorporated into existing industry events, meetings, conferences and field days, with resources adapted accordingly and be delivered by Varroa Development Officers (VDO's), who are supported under the National Response Plan.

Much of the work delivered by VDOs will be proactive and preparatory. Preparing beekeepers will be instrumental in reducing Varroa mite impact and slowing spread of this pest. VDO activities will include.

- Establishment, coordination and maintenance of the voluntary Varroa mite monitoring program in collaboration with volunteer beekeepers, beekeeping associations, clubs, groups and societies.
- Assistance through face-to-face skills development and resolving problems.

This will involve attendance at meetings to promote Varroa mite monitoring and management practices. They will also focus on engaging with beekeepers around hive health monitoring.

VDOs will build capability through hands on engagement with beekeepers, and may directly support the Training and Education program as trainers, and will work alongside existing jurisdictional based Bee Biosecurity Officers (BBO) and other apiary staff in a complementary manner.

Varroa Development Officers (VDO) and the State Extension and Education Coordinator (EEC) will work with the apiary associations and groups of beekeepers to examine the most appropriate timing, location, and delivery topics for engagement and extension events.

It is intended that VDO's be highly mobile and are likely to be involved in delivery "stints" in each region in order to maximise the delivery opportunities and provide support to all beekeepers across South Australia.

Existing tools and management information like the Biosecurity Manual for Beekeepers, the Australian Honey Bee Industry Biosecurity Code of Practice and NSW DPI Best Practice Management Guide for Varroa, are scheduled to be updated under the national and jurisdictional programs and made freely available to all beekeepers.

7.4 Business Management and Planning

Provision of business management and planning workshops for beekeepers is one of the activities outlined in the National T2M activities and bolstered by the State program.

These workshops will assist apiarists to improve their business management and planning skills and aid in assessing and examining options for their business operations e.g., focus on honey production, move from honey production to pollination or hybrid of both, develop and expand queen production etc.

South Australia will provide additional support through the Commonwealth funded Farm Business Resilience (FBR) program to enable apiarists the opportunity to access and undertake business planning and management training.

7.5 Industry Support

The National Varroa Mite Program will lead actions to build upon the knowledge of Varroa management impact and advice oriented to an Australian context that will specifically support the sustainability of Australia's apiary and pollination dependent industries.

7.5.1 Australian COLOSS survey

Establishing an Australian COlony LOSS (COLOSS) style survey will help to understand the effects of Varroa mite and how well beekeeper cohorts (e.g., recreational, commercial) are managing it. This, in turn, will guide research priorities, treatment recommendations, practice changes and inform the pollination dependent industries of pollination hive supply.

7.5.2 Mapping the national distribution of Varroa mite

Visualising the spread of Varroa mite over the next 3-5 years and assessing its impacts across the varied Australian climatic zones will be best achieved by centralising the collation and analysis of relevant data.

7.5.3 Investigating options for upskilling queen bee breeders

Identifying and quantifying Australia's queen bee production sector capacity and capability to produce queens at scale with improved Varroa mite tolerance is critical to minimising the effect of the mite on the honey bee industry and the pollination-reliant industries. Central to an Integrated Pest Management (IPM) approach is improving Australia's genetic stock to select for Varroa mite resistance.

Three national workshops will address the need for advanced training in queen bee breeding, particularly for selecting Varroa mite resistance traits. The workshops will equip experienced queen producers and breeders with the latest knowledge, techniques, and resources to refine their selection practices for Varroa mite-resistant queen.

7.5.4 Investigation of options that will enable pollination in a post-Varroa mite world.

Enabling pollination particularly after the naturalisation of Varroa mite across Australia is key to ensuring ongoing productivity and profitability in the horticultural sector. This project under the National program will review current research in this space and provide recommendations for further work to support future ready industries.

The project will review current R&D and present options in support of greater pollination efficiency in a post-Varroa mite Australia. Options may include improving pollination efficiency using EHB, supplementing EHB pollination with alternative pollinators (e.g., flies, native bees, bumble bees), mechanical pollination, and improvements to plant breeding.

7.5.5 National Pollination Industry Coordinator (PIC)

Under the National Plan a role will be created for a National Pollination Industry Coordinator (PIC). This role will gather relevant information from pollination dependent industries on their concerns and knowledge gaps and future needs related to living with Varroa mite within their industry.

They will coordinate the development of content specific to the needs of pollination-dependent industries and will work with existing Industry Development Officer (IDO) networks (or equivalent) across the country to support dissemination and delivery of resources and information to growers. IDOs already have strong familiarity with the needs of their respective industry as well as the most suitable platform for delivery of this kind of material, it is expected that delivery models and topics will differ between industries.

To maximise engagement with industries the PIC will act as an information conduit for the pollination-dependent industries and will provide a key point of contact where IDOs may be able to clarify information or raise concerns on industry needs.

The review will examine.

- Changes to best practice management including surveillance, monitoring and management tools.
- Changes in the regulatory environment.
- Changes to communication and engagement stakeholder and strategies.
- Progression of national program outcomes delivered within in South Australia.

8 Plan Review

This Plan will be reviewed and updated upon Varroa detection in South Australia and 12 months post initial plan adoption. The review will be conducted by representatives from SA's apiary industry, pollination dependent industries and PIRSA.

The review will examine.

- an evaluation of the achievement of the aims (2.1) and objectives (2.2)
- Changes to best practice management including surveillance, monitoring and management tools.
- Changes in the regulatory environment.
- Changes to communication and engagement stakeholder and strategies.
- Progression of national program outcomes delivered within in South Australia.