

# First Quarter Report 2018–19

National Red Imported Fire Ant  
Eradication Program



**Queensland**  
Government

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# Contents

Summary.....	5
Context.....	7
Our areas of operation .....	7
Our activities .....	9
Treatment.....	9
Surveillance.....	9
Fire ant biosecurity zones.....	10
2018–19 Work Plan.....	10
Surveillance .....	11
Odour detection dog surveillance .....	11
Significant detections .....	12
Treatment.....	12
Planned treatment.....	13
Responsive treatment to new detections.....	13
Distribution of new infestation.....	13
Response rates .....	15
Engagement.....	17
Encouraging community surveillance .....	18
Industry collaboration and engagement .....	18
Significant meetings.....	19
Risk management.....	21
Preventing human-assisted movement .....	22
Serious non-compliance .....	22
Minor non-compliance .....	23
Gold Coast Development Corridor .....	24
Large scale development sites .....	24
Detections outside the fire ant biosecurity zones.....	24
Continuous improvement.....	25
Information systems .....	25
Remote sensing project .....	25
Science .....	27
Verification of treatment and surveillance efficacy .....	27



Diagnostic services and genetic testing .....	27
Science planning .....	28
Performance management .....	29
Policy, governance and reporting.....	29
Procurement.....	30
Staffing.....	30
Workplace health and safety .....	30
Accommodation .....	31
Budget and finance .....	31
Appendices.....	33
Glossary .....	34

## Summary

With the 2017–18 treatment season drawing to a close at the end of May 2018 the surveillance season, which runs from May until September each year, commenced. During the first quarter of 2018–19 the National Red Imported Fire Ant Eradication Program (the Program) continued to focus on proactive planned surveillance. During this period 2561 sites received planned surveillance, resulting in 53 new detections. These were prioritised for immediate destruction.

A key focus for the surveillance activity was to determine the extent of infestation, particularly in the area west of the planned eradication treatment area. Surveillance results informs the planning of the annual treatment program. New detections found to the west during this quarter and the previous quarter supported an extension of eradication activity in this area in the upcoming treatment season.

Program surveillance and public reports identified 104 new areas (each area is one square kilometre) containing one or more fire ant detections in the first quarter (see Appendix 2 Map of detections). These new areas of infestation were spread across the operational area.

There were six new infestations detected outside the Program's 2017–18 operational boundary during this quarter, at the Brisbane Airport, and in Brendale, Boyland, Helensvale (2) and Southport (see Appendix 6: Map of significant detections). In all instances, the extent of infestation was determined by field surveillance and the infestation treated to ensure immediate destruction of the colonies. The detections on the Gold Coast and at the Brisbane Airport have elicited a longer term response, with tailored strategies being developed for both areas.

Although response times to newly reported infestations were not optimal during the quarter, almost 100% of new infestations received treatment. This included the destruction of 11 324 mounds by the application of *fipronil* (chemical) through direct nest injection (DNI). Delineation surveillance around new infestations was also conducted during the quarter to determine the extent and density of infestation. This is intended to curtail the need to return to the same area to treat subsequently detected nests.

The Program also commenced a trial to test the efficacy of responsive treatment focusing on the application of DNI. A 12-week trial commenced in August examining the current DNI procedures compared with untreated nests. Preliminary results indicate DNI with *fipronil* is effective at killing fire ants, with treated nests showing a significant reduction in fire ants compared with the control nests. The report for this study will be finalised by 31 January 2019.

In order to support the Program, community and stakeholder engagement focussed on collaboration and training with stakeholders including industry, and local and state government in the Lockyer Valley, Scenic Rim, Ipswich, Brisbane and Gold Coast areas. Engagement activities during the quarter contributed to the Program receiving a total of 1276 ant reports, of which 1009 (79%) were positively identified as fire ants.

On 22 and 23 August 2018, the Program's Steering Committee met for the fifth time. The Steering Committee considered key issues impacting on Program delivery during 2017–18 to inform the direction for 2018–19. The committee also approved the Terms of Reference for a Risk Management Sub-Committee and a National Invasive Exotic Ant Scientific Advisory Group.



As at 30 September 2018, the Program:

- employed 79 permanent, 21 temporary and 159 contract personnel. The relocation of staff to a consolidated head office in Berrinba also continued during the first quarter and is due for completion in November 2018. The new centrally located headquarters is positioned to optimise operational delivery for both current and future treatment areas, and create logistical efficiencies within the Program.
- was \$0.7 million under budget. The main variance of \$598 000 relates to timing of the Program's operations, specifically for aircraft hire and bait usage. Treatment will commence in early October 2018, although the budgeted plan was for treatment to commence in early September 2018.

The relocation of staff to a consolidated head office in Berrinba also continued during the first quarter and is due for completion in November 2018. The new centrally located headquarters is positioned to optimise operational delivery for both current and future treatment areas, and create logistical efficiencies within the Program.

## Context

The fire ant is a pest of national significance that has an impact on wildlife, the environment, agriculture, animal industries, infrastructure, business and, human health, not to mention the Australian way of life. All Australian jurisdictions have a vested interest in eradicating the pest as the impacts are far reaching across multiple sectors of the economy and community.

An eradication program in South East Queensland has been operational since 2001 in response to the discovery of fire ants in western Brisbane and Fisherman Island. It has prevented widespread environmental, social, health and economic impacts seen in other countries where fire ants have invaded.

The eradication of fire ants continues under the nationally endorsed Ten Year Eradication Plan (Ten Year Plan) which commenced on 1 July 2017. This is the first quarter report for the second year of operations under the Ten Year Plan.

### Our areas of operation

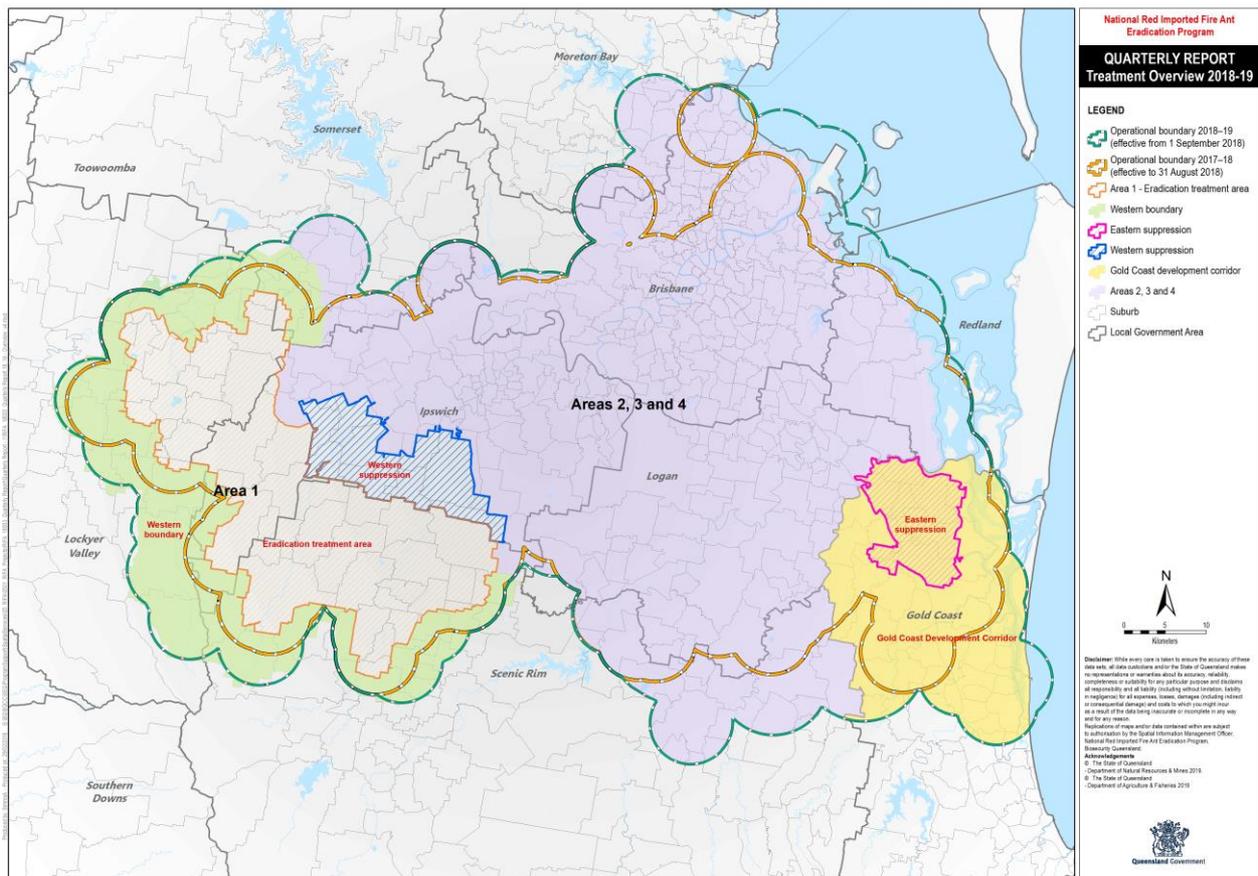
The **operational area** is defined in the Ten Year Plan as the 'Total area of known infestation confirmed by delimitation and adjusted for known and predicted infestation spread since completion of delimitation' (five kilometres beyond all known infestation). The visual representation of the operational area, the **operational boundary**, was first drawn five kilometres around infestations detected from 1 July 2012 to 30 June 2017. This was amended for the 2018–19 work program to include infestations detected to 31 August 2018 (refer to Appendix 1).

