

The Senate

Rural and Regional Affairs and
Transport References Committee

Red imported fire ants in Australia

Don't Let This Come Back to Bite Us

April 2024

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Terms of reference

The following matter was referred to the Rural and Regional Affairs and Transport References Committee:

- (a) the expected costs and impacts, if red imported fire ants are able to spread across Australia, on human health, social amenity, agriculture, the environment, infrastructure and regional workers;
- (b) an assessment of the current and any proposed fire ant response plans for achieving the eradication of red imported fire ants;
- (c) an evaluation of funding provided for the current or any proposed fire ant response plans;
- (d) the effectiveness of eradication efforts and the spread of fire ants;
- (e) learnings of Varroa mite in managing red imported fire ants; and
- (f) any other related matters.

List of recommendations

Recommendation 1

- 2.75 The committee recommends that the Australian Government in consultation with state and territory governments, work to review the current level of funding for the National Fire Ant Eradication Program and whether this is efficient to eradicate red imported fire ants by 2032, and if not sufficient, investigate the appropriate level of funding required for eradication.
- 2.76 The committee further recommends that:
- The Australian Government, and all state and territory governments commit to providing uninterrupted funding required to achieve eradication.
 - The Australian Government, and all state and territory governments ensure funds are provided as a whole-of-government response to reflect the seriousness of red imported fire ants on all aspects of Australian life, including health, tourism, agriculture, and environmental.

Recommendation 2

- 2.77 The committee recommends that the Australian Government work with the National Fire Ant Eradication Program to explore options to improve transparency and accountability mechanisms across both the strategic and operational aspects of the red imported fire ant response. In doing so, the committee recommends this includes:
- Publication of the full 2023–2027 Response Plan, including funding allocations and priorities.
 - Timely publication of any outstanding and future key reviews, reports, minutes, and data.
 - Formal stakeholder and industry involvement within the National Management Group.
 - Increased independence within the governance arrangements, including the reinstatement of an independent chair for the National Management Group.

Recommendation 3

- 2.78 The committee recommends that the Australian Government undertake an independent, rapid review of the actions and recommendations from the 2021 Independent Strategic Review and what has been completed or is in process to be completed. The committee further recommends that the review should report back to the Commonwealth Minister for Agriculture within three months and that a report of this review should be tabled in both Houses

of the Australian Parliament within 14 days of the provision of this report to the Minister.

- 2.79 As part of this review, the committee recommends that the Australian Government, as the primary funder of the red imported fire ant response, investigate alternate models for delivery to reduce bureaucratic process, improve independence and transparency, improve public engagement and improve the delivery of the eradication program. The committee recommends that all models are investigated, including a statutory independent agency and a nationally led commission.

Recommendation 4

- 3.84 The committee recommends that the Australian Government and all state and territory governments should commit to further investment in research, development, and innovation to improve understanding of red imported fire ants in the Australian context and improve efficiencies through implementation of new technologies and techniques.
- 3.85 As part of this, the committee recommends: the National Fire Ant Eradication Program commit to quickly progress the development of innovative and new control and eradication methods and techniques, including environmental DNA (eDNA) markers, biological controls, and RNA-interference (RNAi) technology.

Recommendation 5

- 3.86 The committee recommends that the Australian Government establish and fund a Cooperative Research Centre encompassing independent researchers and academics, private business, industry representatives and governments to bring together the necessary diverse expertise for understanding red imported fire ants in Australia.

Recommendation 6

- 3.87 The committee recommends that the Australian Government work with the Queensland Government to urgently review the funding and outcomes of the Fire Ant Suppression Taskforce (FAST), with a particular focus on increasing FAST activities in areas not receiving any eradication or suppression activity. The committee recommends Australian Government work closely with the Queensland Government to commit to additional funding for the FAST to support self-treatment by residents, local governments, and landholders and ultimately, support the delivery of the 2023–2027 Response Plan and the 2022–2026 FAST Plan.

Recommendation 7

4.65 The committee recommends that the Australian Government, in conjunction with the Queensland Government, collaborate with affected councils within the biosecurity zones and neighbouring areas to ensure community members, residents, landholders and businesses are engaged and understand their General Biosecurity Obligation. This should incorporate community notices having a particular focus on identification, reporting and movement controls.

Recommendation 8

4.66 The committee recommends that the Australian Government, in conjunction with state and territory governments:

- Undertake an assessment of current public understanding and awareness of red imported fire ants, and their obligations.**
- Allocate additional funding and resources to undertake a national awareness campaign and achieve greater understanding. The campaign should focus on advertising, education, and engagement on a national approach, with higher resources apportioned according to the level of outbreak and risk.**

Recommendation 9

4.67 The committee recommends that the Australian Government, in conjunction with the Queensland and New South Wales Governments, work to increase compliance with movement controls, including increasing biosecurity spot checks at border crossings. As part of this, all governments should commit to releasing regular reports on identified breaches, including responsible industries and penalty outcomes.

Recommendation 10

4.68 The committee recommends that the Australian Government conduct a review process of the Varroa mite incursion and response, in partnership with the New South Wales and Queensland state governments to identify and study tension points that also exist in the red imported fire ant response, with a view to actively adopt learnings and adjust the response plan accordingly.

Abbreviations and acronyms

AEPMA	Australian Environmental Pest Managers Association
AI	Artificial intelligence
APLC	Australian Plague Locust Commission
APVMA	Australian Pesticides and Veterinary Medicines Authority
CEBO	Chief Environmental Biosecurity Officer
CEBRA	Centre of Excellence for Biosecurity Risk Analysis
CRC	Cooperative research centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Forestry and Fisheries
DCCEEW	Department of Climate Change, Environment, Energy and Water
DNI	Direct nest injection
EADRA	Emergency Animal Disease Response Agreement
eDNA	environmental DNA
EPP	Emergency Plant Pest
EPPRD	Emergency Plant Pest Response Deed
FAST	Fire Ant Suppression Taskforce
GBO	General Biosecurity Obligation
IGR	Insect growth regulator
K.solenopsae	<i>Kneallhazia solenopsae</i>
LGAQ	Local Government Association of Queensland
MSP	Managing Successful Programs
NEBRA	National Environmental Biosecurity Response Agreement
NFAEP	National Fire Ant Eradication Program
NFF	National Farmers Federation
NBMCC	National Biosecurity Management Consultative Committee
NMG	National Management Group
NSC	National Steering Committee
NSW	New South Wales
NSW DPI	New South Wales Department of Primary Industries
QFF	Queensland Farmers Federation
QLD	Queensland
QLD DAF	Queensland Department of Agriculture and Fisheries
RIFA	Red imported fire ant (<i>Solenopsis invicta</i> Buren)
RMAC	Risk Management and Assurance Committee

RNAi	RNA-interference
RSS	Remote sensing surveillance
SEQ	South East Queensland
The Act	<i>Queensland Biosecurity Act 2014 (Queensland)</i>
The committee	Senate Rural and Regional Affairs and Transport References Committees
The Regulation	<i>Queensland Biosecurity Regulation 2016 (Queensland)</i>
Varroa mite	<i>Varroa destructor</i>
WA	Western Australia
WA DPIRD	Western Australia Department of Primary Industries and Regional Development

Chair's foreword

The red imported fire ant infestation in South East Queensland is perhaps Australia's greatest current biosecurity challenge. The risk of a wider outbreak of red imported fire ants is high given they have evaded all attempts to eradicate them over two decades. The consequence of a broader outbreak is severe affecting agriculture, native species, and human health. Evidence to this Senate Rural and Regional Affairs and Transport References committee (the committee) indicated that an Australia wide outbreak of RIFA could cost Australians \$2 billion per annum.

The Australian Government has spent \$690 million to contain and eradicate red imported fire ants from South East Queensland since they were first observed in 2001. While these efforts have largely contained the ants to South East Queensland, we have not been close to eradicating them from this area.

Australia's red imported fire ant response has been hampered by shortfalls in funding, excessive bureaucracy, insufficient coordination between different levels of government, a lack of transparency and a reluctance to involve industry and the private sector in solutions. A major review (the Scott-Orr Review) in 2021, concluded that an extra \$200–300 million of funding a year for ten years was needed, and recommended changes to the governance of the red imported fire ant response.

A lack of action in response to these recommendations is what led to some calling for this Senate inquiry. Perhaps it was a coincidence, but within weeks of the establishment of the Senate inquiry, state and federal governments finally announced an additional \$593 million of funding and a new governance model to oversee this funding. Whatever prompted this belated action, I welcome the new resources to target this significant problem.

The new funding is less than recommended by the Scott-Orr Review, however, the committee was assured by government officials that efficiency savings have meant that the same containment and eradication effort can be funded with the reduced amount. The committee visited the new Caboolture depot as part of the inquiry and it would appear that the 'horseshoe' containment ring around Brisbane is now complete. The committee cannot itself verify the adequacy of the renewed funding, but we do believe that an external assessment should be conducted to check that this funding can do everything recommended by the Scott-Orr Review and reach the target of eradication by the time of the 2032 Olympics.

Notwithstanding this funding boost, there has been less progress on the transparency, governance and coordination reforms needed to eradicate red fire ants. For example, state and federal governments have yet to publish the new Fire Ant Response Plan 2023–2027. There is no logical and coherent reason for this plan to be hidden from the public, especially given how crucial the plan is to the livelihoods of many farmers and small businesses in South East Queensland.

Unlike other biosecurity responses, there is no formal involvement of industry in the response to red imported fire ants. The technical reason for this is that farmers do not contribute levy funds to the response effort. However, those impacted by red imported fire ants (including farmers) do pay the taxes that fund the government departments tasked with the red imported fire ant response. More importantly, the evidence to this committee clearly demonstrated that the private sector has significant experience and on-the-ground know-how that should be used to guide a more effective fire ant response. Our committee echoes the recommendations of the Fire Ant Suppression Taskforce Plan to more formally involve private industry in response efforts.

Similarly, there is under-utilised expertise in the academic and private sectors that could improve eradication efforts. To date, the red imported fire ant response has been too tightly held within government departments without the wider involvement of other government agencies, universities and the private sector. To highlight just one example, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) has been provided just \$100 000 per year across ten years to conduct research on red imported fire ants. Our committee recommends the establishment of Red Fire Ants Cooperative Research Centre that could provide public funding, and attract private resources, to improve our methods of eradicating red imported fire ants.

This report finds that there is a severe lack of transparency in the plans to eradicate red imported fire ants, and more cooperation with the non-government sector should be undertaken to ensure that any governmental response is leveraging off the widest amount of knowledge available.

This report recommends reviewing funding arrangements and allocations to ensure that the funding is adequate to eradicate red imported fire ants and investigate other models that would improve delivery and transparency in any eradication program.

Red imported fire ants pose a significant risk to Australia's productivity and it's imperative that all Australian governments act quickly before they spread past the point where eradication is still possible.

Chapter 1

Context

Referral of the inquiry

- 1.1 On 18 October 2023, the following matters were referred to the Senate Rural and Regional Affairs and Transport References Committees (the committee) for inquiry and report by 18 April 2024:
- (a) the expected costs and impacts, if red imported fire ants are able to spread across Australia, on human health, social amenity, agriculture, the environment, infrastructure and regional workers;
 - (b) an assessment of the current and any proposed fire ant response plans for achieving the eradication of red imported fire ants;
 - (c) an evaluation of funding provided for the current or any proposed fire ant response plans;
 - (d) the effectiveness of eradication efforts and the spread of fire ants;
 - (e) learnings of Varroa mite in managing red imported fire ants; and
 - (f) any other related matters.

Conduct of the inquiry

- 1.2 The committee advertised the inquiry on its website and invited submissions from relevant stakeholders, including community and nature organisations, industry associations, independent researchers, federal and state government departments and agencies, local governments, businesses, and universities and institutes. Details regarding the inquiry are available on the committee's website.
- 1.3 Submissions closed on 29 January 2024 following a committee decision in November 2023 to extend the closing date from the previously agreed date of 1 December 2023.
- 1.4 The inquiry received 72 submissions and approximately 595 form letters relating to the funding and eradication of red imported fire ants (RIFA) which can be found on the committee's website.
- 1.5 The committee has held three hearings for this inquiry in the following locations:
- 4 March 2024, Brisbane, Queensland—this hearing focused on understanding the impacts and costs of RIFA in Australia and the actions, taken to date and those that are planned, to reach eradication.
 - 5 March 2024, Newcastle, New South Wales (NSW) —this hearing focused on RIFA impacts in other regions and understanding what learnings can be taken from the Varroa mite incursion and applied to RIFA; and

- 18 March 2024, Canberra, Australian Capital Territory — this hearing also focused on understanding actions taken to date to eradicate RIFA in Australia and the governance and oversight arrangements.

Structure of the report

- 1.6 The report addresses the terms of reference and is structured in four chapters:
- Chapter 1—an introduction to the inquiry and its conduct, the structure of this interim report and background on RIFA, and context of their existence in Australia to date.
 - Chapter 2—the broad approach to RIFA incursions in Australia, including the South East Queensland (SEQ) outbreak and identified issues including the lack of external governance, transparency, and funding levels.
 - Chapter 3—the operation and management of the National Fire Ant Eradication Program and the SEQ outbreak including baiting, surveillance, and methodology.
 - Chapter 4—movement restrictions, community engagement, and learnings from the Varroa mite incursion and how they can be applied to RIFA.

Acknowledgments

- 1.7 The committee thanks all contributors to the inquiry including those individuals and organisations who submitted to the inquiry and gave evidence at the public hearings. The committee also acknowledges the participation of the New South Wales and Queensland Governments and their officers in the inquiry.
- 1.8 The committee acknowledges that Australia’s response to RIFA is long-standing and has undergone several changes over its life cycle and will continue to do so in its future. It is understood, based on evidence provided, that the national program is in a state of transition at the time of writing. While every effort has been made to reflect information accurately, it is important to note that this report depicts a point in time, and some of the content may change following publication.

Red imported fire ant key facts

- 1.9 RIFA (*Solenopsis invicta* Buren) are small ants that two to eight millimetres in size with a coppery/reddish brown body colour and darker abdomen, that are hard to distinguish from common, native ants. The nests often have no visible entry holes, and young ants often start out as indistinct or appear to resemble soil. RIFA nests may be found next to or under other objects on the ground, such as timber, logs, rocks, pavers, or bricks.¹

¹ Western Australia (WA) Department of Primary Industries and Regional Development (DPIRD), *Red imported fire ant*, 21 October 2023, www.agric.wa.gov.au/rifa (accessed 15 December 2023).

1.10 The image below provides a visual representation of RIFA.

Figure 1.1 Red imported fire ant



Source: WA DPIRD, *Red imported fire ant*, 21 October 2023, (accessed 15 December 2023).

- 1.11 RIFA are native to South America and have spread to the United States, China, Taiwan, Japan, the Philippines, and Australia.²
- 1.12 In endemic areas, up to 600 RIFA colonies per acre have been identified. RIFA are often found near human activity and communities which increases the likelihood of encounters and stings.³
- 1.13 RIFA colonies contain 200 000 to 400 000 workers. There are two forms—colonies with a single egg-laying queen (monogyne) and those with multiple reproductive queens (polygyne).⁴ These different forms also require different methods for destroying and eradicating the colonies.
- 1.14 Polygyne colonies (sometimes with several hundred queens) reach higher densities than single-queen colonies—up to 50 million ants per hectare. They mostly spread by budding—that is, a new queen mates within the nest and then establishes a new nest close by. In the monogyne form, the virgin queens and male ants mate in the air. Queens have been reported flying as far as 30km to build a new nest.⁵

² Australian Government, *Red imported fire ant (Solenopsis invicta)*, undated, www.outbreak.gov.au/current-outbreaks/red-imported-fire-ant (accessed 13 December 2023).

³ National Allergy Centre of Excellence and Allergy & Anaphylaxis, *Submission 13*, p. [5].

⁴ Invasive Species Council, *Fact Sheet: Red Fire Ants*, September 2023, p. 1.

⁵ Invasive Species Council, *Fact Sheet: Red Fire Ants*, September 2023, p. 1.

- 1.15 RIFA are very aggressive when their nests are disturbed and can cause injury or, in extreme situations, death to humans, pets, insects and livestock in the areas they infest.⁶
- 1.16 RIFA impact the environment and industries and can restrict everyday activities such as barbeques, picnics, and sporting events. RIFA can also cause extensive damage to ecological and agricultural systems.⁷
- 1.17 Successful eradication requires detecting all ant colonies as early as possible, destroying the colonies, and preventing the spread to new areas via the movement of soil, mulch, pot plants and fodder.⁸
- 1.18 Fire ant eradication comprises of containment which is extensive surveillance activities on targeted properties around the fringe of the infestation, and broadscale treatment on targeted properties in the eradication area. This includes up to six rounds of broadscale treatment over two years, followed by five years of intensive surveillance—each using aerial and ground methods.⁹

Human, animal and livestock health and economic impacts

- 1.19 Stings from RIFA can cause a painful, burning, itching sensation lasting up to one hour and multiple stings give a sensation that the body is on fire. Multiple stings from RIFA often occur as they move quickly, allowing large numbers to move onto humans before they are detected.¹⁰ The figure below demonstrates some of the major human health impacts caused by RIFA stings.

⁶ National Fire Ant Eradication Program (NFAEP), *Health Impacts*, undated, www.fireants.org.au/dangers/impacts/health-impacts (accessed 14 December 2023).

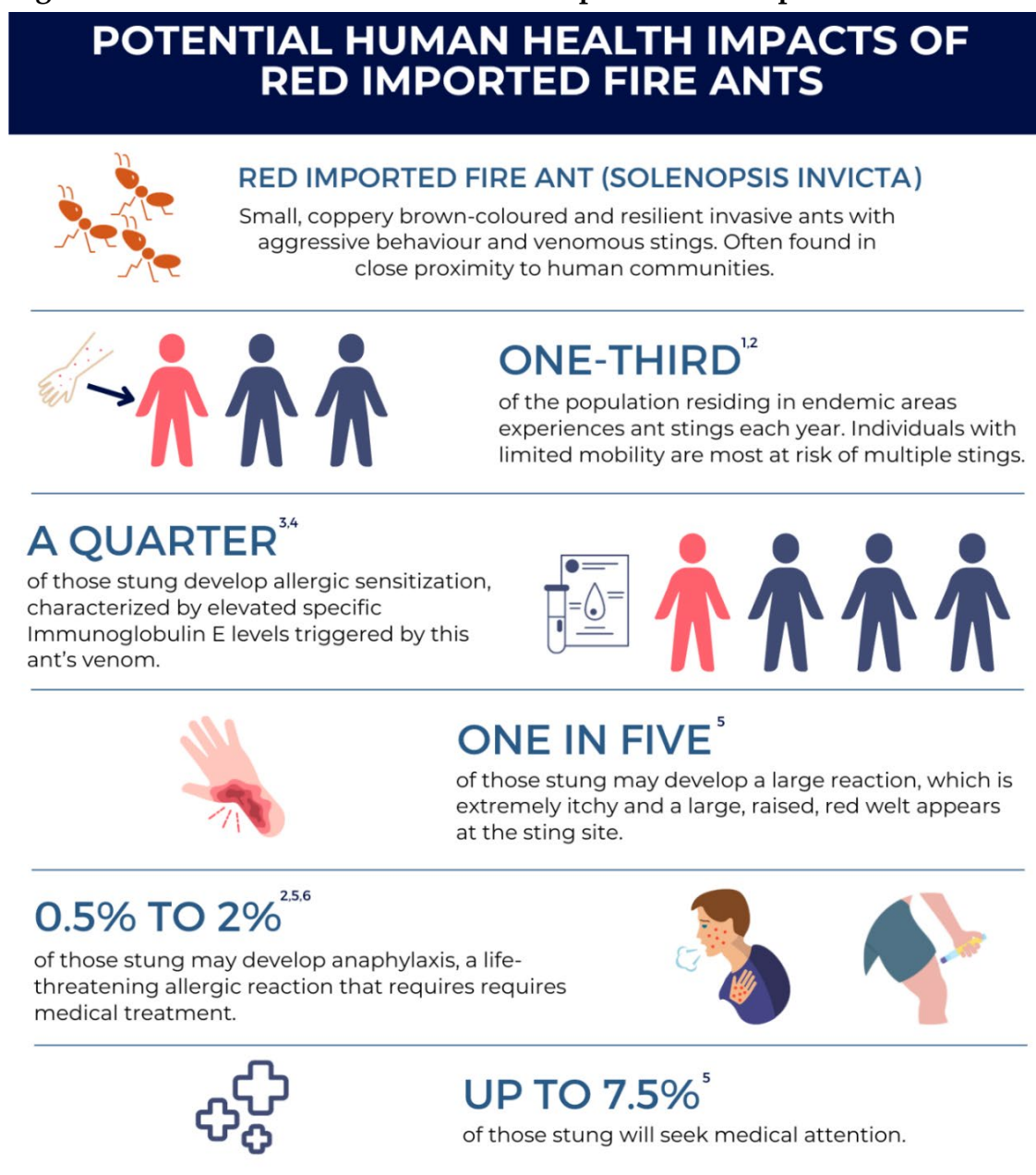
⁷ Australian Government, *Red imported fire ant (Solenopsis invicta)*, undated, (accessed 13 December 2023).

⁸ Invasive Species Council, [Fact Sheet: Red Fire Ants](#), September 2023, p. 2.

⁹ NFAEP, *Fire Ant Response Plan 2023–27*, undated, www.fireants.org.au/home/about-us/fire-ant-response-plan#targeted-areas (accessed 22 January 2024).

¹⁰ NFAEP, *Health Impacts*, undated, (accessed 14 December 2023).

Figure 1.2 Potential human health impacts of red imported fire ants



Source: National Allergy Centre of Excellence and Allergy and Anaphylaxis Australia, Submission 13, p. [4].

Footnotes in image relate to original references.