The operational area serves the important function of identifying the extent of Program activities and of indicating the area where infestation has been detected. A fire ant detection beyond the operational area is considered significant and elicits an immediate and thorough Program response.

To manage the eradication process under the Ten Year Plan the operational area has been divided into four priority target areas (Areas 1–4). The plan focuses eradication activities in each area in turn, working from west to east.

Refer to Figure 1 for a map of the 2018–19 operational area.

#### Figure 1: operational boundary



**Area 1** is to the west of the operational area and is predominantly rural and agricultural land. Eradication treatment commenced within Area 1 in 2017–18 and continues in 2018–19. The treatment area, known as **Area 1 Eradication Treatment Area**, extends two kilometres beyond all known infestation detected between 2012 and May 2017 (a total of 84 025 hectares). In the 2018–19 treatment season, this area is scheduled to receive the third and fourth round of broadcast bait treatment.

Since the Eradication Treatment Area was determined detections have been made further west. The distribution and characteristics of this infestation suggests the eradication effort needs to expand as protection against further spread. In response to this risk in August 2018 the steering committee endorsed broad scale eradication treatment at key risk locations outside the current eradication treatment area. It was noted that the option of proactively treating (by broad scale aerial baiting) an area five kilometres beyond the recorded infestations would be the primary response. It was then proposed that two rounds of broadcast baiting be applied five kilometres beyond all recorded infestation in this area to be known as the **Western Boundary Area**.

To protect the Eradication Treatment Area to the east treatment is planned for the area defined as the **Western Suppression Area**. This area is situated in Area 2 and covers 19 484 hectares. **Areas 2, 3 and 4** are identified in the Ten Year Plan as areas to receive eradication treatment in later years of the Program, progressing from the west (Area 1) to the east (Area 4).



To protect the operational boundary to the south activities have commenced in the **Gold Coast Development Corridor**. Major development in this corridor provides the ideal habitat for the establishment and spread of fire ant infestation. Activities include industry and community engagement, suppression treatment in the northern part of the Gold Coast (Area 4), a 13 579 hectare area that has experienced high density infestation (**Eastern Suppression Area**) and the treatment of major development sites including infrastructure development and waste facilities.

## Our activities

### Treatment

To destroy fire ant infestation, depending on the circumstances, either an area is baited with an **insect growth regulator (IGR)** or a nest is directly injected with a non-repellent pesticide. The injection of the chemical insecticide *fipronil* directly into a fire ant nest has proven effective at destroying fire ants in a one-off application.

Bait is applied by field staff either using a hand-held spreader, distributed by manned all-terrain vehicle, or broadcast aurally by helicopter. Baiting is ideally conducted when soil temperature is greater than 20°C, and usually occurs between mid-September to May–June.

Targeted **monitoring** of treatment areas will occur following each treatment round to assess treatment efficacy.

To quickly address newly reported small levels of infestation **responsive treatment** is undertaken involving **direct nest injection (DNI)** and baiting the surrounding area with IGR. DNI is undertaken in instances where there is a risk to human or animal health and safety, to allow the continuation of business activity, where there is a threat to Program objectives or if DNI is the most cost-effective option.

### Surveillance

Surveillance is currently undertaken by field staff or by odour detection dog. For field staff surveillance is most effective in the cooler months when the ants build up their mounds. Odour detection dogs can work throughout the year. Remote sensing surveillance (RSS) is currently under development with testing scheduled for 2018–19.

Surveillance is conducted for different purposes and with different aims. To protect the operational boundary and the eradication treatment area **planned targeted surveillance** is undertaken to assess the level of infestation. To monitor the level of infestation beyond the operational area **sentinel sites** have been established as early indicators of infestation that is further afield and needs to be immediately addressed. **Delineation surveillance** is conducted around any new detection to determine the extent of the infestation. Finally, to ensure treatment has successfully resulted in the destruction of infestation **post treatment validation surveillance** is undertaken. This is predominantly undertaken by odour detection dogs and priority is given to infestations that have been detected around the operational boundary.

## Fire ant biosecurity zones

Fire ant biosecurity zones are in place to control the movement of fire ant carriers from the known infested area. The zone requirements apply to all those who live and work in the zone and move fire ant carriers. In addition to the specific requirements for fire ant biosecurity zones, all Queenslanders have a general biosecurity obligation (GBO) under the *Biosecurity Act 2014* to manage biosecurity risks and threats that are under their control, they know about or are expected to know about. In terms of fire ants a biosecurity risk exists when dealing with the movement of fire ant carriers, that is, anyone involved in the movement of fire ant carriers has a GBO to ensure they don't spread fire ants (refer to Appendix 7 to view a map of the fire ant biosecurity zones).

### The two distinct forms of fire ant infestation are:

- monogyne – a nest containing a single queen, with highly territorial behaviour
- polygyne – a nest containing multiple queens living in co-habitation.

## 2018–19 Work Plan

The **2018–19 Work Plan** focuses on continuing eradication treatment in Area 1 and commencing eradication treatment in the western boundary area. Planned targeted surveillance surrounding and beyond these areas is being conducted to limit the potential for undetected infestations to impact on this broad scale treatment regime. All other Program activities support this focus, with interim measures being implemented as the Program transitions to the full-scale operation required under the Ten Year Plan.

# Surveillance

During the first quarter of 2018–19 the Program focused on undertaking planned targeted surveillance to delimit the extent of the infestation and provide confidence that the 2018–19 operational boundary is the limit of the known infestation. Planned surveillance was primarily undertaken in selected areas outside the operational boundary and up to five kilometres inside the operational boundary. The sites surveyed were identified as habitats highly suitable for fire ant establishment.

A total of 2561 sites received planned surveillance across 5830 hectares. This resulted in 53 new detections. These were prioritised for immediate destruction and further surveillance which confirmed there was no further infestation in the vicinity. The majority of these detections were in and around Areas 2–4 which will not receive planned treatment until year three onwards. Table 1 provides a breakdown of planned surveillance activities undertaken in each area. A planned surveillance map can be viewed at Appendix 4 and Program targets at Appendix 9.

**Table 1: Planned surveillance**

Area	Number of sites	Hectares	Positive identifications
Area 1 Eradication Treatment Area, Western Suppression Area and Western Boundary Area	336	1894	7
Areas 2–4	1837	2920	39
Gold Coast Development Corridor	358	816	7
Outside all areas	30	200	0
<b>Total for all areas</b>	<b>2561</b>	<b>5830</b>	<b>53</b>

## Odour detection dog surveillance

Throughout the first quarter of 2018–19, odour detection dogs conducted surveillance over 141 sites, across 41 suburbs, located in various city council areas including Ipswich, Logan, Brisbane and the Gold Coast. These council areas span Areas 2–4 and the Western Boundary Area.

The dogs were used predominantly for post treatment validation surveillance, but also undertook planned and responsive (delineation) surveillance. Final validation was carried out on 54 sites focusing on areas along the operational boundary, as well as sites that present a high risk to public safety.

Surveillance activities were also undertaken by odour detection dogs as a result of product movement from a poultry farm located in Waterford Queensland to northern New South Wales (NSW). During the surveillance period (23 July to 2 August 2018) 22 sites located in NSW were inspected and no fire ants were detected.

## Significant detections

In this quarter there were six infested locations found outside the operational boundary. A detection at Brisbane Airport was reported by the public while the remainder in Brendale (north of Brisbane Airport), Boyland (south of Logan), Helensvale (Gold Coast) and Southport (Gold Coast) were as a result of planned surveillance.

The Program has undertaken response activities, including surveillance, genetic testing, tracing investigations and communications, and developed tailored compliance strategies for the Gold Coast Development Corridor and Brisbane Airport (refer to Appendix 8 for a full summary of significant detections identified since the commencement of the Program in July 2017).

In regards to the Boyland site, 126 hectares around the infestation were surveyed with no further infestation detected. Planned surveillance was undertaken on targeted high risk sites two kilometres around the infestation. Planned surveillance will occur again during the 2019 winter surveillance season. In regard to the Brendale site, 56 hectares were surveyed around the infestation and no further infestation was detected. Targeted high-risk sites in and around this site will be included in the 2019 planned surveillance program.

The map at Appendix 6 displays the Operational Boundary (2017–18 and 2018–19), the geographic distribution of significant detections and their location relative to previous detections. A summary of each significant detection during this quarter can be found in Table 2.

**Table 2: Significant detections made during the first quarter of 2018–19**

Q1 detection	Suburb	Date of detection	Date of destruction	Distance to nearest known infestation	Distance from Operational Boundary	Mounds	Social form
1.	Helensvale	04/07/2018 05/07/2018	06/07/2018 13/07/2018	1.9 km	470 m	19	Monogyne
2.	Brisbane Airport	24/07/2018 10/08/2018	26/07/2018 10/08/2018	3.4 km	730 m	5	Monogyne
3.	Helensvale	30/07/2018 17/08/2018	02/08/2018 21/08/2018	5.6 km	1.3 km	7	Monogyne
4.	Southport	08/08/2018 09/08/2018	11/08/2018 16/08/2018	3.2 km	6.8 km	6	Monogyne
5.	Brendale	22/08/2018	28/08/2018	5.3 km	2.8 km	3	Monogyne
6.	Boyland	29/08/2018	07/09/2018	6.0 km	840 m	2	Monogyne

# Treatment

## Planned treatment

The Program's planned treatment season will commence in October 2018 when fire ants are more likely to forage and uptake bait, so no planned treatment was undertaken in the first quarter of 2018–19.

## Responsive treatment to new detections

In response to new detections during the first quarter 2018–19, 1243 sites (11 324 mounds) received application of *fipronil* through DNI, and 610 hectares received IGR bait treatment to destroy the nests. Refer to Table 3, and Appendix 3 for a map of responsive treatment undertaken during the first quarter.

**Table 3: DNI and bait responsive treatment**

<b>DNI treatment</b>		
<b>Areas</b>	<b>Sites treated</b>	<b>Mounds treated</b>
Area 1 Eradication Treatment Area, Western Suppression Area and Western Boundary Area	88	1036
Areas 2–4	873	7139
Gold Coast Development Corridor	282	3149
<b>TOTAL</b>	<b>1243</b>	<b>11 324</b>

<b>Responsive bait treatment</b>	
<b>Area</b>	<b>Area treated (ha)</b>
Area 1 Eradication Treatment Area, Western Suppression Area and Western Boundary Area	77.61
Areas 2–4	452.80
Gold Coast Development Corridor	79.85
<b>TOTAL</b>	<b>610.26</b>

## Distribution of new infestation

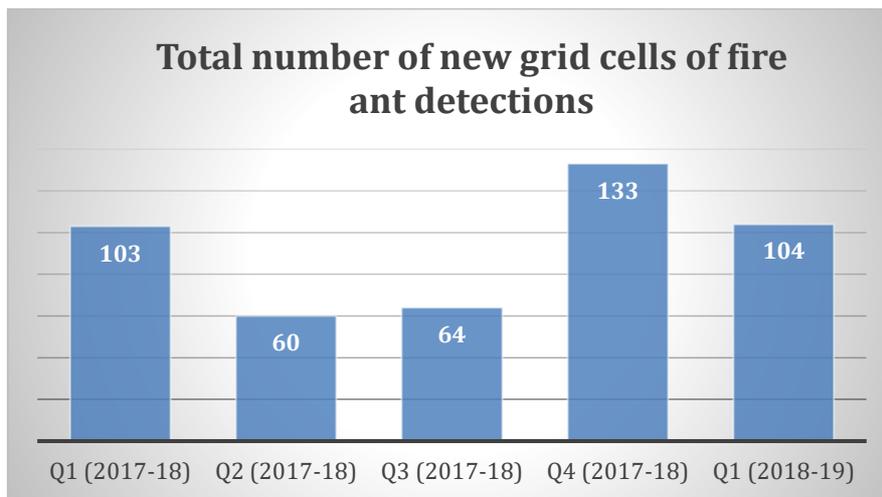
To clearly identify areas new to fire ants, infestation has been represented across the operational area in grid cells of one square kilometre each. Each grid cell referred to in Figure 2 below and shown at Appendix 2 is where new fire ant infestation has been identified. The infestation found in each cell varies from one nest to many nests.

During the first quarter there were 104 new grid cells containing one or more fire ant detections (see Figure 2). These newly infested areas were located across the entire operational area (with six new infestations outside the 2017–18 operational boundary).