- 1.20 Small pustules may form at sting sites several hours after stinging and may become itchy and infected. In rare cases, RIFA stings can lead to a severe and sometimes fatal allergic reaction known as anaphylaxis.¹¹

¹¹ Australian Environmental Pest Managers Association, *Red Imported Fire Ants*, undated, <https://aepma.com.au/PestDetail/14/Red%20Imported%20Fire%20Ants> (accessed 15 December 2023).

- 1.21 In the United States, 30 to 60 per cent of people in infested areas are stung each year.¹² Figure 1.3 below shows a RIFA sting with white pustules.

Figure 1.3 Pustules from a red imported fire ant sting



Source: Invasive Species Council, [Fact Sheet: Red Fire Ants](#), September 2023, p. 4.

- 1.22 RIFA are expected to have a \$2 billion per year impact on Australia's economy if not kept under control and eventually eradicated. RIFA could also reduce agricultural output by up to 40 per cent and may cause over 100 000 extra medical appointments each year.¹³
- 1.23 More than 50 agricultural and horticultural crops, as well as turf and nursery species, are affected by RIFA in the areas they inhabit. They can damage and kill some plants by tunnelling through roots and stems and they protect some species of pests that produce 'honeydew', which downgrades the quality of produce and helps spread diseases.¹⁴
- 1.24 Infestations in the United States have been reported to cause a 35 per cent reduction in potato yield in Florida, and a 65 per cent reduction in corn yield in Mississippi.¹⁵

¹² Invasive Species Council, [Fact Sheet: Red Fire Ants](#), September 2023, p. 4.

¹³ Invasive Species Council, '[\\$268 million federal fire ant funding announcement welcomed](#)', *Media release*, 22 October 2023.

¹⁴ NFAEP, *Economic Impacts*, undated, www.fireants.org.au/dangers/impacts/economic-impacts (accessed 3 January 2024).

¹⁵ NFAEP, *Economic Impacts*, undated, (accessed 3 January 2024).

- 1.25 Many animals and livestock that spend time outdoors are at risk of RIFA stings. They tend to swarm the faces of animals which often investigate nests nose-first. Additionally, as many pets and most livestock are fed outside, this increases the risk of stings, as RIFA are drawn to protein-rich foods in and around pet bowls and available food sources.¹⁶
- 1.26 RIFA are extremely resilient and have adapted to contend with both flooding and drought conditions. This means they have the potential to inhabit most areas of Australia, as they prefer the warm climate and habitat of Australia.¹⁷ Figure 1.4 below shows the areas of Australia in which RIFA could become endemic if their spread is not contained.

Figure 1.4 Areas of Australia vulnerable to RIFA invasion



Source: NFAEP, *Environmental Impacts*, undated, (accessed 3 January 2024).

- 1.27 RIFA's ability to spread across the majority of Australia if not contained could have disastrous consequences for Australia's environment and economic output.¹⁸
- 1.28 RIFA can affect the environment as they feed on fauna and their young including insects, spiders, lizards, frogs, birds, and mammals and can displace or eliminate some native species. They can eat and damage seeds, disturb insects

¹⁶ NFAEP, *Health Impacts*, undated, (accessed 14 December 2023).

¹⁷ NFAEP, *Environmental Impacts*, undated, www.fireants.org.au/dangers/impacts/environmental-impacts (accessed 3 January 2024).

¹⁸ NFAEP, *Environmental Impacts*, undated, (accessed 3 January 2024).

that pollinate native plants and attack bird species that have ground-based feeding habits. Species that occupy areas within one-metre above ground may also be at risk. These impacts could cause major ecosystem changes over time.¹⁹

- 1.29 An assessment of RIFA's likely impact on 123 animals in SEQ predicted population declines in approximately 45 per cent of birds, 38 per cent of mammals, 69 per cent of reptiles and 95 per cent of frogs.²⁰

RIFA in Australia

- 1.30 RIFA was first detected in Australia in February 2001; however, there is widespread speculation that RIFA first arrived in Australia in the early 1990s. Infestations were found in SEQ at the Port of Brisbane and in southwestern suburbs. It is likely that they entered Australia in shipping containers from America, however, this has not been confirmed.²¹
- 1.31 Seven RIFA infestations in Australia have been eradicated with one remaining infestation in SEQ that recently spread across the NSW border to Murwillumbah in November 2023, and to Wardell in January 2024.²²
- 1.32 The other infestations have included Yarwun in Gladstone, the Port of Gladstone, Port Botany in Sydney, Brisbane Airport, the Port of Brisbane (2016) and the Port of Fremantle.²³
- 1.33 Infestations in other locations across the country including Minjerribah, Carrara and Fremantle were introduced via freight movement.²⁴
- 1.34 In 2001, the Natural Resource Management Ministerial Council established the National Red Imported Fire Ant Eradication Program led by the Queensland Government. The program was funded through a national cost-shared agreement with states and territories, costing approximately \$366 million to 2017.²⁵

¹⁹ NFAEP, *Environmental Impacts*, undated, (accessed 3 January 2024).

²⁰ Invasive Species Council, [Fact Sheet: Red Fire Ants](#), September 2023, p. 2.

²¹ NFAEP, *How fire ants arrived in Australia*, undated, www.fireants.org.au/stop-the-spread/how-fire-ants-arrived-in-australia (accessed 3 January 2024).

²² Australian Government, *Red imported fire ant (Solenopsis invicta)*, undated, (accessed 13 December 2023); The Hon. Tara Moriarty, MLC, Minister for Agriculture and Western New South Wales, '[Red imported fire ants in South Murwillumbah update](#)', *Media release*, 28 November 2023.

²³ NFAEP, *How fire ants arrived in Australia*, undated, (accessed 3 January 2024).

²⁴ Invasive Species Council, [Fact Sheet: Red Fire Ants](#), September 2023, p. 1.

²⁵ Craig Jennings, '[Notes from the field: A brief history of the red imported fire ant eradication program](#)', *Australian Journal of Emergency Management*, vol. 19 no. 3, 2004, pp. 97–100.

- 1.35 In July 2017, the national Agriculture Ministers' Forum approved a continued eradication program with funding of \$411.4 million over 10 years to be paid at \$41.14 million per year to implement the '10-year plan' which intended to deliver an expanded National Fire Ant Eradication Program (NFAEP) from 2018 to 2027.²⁶ Funding breakdowns for the 2018–27 plan by state and territory are listed below in Figure 1.5:

Figure 1.5 National Fire Ant Eradication Program funding contributions

Jurisdiction	Total AUD	Percentage
Commonwealth	212,542,198	51.7%
New South Wales	61,370,000	14.9%
Victoria	47,880,000	11.6%
Queensland	43,231,082	10.5%
Western Australia	23,422,150	5.7%
South Australia	15,303,038	3.7%
Australian Capital Territory	3,002,000	0.7%
Tasmania	2,465,489	0.5%
Northern Territory	2,210,439	0.5%
10 Year Plan	411,426,396	100%

Source: Dr Helen Scott-Orr, Monica Gruber and Will Zacharin, *National Red Imported Fire Ant Eradication Program Strategic Review*, August 2021.

- 1.36 On 13 July 2023, the Australian Government announced that cost-share partners agreed to bring forward their remaining 10-year plan funding to 2023–24 to allow work for eradication to be completed earlier.²⁷
- 1.37 On 25 July 2023, the Queensland Government announced all jurisdictions supported a new 2023–2027 Response Plan focussing on strengthening containment and compliance, and intensifying program-led and community treatment using a systematic, outside-in approach over four years. This plan

²⁶ Dr Helen Scott-Orr, Monica Gruber and Will Zacharin, [National Red Imported Fire Ant Eradication Program Strategic Review](#), August 2021, p. 23.

²⁷ Senator the Hon Murray Watt, Minister for Agriculture, Fisheries and Forestry, '[Funding brought forward in the fight against Red Imported Fire Ants](#)', *Media release*, 13 July 2023.

required a budget of \$593 million, including the funds bought forward from 2018–27. At the time of writing, this plan has not been publicly provided.²⁸

Current SEQ and NSW outbreak

- 1.38 The original 2001 infestation in Brisbane has been progressively expanding, recently to the coastal island of Minjerribah (North Stradbroke), Morayfield/Burpengary, and toward and beyond the NSW border.²⁹ The infestation has both monogyne and polygyne colonies and ants.
- 1.39 High-risk materials including soil, hay, mulch, manure, quarry products, turf and potted plants are subject to legally enforced movement controls out of the biosecurity zones where RIFA infestations have been present.³⁰ A map of the current biosecurity zones, as of 11 March 2024 is below at Figure 1.6.

Figure 1.6 Queensland biosecurity zones for the RIFA incursion



Source: NFAEP, *Fire ant biosecurity zones*, undated, (accessed 4 April 2024)

²⁸ The Hon Mark Furner, Minister for Agricultural Industry Development and Fisheries and Minister for Rural Communities, '[New response plan has fire ants surrounded](#)', *Media release*, 25 July 2023; NFAEP, *Fire Ant Response Plan 2023–27*, undated, (accessed 19 January 2024).

²⁹ NFAEP, *Detections of importance*, undated, www.fireants.org.au/stop-the-spread/outlier-detections (accessed 22 January 2024).

³⁰ NFAEP, *Fire ant biosecurity zones*, undated, www.fireants.org.au/stop-the-spread/fire-ant-biosecurity-zones (accessed 22 January 2024).

- 1.40 The November 2023 detection in Murwillumbah was the first detection in northern NSW and the most southern infestation as part of the NFAEP until the Wardell detection on 19 January 2024 near Ballina.³¹
- 1.41 The New South Wales Department of Primary Industries (NSW DPI) is the lead agency working to contain the infestations in NSW. NSW DPI is chemically treating the infestation across 200 metre and 500 metre radiuses, including searching all properties within the control area. This is an agreed activity under the NFAEP that aims to control, trace, and eradicate.³²
- 1.42 Within a five kilometre radius of any outbreaks, certain restrictions apply to the movement of risk material such as: mulch, woodchips, compost, sand, gravel, soil, hay, baled products, agricultural equipment, earth moving equipment, dump trucks and bins. If these products are to be moved, residents and businesses must meet the requirements under NSW's Emergency Order.³³
- 1.43 Fire ant eradication involves treating all targeted properties that sit within a 10 kilometre radius of an infestation, between September and June each year, regardless of RIFA presence. Eradication treatment is delivered by officers on-foot with hand-held spreaders, in addition to aerial baiting and utility-terrain vehicles. Treatment is also weather dependent and is particularly limited by rain.³⁴
- 1.44 Distributing bait by helicopter is the quickest and most cost-efficient way to treat RIFA on larger properties. Before treatment, residents are informed, and each site is assessed to consider crops, livestock, and water sources. Sites not suitable for treatment by helicopter will be treated using handheld bait spreaders and/or vehicles. Pilots and on-ground staff observe behaviour of horses, cattle, and other livestock. If issues arise, they will fly the helicopter away from the area.³⁵
- 1.45 Two types of RIFA treatment are approved for use by the Australian Pesticides and Veterinary Medicines Authority (APVMA) – baits, and direct nest injection (DNI). DNI is used only by the NFAEP and pest control technicians, whereas baits can also be used by residents and businesses. Both treatments have

³¹ Elloise Farrow-Smith and Kim Honan, [‘Fire ants detected Wardell’](#), *ABC North Coast*, 20 January 2024.

³² Australian Government, *Red imported fire ant (Solenopsis invicta)*, undated, (accessed 22 January 2024).

³³ Australian Government, *Red imported fire ant (Solenopsis invicta)*, undated, (accessed 22 January 2024).

³⁴ NFAEP, *Eradication treatment*, undated, www.fireants.org.au/treat/treatment-by-the-program/eradication-treatment (accessed 22 January 2024).

³⁵ NFAEP, *Ariel treatment*, undated, www.fireants.org.au/treat/treatment-by-the-program/aerial-treatment (accessed 22 January 2024).

different purposes and instructions, and are safe for humans, pets, and wildlife.³⁶

- 1.46 DNI involves flooding fire ant nests and ant tunnels with an approved insecticide called fipronil and is often used when there is a risk to human or animal safety, or where nests need to be quickly destroyed. The area around a DNI site cannot be entered within 24 hours of application.³⁷
- 1.47 There are also two types of baits approved by APVMA: a fast-acting insecticide containing indoxacarb or a combination of hydramethylnon and pyriproxyfen, and an insect growth regulator (IGR) containing s-methoprene or pyriproxyfen.³⁸
- 1.48 After ingesting the fast-acting insecticide, the worker ants circulate the active ingredients around the colony, leading to death of the worker ants, larvae, and the queen ant across one to four weeks.³⁹
- 1.49 The IGR process is often used for properties and nests within known RIFA areas and works by sterilising the queen ant and preventing new ants from maturing into adults. After the last adult worker ants have died, the queen is effectively starved as there are no ants left to feed her and the nest will naturally die. This process takes between three to four months.⁴⁰
- 1.50 Baits are specifically targeted to kill ants. After the bait is distributed, it breaks down quickly. While the bait is safe for humans and pets, it is recommended that free-range poultry is contained during treatment. The waiting period for re-entry of organic and bio-dynamic products treated with IGR is three weeks.⁴¹
- 1.51 The NFAEP uses three types of surveillance to monitor and detect RIFA using trained field officers, odour detection dogs and aircraft with specialist technology, such as remote sensing. Types of surveillance include:
 - Clearance surveillance—conducted mainly by air on targeted sites within zones for the purpose of detecting any remaining infestation.
 - Post-treatment validation—repeated in treated areas to determine success.

³⁶ NFAEP, *Treatment types and bait safety*, undated, www.fireants.org.au/treat/treatment-by-the-program/treatment-types (accessed 22 January 2024).

³⁷ NFAEP, *Direct nest injection*, undated, www.fireants.org.au/treat/treatment-by-the-program/treatment-types/direct-nest-injection (accessed 23 January 2024).

³⁸ NFAEP, *Fire ant bait*, undated, www.fireants.org.au/treat/treatment-by-the-program/treatment-types/fire-ant-bait (accessed 23 January 2024).

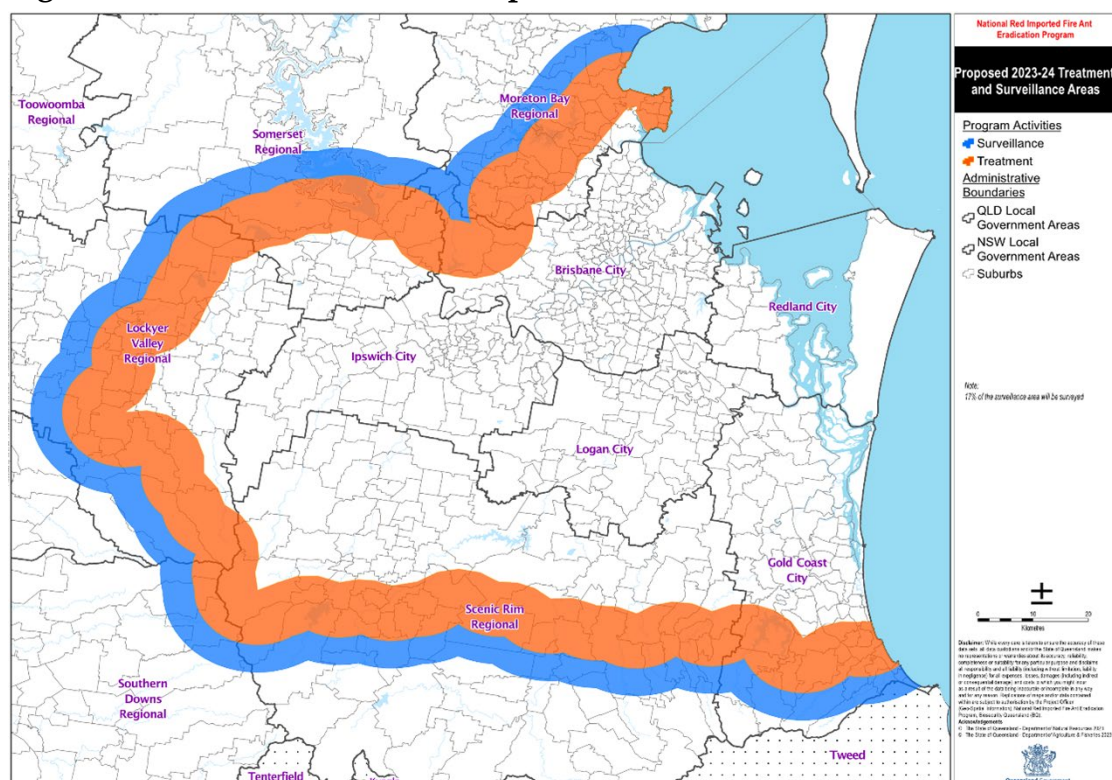
³⁹ NFAEP, *Fire ant bait*, undated, (accessed 23 January 2024).

⁴⁰ NFAEP, *Fire ant bait*, undated, (accessed 23 January 2024).

⁴¹ NFAEP, *Fire ant bait*, undated, (accessed 23 January 2024); NFAEP, *Organic and bio-dynamic producers*, undated, www.fireants.org.au/treat/treatment-by-the-program/organic-producers, (accessed 23 January 2024).

- Outbreak control—a response to infestations in the containment boundary and outside the operational area.⁴²
- 1.52 Under the new 2023–2027 Response Plan, the NFAEP shifted to focus on a three-step process of contain, eradicate, and suppress, also described as the ‘horseshoe plan’. The plan will focus on containing and surveying the spread of ants spanning from Moreton Bay in the north, west to the Lockyer Valley, east to the Gold Coast, and south to the Tweed Shire, and progressively performing eradication treatment in from these areas one at a time. The map below shows the proposed treatment and surveillance areas.⁴³

Figure 1.7 Fire Ant 2023–2027 Response Plan treatment areas



Source: NFAEP, *Fire Ant Response Plan 2023–27*, undated, (accessed 22 January 2024). A higher resolution image is available at the source.

- 1.53 The first areas to receive eradication treatment in 2023–24 are suburbs in the City of Gold Coast, Lockyer Valley, Scenic Rim, and Southern Downs local government areas.⁴⁴
- 1.54 Detections within containment and treatment bands, or outside the infestation boundary, are priority, along with infestations that risk public safety—schools, childcare centres, parks, and sporting fields. Any outbreaks found beyond the

⁴² NFAEP, *Containment*, undated, www.fireants.org.au/treat/treatment-by-the-program/containment (accessed 22 January 2024).

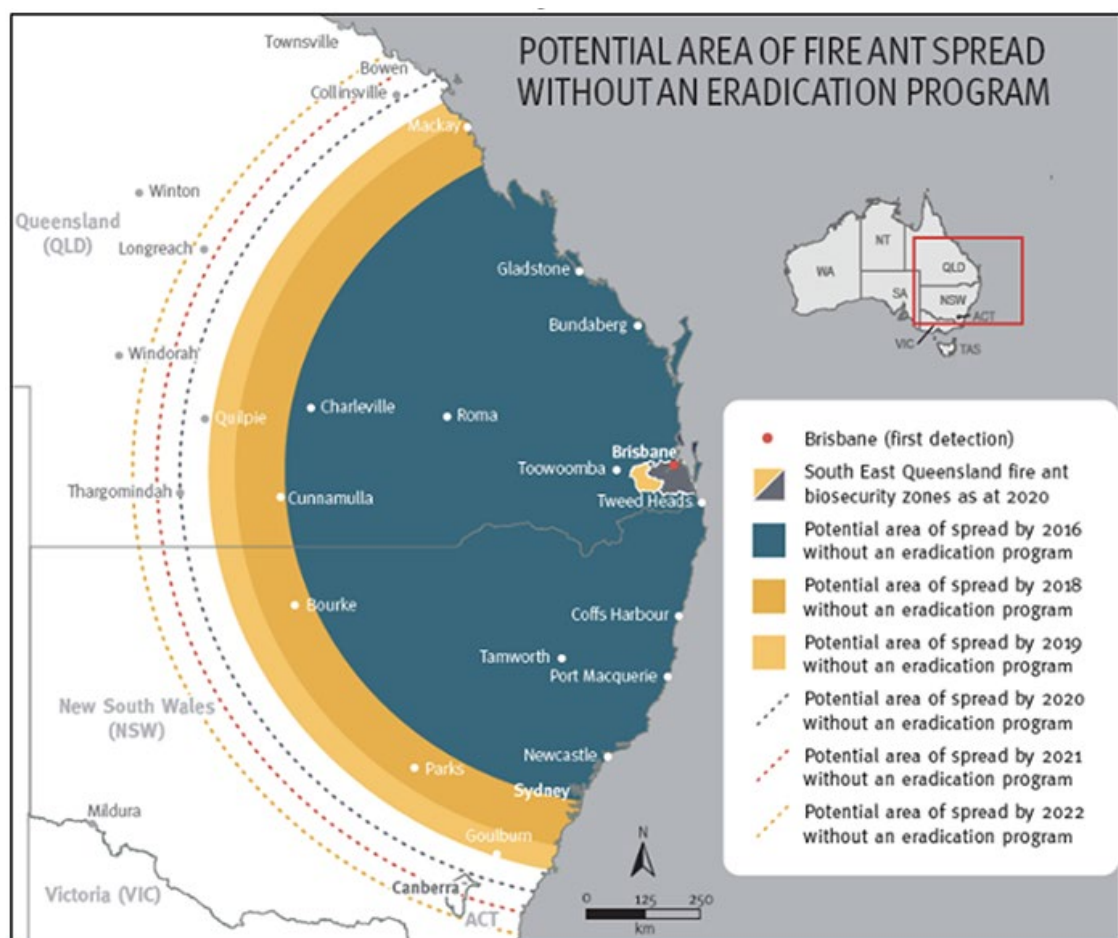
⁴³ NFAEP, *Fire Ant Response Plan 2023–27*, undated, (accessed 22 January 2024).

⁴⁴ NFAEP, *Fire Ant Response Plan 2023–27*, undated, (accessed 22 January 2024).

containment boundary will be treated as an emergency response and will receive eradication treatment.⁴⁵

- 1.55 The Queensland Government's Fire Ant Suppression Taskforce (FAST) works alongside the NFAEP, focusing on equipping all levels of government, industry and communities in areas awaiting planned treatment with the skills and knowledge to self-manage fire ants on land they own or manage.⁴⁶
- 1.56 In the absence of eradication and suppression activities, forecasting indicated that RIFA would have spread to more than 20 per cent of the Australian mainland by 2021, as illustrated in Figure 1.8. RIFA would have likely reached Canberra and spread to most capital cities by movement in carrier materials.⁴⁷

Figure 1.8 Potential spread from 2001–2022 without eradication efforts



Source: NFAEP, *Annual Performance Report 2020–21*, p. 4.

⁴⁵ NFAEP, *Fire Ant Response Plan 2023–27*, undated, (accessed 22 January 2024).

⁴⁶ NFAEP, *About the program*, undated, www.fireants.org.au/home/about-us/about-the-program (accessed 12 December 2023).

⁴⁷ NFAEP, *Submission 16*, p. 8.

Past outbreaks and successful eradication responses

Port of Brisbane, Queensland

- 1.57 In 2001, RIFA was introduced to Australia through the Port of Brisbane. There were 470 known colonies spread over 8300 hectares, before being fire ant free in 2005 and declared eradicated in 2012.⁴⁸
- 1.58 In 2016, at least one colony that was genetically distinct was discovered in the Port of Brisbane before being eradicated in 2019.⁴⁹

Port Botany, Sydney, NSW

- 1.59 One colony was detected in Port Botany, Sydney, in 2014. By 2016, RIFA were successfully eradicated in this area.⁵⁰

Yarwun Gladstone and Port of Gladstone, Queensland

- 1.60 In 2006, 14 known colonies and 100 possible colonies were present in Yarwun, across more than 1000 hectares. Through treatment, this outbreak was controlled shortly after in 2007 and was declared eradicated in 2010.⁵¹
- 1.61 In 2013, RIFA were detected at the Port of Gladstone. In total, there were 80 known colonies spread over 4600 hectares, with eradication declared three years later in 2016.⁵²

Brisbane Airport

- 1.62 In 2016, an additional colony that was also determined to be genetically distinct was discovered in Brisbane, at the Brisbane Airport. This outbreak was eradicated in 2019.⁵³

Port of Fremantle, Western Australia

- 1.63 RIFA was detected at Fremantle port in Western Australia (WA) in November 2019 as part of surveillance being undertaken for the National Browsing Ant Eradication Program. The WA Department of Primary Industries and Regional Development led the response, resulting in a successful

⁴⁸ Ross Wylie and Melinda K McNaught, '[Eradication of Red Imported Fire Ants in Australia \(NRIFAEP Brisbane\) – UPDATE to EMR feature](#)', *EMR Project Summaries*, 25 September 2019.

⁴⁹ NFAEP, *How fire ants arrived in Australia*, undated, (accessed 17 January 2024).

⁵⁰ NFAEP, *How fire ants arrived in Australia*, undated, (accessed 17 January 2024).

⁵¹ NFAEP, *How fire ants arrived in Australia*, undated, (accessed 17 January 2024).

⁵² NFAEP, *How fire ants arrived in Australia*, undated, (accessed 17 January 2024).

⁵³ NFAEP, *How fire ants arrived in Australia*, undated, (accessed 17 January 2024).

biosecurity eradication. The eradication of RIFA in WA was declared by the National Biosecurity Management Group in October 2023.⁵⁴

- 1.64 Response activities in WA involved a two-year surveillance and treatment program. This included six rounds of visual surveillance involving hand collection, lures, pitfall traps, and the use of specifically trained odour detection dogs from Queensland.⁵⁵
- 1.65 More than 3500 premises, including container and ferry terminals, industrial properties, fishing wharves, parks and recreational spaces, and residential properties were inspected multiple times as part of the response, with over 14 000 samples collected for identification.⁵⁶

Varroa destructor (varroa mite) incursion

- 1.66 The *Varroa destructor* (varroa mite) is an external parasitic mite that attacks European honey bees and the Asian honey bee. Australian native bees are not affected by varroa mite. The varroa mite attaches itself to the bee and feeds on them, weakening them and eventually killing colonies. European honey bees infested with varroa are likely to die within 3 to 4 years if left untreated.⁵⁷
- 1.67 On 22 June 2022 during routine surveillance at the Port of Newcastle, varroa mite was detected in sentinel hives in NSW. NSW DPI traced the centre of the outbreak further away from the port, within the Newcastle area, and enacted an emergency order.⁵⁸
- 1.68 Initially, the response plan was to eradicate varroa mite. As part of this plan, no bees, honey, honeycomb, or beekeeping equipment could be moved anywhere in NSW, and no honey or honeycomb removed from hives. Eradication plans included destruction of honeybee colonies within a 10 kilometre eradication zone around infested sites and inspection of managed honeybee colonies within a 25 kilometre surveillance zone. Feral honeybee hives were also planned to be eradicated.⁵⁹
- 1.69 Eradication required beekeepers to complete hive testing (alcohol washing) on their hives every 16 weeks and report any positive results to NSW DPI on the

⁵⁴ Australian Government, *Red imported fire ant (Solenopsis invicta)*, undated, (accessed 15 December 2023).

⁵⁵ WA DPIRD, *Red imported fire ant*, 21 October 2023, (accessed 15 December 2023).

⁵⁶ WA DPIRD, *Red imported fire ant*, 21 October 2023, (accessed 15 December 2023).

⁵⁷ Australian Government, *Varroa mite (Varroa destructor)*, undated, www.outbreak.gov.au/current-outbreaks/varroa-mite (accessed 4 April 2024).

⁵⁸ Australian Government, *Varroa mite (Varroa destructor)*, undated (accessed 4 April 2024).

⁵⁹ New South Wales Department of Primary Industries (NSW DPI), '[New emergency zones effective for Varroa mite](#)', *Media release*, 30 June 2022.

day of testing. Beekeepers in the eradication zone were required to make their bees and hives available for destruction or euthanasia or to undertake this themselves if directed.⁶⁰

- 1.70 Fipronil baiting was also undertaken by NSW DPI officers on premises with the varroa mite eradication zone to remove feral and wild bees.⁶¹
- 1.71 On 19 September 2023, decision makers for the national varroa mite emergency response declared that eradication of varroa mite was no longer achievable. As such, there was a shift of focus from eradication to transitioning to management activities.⁶²
- 1.72 The aim of the transition to management program is said to increase resilience and capacity within the Australian honey bee industry and minimise the ongoing impacts of varroa mite growth on the bee industry and pollination reliant industries.⁶³
- 1.73 The varroa mite is now considered a Category 2 Emergency Plant Pest (EPP) under the Emergency Plant Pest Response Deed (EPPRD).⁶⁴

⁶⁰ NSW DPI, [Biosecurity \(Varroa Mite\) Emergency Order 2022 \(No. 28\)](#), 15 September 2022, p. 12.

⁶¹ NSW DPI, [Biosecurity \(Varroa Mite\) Emergency Order 2022 \(No. 28\)](#), 15 September 2022, p. 15; NSW DPI, '[Next phase in Varroa mite response turns to wild European honey bees](#)', *Media release*, 27 September 2022.

⁶² Australian Government, *Varroa mite (Varroa destructor)*, undated, (accessed 4 April 2024).

⁶³ Australian Government, *Varroa mite (Varroa destructor)*, undated, (accessed 4 April 2024).

⁶⁴ Australian Government, *Varroa mite (Varroa destructor)*, undated, (accessed 4 April 2024).

Chapter 2

Australia's response to red imported fire ants

- 2.1 This chapter will discuss the broad approach of Australia's response to RIFA, how RIFA entered Australia and became established, and how the response has been managed in Australia. It will explore the common areas of interest and concern among inquiry participants including governance structures and who is responsible, transparency, accountability, and funding. The sections of this chapter are:
- governance arrangements;
 - funding of Australia's national response;
 - industry involvement and the lack of independent oversight;
 - reporting, oversight, and transparency;
 - committee view; and
 - recommendations.

Governance arrangements

- 2.2 As briefly mentioned in chapter 1, Australia's response to RIFA began on 22 February 2001 when they were first identified in Brisbane, Queensland.
- 2.3 According to the Department of Agriculture, Forestry and Fisheries (DAFF), the Australian Government leads the response to RIFA through DAFF, while the Queensland Government Department of Agriculture and Fisheries (QLD DAF) administers the NFAEP. The NFAEP's objective is to contain and control RIFA for eradication by 2032, both in SEQ, and in Australia.¹
- 2.4 From 2017 until 22 February 2024, the NFAEP reported to a National Steering Committee (NSC) which consisted of representatives from the federal, state and territory governments as the cost-share partners, with an independent chair. Reportedly, the NSC provided guidance and support to the program to best achieve its objectives and monitor progress.²
- 2.5 The committee heard that from 22 February 2024, the NFAEP now reports to and is guided by the National Management Group (NMG), following the retirement of the NSC. The NMG is responsible for strategic direction and

¹ Department of Agriculture, Forestry and Fisheries (DAFF), *Submission 24*, p. 5.

² NFAEP, *About the program*, undated www.fireants.org.au/home/about-us/about-the-program (accessed 1 December 2023).

- holding the program accountable for implementation, with technical advice and support provided by a national consultative committee.³
- 2.6 The NMG is comprised of members of the National Biosecurity Committee, which includes the state and territory chief biosecurity officers. The Senior Responsible Owner is the Deputy Director-General and Chief Queensland Biosecurity Officer, and the Chair is the Deputy Secretary, Biosecurity and Compliance, DAFF.⁴
- 2.7 In response to a question on notice, the NFAEP confirmed that from February 2024, Dr John Robertson (former NSC chair) would be the independent Chair of the RIFA National Biosecurity Management Consultative Committee (NBMCC). The NBMCC comprises 'appropriate expertise in response management' with 'relevant technical subject matter expertise' to assess and advise the NMG on potential risk triggers in the 2023–2027 Response Plan, including if eradication is still possible.⁵
- 2.8 Mr Ashley Bacon, Executive Program Director of the NFAEP also advised the committee that the NFAEP receives input and advice from a Risk Management and Assurance Committee (RMAC), led by independent chair, Mr Alan Mills.⁶ The RMAC considers and provides advice to the NMG, NBMCC and Program Board on risks to achieving the vision and independent advice on program assurance. The NFAEP also confirmed in a question on notice there is work underway to onboard additional independent members to the RMAC.⁷
- 2.9 Mr Bacon elaborated by explaining that he is responsible for the Program Board as Chair, which reportedly oversees operations and implementation of the strategy.⁸ Figure 2.1 below provides an overview of the reporting and governance structure of the NFAEP, as of 12 March 2024.

³ Mr Ashley Bacon, Program Executive Director, NFAEP, Queensland Department of Agriculture and Fisheries (QLD DAF), *Proof Committee Hansard*, 4 March 2024, p. 61.

⁴ DAFF, *National Management Group for the National Fire Ant Eradication Program*, 4 March 2024, www.agriculture.gov.au/biosecurity-trade/policy/partnerships/rifa-eradication (accessed 13 March 2024); Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 61.

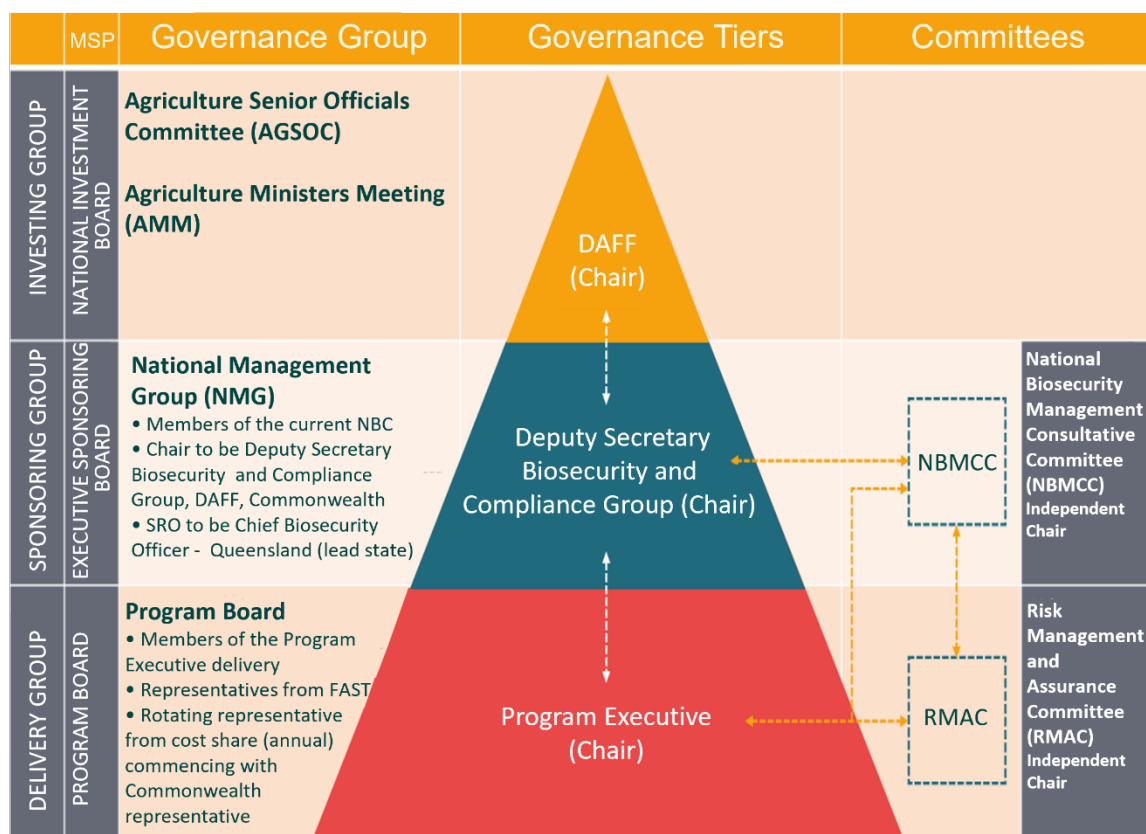
⁵ NFAEP, response to questions taken on notice, 4 March 2024 (received 12 March 2024), p. [4].

⁶ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 61.

⁷ NFAEP, response to questions taken on notice, 4 March 2024 (received 12 March 2024), p. [4].

⁸ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 61.

Figure 2.1 National Fire Ant Eradication Program governance structure



Source: NFAEP, response to questions taken on notice, 4 March 2024 (received 12 March 2024), p. [7].

2.10 Despite *recommendation 1* from the 2021 Independent Strategic Review calling for expanded expertise and independent oversight of the NFAEP, the NFAEP argued that the change in governance arrangements is aligned with this recommendation:

... [governance] was designed to align with other national biosecurity responses under a National Environmental Biosecurity Response Agreement (NEBRA). In addition, the arrangements are intended to implement Managing Successful Programs (MSP) and best practice governance principles.⁹

2.11 Dr Rachel Chay, Deputy Director-General and Chief Biosecurity Officer, Queensland Department of Agriculture and Fisheries also spoke to this, stating that:

... Dr John Robertson, who is making the determination around the technical feasibility of eradication, remains independent. The rationale behind escalating participation in the national management group to the chief biosecurity officers was to hold all cost share partners accountable to their funding governments for the success, or not, of the program.¹⁰

⁹ NFAEP, response to questions taken on notice, (received 12 March 2024), p. [4].

¹⁰ Dr Rachel Chay, Deputy Director-General and Chief Biosecurity Officer, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 62.

- 2.12 In its submission, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) informed the committee that the CSIRO also sits on the Science Advisory Committee, the NBMCC and the NMG to provide expert input and oversight of the NFAEP. It noted that CSIRO staff provide science insights and advice regarding protocols, feasibility, and cost benefit analyses.¹¹
- 2.13 The Department of Climate Change, Environment, Energy and Water (DCCEEW) also confirmed its involvement in the RIFA response, through DAFF's Chief Environmental Biosecurity Officer (CEBO). DCCEEW reported that the Threatened Species Commissioner and the CEBO meet regularly and discuss RIFA.¹²
- 2.14 Reflecting on the recent changes to governance arrangements, the South Australian Department of Primary Industries and Regions noted the 'good progress in recent times' in ensuring national principles are incorporated in the NFAEP governance arrangements. It also submitted that it will be 'vitally important to maintain strong national oversight and governance' and representation of funding partners in the future.¹³
- 2.15 The recent progress was also commented on by industry stakeholders, with Dr Annie Ruttledge, Senior Policy Officer, AgForce Queensland who expressed there has been 'a very noticeable improvement in a short duration of time'. However, Dr Ruttledge also went on to explain that 'there still isn't a seat for industry at the governance table'.¹⁴
- 2.16 Ms Belinda Callanan, Chair, Biosecurity Committee, AgForce Queensland also explained that 'the governance of this program is not sufficiently nimble' to adapt quickly, as 'this super-pest does not recognise bureaucratic timeframes'.¹⁵
- 2.17 Similar sentiments have been shared by other stakeholders who have called for larger scale reform of the RIFA response and its governance structure.¹⁶
- 2.18 In its submission, the Invasive Species Council suggested the establishment of an independent body, similar to Plant Health Australia and Animal Health Australia, to undertake oversight and delivery of NEBRA responses, including

¹¹ Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Submission 14*, p. 7.

¹² Department of Climate Change, Environment, Energy and Water (DCCEEW), *Submission 43*, p. 5.

¹³ South Australian Department of Primary Industries and Regions, *Submission 11*, p. [3].

¹⁴ Dr Annie Ruttledge, Senior Policy Officer, AgForce Queensland, *Proof Committee Hansard*, 4 March 2024, p. 27.

¹⁵ Ms Belinda Callanan, Chair, Biosecurity Committee, AgForce Queensland, *Proof Committee Hansard*, 4 March 2024, p. 23.

¹⁶ See for example: Mr Stephen Ware, Executive Director, Australian Environment Pest Managers Association (AEPMA), *Proof Committee Hansard*, 4 March 2024, p. 32; AgForce Queensland, *Submission 47*, p. [5]; Greenlife Industry Australia, *Submission 45*, p. 2.

the response to RIFA. Mr Jack Gough, Advocacy Director, Invasive Species Council, explained to the committee that this type of separate entity would bring the governance in-line with other invasive species approaches and allow a broader approach beyond just agriculture.¹⁷

- 2.19 Mr John McDonald, Director, Research, Development and Extension and Biosecurity, Greenlife Industry Australia Ltd, also highlighted the benefits a statutory body could provide to the RIFA response, if implemented, noting that the current RIFA response is ‘well-entrenched in government’. He stated that this could be a bold change and new method that could bring flexibility and harness all levels of expertise across a range of stakeholders.¹⁸
- 2.20 Mr Stephen Ware, AEPMA, noted in his submission that ‘despite the Commonwealth’s expenditure of hundreds of millions of dollars’, he was told it was the Queensland Government’s responsibility, while providing only 10 per cent of the revenue.¹⁹ Mr Ware argued that the successful Australian Plague Locust Commission (APLC), led by DAFF and the Australian Government, provides a compelling case for the creation of a similar commission for RIFA.²⁰

Funding of Australia’s national response

- 2.21 Since 2001, Australia’s RIFA response will cost the federal, state and territory governments a combined \$1.28 billion, through to 2027. This incorporates the recently agreed \$593 million, which equates to approximately 45 per cent of the total funding that will be delivered over four years, with approximately 54 per cent (\$690 million) of the total funding already provided over the previous 22 years.²¹
- 2.22 In a response to a question on notice, Dr Helen Scott-Orr informed the committee that former Queensland Chief Veterinary Officer, Dr Ron Glanville argued that the initial investment by jurisdictions in 2001 was withdrawn too early. He reportedly stated that while the investment ‘reduced the infestation to a very low density by 2003’, funding was prematurely removed, leading to a rebound of RIFA infestations which continued to grow in size and expense.

¹⁷ Invasive Species Council, *Submission 54.1*, pp. 23–24; Mr Jack Gough, Advocacy Director, Invasive Species Council, *Proof Committee Hansard*, 4 March 2024, p. 4.

¹⁸ Mr John McDonald, Director, Research, Development and Extension and Biosecurity, Greenlife Industry Australia Ltd, *Proof Committee Hansard*, 5 March 2024, p. 43.

¹⁹ AEPMA, *Submission 5*, p. 16.

²⁰ AEPMA, *Submission 5*, p. 5.

²¹ DAFF, response to questions taken on notice, 18 March 2024 (received 28 March 2024), p. [4].

Dr Glanville characterised the decision to reduce the budget as a ‘poor decision’ in hindsight.²²

- 2.23 Despite the recent increase in funding for the next four years, there are still concerns among most stakeholders that this is simply still not enough funding to ensure a successful eradication of RIFA. The Invasive Species Council declared that further funding will be required beyond 2027, and potentially sooner.²³
- 2.24 The 2021 Independent Strategic Review of the NFAEP, released in 2023, found that approximately \$200–\$300 million per annum for 10 years would be required to eradicate RIFA by 2032.²⁴ Currently, the allocated funding calculates to approximately \$148 million per year, for four years only. Participants to the inquiry highlighted the deficit of approximately \$52–\$152 million per annum, based on the review findings.²⁵
- 2.25 When questioned about this deficit and the calculated figures of \$593 million, DAFF highlighted that the 2023–2027 Response Plan funding amounts were calculated based on the recommendation and the actual resources required for this to be delivered:

The \$200–\$300 million annual budget identified in the 2021 Independent Program Review (Scott-Orr et al 2021) was not a fully costed budget. As the review report states ‘these figures should be viewed as estimates, rather than minimum or maximum...’ The 2023–27 Response Plan (response plan) determined the resources required to deliver the plan, in accordance with the recommendations of the 2021 review, is \$592.85 million for the next four years. The plan is focussed to drive efficiencies through new technologies to increase operational windows and lower per area costs and includes some efficiencies of scale. Savings were also identified through the anticipated adoption of new technologies that will improve eradication efficacy...²⁶

- 2.26 According to the NFAEP the 2023–2027 Response Plan funding will be released in two tranches. Tranche one will be delivered from 2023–25 and Tranche two between 2025–27. The NFAEP clarified that the release of the Tranche two funds will be subject to a ‘gate review’ process scheduled to be completed during

²² Dr Ron Glanville in Dr Helen Scott-Orr, response to questions taken on notice, 4 March 2024 (received 5 March 2024), p. [1].