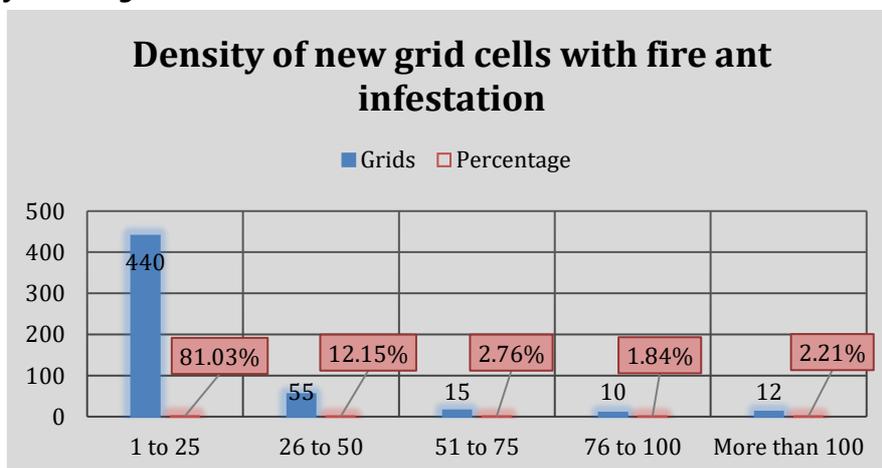
Of the new grid cells in this period, 81.03% had fewer than 25 nests, and only 2.21% had a density of over 100 nests. Refer to Figure 3 for a full breakdown.

The reduction in the total number of new grid cells of fire ant detections (by 22%) from the previous quarter correlates with a reduction in public reports between the same periods (30% reduction).

**Figure 2: New grid cells of fire ant detections**



**Figure 3: Density of new grid cells with fire ant infestation**



## Response rates

In the Area 1 Eradication Treatment, Western Boundary and Western Suppression Areas, 100% of all detections posing a high risk to public safety—for example, at schools, in parks, on sporting grounds or at private residences—were treated within two business days. Treatment of all high-risk detections (public safety, high spread risk, political risk and animal welfare) were prioritised with 50% treated within 10 business days. A total of 33% of all new detections were treated within 15 business days (noting that detections in planned treatment areas that do not pose a spread or safety risk are not prioritised as they will receive treatment as a part of the planned treatment regime commencing in October 2018).

In Areas 2–4, 26% of detections posing a high risk to public safety were treated within two business days. A total of 51% of all high-risk detections were treated within 10 business days.

In the Gold Coast Development Corridor, 63% of detections posing a high risk to public safety were treated within two business days. The treatment of all high-risk detections was prioritised, with 56% treated within 10 business days.

**Table 4: Treatment Response rates**

<b>High risk to public safety - treatment within 2 days.</b>		
<b>Areas</b>	<b>Detection</b>	<b>Percentage</b>
Area 1 Eradication Treatment Area, Western Suppression Treatment Area and Western Boundary Treatment Area	1	100%
Areas 2-4	46	26%
Gold Coast Development Corridor	8	63%
<b>TOTAL</b>	<b>55</b>	
<b>Other high risk - treatment within 10 days.</b>		
<b>Areas</b>	<b>Detection</b>	<b>Percentage</b>
Area 1 Eradication Treatment Area, Western Suppression Treatment Area and Western Boundary Treatment Area	4	50%
Areas 2-4	191	51%
Gold Coast Development Corridor	34	56%
<b>TOTAL</b>	<b>229</b>	
<b>All new detections - treatment within 15 days.</b>		
<b>Areas</b>	<b>Detection</b>	<b>Percentage</b>
Area 1 Eradication Treatment Area, Western Suppression Treatment Area and Western Boundary Treatment Area	43	33%
<b>TOTAL</b>	<b>43</b>	



Targets for response timeframes were established to ensure the Program progressively achieves better response outcomes. The Program is refining processes to accurately assess, capture and categorise the risk of each detection in a consistent manner and to respond accordingly. It is expected that progress against these targets will significantly improve as processes are streamlined.

# Engagement

During the first quarter communication and stakeholder engagement activities focused on supporting upcoming operational activities relating to planned treatment.

In early September 2018, advertising was conducted via print media, radio, Facebook and direct mail-out, with exposure to an audience of 222 500 people in the western areas and almost 120 000 in the Gold Coast area.

Following the detection of fire ants in Hope Island, Labrador and Southport on the Gold Coast, a communication campaign was enacted. In July and August 2018 the campaign aimed to raise awareness of fire ant detections while encouraging residents and businesses to be on the look-out for suspect ants and to report any suspicious sightings to the Program.

The Program also engaged with 16 437 people at eight community talks and displays at events across the Brisbane and Ipswich local government areas (refer to Figure 4: Encouraging community surveillance – direct methods).

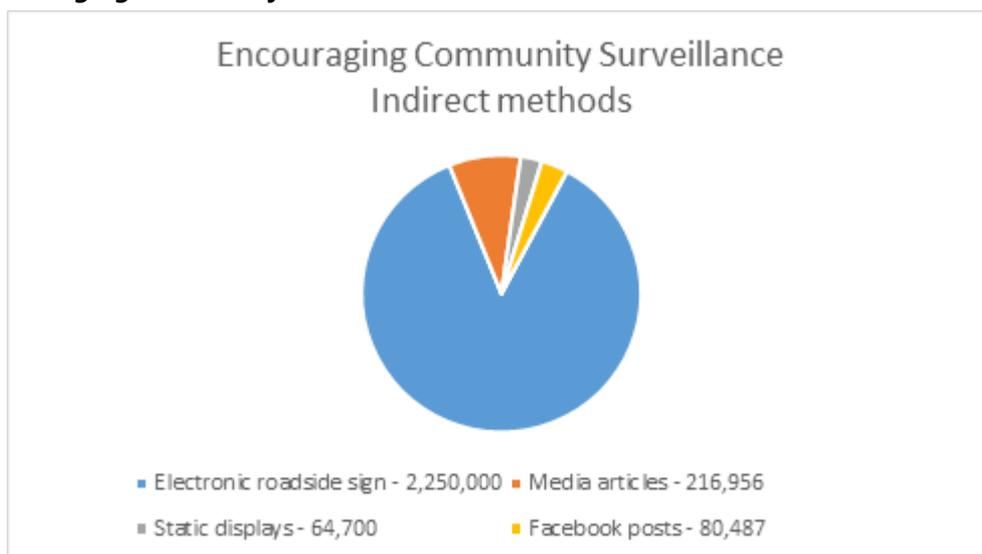
The key event for the Program was the annual Ekka held at the Royal National Agricultural and Industrial Association of Queensland Showgrounds in August. For the first time in five years the Program had its own display space in the Agriculture Pavilion. An estimated 15 000 visitors were directly engaged with at the stand, double the number at last year's Ekka, when sharing a display space with the Department of Agriculture and Fisheries (DAF) in the Queensland Government precinct.

Indirect engagement methods of media articles, social media, roadside signage and static displays had exposure to an audience of over 2.6 million people (refer to Figure 5: Encouraging community surveillance – indirect methods).

**Figure 4: Encouraging community surveillance – direct methods**



**Figure 5: Encouraging community surveillance – indirect methods**



## Encouraging community surveillance

As a result of engagement activities, the Program received 1276 reports this quarter, in comparison with 1465 public reports in the previous quarter. Of the 1276 reports, 1009 (79%) were positively identified as fire ants. The DAF Customer Service Centre fielded 2049 fire ant related calls for the quarter.

## Industry collaboration and engagement

The Program commenced engagement and collaboration with a number of industries that present a risk in terms of human-assisted movement of fire ants, to raise awareness of the legislative requirements and to address any barriers industry have with regard to the movement of fire ant carriers. The Program also engaged with local authorities regarding the mitigation measures needed to reduce the risk of human assisted spread.

Discussions were held with eight of the largest residential development and civil construction companies in the Gold Coast Development Corridor to ensure these companies had knowledge and awareness of fire ants and fire ant carriers. Education and engagement followed infestation at a large-scale residential housing estate at Helensvale. The Program encouraged internal education programs and notifications to be provided to residents.