²³ Invasive Species Council, *Submission 54.1*, p. 21.

²⁴ Dr Helen Scott-Orr, Dr Monica Gruber and Will Zacharin, [‘National Red Imported Fire Ant Eradication Program Strategic Review’](#), August 2021, p. 10.

²⁵ Invasive Species Council, *Submission 54.1*, p. 20; Professor Nigel Andrew, *Submission 57*, pp. 4–5; Mr Brian Scarsbrick AM, Director, Australian Wildlife Society, *Proof Committee Hansard*, 5 March 2024, p. 31.

²⁶ DAFF, response to questions taken on notice, 18 March 2024 (received 28 March 2024), p. [7].

2024–25 financial year. It stated that the review would be an important step in reassessing if the budget is still appropriate for the remainder of the plan.²⁷

- 2.27 As of April 2024, the Commonwealth, Queensland, New South Wales, Northern Territory, Australian Capital Territory, South Australian and Victorian Governments have all confirmed their agreed contribution for the 2023–2027 Response Plan worth \$593 million, with Western Australia confirming funding for two years.²⁸
- 2.28 The Nature Conservation Council submitted that ‘delayed funding from some states and territories’ undermines the effectiveness of the eradication response. It further explained that there is a need for additional leadership and resourcing from the Australian Government.²⁹
- 2.29 In its submission, the South Australian Department of Primary Industries and Regions advised that while South Australia remains supportive, the ability to continue to contribute to the national response is not limitless, and future funding cannot be guaranteed, particularly if RIFA spreads.³⁰
- 2.30 Dr Scott-Orr further highlighted the difficulties with the funding approach, stating:

The cost-sharing arrangements we've seen in the program to date have been difficult to negotiate. If you're in Western Australia and you're dealing with an expensive problem in South-East Queensland ... Even in New South Wales, the New South Wales government was paying the highest contribution of the states into the Queensland program, but all those dollars were being spent in Queensland and it was New South Wales DPI's most expensive biosecurity program and that was hard to sell to the New South Wales Treasury. Those are the structural problems of getting the national program. But it does need to be wider than just agriculture. A high-level approach is needed to drive it for the sake of the country in the longer term.³¹

- 2.31 These concerns, among others, have led inquiry participants to consider whether the funding mechanisms and the contributions made by various jurisdictions are appropriate for the RIFA response.³²

²⁷ NFAEP, *Submission 16*, p. 7.

²⁸ DAFF, *Submission 24*, p. 3; Invasive Species Council, *Submission 54*, p. 2; Government of South Australia, ‘[\\$17.1 million towards national fight against fire ants](#)’, *Media release*, 20 March 2024.

²⁹ Nature Conservation Council, *Submission 20*, p. [3].

³⁰ South Australia Department of Primary Industries and Regions, *Submission 11*, p. [4].

³¹ Dr Helen Scott-Orr, *Proof Committee Hansard*, 4 March 2024, p. 38.

³² See for example: GrainGrowers, *Submission 6*, p. 2; Professor Andrew Robinson, Chief Executive Officer, Centre of Excellence for Biosecurity Risk Analysis, University of Melbourne, *Proof Committee Hansard*, 5 March 2024, p. 37.

- 2.32 The Invasive Species Council submitted that funding for the RIFA response is delivered from the budgets of agriculture, environment, and biosecurity.³³ Professor Hestor from the Centre of Excellence for Biosecurity Risk Analysis also described the incursion funding as being ‘an entrenched budgetary item’ due to the length of the response and the amount of time it has required funding.³⁴
- 2.33 The Invasive Species Council explained that RIFA response funding is ‘huge’ in comparison to the agriculture budget, and this comparison is directly influencing agreed funding levels.³⁵ Mr Gough also explained that this comparison may be impacting the capacity and ability to fund other projects in need, such as co-existing biosecurity outbreaks.³⁶
- 2.34 The South Australian Department of Primary Industries and Regions reported that ‘the significant national contribution to RIFA contrasts the lack of assistance that South Australia receives’ regarding fruit fly and trade arrangements issues. It further stated that there is a ‘clear inconsistency’ in managing RIFA when compared to other pests that predate NEBRA arrangements.³⁷
- 2.35 The Invasive Species Council has suggested that funding levels should account for the society-wide impacts of RIFA, including their effects on human health, worker safety, social amenity, sports and construction, and not just the agricultural sector. Subsequently, it argued that a contingency budget for short-term surges in funding when future incursions are detected would help support these responses.³⁸

Industry involvement and the lack of independent oversight

- 2.36 At the declaration of the 2001 incursion, relevant ministers from all federal, state, and territory governments agreed to contribute to the cost of the response, with a view to create a program led by the Queensland Government to eradicate RIFA in Australia.³⁹
- 2.37 In its submission, DAFF confirmed that this was modelled after existing biosecurity agreements in place at the time, however, was established prior to

³³ Invasive Species Council, *Submission 54.1*, p. 21.

³⁴ Associate Professor Susan Hester, Deputy Chief Executive Officer, Centre of Excellence for Biosecurity Risk Analysis, University of Melbourne, *Proof Committee Hansard*, 5 March 2024, p. 35.

³⁵ Invasive Species Council, *Submission 54*, p. 4.

³⁶ Mr Gough, Invasive Species Council, *Proof Committee Hansard*, 4 March 2024, p. 4.

³⁷ South Australia Department of Primary Industries and Regions, *Submission 11*, p. [5].

³⁸ Invasive Species Council, *Submission 54*, p. 4; Invasive Species Council, *Submission 54.1*, p. 21; Invasive Species Council, campaign form letter examples regarding eradication of Fire Ants in Australia, (received January 2024).

³⁹ Craig Jennings, ‘[Notes from the field: A brief history of the red imported fire ant eradication program](#)’, *Australian Journal of Emergency Management*, vol. 19 no. 3, 2004, pp. 97–100.

the now commonly used National Environmental Biosecurity Response Agreement (NEBRA). NEBRA is an agreement between the Australian Government and all state and territory governments to reduce the impacts of pests and diseases, under the principle that biosecurity is a shared responsibility.⁴⁰

- 2.38 The NEBRA operates alongside the Emergency Animal Disease Response Agreement (EADRA) and the EPPRD, which have recently been used to carry out responses including for foot and mouth disease and the Varroa mite incursion, respectively.⁴¹
- 2.39 The committee heard how the EPPRD and EADRA allow for private or industry investment and involvement, if there is seen to be a public-private benefit to eradicating an invasive species or disease. However, this is not the case for Australia's RIFA response, as it solely attracts government funding and input, due to the high level of public-benefit.⁴²
- 2.40 Concerns regarding a lack of industry and external stakeholder input have been shared by many witnesses and submitters to this inquiry, across sectors including agriculture and animals, plants and nursery, pest management, and, academia, research and science.⁴³
- 2.41 Mr Paul Sloman, Policy Officer, Cotton Australia, explained that the 'steering group is mostly government' and it is 'absolutely essential' that industry, specifically the agricultural industry, is involved in the steering group or governance.⁴⁴
- 2.42 In its submission, the Queensland Farmers Federation noted that industry consultation was 'haphazard and sporadic at best', and that collaboration with representative bodies is imperative.⁴⁵
- 2.43 The South Australian Department of Primary Industries and Regions also made mention of how the current arrangements do not allow for industry contribution, stating that while the governance structures help with national

⁴⁰ DAFF, *Submission 24*, p. 9.

⁴¹ DAFF, *Submission 24*, p. 9.

⁴² Mr McDonald, Greenlife Industry Australia Ltd, *Proof Committee Hansard*, 5 March 2024, p. 45.

⁴³ See for example, AEPMA, *Submission 5*, p. 19; Mr Ken Cunliffe, *Submission 44*, p. [2]; AgForce Queensland, *Submission 47*, p. [3].

⁴⁴ Mr Paul Sloman, Policy Officer, Cotton Australia and Queensland Farmers Federation, *Proof Committee Hansard*, 4 March 2024, pp. 58–59.

⁴⁵ Queensland Farmers Federation, *Submission 40*, p. [5].

oversight, there is still no agreed means of allowing non-government parties who stand to benefit, to provide financial contributions and input.⁴⁶

- 2.44 When questioned regarding the lack of industry involvement, Ms Justine Saunders, Deputy Secretary, Biosecurity and Compliance Group, DAFF informed the committee:

It really comes down to the governance framework within which where we're operating... These arrangements are different because we don't have that direct industry engagement. The primary reason for that is, obviously, the funding arrangements. The committee constructs and the governance support engagement by those that are sharing the cost of the response, which at this stage are the states and territories and the Commonwealth government.⁴⁷

- 2.45 However, some participants to the inquiry have strongly argued that the agriculture, plant, and animal sectors already make significant financial contributions to this response through their levies. Ms Joanna Cave, Chief Executive Officer of Greenlife Industry Australia, stated that 'we already, obviously, contribute to the management of biosecurity through our levy ... we feel we're doing our bit financially'.⁴⁸
- 2.46 Mr McDonald added to this by explaining that the NFAEP is 'very much focused on itself and its government partners' despite the number of impacted stakeholders who are willing to contribute. He explained that the current arrangements do not provide flexibility to incorporate external involvement effectively.⁴⁹
- 2.47 Dr Mick Quirk, Senior Manager, Environment and Sustainability, Queensland Cane Growers Organisation, suggested the need for a stakeholder group to be involved in oversight, representing the key sectors. He discussed how the eradication programs and the way they are legislated are 'very closed-shop activities' and that there are minimal mechanisms to give any oversight.⁵⁰

⁴⁶ South Australian Department of Primary Industries and Regions, *Submission 11*, p. [4].

⁴⁷ Ms Justine Saunders, Deputy Secretary, Biosecurity and Compliance Group, DAFF, *Proof Committee Hansard*, 4 March 2024, p. 30.

⁴⁸ Ms Joanna Cave, Chief Executive Officer, Greenlife Industry Australia Ltd, *Proof Committee Hansard*, 5 March 2024, p. 44.

⁴⁹ Mr McDonald, Greenlife Industry Australia Ltd, *Proof Committee Hansard*, 5 March 2024, p. 43.

⁵⁰ Dr Mick Quirk, Senior Manager, Environment and Sustainability, Queensland Cane Growers Organisation, *Proof Committee Hansard*, 4 March 2024, p. 27.

- 2.48 Mr Ian Thompson, Chair, Invasive Species Council Conservation and Science Committee, noted that allowing industry involvement would bring active connection, insight, and oversight to the response, external to government.⁵¹
- 2.49 Mr Ken Cunliffe noted in his submission that inclusion of industry and stakeholders in the response governance would harbour a ‘considerable skill resource’ and could ‘significantly bolster the aspiration of a highly skilled workforce’.⁵²
- 2.50 In response to a question on notice, the NFAEP informed the committee that while there are no permanent industry partners on the NMG due to the deed arrangements, the NMG does allow for non-government entities to be approved to attend as a non-voting member.⁵³
- 2.51 Dr Chay informed the committee that while the RIFA response is aligned with the NEBRA, which allows only government cost-share partners, ‘it is no excuse’ as to why industry stakeholders are not ‘at the table’.
- 2.52 Dr Chay also acknowledged that recent changes have included increased collaboration with industry and referenced an example where the NFAEP worked with the organics industry to find a solution to maintain their organics credentials and still be part of the eradication program.⁵⁴
- 2.53 In its submission DAFF highlighted that the 2023–2027 Response Plan recognises that industry and community involvement in the program is essential to achieve eradication.⁵⁵

Reporting, oversight, and transparency

- 2.54 In addition to concerns about not being adequately involved and consulted, participants also told the committee how a lack of openness from the program has led to concerns surrounding the transparency, accountability, and reporting of the NFAEP and the RIFA response.⁵⁶
- 2.55 Dr Quirk expressed that industry has been disadvantaged in terms of transparency, due to not being involved. He stated that:

⁵¹ Mr Ian Thompson, Chair, Invasive Species Council Conservation and Science Committee, *Proof Committee Hansard*, 5 March 2024, p. 45.

⁵² Mr Ken Cunliffe, *Submission 44*, p. [3].

⁵³ NFAEP, response to questions taken on notice, 4 March 2024 (received 12 March 2024), pp. [4–5].

⁵⁴ Dr Chay, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 72.

⁵⁵ DAFF, *Submission 24*, p. 10.

⁵⁶ See for example: AEPMA, *Submission 5*, p. 3; Mr Sloman, Cotton Australia and Queensland Farmers Federation, *Proof Committee Hansard*, 4 March 2024, p. 58; Mr Reece Pianta, Advocacy Manager, Invasive Species Council, *Proof Committee Hansard*, 4 March 2024, p. 5.

[A] symptom of the way that the grant or the deed arrangements are organised, when they do review reports, is that they're all meant to be kept confidential—all very-in-house. So, for a public interest program, I don't think that's working in our favour because I think we're losing confidence in the investment and we're losing hope—and losing hope's a very bad thing in this sort of situation.⁵⁷

- 2.56 The Invasive Species Council told the committee how 'stakeholders have often relied upon leaks' or media pressure to gain access and understanding of documentation relating to the response, such as the 2021 Independent Strategic Review or 2023–2027 Response Plan, as stakeholders are not included in these discussions and the documents had been withheld by the NFAEP.⁵⁸
- 2.57 It further stated that there has been no regular publication of the compliance or enforcement priorities or data, the notification of new outbreaks has sometimes been ad hoc and some annual and quarterly reports have not yet been publicly released.⁵⁹
- 2.58 The Queensland Farmers Federation noted that these issues have been persistent since the commencement of the program, as milestones and their progress have not been clearly identified or communicated, and that transparency is still a source of criticism today.⁶⁰
- 2.59 This was echoed by other submitters who argued there is 'scepticism about the effectiveness of simply pouring more public money into a program without a clear evaluation of its past performance'.⁶¹ Further, Dr Pam Swepson provided evidence that in 2013, program auditors were also concerned the program did not report against specific and measurable performance indicators.⁶²
- 2.60 Mr Richard Shannon, former employee of the NFAEP, remarked that 'the sooner we can open the program' to be more transparent 'the better' it will be. Mr Shannon elaborated that this includes sharing all available data and allowing third parties, researchers, and others to access that data and build on it.⁶³
- 2.61 Mr Ian Thompson shared these sentiments, stating that:

⁵⁷ Dr Quirk, Queensland Cane Growers Organisation, *Proof Committee Hansard*, 4 March 2024, p. 29.

⁵⁸ Invasive Species Council, *Submission 54*, p. 3.

⁵⁹ Invasive Species Council, *Submission 54*, p. 3.

⁶⁰ Queensland Farmers Federation, *Submission 40*, p. [4].

⁶¹ AEPMA, *Submission 5*, p. 2.

⁶² Dr Pam Swepson, response to questions taken on notice, 4 March 2024 (received 5 March 2024), pp. [1–2].

⁶³ Mr Richard Shannon, private capacity, *Proof Committee Hansard*, 4 March 2024, p. 21.

The 2021 review ... those recommendations are now being implemented. That is really important because those recommendations that go to funding, transparency, reporting and accountability I think are key.⁶⁴

2.62 Mr Reece Pianta of the Invasive Species Council, expressed the view that the governance body already built into the program should be responsible for leading some of those transparency changes.⁶⁵

2.63 In responding to the concerns regarding transparency, Dr John Robertson, former Chair of the NFAEP NSC, stated that:

The steering committee is quite adamant that there is transparency ... I think what's been [occurring] over recent times is that there's needed to be a bit of a catch-up with the publication of steering committee meeting minutes but also some of the quarterly reports...Also, the quarterly reports for Q1 and Q2 for 2023–24 are coming out in the next month, for the new governance arrangements. So the steering committee did recognise their issues with transparency or ability to get information out and are certainly trying to rectify that.⁶⁶

2.64 Dr Chay also acknowledged the delay in publication of reports and documentation, and that the NFAEP 'can do better' regarding timely publication to allow stakeholders and cost-share partners to have confidence in the program. Dr Chay followed by explaining that recent changes have seen 'a significant uplift in our communications and in stakeholder engagement capability and an absolute passionate desire to ensure the timely release of reports moving forward'.⁶⁷

2.65 As for ongoing reporting and transparency, the NFAEP submitted that evaluations will be conducted at regular intervals, with a financial gate review in 2024–25 to measure the extent to which outcomes have been met and the defined objectives to inform the cost-share partners of performance progress. It further clarified that a program review will take place in 2026–27 to determine whether eradication of RIFA by 2032 remains feasible.⁶⁸

Committee view

2.66 The committee has consistently heard throughout the inquiry that the RIFA response is too government heavy, with too many layers of bureaucracy that hinder fast and efficient decision making. While many witnesses called for

⁶⁴ Mr Thompson, Invasive Species Council Conservation and Science Committee, *Proof Committee Hansard*, 5 March 2024, p. 40.

⁶⁵ Mr Pianta, Invasive Species Council, *Proof Committee Hansard*, 4 March 2024, p. 5.

⁶⁶ Dr John Robertson, Independent Chair (former), NFAEP, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 65.

⁶⁷ Dr Chay, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 65.

⁶⁸ NFAEP, *Submission 16.1*, p. 2.

increased industry involvement and oversight of the response, many others called for entirely new processes and independent agencies to lead the RIFA response.

- 2.67 Similarly, it became clear that industry and impacted or affected stakeholders are very interested and willing to be a part of the RIFA response yet have frequently been dismissed by the responsible governments and the NFAEP. This reluctance to consult and involve industry in the response can only be seen as a disadvantage, given the varied and in-depth on-the-ground knowledge and experience of the agricultural, environment and pest sectors.
- 2.68 The committee would like to acknowledge that during this inquiry process, the NFAEP and its governance structure have been undergoing changes. It is pleasing to hear there is a possibility of including industry representatives and impacted stakeholders in the response through a governance oversight process, and that the NFAEP is open to including more representatives and collaboration. However, the outcomes and implementation of these changes are still yet to be seen, and the committee looks forward to seeing these progress.
- 2.69 Additionally, the changes that have been made to the governance structure and decision-making arrangements to date appear to be minimal, and do not currently increase proper independent oversight or provide a clear avenue for reducing bureaucratic timeframes. Instead, these changes appear to simply create a more-entrenched governmental decision-making framework and simply move the so-called independence from one group to another pre-existing group.
- 2.70 Despite the explanation from program and government officials that these changes do reflect the 2021 Independent Strategic Review recommendation, the committee is concerned these changes directly disregard the review recommendations that called for an expansion in perspectives and an increase in independent oversight.
- 2.71 Witnesses and submitters shared a myriad of situations in which there was a distinct lack of openness from the Australian and Queensland Governments and the NFAEP to share information, reports, reviews, and data. The reluctance to engage in transparent process and active disclosure was of particular concern to the committee, and again while officials have insisted this will be rectified with the new governance process, there are still many outstanding documents that stakeholders have called for that are yet to be published.
- 2.72 The committee urges the involved parties to release the documents that have been called for by stakeholders, in particular, the 2023–2027 Response Plan. It is unacceptable that a plan that is costing the federal and state and territory governments \$593 million over four years, that has been agreed to and is currently in action, has not been publicly released.

- 2.73 Additionally, the committee is concerned that the funding amounts allocated in the 2023–2027 Response Plan may be inadequate given the 2021 Independent Strategic Review estimates of \$200–\$300 million per year for 10 years. While the committee recognises the 2023–2027 funding is a significant increase from previous investment levels and welcomes the additional funding, it is still unclear exactly how this funding will be spent, and whether it is sufficient to meet the eradication goal by 2032.
- 2.74 It was evident to the committee that the slow approach and prematurely reduced funding in the early years of the response contributed significantly to the spread of RIFA and ultimately impacted eradication efforts. The evidence is clear that RIFA are currently contained and managed to a point where they are still considered eradicable. However, the evidence was also clear that current resources and funding are unlikely to meet that eradication goal. If this is the case, this should be rectified promptly, with a commitment from all governments to fund and resource the eventual eradication of this damaging pest.

Recommendation 1

- 2.75 **The committee recommends that the Australian Government in consultation with state and territory governments, work to review the current level of funding for the National Fire Ant Eradication Program and whether this is efficient to eradicate red imported fire ants by 2032, and if not sufficient, investigate the appropriate level of funding required for eradication.**
- 2.76 **The committee further recommends that:**
- **The Australian Government, and all state and territory governments commit to providing uninterrupted funding required to achieve eradication.**
 - **The Australian Government, and all state and territory governments ensure funds are provided as a whole-of-government response to reflect the seriousness of red imported fire ants on all aspects of Australian life, including health, tourism, agriculture, and environmental.**

Recommendation 2

- 2.77 **The committee recommends that the Australian Government work with the National Fire Ant Eradication Program to explore options to improve transparency and accountability mechanisms across both the strategic and operational aspects of the red imported fire ant response. In doing so, the committee recommends this includes:**
- **Publication of the full 2023–2027 Response Plan, including funding allocations and priorities.**

- Timely publication of any outstanding and future key reviews, reports, minutes, and data.
- Formal stakeholder and industry involvement within the National Management Group.
- Increased independence within the governance arrangements, including the reinstatement of an independent chair for the National Management Group.

Recommendation 3

- 2.78** The committee recommends that the Australian Government undertake an independent, rapid review of the actions and recommendations from the 2021 Independent Strategic Review and what has been completed or is in process to be completed. The committee further recommends that the review should report back to the Commonwealth Minister for Agriculture within three months and that a report of this review should be tabled in both Houses of the Australian Parliament within 14 days of the provision of this report to the Minister.
- 2.79** As part of this review, the committee recommends that the Australian Government, as the primary funder of the red imported fire ant response, investigate alternate models for delivery to reduce bureaucratic process, improve independence and transparency, improve public engagement and improve the delivery of the eradication program. The committee recommends that all models are investigated, including a statutory independent agency and a nationally led commission.