The Program has also been collaborating with a number of major developers that have expressed interest in self-treatment. This will be followed up during the second quarter 2018–19 as part of the self-treatment pilot.

Further general engagement was undertaken 13 times during the quarter with local and state government, as well as key industry stakeholders to provide detection notifications pertaining to their jurisdiction.



Five general awareness training sessions were held at the Program's new headquarters in Berrinba with a variety of South East Queensland industries that work with fire ant carriers. A further 12 training sessions were held offsite on premises of the Brisbane City Council and organisations that had a number of personnel who required training. A total of 515 industry personnel attended training sessions during this quarter.

## Significant meetings

The Steering Committee met for the fifth time on 22 August 2018. This followed the inaugural meeting in July 2017 and subsequent meetings in November 2017, February 2018 and May 2018.

The August 2018 meeting included a Steering Committee workshop on day one, to consider risks and issues and provide direction to inform the Program's 2018–19 Work Plan. Infestation and treatment outcomes in 2017–18 were also reflected upon.

The purpose of the full-day workshop was to:

- critically evaluate progress delivering the Program for South East Queensland.
- explore emerging Program implementation risks and issues, consider appropriate response strategies, and seek Steering Committee guidance on key areas of potential improvement.
- decide whether the progress of the Program should trigger a notification to the National Biosecurity Committee.

The meeting held on day two included the following agenda items:

- a report on the Program's *Proof of freedom from the Brisbane Airport (2015) incursion – June 2018*, providing the Program's assessment of the evidence to declare proof of freedom status
- the *Financial Performance Report* outlining the financial performance of the Program for the period 1 July 2017 to 30 June 2018
- the *Communication and Engagement Plan 2018–19*, which aims to raise awareness, and promote and encourage participation in surveillance, reporting and compliance with GBOs
- the Terms of Reference for the Scientific Advisory Group, which will provide independent and expert consideration and advice on the scientific principles that underpin the risk mitigation measures the Program uses in relation to materials that may harbour and potentially spread fire ants
- a summary of key issues relating to the RSS Research & Development (R&D) Project, including the supply of remote sensing R&D services being awarded to Outline Global. A project plan was also tabled providing details of the Project's approach, risks and budget
- the Program's Compliance Strategy, which outlines the approach to managing human-assisted spread of red imported fire ant throughout South East Queensland

- 
- the Risk Register, which was developed following an external review by Grant Thornton Australia (GTA), and highlights a number of risk factors that required attention by the Program
  - the Risk Management Sub-Committee Terms of Reference. This sub-committee was formed following recommendations by the GTA review
  - a summary of key issues relating to the movement controls for the nursery and garden industry to mitigate the spread of red imported fire ants.

The [Steering Committee Workshop Summary Report](#) is available on the Department of Agriculture and Fisheries webpage.



## Risk management

The Steering Committee's agenda at its quarterly meeting in August 2018 included the review of significant changes to risk exposure and the development of response strategies. These changes include:

- detections further to the west of the (then known) outer limits of the infestation
- risk of spread by human-assisted movement through development activity, specifically between Brisbane and the Gold Coast Development Corridor
- community confidence in the Program as a result of the response rate to public reports
- Program funding matching eradication effort over the course of the Ten Year Plan.

In response to the identified risks, a decision was made by the Steering Committee for broad scale eradication treatment at key risk locations, including up to five kilometres to the west of the area subject to eradication treatment during 2017–18<sup>1</sup>. Implementation of strategies and actions has commenced and will be published in a report on the Program's website.

Other items approved during the meeting regarding risk management: Terms of Reference and budget allocation for the Risk Management Sub-Committee; and risk management roles, responsibilities, reporting process and review schedule for inclusion in a new Risk Management Plan (to be developed in consultation with the Risk Management Sub-Committee).

The Program undertook a review of all risks during the first quarter and updated its Risk Register. No new risks rated as either extreme or high were identified aside from those reported to the Steering Committee.

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<sup>1</sup> Treatment of this area is contingent on a Program budget re-alignment.



## Preventing human-assisted movement

Extensive human activity within infested areas, such as farming, intensive horticulture, landscaping and residential and industrial development can result in the transportation of carrier materials which presents a high risk of human assisted spread of fire ants.

The Program is implementing a proportionate and graduated regulatory approach from increasing awareness and education right through to enforcement, supported by strong consultation and engagement with industry and community.

Engagement and collaboration with a number of industries that present a particular risk in human assisted movement of fire ants commenced in the first quarter. The focus was on legislative obligations and seeking feedback on whether any barriers exist for the industry in meeting these requirements.

The level of compliance was assessed at the time of these engagement activities to establish the base line data by which to assess the effects of this focused activity. Compliance checks and engagement occurred with civil construction and principal contractors, hay producers, builders, earthmovers, nurseries and poultry farms.

While work with larger, more diverse industries continues, collaboration with the poultry industry has concluded with excellent results. The review of this industry was prompted when a poultry farm became infested in May 2018. Compliance monitoring revealed that the industry in general was not aware of the chemical perimeter treatment required around poultry sheds as prescribed in the Biosecurity Regulation 2016. This issue was satisfactorily resolved through an education campaign involving industry engagement meetings, working collaboratively with and assisting the relevant companies to understand the specific requirements of chemical treatment, and by addressing any specific operational concerns. Where the chemical treatment was not appropriate, alternative forms of risk mitigation were able to be assessed and approved through biosecurity instrument permits (BIPs).

During the first quarter of 2018–19, the Program undertook 190 compliance checks (refer to Appendix 5: Map of compliance checks). These checks revealed 18 non-compliant businesses, with only one considered to be serious. The Program undertook actions to ensure that all non-compliant businesses rectified their practices to meet legislated requirements.

### Serious non-compliance

A small detection of a single nest (two mounds) found on a turf farm outside the fire ant biosecurity zones (legislated risk mitigation measures are only applicable within the zones) prompted a visit from compliance officers to ensure that the operator was aware of their GBO requiring them to chemically treat any turf prior to movement off-farm. Although no further turf was harvested after the infestation was found, the operator moved turf that had recently been cut. In response a biosecurity order was issued requiring the operator to apply chemical treatment immediately. The Program has subsequently confirmed that the operator is following conditions of the biosecurity order. Risk assessments were undertaken of all sites that received turf. Targeted engagement occurred with the operators of the receiving sites and no further fire ants were reported.

## Minor non-compliance

### Animal manure

A number of poultry farms were not applying chemical perimeter treatment around the poultry sheds. Fire ants are attracted to poultry litter, and while they tend not to nest within the litter, they will forage and, in some cases, will nest in close proximity. See above for the compliance actions taken by the Program to resolve this issue. It should be noted that other risk mitigation measures can be applied prior to the removal of the litter from the farm.

### Processed soils and mulch

A number of landscaping yards were transporting processed soils and mulch without a BIP. As these businesses were undertaking regular mechanical disturbance, an effective risk mitigation measure, and moving product offsite quickly, there was minimal risk of spread of the pest from these sites. BIPs were issued to allow these movements without significant changes to existing processes or impost to business operations.

### Potted plants

Two nurseries were not applying the required chemical treatment and expressed concerns about potential health and environmental impacts. It is proposed that the Program will revisit the businesses and provide scientifically based information that aims to address these concerns.

### Soil

An earthmover moved a small amount of soil from fire ant biosecurity zone 1 to 2. Education and options for compliance were provided and the company decided to disperse any further soil onsite. The biosecurity risk was assessed as being minor given the destination of the soil.

### Hay

A hardware business was not storing hay correctly. As the area had received aerial bait treatment, a BIP was issued to authorise local movement.