Chapter 3

The National Fire Ant Eradication Program

- 3.1 As discussed in previous chapters, the NFAEP is administered by the QLD DAF, under its Biosecurity Queensland division. The NFAEP is responsible for the operational and strategic response to RIFA across Australia. This includes the SEQ outbreak, past eradicated outbreaks, and the recent incursions detected in NSW, which have been managed as Detections of Importance.¹
- 3.2 This chapter will assess and discuss the effectiveness of eradication efforts and RIFA response plans to date, with a particular and targeted focus on the recent 2023–2027 Response Plan and current strategies, methodologies and techniques employed by the NFAEP.

Strategic response

- 3.3 Since 2001, the response has operated under multiple different response and action plans that were updated based on frequent reviews and recommendations.² Currently, the RIFA infested area in SEQ is a 70–80 kilometre radius around Brisbane, with the current treatment area approximately 340 000 hectares.³
- 3.4 Following the 2021 Independent Strategic Review which was triggered by multiple infestations outside the operational boundary, the NFAEP steering committee reportedly agreed with the recommendation for continued eradication—to contain, suppress, and eradicate by 2032. The review also recommended that the NFAEP focus solely on eradication while the Queensland Government mobilise governments of all levels, community, and businesses to increase suppression activities in areas not receiving eradication treatment.⁴
- 3.5 Noting these recommendations, the Queensland Government approved funding of \$37.1 million from 2021–26 to establish the Fire Ant Suppression Taskforce (FAST). The suppression area covers more than 650 000 hectares in Biosecurity Zone 1 and 2, where suburbs are waiting for eradication treatment.⁵
- 3.6 These recommendations have also since been incorporated in full or in part into the 2023–2027 Response Plan and the associated FAST Plan 2022–2026. According to the NFAEP’s submission, the new 2023–2027 Response Plan

¹ DAFF, *Submission 24*, p. 5.

² Queensland Farmers Federation, *Submission 40*, p. [4].

³ DAFF, *Submission 24*, p. 5.

⁴ NFAEP, *Submission 16*, p. 6.

⁵ NFAEP, *Submission 16*, p. 6.

‘employs proactive baiting beyond the outermost known infestation’ to capture undetected spread and ‘includes a large increase in compliance resources to address the risk of human-assisted movement’.⁶ DAFF noted in its submission that the plan is focused on ‘containing RIFA in a horseshoe’ from Moreton Bay in the north, west to the Lockyer Valley and south to Tweed, and treating for eradication around the inside of this band.⁷ Figure 1.7 in chapter one provides a visual description of this plan.

3.7 Mr Bacon explained that ‘the response plan looks from that outside-moving-in approach’ and that treatment or eradication bands will move inwards every two years, for a completed treatment expected by 2032.⁸ Ms Saunders, DAFF, also explained that the area within the boundary is subject to containment and suppression activities that are being undertaken by the Queensland Government FAST.⁹

3.8 In its submission, the Invasive Species Council provided further detail and clarification of the differing labels and activities for each zone or area of the plan, which the committee frequently heard was confusing for residents, landholders and involved parties.¹⁰ It stated that:

The treatment boundary will be brought inwards with a 3 kilometre overlap zone between each year’s treatment zones. This will reduce the area of FAST activities and establish progressive fire ant eradication. Each two-year treatment cycle consists of three treatments in the first and three treatments in the second year.¹¹

3.9 Mr Pianta, Invasive Species Council, further explained that the ‘containment boundary’ is a surveillance zone where NFAEP staff are actively inspecting the area and eradicating nests as they are found.¹²

3.10 A key feature of the FAST plan is to establish and rollout ‘self-management agreements’ with large landholders including local governments, farms, residents, and private entities. It is understood that local governments would be responsible for any council owned land as part of these agreements.¹³

⁶ NFAEP, *Submission 16*, pp. 5–6.

⁷ DAFF, *Submission 24*, p. 6.

⁸ Mr Bacon, NFAEP, QLD DAF, *Proof Committee Hansard*, 4 March 2024, pp. 70–71.

⁹ Ms Saunders APM, DAFF, *Proof Committee Hansard*, 18 March 2024, p. 29.

¹⁰ Invasive Species Council, *Submission 54.1*, p. 18; Queensland Farmers Federation, *Submission 40*, p. 5.

¹¹ Invasive Species Council, *Submission 54.1*, p. 18.

¹² Mr Pianta, Invasive Species Council, *Proof Committee Hansard*, 4 March 2024, p. 3.

¹³ Local Government Association of Queensland (LGAQ), *Submission 27*, p. 16.

- 3.11 Ms Sarah Corcoran, Chief Executive Officer of Plant Health Australia, said the intent of the response plan was to reduce the area of infestation and bring it to a core, but as they did not have the resources to do this, FAST was designed to equip residents and local governments with training and education in order to treat the ants.¹⁴
- 3.12 In his submission, Professor Nigel Andrew outlined the proposed timeline for eradication and surveillance in SEQ. This can be seen in figure 3.1 below.

Figure 3.1 Proposed timeline for eradication in the 2023–27 Response Plan

Year	Eradication Band 1	Eradication Band 2	Eradication Band 3	Eradication Band 4	Eradication Band 5	Eradication Band 6
2023–24	T*	R + SM	R + SM	R + SM		
2024–25	T*	R + SM	R + SM	R + SM		
2025–26	CS + T	T	R + SM	R + SM		
2026–27	CS + T	T	R + SM	R + SM		
2027–28	S - PoF	CS + T	T	R + SM		
2028–29	S - PoF	CS + T	T	R + SM		
2029–30	S - PoF	S - PoF	CS + T	T		
2030–31		S - PoF	CS + T	T		
2031–32		S - PoF	S - PoF	CS + T	CS + T	
2032–33			S - PoF	CS + T	CS + T	
2033–34			S - PoF	S - PoF	S - PoF	CS + T
2034–35				S - PoF	S - PoF	CS + T
2035–36				S - PoF	S - PoF	S - PoF
2036–37						S - PoF
2037–38						S - PoF

T: Treatment

T*: Preferred treatment if full budget is endorsed for 2023-24 (Appendix 3)

CS + T: Clearance Surveillance and rapid treatment if detections are found

R + SM: Response and self-management treatment

S-PoF: Proof of freedom surveillance

Source: Professor Nigel Andrew, Submission 57, p. 4.

- 3.13 Broadly, most inquiry participants were supportive of the new strategy, the 2023–2027 Response Plan and the approach of FAST to undertake suppression treatment for those awaiting eradication, however, many still had concerns.
- 3.14 Mr Jack Gough, Advocacy Director, Invasive Species Council noted that his organisation is ‘pleased’ with the ‘major change’ that has taken place with the

¹⁴ Ms Sarah Corcoran, Chief Executive Officer, Plant Health Australia, *Proof Committee Hansard*, 18 March 2024, p. 4.

new horseshoe approach and targeted eradication program.¹⁵ Similar sentiments were shared by Dr Robert Puckett who is an associate professor of extension entomology at the Texas A&M College in the United States where RIFA is endemic. He praised the plan stating that:

... generally speaking, that's the most obvious plan, and actually it's the perfect plan. If you can delimit the population of these ants and work from the boundaries, moving inward as you eradicate the population, that's precisely how I think this should be done.¹⁶

- 3.15 Both Mr Gough and Dr Puckett also highlighted potential flaws in the strategy if there is not sufficient community buy-in, effective quarantine zones, and adequate funding to ensure inefficiencies are mitigated.¹⁷
- 3.16 The Queensland Farmers Federation (QFF) were also divided on the effectiveness of the new strategy and horseshoe approach. In its submission, QFF noted that while it is a 'reasonable and realistic approach with the current allocated funding', the 'best approach' would remove suppression zones and replace them with a total eradication zone and intense perimeter surveillance. It argued that 'there is no place for suppression zones' in eradication efforts.¹⁸
- 3.17 An anonymous submitter also argued that the suppression areas would be a new source of infestation, particularly as treatment in the suppression zone is optional and ad-hoc for landowners and tenants. The submitter also made note that local governments 'do not have sufficient resources nor staff with Pest Management Technician qualifications' to effectively apply baits and pesticides on council owned property as part of the FAST program.¹⁹
- 3.18 The resourcing, or lack thereof, of local governments to undertake these suppression activities was raised by a number of councils who contributed to this inquiry. The Local Government Association of Queensland noted in its submission that the 'ever-expanding roles and responsibilities' of Queensland councils has seen the cost burden rise significantly, with some estimates between \$200 000 to \$700 000 per year, and forecasted costs rising to \$1 million per year as RIFA populations continue to expand.²⁰

¹⁵ Mr Gough, Invasive Species Council, *Proof Committee Hansard*, 4 March 2024, pp. 9–10.

¹⁶ Dr Robert Puckett, Associate Professor, Department of Entomology, Texas A&M University, *Proof Committee Hansard*, 5 March 2024, p. 7.

¹⁷ Mr Gough, Invasive Species Council, *Proof Committee Hansard*, 4 March 2024, pp. 9–10; Dr Puckett, Texas A&M University, *Proof Committee Hansard*, 5 March 2024, p. 7.

¹⁸ Queensland Farmers Federation, *Submission 40*, p. 5.

¹⁹ Name Withheld, *Submission 7*, p. 3.

²⁰ LGAQ, *Submission 27*, p. [1].

- 3.19 Other submitters, including SEQ councils, have expressed that while the FAST program has good intent, its limited resources will result in an inability to achieve any significant suppression. These submitters have called for additional funding to be supplied by the Queensland Government, to ensure genuine suppression can be achieved by residents, farmers and local councils who are taking on an increasing role in RIFA treatment.²¹

Baiting and chemical operations

- 3.20 One treatment option the NFAEP uses for higher-risk RIFA colonies is a liquid variation of the chemical, fipronil, to conduct direct nest injection in a once only application. Fipronil is a slow-acting poison which is non-repellent and undetectable. It kills by both contact and ingestion as it disrupts normal nerve function.²²

- 3.21 More generally, broadcast treatment baits are used which contain crushed corn with soybean oil and an insect growth regulator (IGR), either S-methoprene or pyriproxyfen. In its submission the NFAEP described the way the IGR baits work:

The use of an IGR interferes with the growth and development of ants, thereby breaking the reproductive life cycle, causing starvation of the colony. Ant workers pick up the bait granules and take them back to the colony, where workers extract the toxic oil and feed the bait to both the queen and immature ants, preventing worker replacement through the degeneration of the queen's reproductive organs. The lack of worker replacement results in colony death as the existing worker ants age and die.²³

- 3.22 It further stated that in field trials, the time taken to reach maximum efficacy ranged from four to eight months for S-methoprene, and with one application of pyriproxyfen, the time taken to reach maximum efficacy typically ranged from two to nine months. S-methoprene is also reportedly used and applied by aerial baiting as it can be permitted for use up to the edge of waterways, whereas pyriproxyfen cannot be applied within eight metres of water when using ground-based equipment.²⁴

- 3.23 For the treatment of polygyne infestations, which as discussed in chapter 1, require a different baiting and treatment routine, the NFAEP has submitted that it uses a fast-acting bait alternative using Indoxacarb through a corn grit and soybean oil mixture. It stated that Indoxacarb is a 'slow acting poison' that

²¹ Dr Quirk, Queensland Cane Growers Organisation, *Proof Committee Hansard*, 4 March 2024, p. 28; Invasive Species Council, *Submission 54.1*, p. 18; Logan City Council, *Submission 41*, p. [5].

²² NFAEP, *Submission 16*, pp. 14–15.

²³ NFAEP, *Submission 16*, p. 15.

²⁴ NFAEP, *Submission 16*, p. 15.

disrupts the insect central nervous system causing the RIFA to stop feeding. Similar to the IGR baits, indoxacarb bait is collected by foragers and returned to the colony, however, this product may be used in combination with IGRs as part of a broader treatment strategy.²⁵

- 3.24 Bait and chemical distribution can be undertaken either aerially, on foot, or by using a utility terrain vehicle (UTV) or blower truck. The NFAEP has declared in its submission that the ‘most efficient method of application’ is aerial baiting, while manual application on foot is the ‘most labour intensive and expensive’ method but it the only option available for use in built-up areas or in heavily vegetated areas and steep terrain.²⁶
- 3.25 Another distribution method for baiting is the self-management system under the FAST. Under this method, bait in the form of an IGR and a knockdown through direct nest injection is supplied for free to interested parties and landholders, who then apply these baits at specific times and in specific locations according to instructions provided. Mr Bacon reported that in 2023, FAST ran a free-bait trial in the Ipswich, Logan, and Gold Coast area, and 41 000 residents engaged in this option.²⁷
- 3.26 However, the Invasive Species Council highlighted that this FAST treatment is not available to Brisbane City or Moreton Bay local governments areas, councils, and residents, which creates a patchy application of suppression methods.²⁸
- 3.27 The Queensland Cane Growers Organisation also highlighted the ‘hit and miss efforts’ of the suppression baiting, as growers in the Rocky Point area have suffered significant financial losses from RIFA infestation. It stated:
- It is clear to growers that for farm-scale treatment, the only effective option for suppression is two aerial treatments 12 months apart, followed up by regular ground baiting. But this integrated option has never been pursued and appears not to be an option being considered in the current FAST program.²⁹
- 3.28 The Queensland Cane Growers Organisation also noted failures with the aerial baiting program including communication with farmers on an incorrect buffer zone, which resulted in gaps in application and ‘a less effective operation’ than it could have been.³⁰

²⁵ NFAEP, *Submission 16*, pp. 14–15.

²⁶ NFAEP, *Submission 16*, p. 16.

²⁷ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 70. Mr Greg Zipf, Chair, Rocky Point District Cane Growers Organisation, *Proof Committee Hansard*, 4 March 2024, p. 23;

²⁸ Invasive Species Council, *Submission 54.1*, p. 18.

²⁹ Queensland Cane Growers Organisation, *Submission 42*, p. [3].

³⁰ Queensland Cane Growers Organisation, *Submission 42*, p. [2].

- 3.29 Gaps in the baiting program were also identified by several inquiry participants, with some missed areas having been created by the destruction of bait that was laid or dropped near waterways or washed away by rainfall, missed treatments due to incoming rainfall or through indiscriminate treatments by the NFAEP and FAST.³¹
- 3.30 The City of Gold Coast stressed that the scheduling of only two treatments within the five kilometre eradication zone in the Gold Coast is ‘below the industry standard for eradication’ and should have been at least three treatments per year for two years across 10 kilometre. It declared that this may have been due to delayed or insufficient funding and the gaps will reduce effectiveness.³²
- 3.31 Baiting gaps have also emerged due to a reluctance of landholders and residents to treat or have treatment completed on their property due to health and environmental safety concerns, or because of a feared loss of organic produce certification.³³ AgForce Queensland highlighted this as a concern, asserting that misinformation about the safety of insecticides is widespread on social media. It called for urgent work to be undertaken to abate these concerns as ‘correctly applied registered insecticides for RIFA control is dwarfed by the devastation that uncontrolled RIFA will cause’.³⁴
- 3.32 Mayor Chris Cherry of the Tweed Shire Council advised the committee that the ‘issue of having to get landowner consent to do the eradication treatment is a difficult one’, particularly when people are wary of chemicals and different non-organic products. Mayor Cherry explained that work is ongoing to engage and communicate with landholders on this issue.³⁵
- 3.33 Inquiry participants provided a range of ideas and alternatives to assist with some of the concerns raised about the use of specific chemicals, baiting techniques and gaps in baiting programs. The idea of developing weatherproof bait stations for deploying treatments near waterways or during high periods of rain was recommended by multiple participants.³⁶

³¹ See for example: Name Withheld, *Submission 7*, p. 2; Mr Shannon, private capacity, *Proof Committee Hansard*, 4 March 2024, p. 19; Dr Pam Swepson, private capacity, *Proof Committee Hansard*, 4 March 2024, p. 19.

³² City of Gold Coast, *Submission 8*, p. [4].

³³ Name Withheld, *Submission 7*, p. 2; Mr Paul Sloman, Policy Officer, Cotton Australia and Queensland Farmers Federation, *Proof Committee Hansard*, 4 March 2024, p. 58.

³⁴ AgForce Queensland, *Submission 47*, p. [5].

³⁵ Mayor Christine (Chris) Cherry, Mayor, Tweed Shire Council, *Proof Committee Hansard*, 4 March 2024, p. 54.

³⁶ See for example: Dr Puckett, Texas A&M University, *Proof Committee Hansard*, 5 March 2024, p. 11; Invasive Species Council, *Submission 54*, p. 5.

- 3.34 Mr David Priddy, Chief Executive Officer of Sundew Solutions, suggested his company could develop bait stations that not only protect against the rain, but also breakdown over time to prevent unintended consequences such as accidental baiting and environmental impacts.³⁷
- 3.35 The use of biological controls including the introduction of competitive ant and insect species was another popular alternative to chemical baiting that was raised repeatedly in the inquiry. A submission from Mr Stuart McLean explained that insects, including RIFA, use chemicals to communicate with each other and their environment:
- Since insect behaviour is largely determined by chemical signals, control methods that disrupt this messaging can be very effective in controlling insect populations. In contrast to toxins, pheromones and other semiochemicals are usually selective for the target species without adverse effects on others.³⁸
- 3.36 Dr Conny Turni stated in her submission that the United States is investigating using fly species that lay their eggs into RIFA bodies directly, via the thorax, which in turn kills the RIFA and no other species. She expressed her opinion that in Australia, an approach must be found that is effective and does not harm the environment or human health.³⁹
- 3.37 Dr Puckett affirmed the use of weatherproof bait stations and the use of biological organisms for the treatment and control of RIFA, based on the success that has been seen from the use of these methods. In the United States, bait stations were placed 10 feet apart on a grid with remaining bait collected after several days. He advised that the bait stations were ‘very, very effective at controlling RIFA’ and the decline in population was in line with other treatment methods for large acreage.⁴⁰
- 3.38 Dr Puckett noted that a particular species of fly that is a major natural enemy of RIFA has been released in the United States, with anecdotal evidence showing that for every fly found, a fire ant was killed. He argued that while this is not an eradication technique, the intent is that over time the flies curtail RIFA foraging behaviour to allow native ant species to outcompete RIFA.⁴¹
- 3.39 When asked about the ability to treat organic farms for RIFA and maintain accreditation, Mr Bacon explained that S-methoprene is able to be used with

³⁷ Mr David Priddy, Chief Executive Officer, Sundew Solutions, *Proof Committee Hansard*, 5 March 2024, p. 58.

³⁸ Mr Stuart McLean, *Submission 23*, p. 3.

³⁹ Dr Conny Turni, *Submission 64*, p. 21

⁴⁰ Dr Puckett, Texas A&M University, *Proof Committee Hansard*, 5 March 2024, p. 11.

⁴¹ Dr Puckett, Texas A&M University, *Proof Committee Hansard*, 5 March 2024, p. 8.

restrictions including a withholding period of three weeks following treatment for food products.⁴²

- 3.40 Regarding the use of alternatives to traditional chemical baiting, the CSIRO confirmed that a process is underway for developing novel RNA-interference (RNAi) management tools for RIFA. RNAi tools are a highly species-specific genetic technology that works by silencing genes to kill or reduce the reproductive potential. A recently completed research project funded by the United States Department of Defence, led by CSIRO, enabled the testing of RNAi for RIFA management which shows the trials achieving greater than 50 per cent mortality.⁴³
- 3.41 The CSIRO stated that pending regulatory approval, it is envisaged the RNAi can provide treatment solutions in areas that are ecologically sensitive such as around waterways, on commercial farms (including those with livestock), as well as in domestic and urban contexts.⁴⁴
- 3.42 Dr Raghu Sathyamurthy, Research Director, Health and Biosecurity, CSIRO, expanded on this and provided context for how RNAi can be distributed:
- It can be delivered in baits. It can be delivered through sprays. Essentially, once the molecule has synthesised, it is essentially a chemical form of control. But unlike many different chemical forms of control, this can be highly targeted or highly specific to the organism you're trying to manage.⁴⁵
- 3.43 Dr Sathyamurthy clarified that the RNAi is still a chemical control method, not a biological control method and as such, must receive APVMA approval. However, the CSIRO is focusing on biological controls in the Australian context based on the two most effective methods utilised in the United States, *Kneallhazia solenopsae* (*K.solenopsae*) and the virus *SINV3* which have been capable of killing entire colonies. The CSIRO has reportedly developed proposals to conduct laboratory-based risk assessments of these biological controls.⁴⁶

Surveillance, detection, and identification of RIFA

- 3.44 Surveillance is undertaken by the NFAEP following a detection and treatment of RIFA in a previously RIFA-free location, or following treatments that are occurring in SEQ. The NFAEP states that the purpose of this surveillance is to

⁴² Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 71.

⁴³ CSIRO, *Submission 14*, p. 6.

⁴⁴ CSIRO, *Submission 14*, p. 6.

⁴⁵ Dr Raghu Sathyamurthy, Research Director, Health and Biosecurity, CSIRO, *Proof Committee Hansard*, 18 March 2024, p. 15.

⁴⁶ CSIRO, *Submission 14*, p. 6.

- ensure that remaining or new RIFA colonies are detected as early as possible to prevent further spread.⁴⁷
- 3.45 Many of the submissions to this inquiry acknowledged that surveillance and early detection are critical aspects to ensuring eradication of RIFA.⁴⁸
- 3.46 As briefly discussed in chapter one, the NFAEP employs a number of surveillance techniques for the detection of RIFA, with the most appropriate method chosen depending on infestation and treatment status, terrain type, infrastructure, available resources and cost efficiency. Most commonly, surveillance is undertaken on foot by a field team, but post-treatment validation processes may use odour detection dogs, in-ground lures and visual surveillance.⁴⁹
- 3.47 NFAEP testing reportedly indicates that there is an 80 to 100 per cent confidence level for odour detection dogs in detecting RIFA infestations, if present. This is in contrast to visual surveillance which has an 80 per cent efficacy of detection and involves field teams forming a line with pre-set spacing, determined by difficulty of detection as a result of terrain or vegetation type. The method is reportedly repeated until all areas of the land parcel have been inspected.⁵⁰
- 3.48 The CSIRO reported in its submission that it was the first in the world to publish data quantifying the capabilities of detector dogs to detect invasive ants, including RIFA. It explained that this was combined with modelling to provide ‘an effort-based and efficacy-based quantification of the probability of eradication being achieved within assessment areas’.⁵¹
- 3.49 According to the NFAEP’s submission, community engagement (passive surveillance) is also a very effective surveillance tool, generating valuable positive and negative sample data. The NFAEP insisted it will consider using remote sensing surveillance (RSS) technologies in the future to undertake broadscale surveillance and support a clearance methodology.⁵² The need for accurate and reliable RSS has been highlighted in several of the NFAEP reviews and was recommended by the 2021 Independent Strategic Review panel. It is anticipated RSS technology will greatly improve eradication outcomes.⁵³

⁴⁷ NFAEP, *Surveillance*, undated, www.fireants.org.au/treat/treatment-by-the-program/surveillance, (accessed 4 April 2024).

⁴⁸ See for example: AEPMA, *Submission 5*, p. 9; Mr Rick Roush, *Submission 50*, pp. 2–3.

⁴⁹ NFAEP, *Submission 16*, p. 14.

⁵⁰ NFAEP, *Submission 16*, p. 20.

⁵¹ CSIRO, *Submission 14*, p. 7.

⁵² NFAEP, *Submission 16*, p. 20.

⁵³ NFAEP, *Submission 16*, p. 21.

- 3.50 Despite these methods of surveillance, several inquiry participants expressed concerns over the level and frequency of surveillance that is actually undertaken. Mr Xavier Martin, President of the New South Wales Farmers Association, claimed the surveillance is an example of ‘chronic failure’ and that the NFAEP are ‘reporting that there is surveillance ... but then nothing happens. Twelve months later and no-one’s been back’. Dr Swepson echoed these views stating that the NFAEP ‘conducts no systematic surveillance to define the boundaries of the infestation’ and that 70 to 80 per cent of new detections are ad-hoc reports by the public.⁵⁴
- 3.51 In its submission, the Centre of Excellence for Biosecurity Risk Analysis (CEBRA) stated that current techniques have benefited from learnings over the past 20 years, including the use of passive surveillance in urban areas and ariel surveillance in rural areas. It estimated that \$1 million invested in public engagement activities had resulted in \$60 million saved in active surveillance costs between 2006 and 2010.⁵⁵
- 3.52 Dr Scott-Orr acknowledged the surveillance that is underway, but called for greater, systematic processes and baiting. In a question on notice, she explained:
- Arguably surveillance to date in [South East] Queensland has been more intensive than in the [United States] but it is still likely that most new RIFA infestations are not being detected for a year or more. This was why our Review panel proposed a 10km surveillance and prophylactic treatment zone outside the known boundaries of the infestation.⁵⁶
- 3.53 It was noted that one reason for the lack of systematic surveillance may be due to the cost and expense required to undertake such a thorough review and detection of nests. Mr Thompson informed the committee that while community surveillance can help to ‘give a bit of a heads up’, members of the NFAEP must confirm the nest, treat, and review the area.⁵⁷
- 3.54 To assist with the cost and number of personnel required to undertake surveillance, digital technologies such as improved remote sensing with the use of drones, development of predictive artificial intelligence (AI) to guide detection of nest locations and biological or DNA technologies have been suggested by inquiry participants. Submitters detailed how the agricultural industry has suggested technologies for rapidly detecting environmental DNA

⁵⁴ Mr Xavier Martin, President, New South Wales Farmers Association, *Proof Committee Hansard*, 5 March 2024, p. 14; Dr Swepson, response to questions taken on notice, 4 March 2024 (received 5 March 2024), p. [17].

⁵⁵ Centre of Excellence for Biosecurity Risk Analysis, *Submission 10*, pp. [2–3].

⁵⁶ Dr Scott-Orr, response to questions taken on notice, 4 March 2024 (received 5 March 2024), p. [1].

⁵⁷ Mr Thompson, Invasive Species Council Conservation and Science Committee, *Proof Committee Hansard*, 5 March 2024, p. 42.

(eDNA) of RIFA amongst the landscape and within carrier materials such as hay or soil.⁵⁸

- 3.55 Despite claims that the NFAEP is investigating types of eDNA technology, submitters say that the process is slow and does not factor in all avenues and possible technologies, including those suggested by the agricultural industry, to detect and destroy RIFA.⁵⁹
- 3.56 Among other suggestions to increase the surveillance and detection of RIFA was the inclusion of routine pre-purchase building inspections by licensed pest inspectors and pest controllers, for properties sold or transferred within areas of infestation, outbreak, or along the containment border. The committee heard how this approach could simply expand on the current pre-purchase pest inspection requirements for termites and other pests and would enable landholders to address infestations early and certify their property free of RIFA.⁶⁰
- 3.57 Regarding surveillance and detection techniques, representatives from the CSIRO and the NFAEP confirmed in evidence at a public hearing that work is underway to progress innovation and technologies, particularly remote sensing. Dr Sathyamurthy detailed that RSS is ‘already quite extensively used to map colonies’ but progress includes combining it with AI to achieve a higher degree of accuracy and efficiency. He explained there are a range of spectral signatures of nests, including heat and visual, and the next step is determining the ‘right models’ to underpin the detection technology.⁶¹
- 3.58 Mr Bacon noted that while this technology was still in its early stages, the NFAEP is investing in this technology under the recent 2023–2027 funding, due to the ‘significant change and an increase in capability’ that the technology would bring.⁶²

Innovation, research, and development

- 3.59 Despite the reported commitment from the involved government entities that the 2023–2027 Response Plan is ‘investing in the development of innovation, innovative treatment and surveillance techniques’,⁶³ participants of the inquiry

⁵⁸ Invasive Species Council, *Submission 54*, p. 5; Mr Ken Cunliffe, *Submission 44*, p. [2]; Name Withheld, *Submission 7*, p. 3.

⁵⁹ Mr Ken Cunliffe, *Submission 44*, p. [2]; Name Withheld, *Submission 7*, p. 3; AgForce Queensland, *Submission 47*, p. [3].

⁶⁰ AEPMA, *Submission 5*, p. 9; AgForce Queensland, *Submission 47*, p. [5]; Name Withheld, *Submission 7*, p. 5.

⁶¹ Dr Sathyamurthy, CSIRO, *Proof Committee Hansard*, 18 March 2024, pp. 13–14.

⁶² Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, pp. 73–74.

⁶³ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 60.

continued to express frustrations and concerns over the lack of innovative practices, investment in research, and use of external science and development.

3.60 In its submission, AgForce Queensland urged the NFAEP to improve on the ‘little effort to actively explore citizen science’ it claims the NFAEP has made to date. It reflected on the 2022 DAFF National Biosecurity Strategy that proposes:

...capacity for detection, identification, traceability, and response to biosecurity threats is increased by coordination and engagement with biosecurity stakeholders, the use of citizen science and greater private sector investment in the development and delivery of innovations that provide for better biosecurity outcomes.⁶⁴

3.61 Several witnesses to the inquiry explained how the NFAEP ignored or dismissed invitations and requests to collaborate on research and development projects for RIFA identification and treatment.⁶⁵ Mr Ken Cunliffe explained in his submission that after developing a technique that was effective in detecting synthetic RIFA DNA constructs, he was denied access to RIFA samples by the NFAEP. He stated that this sentiment had continued, and private industry was still being shut out from contributing to good biosecurity outcomes.⁶⁶

3.62 Mr Richard Shannon echoed these views and suggested that work must be done ‘to accelerate innovation and science in the program by opening it up’, stating that the NFAEP has been ‘too clandestine to date’.⁶⁷

3.63 One submitter, Mr Stuart Mclean, expressed frustration that in the 2017–2027 plan for eradication which was investing \$411 million, there was ‘no mention of research into novel methods’ of control. He remarked that even one to two per cent invested in basic research could produce useful findings while five per cent (or \$20 million over five years) would likely produce new and innovative methods and products.⁶⁸

3.64 Mr McDonald, Greenlife Industry Australia Ltd, also proposed that a research and development program would need to be ‘significantly ramped up’ with additional funding in order to enhance the science behind the NFAEP. He explained that decisions for the RIFA response appear to be made based on information from the ‘United States 50 to 70 years ago’ and an ‘overemphasis’ on old systems and technologies.⁶⁹

⁶⁴ AgForce Queensland, *Submission 47*, p. [3]

⁶⁵ See for example: Mr Ken Cunliffe, *Submission 44*, p. [2]; Dr Anthony Young, *Submission 21*, p. 2; Mr Ware, AEPMA, *Proof Committee Hansard*, 4 March 2024, p. 32.

⁶⁶ Mr Ken Cunliffe, *Submission 44*, p. [2];

⁶⁷ Mr Shannon, private capacity, *Proof Committee Hansard*, 4 March 2024, p. 17.

⁶⁸ Mr Stuart McLean, *Submission 23*, p. 2.

⁶⁹ Mr McDonald, Greenlife Industry Australia Ltd, *Proof Committee Hansard*, 5 March 2024, p. 46.

- 3.65 The reliance on data, information and research from United States or overseas jurisdictions was raised as a point of concern repeatedly through the inquiry.⁷⁰ Professor Nigel Andrew explained that in the United States, they can use biological controls such as fungus and phorid flies to control RIFA, whereas in Australia, we do not have the entomological knowledge and understanding of current fly fauna to begin introducing these controls which may be unnecessarily limiting the scope of control to chemical.⁷¹
- 3.66 Dr Puckett echoed these concerns, noting that Australia is a ‘totally different system, a totally different continent’, of various plants, animals and species. He encouraged Australian scientists, researchers, pesticide manufacturers and companies to reassess control mechanisms and chemical formulations based on RIFA and the Australian context.⁷²
- 3.67 Noting these concerns, the Invasive Species Council suggested the need for a comprehensive study of the predicted biodiversity impacts of RIFA and key strategies to minimise their impact on Australia’s environment if they spread beyond SEQ.⁷³
- 3.68 The Invasive Species Council also recommended a research and development project into the health impacts of RIFA and their predicted cost impacts on Australia’s health system, noting that available data is old and often sourced internationally. It noted the criticality of the issue, and the need for it to be considered by decision makers.⁷⁴
- 3.69 Calls for further research investment to aid in health impacts of RIFA were also put forward by Allergy and Anaphylaxis Australia and the National Allergy Centre of Excellence. The joint submission highlighted the lack of RIFA venom or RIFA sting treatments available in Australia, while RIFA venom therapies are commercially available in the United States. It explained that Australia has the expertise for developing an innovative immunotherapy, and with further research investment, Australia could lead the way in RIFA allergy therapies.⁷⁵
- 3.70 Further investment into research and development for RIFA was widely supported by inquiry participants, particularly the introduction of a

⁷⁰ See for example: Dr Anthony Young, *Submission 21*, p. 4; Invasive Species Council, *Submission 54*, p. 5; Mr Brian Scarsbrick AM, Director, Australian Wildlife Society, *Proof Committee Hansard*, 5 March 2024, p. 33.

⁷¹ Professor Andrew, Southern Cross University, *Proof Committee Hansard*, 4 March 2024, p. 12.

⁷² Dr Puckett, Texas A&M University, *Proof Committee Hansard*, Newcastle, 5 March 2024, p. 11.

⁷³ Invasive Species Council, *Submission 54*, p. 5.

⁷⁴ Invasive Species Council, *Submission 54*, p. 6.

⁷⁵ National Allergy Centre of Excellence and Allergy and Anaphylaxis Australia, *Submission 13.1*, p. [2].

collaborative research and development committee or the establishment of a cooperative research centre (CRC). Participants suggested that this type of initiative would bring together different groups including international experts, universities, researchers, industry bodies, and entities such as the CSIRO in order to build national expertise and fit-for-purpose, innovative solutions.⁷⁶

3.71 Dr Anthony Young said that:

... this is a problem that won't be solved by one group; we need to work cooperatively to try and control it ... If you could tie in a very robust research program, such as the CRC that's been suggested, then that will give people more buy-in.⁷⁷

3.72 According to officials from the NFAEP and QLD DAF, there is currently a scientific advisory group featuring international experts, the CSIRO and tertiary institutions that 'provides consistent, high-quality specialist scientific and technical advice' on eradication of RIFA in Australia.⁷⁸ However, while there does appear to be some external or citizen scientific involvement and guidance in the NFAEP, the extent to which the mechanisms are utilised or provide innovative scientific developments appears limited.

3.73 The CSIRO also confirmed that the organisation has received \$1 million for RIFA projects over the past 10 years. While representatives acknowledged the importance of the funding, they expressed that research is a 'critically important aspect of the biosecurity program' and that more could be done in that space if there was more funding available.⁷⁹

3.74 When questioned on the NFAEP's commitment and interest in research and innovation, Mr Bacon acknowledged there are areas of opportunities, as highlighted by inquiry participants. Dr Chay also declared there is a desire to adopt learnings from new technologies, and that 'biosecurity across the board is always welcoming of research and innovation, and we're pedalling really fast to try and keep up with the evolving nature of biosecurity'.⁸⁰

3.75 DAFF reported that the funding provided under the \$593 million 2023–2027 Response Plan allocates \$17 million to scientific services and \$2 million to

⁷⁶ Professor Andrew, Southern Cross University, *Proof Committee Hansard*, 4 March 2024, pp. 14–15; Mr Ware, AEPMA, *Proof Committee Hansard*, 4 March 2024, p. 32; Dr Scott-Orr, private capacity, *Proof Committee Hansard*, 4 March 2024, p. 38.

⁷⁷ Dr Young, private capacity, *Proof Committee Hansard*, 4 March 2024, p. 15

⁷⁸ NFAEP, *Submission 16*, p. 6; Dr John Robertson, Independent Chair (former), NFAEP, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 75.

⁷⁹ Ms Kirsten Rose, Executive Director, Future Industries, CSIRO, *Proof Committee Hansard*, 18 March 2024, p. 14.

⁸⁰ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 75; Dr Chay, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 75.

innovation over the four years. Priority areas for investment reportedly include diagnostics, genetic analysis and genotyping, research and review of techniques and processes and innovation activities including use of drones, further eDNA development, weatherproof baiting, and the application of AI to inform efficiencies.⁸¹

Committee view

- 3.76 The committee is pleased to hear that the new horseshoe strategy for eradication, containment and suppression of RIFA has been widely regarded as an appropriate, effective, and achievable approach. However, it is not clear to the committee where the demarcation lies between each of the containment, suppression and eradication zones, their direct interaction with both the NFAEP and the FAST, and the movement controls between each of these areas.
- 3.77 Throughout the inquiry, it became evident to the committee that residents, businesses and landholders are also confused as to who is responsible for exactly which elements of the strategy and how each of these aspects relate to the overall goal of eradication.
- 3.78 RIFA affected communities, including SEQ and northern NSW residents, researchers, scientists, and industry representatives were largely in agreement that RIFA must be eradicated, but were also sceptical, stating that the approach to getting there was slow, uneven, and unclear. The committee was also very concerned to learn about the varied and seemingly common gaps that were occurring during baiting and treatment rounds.
- 3.79 It is imperative that the Queensland Government assess the need for increased self-treatment resources based on the overwhelming number of RIFA infested zones that are currently not receiving access to treatments. There is also a clear need for supplemented activity in areas receiving treatment where baiting gaps have been identified, including for farmers receiving aerial treatments.
- 3.80 The committee also heard about growing the range of opportunities for non-chemical baiting and bait method alternatives that have been used in overseas locations, or that have also been developed here in Australia, that are still yet to be captured and used by the NFAEP in its operations. This is a disappointing situation given the complexities in successfully laying bait during periods of rainfall, without collateral environmental damage occurring.
- 3.81 Similarly, the methods currently used for detection of RIFA appear to be extremely laborious or incomplete, which as the committee heard, is leading to haphazard and sporadic surveillance, as opposed to a structured and routine approach. Despite new techniques and technology emerging and being offered

⁸¹ DAFF, response to questions taken on notice, 18 March 2024 (received 28 March 2024), p. [3].

by private industry and researchers, the NFAEP are seemingly yet to employ any of these models.

- 3.82 The committee was also surprised by the lack of research and innovation funding allocated by the NFAEP. Alongside the lack of citizen or external science, the CSIRO only received a very small portion of funding at approximately \$100 000 per year. While it was confirmed a combined \$19 million will be committed to research and innovation from the 2023–2027 Response Plan, it is still unclear how much of this will be provided to inhouse NFAEP services, the CSIRO and finally, external entities. Considering the baiting, techniques and methods used are largely unchanged since the 2001 incursion, the funding level available for this may still be far too low. The committee calls for this investment to be reassessed regularly to take into account new ideas and emerging methods.
- 3.83 While again government representatives, including the NFAEP, confirmed that there are changes to operations underway with an increased investment in research and innovation, the committee is not convinced that this change will occur quickly enough to make a difference.

Recommendation 4

- 3.84 **The committee recommends that the Australian Government and all state and territory governments should commit to further investment in research, development, and innovation to improve understanding of red imported fire ants in the Australian context and improve efficiencies through implementation of new technologies and techniques.**
- 3.85 **As part of this, the committee recommends: the National Fire Ant Eradication Program commit to quickly progress the development of innovative and new control and eradication methods and techniques, including environmental DNA (eDNA) markers, biological controls, and RNA-interference (RNAi) technology.**

Recommendation 5

- 3.86 **The committee recommends that the Australian Government establish and fund a Cooperative Research Centre encompassing independent researchers and academics, private business, industry representatives and governments to bring together the necessary diverse expertise for understanding red imported fire ants in Australia.**

Recommendation 6

- 3.87 **The committee recommends that the Australian Government work with the Queensland Government to urgently review the funding and outcomes of the Fire Ant Suppression Taskforce (FAST), with a particular focus on increasing**

FAST activities in areas not receiving any eradication or suppression activity. The committee recommends Australian Government work closely with the Queensland Government to commit to additional funding for the FAST to support self-treatment by residents, local governments, and landholders and ultimately, support the delivery of the 2023–2027 Response Plan and the 2022–2026 FAST Plan.

Chapter 4

Movement restrictions, community engagement and learnings from Varroa mite

- 4.1 This chapter will discuss the 2022 Varroa mite incursion in NSW and the impacts or learnings this can have for the RIFA response. It will also discuss the community and public engagement of the RIFA response, along with the movement restrictions and compliance of these restrictions. The chapter will conclude with a list of recommendations from the committee for relevant parties of the RIFA response. The sections of this chapter are:
- movement restrictions;
 - community awareness and stakeholder engagement;
 - learnings from varroa mite;
 - committee view; and
 - recommendations.

Movement restrictions

- 4.2 RIFA have been characterised by submitters and witnesses as notorious ‘hitchhikers’, frequently attaching to organic materials and equipment that is moved across locations. RIFA can also ‘hitchhike’ or form rafts in flood-affected areas to ensure they survive and swim with the moving waters. Human assisted movement of RIFA through high-risk materials is the primary contributor to infestation spread outside the biosecurity zones.¹
- 4.3 Several recent RIFA detections resulted from the movement of carrier materials including to Minjerribah (North Stradbroke Island) and the interception of a RIFA queen in a pot plant shipment to Victoria. It is likely the Toowoomba and Tallebudgera detections were also imported in soil and hay. The Invasive Species Council submitted that new clusters in Morayfield and Burpengary likely occurred as a result of soil transferred to local development sites.²
- 4.4 The committee was informed the recent NSW detections in Murwillumbah and Wardell are still being investigated by the NSW DPI to determine the specific materials and industry responsible. However, it has been confirmed these detections are related to the SEQ outbreak and are the result of human-assisted movement.³

¹ DAFF, *Submission 24*, p. 3; Invasive Species Council, *Submission 54*, p. 3.

² Invasive Species Council, *Submission 54*, p. 3.

³ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 73.

- 4.5 According to the NFAEP, one of the most important control measures for preventing RIFA spread is the implementation of movement controls on infested areas and high-risk materials. The Queensland *Biosecurity Act 2014* (the Act) provides the legislative framework for biosecurity measures and the Biosecurity Regulation 2016 (the Regulation) sets out how the Act is implemented and applied, including movement controls for RIFA.⁴
- 4.6 Currently, the Act designates RIFA as a category one restricted matter. The Regulation imposes restrictions and rules for movement, storage and disposal of soil, hay, manure, quarry products, turf, and potted plants within or outside the RIFA biosecurity zones.⁵ The table below demonstrates the current movement restrictions and requirements in place as of 2 April 2024.

Table 4.1 Queensland red imported fire ant movement controls

Material	Fire ant biosecurity zone 1	Fire ant biosecurity zone 2
Soil (includes fill, clay, scrapings, and any material removed from the ground at a site where earthworks are completed)	To move soil from fire ant biosecurity zone 1 you must either: <ul style="list-style-type: none"> • move the material within 24 hours of it being delivered • follow the fire ant <u>management steps for soil</u> • move the material directly to a <u>waste facility</u> located in zone 1 or 2. <p>If you cannot comply with these conditions or intend to move soil outside the zones then you must not move the material unless you are granted a <u>biosecurity instrument permit</u>.</p>	To move soil from fire ant biosecurity zone 2 you must either: <ul style="list-style-type: none"> • move the material within 24 hours of it being delivered • follow the fire ant <u>management steps for soil</u> • move the material directly to a <u>waste facility</u> located in zone 2. <p>If you cannot comply with these conditions or intend to move soil to zone 1 or outside the zones then you must not move the material unless you are granted a <u>biosecurity instrument permit</u>.</p>
Baled hay (including straw or sugarcane mulch) Manure Mulch Quarry products	To move these materials from within fire ant biosecurity zone 1 you must either: <ul style="list-style-type: none"> • move the material directly to a <u>waste facility</u> located in zone 1 or 2 • move the material within 24 hours of it being delivered 	To move these materials from within fire ant biosecurity zone 2 you must either: <ul style="list-style-type: none"> • move the material directly to a <u>waste facility</u> located in zone 2 • move the material within 24 hours of it being delivered

⁴ NFAEP, *Submission 16*, p. 14.