At another produce company, a small amount of hay and sugar cane mulch were not stored correctly (not covered). The client took corrective action immediately.

### Compost

A composter was issued with a BIP after risk mitigation measures that were being taken were assessed and found to be effective.

### Grain

A grain supplier moved a large amount of grain from zone 3. The risk was scientifically assessed as being minimal and a BIP was issued to allow the movement.

## Gold Coast Development Corridor

The risk of spread across the Gold Coast Development Corridor is significant given the extent of large-scale clearing, soil disturbance and movements of soil and other carriers associated with new residential estates. Many of the detections in this area were found on new housing estates. A compliance strategy has been developed to ensure these developments undergo regular compliance monitoring, and that the risk of human-assisted spread is effectively managed throughout the various stages of the development. As a number of developments are outside the zones and are particularly at risk of receiving infested material, awareness of the GBO is critical.

### Large scale development sites

The following major development sites underwent compliance monitoring to manage the risk of human-assisted spread:

- Kingholme/Ormeau
- Yawalpeh Road, Pimpama
- Foxwell Road, Coomera
- The Heights, Pimpama
- Helensvale/Hope Island
- Maudsland<sup>2</sup>.

### Detections outside the fire ant biosecurity zones

Actioning detections outside the fire ant biosecurity zones is a priority for the Program as there are no legislated biosecurity control measures in place for these areas.

In the first quarter there were a total of 38 detections outside the fire ant biosecurity zones across the operational area. Of these, 35 underwent compliance monitoring within five business days as per target (refer to Appendix 9 for Program progress against targets). Of the remaining three, one rural property located in Moorang received compliance monitoring after the five-day timeframe as part of routine operational activity as it was deemed low risk, while access to the remaining two was delayed, with prior arrangement being needed with the clients. All 38 will be re-visited next quarter to establish whether the GBO as prescribed is being met.

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<sup>2</sup> The highest risk of the six major development sites (taking into account location and rate of development)

# Continuous improvement

## Information systems

Program staff in conjunction with Environmental Systems Research Institute, have developed and deployed a proof-of-concept application (a mobility solution) to the Program's geographic information system to enable Program officers to enter data in the field.

Integration development and testing will be undertaken soon to ensure the smooth flow of data between the Fire Ant Management system (FAMS) and the mobility prototype. Completion of the proof of concept is scheduled for March 2019. It is anticipated the evaluation and review of the pilot will be completed by June 2019, with an aim to roll out a field mobility solution to all treatment and surveillance activities (excluding aerial) by September 2019.

Targets were achieved in regard to all systems having full functionality for at least 95% of business hours (refer to Appendix 9 for Program progress against targets). The Program's FAMS application was available for approximately 99% - with a few 10 minute unscheduled outages to rectify system issues identified as having an immediate impact on business processes. The client contact systems was 100% operational from deployment.

The Client and Stakeholder Engagement Solution (CaSES) is a client relationship manager portal that records interactions with the general public. A public facing web portal was set up for the public to facilitate the reporting of suspect ants, request training, complete a property inspection form or request a BIP.

CaSES was released on 17 September 2018, with further modules being released in stages. The initial release included the module 'suspect ant', which allows the public to report suspected fire ants. The second stage will occur in October 2018 and will allow the public to request training or other specialist educational activities, record information on interactions, and capture data on events and campaigns.

## Remote sensing project

In the first quarter, the Program continued research into the latest remote sensing technologies to effectively search for fire ants over large tracts of land. Remote sensing for fire ants previously involved the analysis of multispectral imagery — thermal, near infrared and visual — captured from cameras mounted on manned aircraft. This imagery is then run through an algorithm to ascertain likely areas of fire ant infestation. The ability to locate areas of infestation and determine absence through broad scale surveillance is integral to the success of the Program.

In partnership with Outline Global, a geospatial imagery supplier, remote sensing trials occurred from May 2018 until August 2018. During the trials, 314 objects of interest, including actual fire ant nests, were recorded in the 365nm to 12µm electromagnetic spectrum range across 116 image samples at three trial sites. This data was processed into the final hyperspectral data cubes suitable for comparable spectral band testing in machine learning models and artificial intelligence environments.



The key preliminary observations show promise for the improved design of an aerial camera system. The notable observations are outlined below.

- The relatively high resolution of mid wave infrared (MWIR) cameras was thought to offer a way of improving nest detection results. However, observations made in the field indicate that, while the image resolution is greater, so too is the interference or noise collected in these bands due to solar reflectance effects. This is likely to have a negative impact on the usefulness of MWIR data in an operational remote sensing environment for this application.
- The apparent ability of short wave infrared (SWIR) to potentially differentiate other objects from nests in the trial image scenes indicates an ability to reduce the detection of false positives in the imagery and increase the overall effectiveness of the remote sensing program. However, technical and operational considerations in the use of SWIR sensors for airborne remote sensing requires further investigation.

The Program will critically evaluate the trial data in the context of practical considerations and make recommendations to progress the project by mid-December 2018. It will also aim for remote sensing to become operational in May 2020 and use remote sensing to undertake broad-scale surveillance during the cooler winter months to protect the Program's investment in treatment activities and provide evidence that areas that have received treatment are free from fire ant infestation. Remote sensing surveillance will also be used in areas that have not yet received eradication treatment to locate fire ant infestations and to enable a cost-effective and targeted treatment plan.

# Science

## Verification of treatment and surveillance efficacy

A study commenced in August 2018 to determine if the Program's current DNI procedures effectively destroy fire ant nests. The purpose of the study is to establish a process to be used for continued verification monitoring of DNI treatment over the coming years.

A suitable trial site was identified at Eagleby with sufficient infestation and no previous treatment to bias results. Over a 12-week period before and following DNI treatment, fire ant and native ant abundance will be recorded by pitfall trapping to examine their response to treatment.

Odour detection dogs will be used at the end of the trial to determine if ants still exist in the nests. Control nests were also disturbed in a similar manner to DNI (i.e. speared and dug up) but no pesticide was applied. This was to ensure that results would be due to the pesticide application, and not the disturbance of the nest. Preliminary results show that nests that have received DNI have reduced numbers of fire ants in pitfall traps, compared with control nests. Pitfall traps data will be analysed, with the final report available in February 2019.

The Program is also in discussion with external organisations regarding alternative baits, including a silica-based product (with Davren Global), indoxacarb (Syngenta) and bioclay (The University of Queensland).

## Diagnostic services and genetic testing

A total of 1768 ant samples were submitted for diagnosis in the first quarter. Of these ant samples, 92% were identified and entered into the internal database within two business days (refer to Appendix 9 for Program progress against targets). Anecdotally, this figure is likely to be 100%, but processes need to be refined to accurately reflect results.

A total of 384 publicly submitted photos were evaluated to determine whether a physical sample was required. One hundred and five positive fire ant samples originated from a suspect photo. This means that 279 suspect ants were able to be established as non-fire ants without resources needed to collect and diagnostically identify the ants. It also provides an easy mechanism for the public to submit ants of concern.

A total of 1788 social form tests (undertaken to determine whether a detection is monogyne or polygyne) were conducted during the quarter, with 98.82% sites having monogyne colonies and 1.18% polygyne. This proportion of polygyne nests is consistent with that found in 2017–18 (1.2%), which indicates a low percentage of polygyne colonies.

Polygyne nests are of particular interest as these colonies disperse more quickly, require more rounds of treatment to eradicate and can increase genetic vigour (health and resistance) in the Queensland population. Further efforts to reduce polygyne infestations are being implemented in the 2018–19 treatment season, with a strategy to target high-risk polygyne infestations. Social form testing had an approximate processing time of two weeks, which is within the 30 working days requirement.