⁵ Brisbane City Council, *Submission 15*, p. 2; NFAEP, *Movement controls guide*, undated, www.fireants.org.au/treat/business-and-industry/movement-controls/movement-controls-guide (accessed 2 April 2024).

Potted plants Turf	<ul style="list-style-type: none"> follow the fire ant <u>management steps for the relevant material</u>. <p>If you cannot comply with these conditions then you must not move the material unless you are granted a <u>biosecurity instrument permit</u>.</p>	<ul style="list-style-type: none"> follow the fire ant <u>management steps for the relevant material</u>. <p>If you cannot comply with these conditions then you must not move the material unless you are granted a <u>biosecurity instrument permit</u>.</p>
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Source: Reproduced from NFAEP, *Movement controls*, undated, (accessed 2 April 2024).

4.7 The RIFA biosecurity zones are updated monthly and demonstrate a five kilometre boundary from known infestations, rather than suburb boundaries as previously used. There are two RIFA biosecurity zones:

- Zone 1 covers suburbs that have received or are scheduled to receive eradication treatment.
- Zone 2 covers suburbs yet to receive eradication treatment.⁶

4.8 In NSW, the *Biosecurity Act 2015* and the *Biosecurity Regulation 2017* have the power to issue emergency orders including declaration of control zones and movement restrictions for RIFA carrier materials.⁷

4.9 On 7 March 2024, the NSW DPI implemented an emergency order, NSW Biosecurity (Fire Ant) Emergency Order (No. 3) 2024, which restricts movement of RIFA carrier materials into NSW from the Queensland RIFA biosecurity zones, and from the RIFA control areas in Murwillumbah and Wardell. The materials affected include mulch, compost, growing media, manure, soil, hay, straw, chaff, silage, potted plants, turf, agricultural equipment, earth moving equipment, sand, gravel, chitters, coal fines, coal stone, overburden, and decomposed granite.⁸

4.10 Dr John Tracey, Deputy Director, General Biosecurity and Food Safety, NSW DPI, provided further detail to the committee on the requirements of the movement controls:

Our movement conditions require them to have a plant health certificate or an equivalent certificate for the various commodities that are brought in that are considered red imported fire ant materials. Under the order, if you bring any of those materials in from the two biosecurity zones within Queensland you require that certification. You are also required to submit a record of

⁶ NFAEP, *Fire ant biosecurity zones*, undated, www.fireants.org.au/stop-the-spread/fire-ant-biosecurity-zones (accessed 2 April 2024).

⁷ NSW DPI, [Biosecurity Regulation 2017, Emergency Orders](#) (accessed 2 April 2024), pp. [1–2]; Dr John Tracey, Deputy Director, General Biosecurity and Food Safety, NSW DPI, *Proof Committee Hansard*, 5 March 2024, p. 48.

⁸ NSW DPI, *Red imported fire ants (Solenopsis invicta)*, undated, www.dpi.nsw.gov.au/dpi/bfs/insect-pests/rifa (accessed 2 April 2024).

movement that says exactly where they go— Prior to Wardell we had that in place, and it has been invaluable in terms of getting trace-forward information and surveillance data and an ability to trace where things go. The various products have different requirements in terms of mitigations.⁹

- 4.11 The requirements and mitigations of carrier materials across both Queensland and NSW differ based on the product or industry, however, many inquiry participants concurred that the costs of movement restrictions are considerable.¹⁰
- 4.12 In its submission, the Queensland Cane Growers Organisation specified that annual costs to growers from movement requirements has grown to more than \$130 per hectare, noting that the Rocky Point mill district has been a declared biosecurity area since 2005. Required activities include changes to raking and baling operations, limitations on how long baled hay can sit in fields, changes to storage requirements including significant upgrades to sheds, frequent chemical treatments around storage sheds and baiting across the farms.¹¹
- 4.13 An anonymous submitter further claimed that the requirements for moving restricted materials can cost commercial hay producers at least \$1500 every three months for labour and materials to apply pesticides around storage sheds.¹²
- 4.14 Mr McDonald, Greenlife Industry Australia Ltd, stated that the restrictions for carrier materials cost the nursery sector approximately \$9 million per year in 2006. With the significant growth in the RIFA infestation area, from 40 000 hectares to 800 000 hectares, Mr McDonald suggested it would now be costing the nursery industry \$25 million per year to comply with the requirements and risk mitigation measures.¹³
- 4.15 Dr Young argued in his submission that while many industry stakeholders are doing the right thing and complying with the requirements despite the financial disadvantage, there is concern that their competitors are not complying. Dr Young further stated that there is ‘an overall perception’ that some industries, such as nurseries, are being penalised more than others.¹⁴
- 4.16 This sentiment was shared by many submitters, who have declared that the biosecurity control methods and restrictions for the movement of RIFA carrier

⁹ Dr Tracey, NSW DPI, *Proof Committee Hansard*, 5 March 2024, p. 51.

¹⁰ Mr Sloman, Cotton Australia and Queensland Farmers Federation, *Proof Committee Hansard*, 4 March 2024, p. 56; Dr Laurie Dowling, Policy Adviser, Queensland Farmers Federation, *Proof Committee Hansard*, 4 March 2024, p. 56.

¹¹ Queensland Cane Growers Organisation, *Submission 42*, pp. [1–2].

¹² Name Withheld, *Submission 7*, p. 2.

¹³ Mr McDonald, Greenlife Industry Australia Ltd, *Proof Committee Hansard*, 5 March 2024, p. 46.

¹⁴ Dr Anthony Young, *Submission 21*, p. 5.

materials is not based on risk and is unfairly restricting and impacting some industries, while not appropriately restricting others.¹⁵

- 4.17 The Queensland Farmers Federation addressed a gap in policy for the movement of hay sharing that ‘many smaller producers advertising on sites [are] seemingly flying under the radar’ and increasing the risk of spreading RIFA. It explained that industry stakeholders are calling for clearer requirements for the movement of hay from RIFA regions to ensure it can be safely transferred, especially during periods of drought.¹⁶
- 4.18 Additionally, submitters queried the level of restrictions, and subsequent lack of enforcement for the construction and housing development industry. Greenlife Industry Australia reflected on past detections and the lack of tracing to determine where RIFA were moved from:

From [Greenlife Industry Australia’s] observations, so many of the new detections driving the growth of the infestation area, via large leaps, have been on new housing, industrial developments, or road infrastructure projects. The most likely common carrier here is soil and soil moving equipment. If these detections had had closer scrutiny applied, we could have greater insight into this level of risk and more efficacious mitigation measures in place to reduce the threat.¹⁷

- 4.19 AgForce Queensland called for a stronger focus and enforcement of restrictions on soil, building materials and machinery in the future, while the Invasive Species Council specifically suggested that an audit be undertaken on the movement of construction materials from SEQ to NSW in 2022 and 2023.¹⁸
- 4.20 The committee heard about how compliance and enforcement of movement restrictions has been a continuous topic of concern for reviewers and auditors of the NFAEP, over the length of the response. Reportedly, a 2020 CSIRO study declared that there was ‘worrying non-compliance’ with movement restrictions and efforts to control movement had been ‘ad-hoc and administered poorly’.¹⁹
- 4.21 These concerns were also shared by inquiry participants who expressed that current compliance mechanisms and monitoring are insufficient and irregularly checked. Mr Zipf provided an example to the committee, in which he says ‘I’m constrained in a way, but my neighbour, who lives on a couple of acres, can dig

¹⁵ See for example: Name Withheld, *Submission 7*, p. 1; Greenlife Industry Australia, *Submission 45*, p. 5.

¹⁶ Queensland Farmers Federation, *Submission 40*, p. [6].

¹⁷ Greenlife Industry Australia, *Submission 45*, p. 5; Mayor Darren Power, Logan City Council, *Proof Committee Hansard*, 4 March 2024, p. 49.

¹⁸ AgForce Queensland, *Submission 47*, p. [3]; Invasive Species Council, *Submission 54*, p. 3.

¹⁹ Dr Pam Swepson, *Submission 62*, p. 10; AEPMA, *Submission 5.1*, p. 7.

out five truckloads and send it wherever he wants' followed by stating that there are 'no checks and balances' in place.²⁰

- 4.22 Ms Callanan of AgForce Queensland called for 'stronger compliance processes' as compliance has been lacking for some industries that frequently move in and out of the biosecurity zones. Ms Callanan explained the situation as a combination of a 'lack of awareness, lack of education, lack of compliance' and a lack of checking mechanisms.²¹
- 4.23 In its submission, the NSW Canegrowers Association highlighted the need for tighter border control points and for transporters of carrier materials be alerted to fines for breaches of protocols.²²
- 4.24 When questioned on the approach to compliance checking and enforcement, Mr Bacon asserted that both NSW DPI and the NFAEP follow up non-compliance, with actions taken accordingly to enforce compliance. He explained that a recent recommendation was adopted by the National Management Group in February 2024, to change the compliance strategy and include reporting of non-compliance and the responsible industries.²³
- 4.25 In relation to the recent 2023 incursions in northern NSW, Mr Bacon confirmed work has been undertaken to trace compliance and assess the movement of products to ascertain what may have led to the outbreak of RIFA, but it is not possible to identify a specific site or source industry at this time.²⁴
- 4.26 Dr Tracey confirmed that the NSW DPI works with the QLD DAF and the NSW Police through a cross-border taskforce to trace, audit and inspect 'high-risk' carriers. Alongside this also sits Operation Victor—a border activity assessing high-risk vehicles hauling RIFA carrier materials out of NSW—to ensure they are complying with biosecurity requirements. Operation Victor is reported to have had three rounds completed, with a 92 per cent compliance rate.²⁵

Community awareness and stakeholder communication

- 4.27 The Queensland *Biosecurity Act 2014* designates that everyone, including individuals and organisations, has a general biosecurity obligation (GBO) to take all reasonable steps to prevent the spread of RIFA. This means all

²⁰ Mr Zipf, Rocky Point District Cane Growers Organisation, *Proof Committee Hansard*, 4 March 2024, p. 30.

²¹ Ms Callanan, AgForce Queensland, *Proof Committee Hansard*, 4 March 2024, p. 30.

²² New South Wales Cane Growers Association, *Submission 25*, p. 2.

²³ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, pp. 62, 73.

²⁴ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 73.

²⁵ Dr Tracey, NSW DPI, *Proof Committee Hansard*, 5 March 2024, p. 48.

Queenslanders are legally required to report suspected sightings of RIFA within 24 hours of their discovery.²⁶

4.28 Despite this obligation, the committee heard how many community members, particularly in urban and city areas, are not aware of their GBO, the requirement to report or the movement restrictions that are placed on RIFA carrier materials. An anonymous submitter explained that this is in large part, due to a lack of public awareness activities and stakeholder communication from the NFAEP. The submitter stated:

Prior to late 2022, there was insufficient awareness and signage within the fire ant biosecurity zones and suburbs / regions of high risk to inform the general public of their general biosecurity obligation for managing fire ants. The departmental directive to move towards digital and online communication and move away from printed factsheets, letters, roadside signage created a major deficit in community awareness. General awareness across the wider community only commenced when fire ants started to invade the Gold Coast tourist strip in 2023 and media started to highlight the risk to tourism and the future Olympic Games.²⁷

4.29 Dr Young explained in his submission a situation in which a student discovered a RIFA nest at a Brisbane university but had subsequently not reported the discovery. He expressed that after raising this issue, more students indicated they had RIFA on their properties, but were not aware of their duty to report this. Dr Young declared that this lack of knowledge and awareness is 'indicative of the lack of community buy-in' and that it signals a failure in the program.²⁸

4.30 Councillor Vorster of the Logan City Council described the communication between the state led NFAEP, landowners and the local government as 'diabolical', while trying to ensure the local council upholds its GBO. Cr Vorster provided an example of an incursion at a local school, in which the NFAEP responded but did not notify the council to this incidence.²⁹

4.31 The lack of community awareness and stakeholder communication with residents and landholders, farmers, visitors, and local governments has been raised as a potential contributing factor to poorer eradication outcomes.³⁰

²⁶ AgForce Queensland, *Submission 47*, p [5]; Dr Pam Swepson, *Submission 62*, p. 9.

²⁷ Name Withheld, *Submission 7*, p. 4.

²⁸ Dr Anthony Young, *Submission 21*, pp. 2–3.

²⁹ Councillor Hermann Vorster, Division 11, Council of the City of Gold Coast, *Proof Committee Hansard*, 4 March 2024, p. 45.

³⁰ See for example: Mayor Christine (Chris) Cherry, Mayor, Tweed Shire Council, *Proof Committee Hansard*, 4 March 2024, p. 52; Mr Brian Scarsbrick AM, Director, Australian Wildlife Society, *Proof Committee Hansard*, 5 March 2024 p. 33; Invasive Species Council, *Submission 54*, p. 2.

Professor Andrew claimed that ‘positive engagement and buy-in’ from the community is critical for ensuring eradication is successful.³¹

- 4.32 Mr Thompson reflected on the successful eradication of RIFA in Western Australia. He explained that the response incorporated a ‘big publicity campaign’ that included community and stakeholder engagement, leaflets, and flyer distribution among other tactics. He followed by stating that while engagement is an additional expense, it can pay ‘big dividends’ in eradicating RIFA.³²
- 4.33 To achieve buy-in and general community awareness to address RIFA spread, it was widely suggested that there is an immediate need for a national communications and public education campaign that highlights the dangers of RIFA, stresses the importance of immediate action, and draws on the community to uphold their GBO.³³
- 4.34 Dr Tracey explained that the NSW DPI is already undertaking such activities with local councils, impacted business and the general community to increase understanding of RIFA and associated risks and requirements through information vans, drop-in centres and 1500 face-to-face visits. He also explained it has worked with the NSW Department of Education:
- With more than 300 schools and more than 57 000 students engaged, it's a really important part of awareness and community ownership of what we're doing. We've undertaken targeted awareness campaigns over social media, reaching over 500 000 people. We have had letterbox drops and direct electronic mail for over 67 000 people in the community. They're all parts of trying to make sure that we do bring community with us here, so we have been using a variety of ways to connect there.³⁴
- 4.35 In its submission, AgForce Queensland supported the recent ‘pro-active approach’ of the Tweed Shire Council and NSW DPI in response to the late 2023 NSW outbreaks. It called for Queensland councils to make changes based on the NSW approach, including the establishment of up-to-date RIFA advice in important council notices such as rates and water, to increase community and landholder awareness and commitment.³⁵
- 4.36 Similarly, the NSW Canegrowers Association supported the current NSW DPI response but suggested that increased education was needed to bring the public

³¹ Professor Nigel Andrew, *Submission 57*, p. 2

³² Mr Thompson, Invasive Species Council Conservation and Science Committee, *Proof Committee Hansard*, 5 March 2024, p. 42.

³³ City of Gold Coast, *Submission 8*, p. [1]; Name Withheld, *Submission 36*, p. [2]; Dr Scott-Orr, private capacity, *Proof Committee Hansard*, 4 March 2024, p. 41.

³⁴ Dr Tracey, NSW DPI, *Proof Committee Hansard*, 5 March 2024, p. 48.

³⁵ AgForce Queensland, *Submission 47*, p [6].

along. Specifically, it called for the NFAEP develop and disseminate ‘staged-based resources’ such as rulers, stickers, and pens for school students that can also be taken home and repurposed as ‘family education’ material.³⁶

4.37 A dedicated school program was also proposed by the Invasive Species Council, which insisted governments must commit at least \$10 million per year for public advertising, education, and engagement in the form of a campaign. It elaborated that the campaign should focus on increasing surveillance by the public, participation in treatment programs and awareness of biosecurity rules, but that it should not be carried out by a biosecurity agency:

Biosecurity agencies are not best placed to deliver the broad public engagement and education needed across all sectors of society and limited funding has been committed to this under the current program. A scaled-up campaign should use professional creative agencies to deliver high profile and high impact public advertising, including through billboards, letterboxing, media and to culturally diverse communities in south-east Queensland and northern NSW.³⁷

4.38 At a public hearing, Mr Bacon informed the committee that community and industry engagement is a key focus of the future work plan and the 2023–2027 Response Plan, with a new national communication strategy targeting stakeholders in areas of NFAEP operation.³⁸

4.39 In a supplementary submission, the NFAEP described this work as a ‘mass media campaign’, delivered across SEQ to promote awareness and understanding. The campaign will reportedly provide online training for residents, workplaces and pest managers targeting three key themes:

- Look for, report, and treat RIFA—encourage stakeholders in target areas to check their properties for RIFA and, report and treat them to suppress ant populations.
- Let our RIFA teams in—build community rapport to support the delivery of planned RIFA treatment and surveillance work.
- Don’t spread RIFA—empower stakeholders so they can effectively comply with the RIFA biosecurity zones and associated material movement controls.³⁹

4.40 Table 4.2 below details the current stakeholder engagement undertaken by the NFAEP during the 2023–2024 financial year.⁴⁰

³⁶ NSW Cane Growers Association, *Submission 25*, p. 2.

³⁷ Invasive Species Council, *Submission 54*, p. 2.

³⁸ Mr Bacon, QLD DAF, *Proof Committee Hansard*, 4 March 2024, p. 61.

³⁹ NFAEP, *Submission 16.1*, pp. 2–3.

⁴⁰ NFAEP, *Submission 16.1*, pp. 2–3.

Table 4.2 Engagement activities in 2023–2024

Engagement channel	Stakeholder group	Location	Audience
Print media	Households	SEQ and northern NSW	283 000
Email newsletters / e-alerts	Households	SEQ and northern NSW	436 000
Social media	All stakeholders	-	720 000
Website	All stakeholders	-	638 000
Media statements, TV, and radio interviews	All stakeholders	National	7000 media mentions
Face to face events	Community and industry	SEQ	42 000 at 106 events
RIFA training	All stakeholders	Online	8000
Partnerships	Community, industry, local government	Indigenous Corporations Gold Coast Scenic Rim Lockyer Valley Moreton Bay Industry groups Rural sector – primary producers Civil and urban development Councils State Government Service providers Waste	40 groups (with unique community reach)

Source: Reproduced from NFAEP, *Submission 16.1*, p. 5.

Learnings from Varroa mite

- 4.41 A key term of reference of this inquiry is assessing the learnings of the 2022 NSW *Varroa destructor* (Varroa mite) incursion and response in relation to managing RIFA in Australia. As such, the committee heard from a range of stakeholders who have been involved in, or impacted by the Varroa mite outbreak and who have shared aspects that were handled well and should be implemented in the RIFA response, or aspects that should be learned from and avoided.
- 4.42 The overarching sentiment from stakeholders claimed that the ‘failure to eradicate the Varroa mite has resulted in ongoing costs’ for business and industry, and it must serve as a reminder to prioritise eradication of RIFA to avoid similar long-term consequences.⁴¹

⁴¹ Brindabella Bush Club, *Submission 37*, p. [2]; Professor Nigel Andrew, *Submission 57*, pp. 5–6.

- 4.43 Much like RIFA, the Varroa mite incursion relied heavily on movement restrictions to prevent spread of the mite, which some say should have been the most critical step that governments could have taken. Despite attempts to implement movement restrictions on bee hives in NSW, it was reported that routine allowances were made for some commercial and pollination hives to continue migrating, which many believe contradicted the movement controls and inevitably contributed to the failed eradication outcomes.⁴²
- 4.44 DAFF clarified that some industries rely on unique and varied hive movements for bee husbandry and to provide pollination services for crop production. It stated that interstate and long-distance movements of bees are needed as approximately 45 per cent of honey bee hives in Australia are based in NSW.⁴³
- 4.45 The committee heard that the opaque and inconsistent decision making was confusing for stakeholders and beekeepers, and led some to feel that it was a 'double standard', as stationary and residential beekeepers were required to euthanise their hives during this time. As a result of the inadequate and conflicting movement controls and advice, it has been speculated that illegal movement of hives had occurred, which ultimately led to a lack of delimitation of the outbreak.⁴⁴
- 4.46 The National Farmers Federation (NFF) submitted that both the RIFA and Varroa mite incursions demonstrate the need to adequately understand and control movement as quickly and thoroughly as possible, and changes must be made to the RIFA response to ensure RIFA remains eradicable. It explained that the spread of Varroa mite was expedited via movement of infected beehives and the RIFA incursion faces similar challenges, with reports indicating soil and mulch movements may have played a role in containment zone breaches.⁴⁵
- 4.47 NFF also compared both incursions in the way in which they were established, reportedly via international shipping routes, and the way in which they are now impacting the agricultural sector and the broader community. It explained that the Varroa mite and RIFA incursions demonstrate the overall need for risk creators to contribute more to biosecurity costs and called for changes to future biosecurity funding plans.⁴⁶

⁴² AEPMA, *Submission 5*, p. [1]; Mr Simon Mulvany, Founder, Save the Bees Australia, *Proof Committee Hansard*, 5 March 2024, p. 26.

⁴³ DAFF, *Submission 24*, p. 10.

⁴⁴ Mr Mulvany, Save the Bees Australia, *Proof Committee Hansard*, 5 March 2024, pp. 26–27; Associate Professor Susan Hester, Centre of Excellence for Biosecurity Risk Analysis, University of Melbourne, *Proof Committee Hansard*, 5 March 2024, p. 36.

⁴⁵ National Farmers Federation, *Submission 46*, p. 6.

⁴⁶ National Farmers Federation, *Submission 46*, p. 6.

- 4.48 These views were echoed by Ms Callanan, AgForce Queensland, who stated that the ‘ultimate cause’ of the Varroa mite incursion was ‘inadequate resourcing for checking containerised imports’, like the RIFA arrival via shipping cargo. Ms Callanan claimed that ‘shipping containers are a constant and inadequately managed threat to our national biosecurity’.⁴⁷
- 4.49 Comparisons of the governance of the Varroa mite and RIFA responses were also drawn by other participants. Mr Daniel Le Feuvre, Chief Executive Officer, Australian Honey Bee Industry Council explained that the governance structure for the Varroa mite response was ‘significant and robust’ with no singular controlling entity, but instead 26 decision-making parties. He clarified there are several experts and industry peak bodies who consult and bring back information to inform decisions, stating that learnings can be taken from this process to improve into the future.⁴⁸
- 4.50 The South Australian Department of Primary Industries and Regions claimed that while ‘ultimately not successful in eradicating Varroa mite’, the process of the response allowed for ‘structured and transparent decision making’. It asserted that the new governance arrangements agreed for the RIFA response should provide similar benefits, and that Varroa mite highlighted the importance of early, consistent, and ongoing engagement with all stakeholders at the national level.⁴⁹
- 4.51 Mr Le Feuvre argued that clear communication and community engagement ‘should not be underestimated’ when a response is trying to achieve eradication. He stated that if there is not public support for eradication programs, particularly in affected communities, ‘then non-compliance and undermining of the response’ will lead to and create failure.⁵⁰
- 4.52 Community Voice Australia claimed that the clarity and level of communication provided to some industry partners did not transfer to community members. It declared there was a ‘clear lack of responsibility and clarity on the decision-making process for community members’ who wanted further information and insight into the decisions and requirements of the Varroa mite response.⁵¹

⁴⁷ Ms Callanan, AgForce Queensland, *Proof Committee Hansard*, 4 March 2024, p. 23.

⁴⁸ Mr Daniel Le Feuvre, Chief Executive Officer, Australian Honey Bee Industry Council, *Proof Committee Hansard*, 5 March 2024, p. 3.

⁴⁹ South Australian Department of Primary Industries and Regions, *Submission 11*, p. [4].

⁵⁰ Mr Le Feuvre, Australian Honey Bee Industry Council, *Proof Committee Hansard*, 5 March 2024, pp. 1-2.

⁵¹ Community Voice Australia, additional evidence, and correspondence with Minister Murray Watt (received 7 March 2024), p. [3].

- 4.53 The Crop Pollination Association of Australia also criticised the engagement from the Varroa mite response, stating that communications were ‘poor’ and ‘very one way’. It emphasised that industry associations should have been more informed and involved in the response in not just discussions, but also across operations.⁵²
- 4.54 When discussing if NSW DPI has made any commitment to learn from the Varroa mite incursion, Dr Tracey confirmed that there is an active review assessing the traceability of hives. He stressed that this review and its outcomes will be important for all biosecurity responses by achieving a method of rapidly tracing movements.⁵³
- 4.55 Ms Saunders, DAFF, explained that lessons have been learned from the Varroa mite incursion regarding the importance of movement restrictions and effective engagement with stakeholders and communities. However, she explained that there are major differences between the two pests, including different biology, geographic spread patterns, and impacts and said that while learnings can and are drawn between different responses, it is often not possible to draw direct comparisons.⁵⁴

Committee view

- 4.56 The movement restrictions on RIFA carrier materials were often criticised as being unfairly disproportionate based on risk, where the agriculture sector are required to undertake rigorous processes despite minimal instances of RIFA transfer. In comparison, the committee heard frequently how industries such as construction and soil movement were less regulated, despite greater instances of moving RIFA.
- 4.57 Based on the evidence provided and the two 2023 incursions in northern NSW, it is clear to the committee that the compliance and monitoring processes for the movement of RIFA carrier materials out of biosecurity zones are not sufficient to contain spread over the long-term. It also became evident that penalties for breaching restrictions are not well understood by residents, industry, risk creators or businesses, and appear to be enforced by authorities in a piecemeal and inconsistent way.
- 4.58 Notwithstanding this, the committee was pleased to hear about the timely and highly effective response from the NSW DPI, the NFAEP and the Tweed Shire Council following the 2023 incursions. It was clear to the committee that the NSW DPI is taking RIFA seriously and has enacted changes to their movement

⁵² Crop Pollination Association of Australia Inc, *Submission 26*, pp. [1–2].

⁵³ Dr Tracey, NSW DPI, *Proof Committee Hansard*, 5 March 2024, p. 55.

⁵⁴ Ms Justine Saunders, Deputy Secretary, Biosecurity and Compliance Group, DAFF, *Proof Committee Hansard*, 18 March 2024, p. 23.

restrictions and increased monitoring and compliance activity within its border control processes, to ensure that detections are contained and do not spread further.

- 4.59 The committee urges the Queensland Government and the NFAEP to review their movement restrictions to ensure they are appropriate and measured based on risk, as well as reviewing their compliance and monitoring activities. It is understood increased activities are planned as part of the 2023–2027 plan, however, there has been no oversight or clarity into the progression of this, to date.
- 4.60 Similarly, the committee was impressed with the level of public awareness and community engagement that the NSW DPI had undertaken prior to and following the 2023 incursions.
- 4.61 In contrast, it was clear that nationally and within Queensland, communication with the public and with residents has been under funded and under resourced, with many witnesses claiming most people do not know and understand the risks associated with RIFA, or their obligation to report detections. Again, the committee is pleased to hear the NFAEP is undertaking a new public awareness campaign, however, it is not clear to what extent education and awareness is needed, and whether the current planned activities will suffice.
- 4.62 The committee identifies an urgent need to increase stakeholder engagement and community education, and for this to be based upon a strategic and measured approach in order to assist the long-term eradication goal.
- 4.63 In relation to Varroa mite, it was evident to the committee that the two incursions are significantly different in many ways, however, some of the critical determining factors for eradication exist within both. That is, movement controls and engagement with industry and the private sectors. Given the regrettable outcome of the Varroa mite incursion is that it is no longer eradicable, and that RIFA is a significantly more harmful pest, it is absolutely essential the same errors are not repeated.
- 4.64 The committee is aware there is work ongoing within the NSW DPI to identify specific lessons from the Varroa mite incursion and is supportive of this work. However, it appears this might also be an area of importance to the Australian Government, and any work ongoing to consider the recent Varroa mite response may be limited. The committee encourages the Australian and Queensland Governments to review and identify the lessons learned from Varroa mite and apply them to the RIFA response.

Recommendation 7

- 4.65 The committee recommends that the Australian Government, in conjunction with the Queensland Government, collaborate with affected councils within the biosecurity zones and neighbouring areas to ensure community members,**

residents, landholders and businesses are engaged and understand their General Biosecurity Obligation. This should incorporate community notices having a particular focus on identification, reporting and movement controls.

Recommendation 8

4.66 The committee recommends that the Australian Government, in conjunction with state and territory governments:

- Undertake an assessment of current public understanding and awareness of red imported fire ants, and their obligations.
- Allocate additional funding and resources to undertake a national awareness campaign and achieve greater understanding. The campaign should focus on advertising, education, and engagement on a national approach, with higher resources apportioned according to the level of outbreak and risk.

Recommendation 9

4.67 The committee recommends that the Australian Government, in conjunction with the Queensland and New South Wales Governments, work to increase compliance with movement controls, including increasing biosecurity spot checks at border crossings. As part of this, all governments should commit to releasing regular reports on identified breaches, including responsible industries and penalty outcomes.

Recommendation 10

4.68 The committee recommends that the Australian Government conduct a review process of the Varroa mite incursion and response, in partnership with the New South Wales and Queensland state governments to identify and study tension points that also exist in the red imported fire ant response, with a view to actively adopt learnings and adjust the response plan accordingly.

**Senator the Hon Matthew Canavan
Chair**

Appendix 1

Submissions and additional information

- 1 Australian Wildlife Society
- 2 Western Australia Department of Health
- 3 Entomological Society of Victoria Inc
- 4 Robert Heron
- 5 Australian Environmental Pest Managers Association
 - Attachment 1
- 6 GrainGrowers
- 7 Name Withheld
- 8 City of Gold Coast
- 9 Minister Rebecca Vassarotti MLA
- 10 Centre of Excellence for Biosecurity Risk Analysis
 - 10.1 Supplementary to submission 10
- 11 South Australian Department of Primary Industries and Regions
- 12 Australasian Society of Clinical Immunology and Allergy
- 13 National Allergy Centre of Excellence and Allergy & Anaphylaxis Australia
 - 13.1 Supplementary to submission 13
- 14 CSIRO
- 15 Brisbane City Council
- 16 National Fire Ant Eradication Program
 - 16.1 Supplementary to submission 16
- 17 Michael Crandon MP
 - Attachment 1
- 18 Geoff Edwards
 - Attachment 1
- 19 Name Withheld
 - Attachment 1
- 20 Nature Conservation Council
- 21 Dr Anthony Young
- 22 Australian Pesticides and Veterinary Medicines Authority
- 23 Stuart McLean
- 24 Department of Agriculture, Fisheries and Forestry
- 25 NSW Canegrowers Association Inc
- 26 Crop Pollination Association of Australia Inc.
- 27 Local Government Association of Queensland
- 28 Canberra Bushwalking Club
- 29 Shoalhaven Bushwalkers Inc

- 30 Bushwalking NSW Inc.
- 31 Name Withheld
- 32 Syngenta Australia
- 33 National Allergy Council
- 34 John Flint
- 35 Bush Heritage Australia
- 36 Name Withheld
- 37 Brindabella Bushwalking Club (ACT)
- 38 The Kyogle Environment Group
- 39 Catholic Bushwalking Club
- 40 Queensland Farmers Federation
- 41 Logan City Council
- 42 Queensland Cane Growers Organisation
- 43 Department of Climate Change, Energy, the Environment and Water
- 44 Ken Cunliffe
 - Attachment 1
 - Attachment 2
- 45 Greenlife Industry Australia
- 46 National Farmers Federation
- 47 AgForce Queensland
- 48 Plant Health Australia
- 49 Thais Turner
- 50 Rick Roush
- 51 Name Withheld
 - Attachment 1
- 52 Grain Producers Australia
 - 52.1 Supplementary to submission 52
 - 52.2 Supplementary to submission 52
- 53 Dr Doug Somerville
- 54 Invasive Species Council
 - Attachment 1
 - Attachment 2
 - Attachment 3
- 55 NSW Farmers Association
- 56 Commercial Beekeepers Working Group (COMBEE)
 - Attachment 1
 - Attachment 2
 - Attachment 3
 - Attachment 4
- 57 Professor Nigel Andrew
- 58 Confidential

-
- 59 Confidential
- 60 Richard Shannon
- 61 Name Withheld
- 62 Dr Pam Swepson
- 62.1 Supplementary to submission 62
 - Attachment 1
- 63 Queensland Whistleblowers Action Group
- 64 Dr Conny Turni
- Attachment 1
- 65 Guy Johnstone
- 66 Watagan Wanderers Bushwalking Club
- 67 Sundew Solutions
- 67.1 Supplementary to submission 67
- 68 Arron Viliniskis
- 69 Stuart Webber
- 69.1 Supplementary to submission 69
- 70 Confidential
- 71 Confidential
- 72 Confidential

Additional Information

- 1 Australian Wildlife Society, campaign form letter example regarding eradication of Fire Ants in Australia (received January 2024).
- 2 Invasive Species Council, campaign form letter examples regarding eradication of Fire Ants in Australia (received January 2024).
- 3 Centre of Excellence for Biosecurity Risk Analysis, correction of evidence and breakdown of the projected 30-year damages for the RIFA incursion (received 8 March 2024).
- 4 Community Voice Australia, additional evidence and correspondence with Minister Murray Watt (received 7 March 2024).
- 5 Queensland Farmers Federation, correction of evidence regarding involvement with the Fire Ant Suppression Taskforce (received 31 March 2024).
- 6 National Allergy Centre of Excellence, paper on the human health impacts of the red imported fire ant in the western pacific region context (received 28 March 2024).

Answers to Questions on Notice

- 1 Dr Pam Swepson, response to questions taken on notice, public hearing Brisbane 4 March 2024 (received 5 March 2024).

- 2 Dr Helen Scott-Orr, response to questions taken on notice, public hearing Brisbane 4 March 2024 (received 5 March 2024).
- 3 Greenlife Industry Australia, response to questions taken on notice, public hearing Newcastle 5 March 2024 (received 6 March 2024).
- 4 Professor Nigel Andrew and Dr Anthony Young, response to questions taken on notice, public hearing Brisbane 4 March 2024 (received 7 March 2024).
- 5 Invasive Species Council, response to questions taken on notice, public hearing Brisbane 4 March 2024 (received 12 March 2024).
- 6 National Fire Ant Eradication Program, response to questions taken on notice, public hearing Brisbane 4 March 2024 (received 12 March 2024).
- 7 CSIRO, response to questions taken on notice, public hearing Canberra 18 March 2024 (received 26 March 2024).
- 8 Department of of Agriculture, Fisheries and Forestry, response to questions taken on notice, public hearing Canberra 18 March 2024 (received 28 March 2024).
- 9 Department of Climate Change, Energy, the Environment and Water, response to questions taken on notice, public hearing Canberra 18 March 2024 (received 28 March 2024).
- 10 Australian Pesticides and Veterinary Medicines Authority, response to questions taken on notice, public hearing Canberra 18 March 2024 (received 3 April 2024).
- 11 Plant Health Australia, response to written questions on notice, public hearing Canberra 18 March 2024 (received 5 April 2024).

Tabled Documents

- 1 Invasive Species Council, Summary of National Fireant Eradication Program meetings from March 2023 to November 2023, tabled by Jack Gough, Advocacy Director at public hearing in Brisbane on 4 March 2024.
- 2 Invasive Species Council, Series of maps detailing planned treatment and suppression areas, tabled by Jack Gough, Advocacy Director at public hearing in Brisbane on 4 March 2024.
- 3 Rocky Point District Cane Growers Organisation, Aerial treatment map tabled by Greg Zipf, Chair, at public hearing in Brisbane on 4 March 2024.
- 4 Community Voice Australia, opening statement, tabled by Kate Mason at public hearing in Newcastle on 5 March 2024.
- 5 Grain Producers Australia, opening statement, tabled by Colin Bettles, Chief Executive at public hearing in Newcastle on 5 March 2024.
- 6 National Farmers Federation, an overview of the RIFA Eradication Plan for Australia, 2004, tabled by Warwick Ragg, General Manager Natural Resource Management, at public hearing in Canberra on 18 March 2024.
- 7 Plant Health Australia, images depicting the effects of a RIFA infestation on a garden in Brisbane, tabled by Sarah Corcoran, Chief Executive Officer at public hearing in Canberra on 18 March 2024.

Appendix 2

Public hearings and witnesses

Monday, 4 March 2024

Waldorf Room

Novotel Brisbane Airport

6/8 The Cct

Brisbane Airport

Invasive Species Council

- Mr Jack Gough, Advocacy Director

Invasive Species Council

- Mr Reece Pianta, Advocacy Manager

Dr Anthony Young, Private capacity

Professor Nigel Andrew, Private capacity

Dr Pam Swepson, Private capacity

Mr Richard Shannon, Private capacity

AgForce Queensland

- Dr Annie Ruttledge, Senior Policy Officer

AgForce Queensland

- Ms Belinda Callanan, Chair, AgForce Biosecurity Committee

AgForce Queensland

- Mr Ken Cunliffe, Member, AgForce Biosecurity Committee

Queensland Cane Growers Organisation

- Mr Dan Galligan, Chief Executive Officer

Queensland Cane Growers Organisation

- Dr Mick Quirk, Senior Manager, Environment and Sustainability

Queensland Cane Growers Organisation

- Mr Greg Zipf, Chair, Rocky Point District

Australian Environmental Pest Managers Association

- Mr Stephen Ware, Executive Director

Dr Helen Scott-Orr, Private capacity

City of Gold Coast

- Cr Hermann Vorster, Councillor, Division 11

Logan City Council

- Ms Emily Shafto, City Safety and Liveability Manager

Logan City Council

- Mayor Darren Power

Tweed Shire Council

- Mayor Chris Cherry

Tweed Shire Council

- Ms Denise Galle, Director Planning and Regulation

Queensland Farmers Federation

Queensland Farmers Federation

- Dr Laurie Dowling, Policy Advisor, Intensive Animal Industries

Queensland Farmers Federation

- Mr Paul Sloman, Policy Officer, Cotton Australia and Queensland Farmers Federation

National Fire Ant Eradication Program - Steering Committee

- Dr John Roberston, Former Chair

Queensland Department of Agriculture and Fisheries

- Dr Rachel Chay, Deputy Director-General and Chief Biosecurity Officer

Queensland Department of Agriculture and Fisheries

- Mr Ashley Bacon, Executive Program Director, National Fire Ant Eradication Program

Queensland Department of Environment, Science, and Innovation

- Mr Ben Klaassen, Deputy Director-General, Queensland Parks and Wildlife Service and Partnerships

Tuesday, 5 March 2024

Mercure Newcastle

12 Steel St

Newcastle West

Crop Pollination Association of Australia Inc.

- Mr Steve Fuller, President

Australian Honey Bee Industry Council

- Mr Daniel Le Feuvre, Chief Executive Officer

Dr Robert Puckett, Private capacity

Grain Producers Australia

- Mr Colin Bettles, Chief Executive Officer

New South Wales Farmers Association

- Mr Xavier Martin, President

New South Wales Farmers Association

- Mr Nicholas Savage, Policy Director

National Allergy Centre of Excellence

- Professor Sheryl van Nunen OAM, Co-chair Insect Allergy Group

Allergy and Anaphylaxis Australia

- Ms Kylie Hollinshead, Allergy Educator

University of Melbourne, Melbourne School of Population and Global Health

- Dr Diego Lopez, Pebbles Study Coordinator, Allergy and Lung Health Unit

University of Melbourne, Population and Global Health

- Professor Adrian Lowe, Professorial Fellow and Co-head, Allergy and Lung Health Unit

Community Voice Australia

- Ms Kate Mason

Save the Bees Australia

- Mr Simon Mulvany, Founder

Australian Wildlife Society

- Mr Brian Scarsbrick AM, Director

Animal Health Australia

- Dr Samantha Allan, Acting Chief Executive Officer

Centre of Excellence for Biosecurity Risk Analysis

- Professor Andrew Robinson, Chief Executive Officer

Centre of Excellence for Biosecurity Risk Analysis

- Associate Professor Susan Hester, Deputy Chief Executive Officer and Chief Investigator

Greenlife Industry Australia

- Ms Joanna Cave, Chief Executive Officer

Invasive Species Council Conservation and Science Committee

- Mr Ian Thompson, Chair

Greenlife Industry Australia

- Mr John McDonald, Director RDE and Biosecurity

New South Wales Department of Primary Industries

- Dr John Tracey, Deputy Director General Biosecurity and Food Safety

New South Wales Department of Primary Industries

- Mr Scott Charlton, Chief Invasive Species Officer

Sundew Solutions

- Mr David Priddy, Chief Executive Officer

Monday, 18 March 2024
Senate Committee Room 2S1
Parliament House
Canberra

Plant Health Australia

- Ms Sarah Corcoran, Chief Executive Officer

Plant Health Australia

- Dr Lucy Tran-Nguyen, General Manager, Partnerships and Innovation

Plant Health Australia

- Mr Stuart Kearns, National Manager, Preparedness and RD&E

National Farmers Federation

- Mr Warwick Ragg, General Manager Natural Resource Management

National Farmers Federation

- Mr Greg Hosking, Senior Policy Officer Rural Affairs

National Farmers Federation

- Mr Angus Atkinson, Chair Sustainable Development and Climate Change Committee

CSIRO

- Dr Raghu Sathyamurthy, Research Director, Health and Biosecurity

CSIRO

- Ms Kirsten Rose, Executive Director, Future Industries

Australian Pesticides and Veterinary Medicines Authority

- Dr Maria Trainer, Executive Director, Registration Management

Australian Pesticides and Veterinary Medicines Authority

- Dr Melissa McEwen, Chief Executive Officer

Department of Agriculture, Fisheries and Forestry

- Ms Justine Saunders APM, Deputy Secretary, Biosecurity and Compliance Group

Department of Agriculture, Fisheries and Forestry

- Dr Gabrielle Vivian-Smith, Chief Plant Protection Officer

Department of Agriculture, Fisheries and Forestry

- Dr Bertie Hennecke, Australian Chief Environmental Biosecurity Officer

Department of Climate Change, Energy, the Environment and Water

- Dr Fiona Fraser, Threatened Species Commissioner

Department of Climate Change, Energy, the Environment and Water

- Ms Cassandra Kennedy, Division Head, Biodiversity Division

Appendix 3

Site inspection of the National Fire Ant Eradication Program - Caboolture depot

On 16 April 2024, a sub-committee appointed by the Senate Regional and Rural Affairs and Transport References Committee (the committee) conducted a site inspection of the newly opened National Fire Ant Eradication Program (NFAEP) operations centre in Caboolture, Queensland. Treatment operations from the new Caboolture depot commenced from 3 April 2024.¹

Senator the Hon. Matthew Canavan (Chair), Senator the Hon. Richard Colbeck, Senator Gerard Rennick, and Senator Malcolm Roberts participated in the visit.

The committee were welcomed by Mr Ashley Bacon, Executive Program Director, and officers from the NFAEP who led a brief tour of the depot. This was followed by an on-site demonstration of the odour detection dogs highlighting their ability to look for and identify red imported fire ants (RIFA).

NFAEP staff and field teams then showcased equipment for the application of a RIFA treatment and the tools and techniques that are used during this process to ensure quality and safety. The committee then travelled to a nearby location at the Sports Aeromodellers Association Moreton Bay Region Model Aircraft Club where NFAEP staff provided a drone demonstration and explained how the drones are used to detect and identify RIFA nests. The figure below shows the committee observing this demonstration.

Figure **The committee observing a drone demonstration**



¹ Department of Agriculture, Fisheries and Forestry (DAFF), response to questions taken on notice, 18 March 2024 (received 28 March 2024), p. [7].

Throughout the site visit, the NFAEP scientists were on-site to answer questions from the committee regarding the depot and its operations.

On behalf of the committee, Senator Canavan thanked Mr Bacon and the NFAEP employees for kindly hosting the committee's visit.