A total of 2299 genetic relatedness tests were completed during the quarter. These tests provide the Program with two main findings:

1. potential tracing of source or parent nests of infestations of interest (e.g. significant detections, compliance issues)
2. analysis of the subpopulations within Brisbane.

In terms of subpopulation analysis, this describes the number of genetically different population groups within the entire Queensland infestation, which is a measure of genetic vigour. Specifically, having many subpopulations within the Queensland infestation is a sign of biodiversity decline, inbreeding and reduced genetic vigour. This analysis occurs every two years (more regular analysis does not provide valuable information as subpopulations can split and die out in short time frames), and gives an indication on whether the Program's activities are succeeding in the eradication of fire ants. The next subpopulation analysis is scheduled for mid-2019.

## **Science planning**

As a part of verification of treatment efficacy, surveillance work was undertaken to identify appropriate monitoring sites within the treatment areas. Selected monitoring sites will be surveyed following each treatment round to ensure treatment success.

# Performance management

## Policy, governance and reporting

Policy development, advice, strategic planning and reporting activities were undertaken throughout the first quarter to ensure Program activities were consistent with the Program's Ten Year Plan and 2018–19 Work Plan. This included:

- development of the 2018–19 Work Plan and key performance indicators
- finalisation of a discussion paper: *Treatment for fire ants by landowners, businesses and general pest management technicians*. This paper will inform the development of a proposal that will provide the policy framework for community and industry to self-treat in Areas 2-4. The Program's self-treatment policy is expected to be drafted by April 2019
- commencement of negotiations with Queensland Urban Utilities (QUU) to pilot self-treatment. Subject to QUU internal approvals, this pilot is expected to commence in early 2019
- commencing drafting of new Program Protocols for dealing with detections of importance and to define how the operational boundary/area is set. These Protocols are expected to be completed by the end of December 2018
- development and coordination of arrangements to ensure nursery industry compliance with biosecurity legislation. Industry communications and processing of BIP applications are expected to occur throughout 2019
- commenced updating of the Program's Treatment Policy. This is expected to be completed by early 2019
- providing Steering Committee secretariat support services, including coordinating meetings and preparing meeting papers for the meeting held August 2018.
- preparing annual and quarterly reports
- finalising the Terms of Reference and coordinating nominations for the Risk Management Sub-Committee for approval by the Steering Committee
- finalising the Terms of Reference and coordinating appointment of interim chair and members of the National Exotic Invasive Ant Scientific Advisory Group
- negotiating revisions to draft Collaborative Funding Agreement to satisfy requirements of all states and territories.

The achievement of the activities above contributed to Program governance through accountability, transparency and the provision of timely advice. Program policy planning, development and advice ensures clarity around the Program's plan, objectives and deliverables, and the legislative framework governing the Program.

During the first quarter, the Program uploaded the second and third quarter reports for 2017–18 and the communique for the Steering Committee meeting held August 2018, to the Program webpages hosted on the DAF website. All new documents to be uploaded to the DAF website must be approved by the Queensland Minister for Agriculture and Fisheries. This resulted in a delay in uploading the Steering Committee approved Workshop Summary.

## Procurement

During this quarter, three contracts were approved for:

- the demolition of structures at Wacol, which were in the helicopter flight and landing zone
- the appointment of KPMG Australia to facilitate a workshop report for the Steering Committee and develop the 2018–19 Work Plan, and
- the purchase of insulated bait storage containers.

All relevant staff undertook procurement training to ensure the Program is compliant with the Queensland Government’s policies and procedures.

## Staffing

The number of permanent and temporary staff has increased since the last quarter; this is attributed to staff conversions from temporary to permanent (refer to Table 5: Number of Personnel in the Program). Recruitment will be undertaken for administration, policy and compliance staff during the next quarter.

**Table 5: Number of Personnel in the Program.**

Personnel type	Q1 2017–18	Q4 2017–18	Q1 2018–19	Difference	
				Q1 17–18 to Q1 18–19	Q4 17–18 to Q1 18–19
Permanent	89	88	97	8	9
Temporary	26	18	30	4	12
Contractor - office	28	43	34	6	-9
Contractor - field	26	127	125	99	-2
<b>Total</b>	<b>169</b>	<b>276</b>	<b>383</b>	<b>117</b>	<b>10</b>

## Workplace health and safety

An incident occurred in September 2018, pertaining to an employee (a contract field officer outside of work hours). A resolution has been reached with no further incidents reported.

A number of corporate workplace, health and safety initiatives were implemented, aimed at improving the reporting culture. This resulted in an increase of incident reports during 2018–19 and correlates with the proportionate expansion in the total number of Program staff for previous periods (refer to Table 6 for comparison).

A total of 64 incidents occurred in the first quarter; of these 25 were minor injuries that required first aid only and 22 were classified as near hit/miss. There were three major injuries with total time lost of three days (21.75 hours) and one ongoing injury (refer to Figure 6 for Workplace health and safety incident categories).

**Table 6: Workplace health and safety comparison table**

Quarter – Year	Total Number of Reports	Total Program Personnel	Percentage of reports against total staff
Q1, 2018–19	64	383	17%
Q4, 2017–18	49	276	18%
Q1, 2017–18	12	169	7%

**Figure 6: Workplace health and safety Q1 2018-19**



## Accommodation

Preparations to relocate the remaining staff located at Moggill to Berrinba continued during the quarter. All office staff will be co-located at the new Berrinba headquarters by the end of November 2018.

## Budget and finance

Overall the program remained within budget, tracking \$0.7M below the year to date budget as at 30 September 2018 (refer to Table 6: First Quarter 2018–19 expenditure). There were material variances due to factors outlined below:

- variance of \$95K in employee related expenses due to staff movement within the Program and incomplete planned recruitment activities to fill vacancies.

- variance of \$598K in supplies and services predominantly relating to timing in the Program's operations for aircraft hire and bait usage. Treatment will commence in early October 2018, although the budgeted plan was for treatment to commence in early September 2018; the delay in treatment is due to cooler than expected ground temperatures during September 2018.

**Table 6: First quarter 2018–19 expenditure**

<b>Program Area</b>	<b>Revised Budget</b>	<b>YTD Budget</b>	<b>YTD Actual</b>	<b>YTD Var (\$)</b>
Directorate	453,551.34	80,077.73	80,546.21	(468.48)
Program Logistics & Business Support	3,402,599.09	659,124.48	872,854.24	(213,729.76)
Strategic Policy & Performance	918,061.35	177,347.35	158,620.82	18,726.53
Compliance	1,371,351.98	319,966.98	281,435.52	38,531.46
Community & Stakeholder Engagement	1,600,245.58	328,016.39	329,252.16	(1,235.77)
Science Services & Eradication Assessment	1,604,523.68	373,331.01	381,829.14	(8,498.13)
Planning & Quality Assurance	2,324,547.28	543,104.11	496,551.35	46,552.76
Operations	23,600,091.32	4,632,790.21	2,231,040.78	2,401,749.43
Remote Sensing Surveillance R&D	1,059,212.36	73,439.85	26,756.17	46,683.68
Systems & Technology Innovation	2,295,200.96	469,010.23	758,583.62	(289,573.39)
<b>Total</b>	<b>38,629,385</b>	<b>7,656,208</b>	<b>5,617,470</b>	<b>2,038,738</b>

# Appendices

Refer to Attachment 1:

- Appendix 1: Overview map of the operational boundary
- Appendix 2: Map of new detections (first quarter 2018–19 )
- Appendix 3: Map of responsive treatment (first quarter 2018–19 )
- Appendix 4: Map of planned surveillance (first quarter 2018–19 )
- Appendix 5: Map of compliance checks (first quarter 2018–19 )
- Appendix 6: Map of significant detections (first quarter 2018–19)
- Appendix 7: Fire ant biosecurity zones
- Appendix 8: Significant detections (July 2017 to September 2018)

Refer to Attachment 2:

- Appendix 9: National Red Imported Fire Ant Eradication Program South East Queensland 2018-19 targets

## Glossary

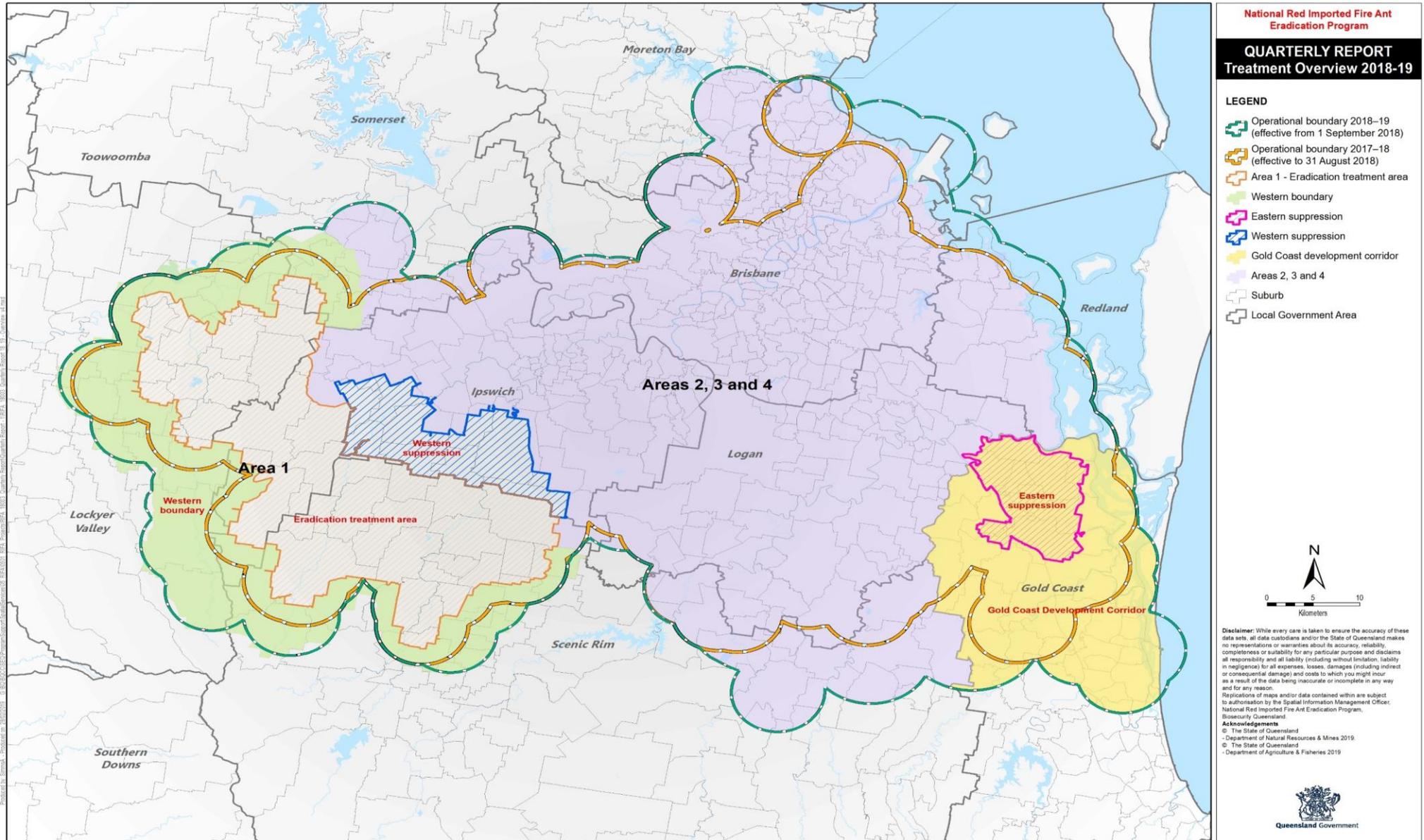
Area 1	An area comprising parts of the Lockyer Valley and western Scenic Rim regional council areas and a portion of the Ipswich City Council area. This area is located at the outer western and south-western extent of the operational area.
Areas 2, 3 and 4	The area within the operational area from the eastern extent of Area 1 to Moreton Bay in the east, from the northern suburbs of Brisbane to the northern suburbs of the Gold Coast and Mount Tamborine in the south.
Biosecurity zones	Fire ant biosecurity zones have been established under the <i>Biosecurity Act 2014</i> in areas of SEQ where fire ants have been detected or where it is likely that fire ant infestation exists. Zone regulatory provisions restrict movement of fire ants and fire ant carriers to help prevent human-assisted spread.
Boundary detection	A new detection found up to 5 km inside the Operational Boundary.
Boundary management	Activities concerned with maintaining the integrity of the Operational Boundary, including surveillance and responses to outlier detections.
Broadcast bait	Broadcast baiting uses an insect growth regulator to destroy fire ant infestation.
Colony	A group of ants that are living together and depend on each other for reproduction and survival.
Community surveillance	Searching by the community, industry and other areas of government for fire ants. Also referred to as passive surveillance.
Delineation surveillance	Surveillance undertaken around new detections to confirm the extent of the infestation.
Detections of importance	See significant and outlier detections.
Direct nest injection (DNI)	Involves the injection of chemical directly into a nest or mound to destroy the nest.
Eradication treatment	The treatment regime, including chemicals, rates and methods of application specified by science and regulation, required to achieve eradication of fire ants from an area.

Fire ants	Red imported fire ant or <i>Solenopsis invicta</i> Buren 1972.
General biosecurity obligation (GBO)	Under the <i>Biosecurity Act 2014</i> , all Queenslanders have a legal obligation to manage biosecurity risks and threats that are under their control, they know about or they are expected to know about.
Genetic testing	Refers to a range of specific tests, and analyses of the results produced from these tests, to determine genetic traits that indicate the fitness of individuals in fire ant samples and the relatedness of colonies within the infestation, as well as the social form (monogyne vs polygyne) of a nest.
High-risk detection	Those detections that pose the greatest risk to the objective of eradication by virtue of location or density of infestation, or pose a risk to public safety and to human and animal health.
Infestation (infested areas)	Areas which have had fire ants confirmed.
Monogyne	A social form of fire ant where each colony consists of a single queen and her offspring.
Mound	An above-ground structure that ants use for survival or reproduction that is associated with one colony of ants.
Nest	A structure that ants form and use for reproduction and survival. A nest may not always take the form of an above-ground mound, but usually includes sub-terrain tunnels and chambers.
Pest	For the purpose of this report, 'pest' means red imported fire ant.
Planned surveillance sites	Areas of land used to monitor for the presence or absence of fire ants over time.
Planned treatment area	Areas which are targeted for eradication or suppression treatment.
Polygyne	A social form of fire ant where a colony may contain multiple queens and their offspring.
Positive identification	The point at which a suspect ant sample is determined to be fire ant.
Post-treatment surveillance	Surveillance undertaken following treatment to confirm or validate that all fire ants have been destroyed. This is also referred to as validation surveillance.
Priority area	Sub-areas within the operational area that will receive coordinated and focused eradication activity, in accordance with a staged approach. The

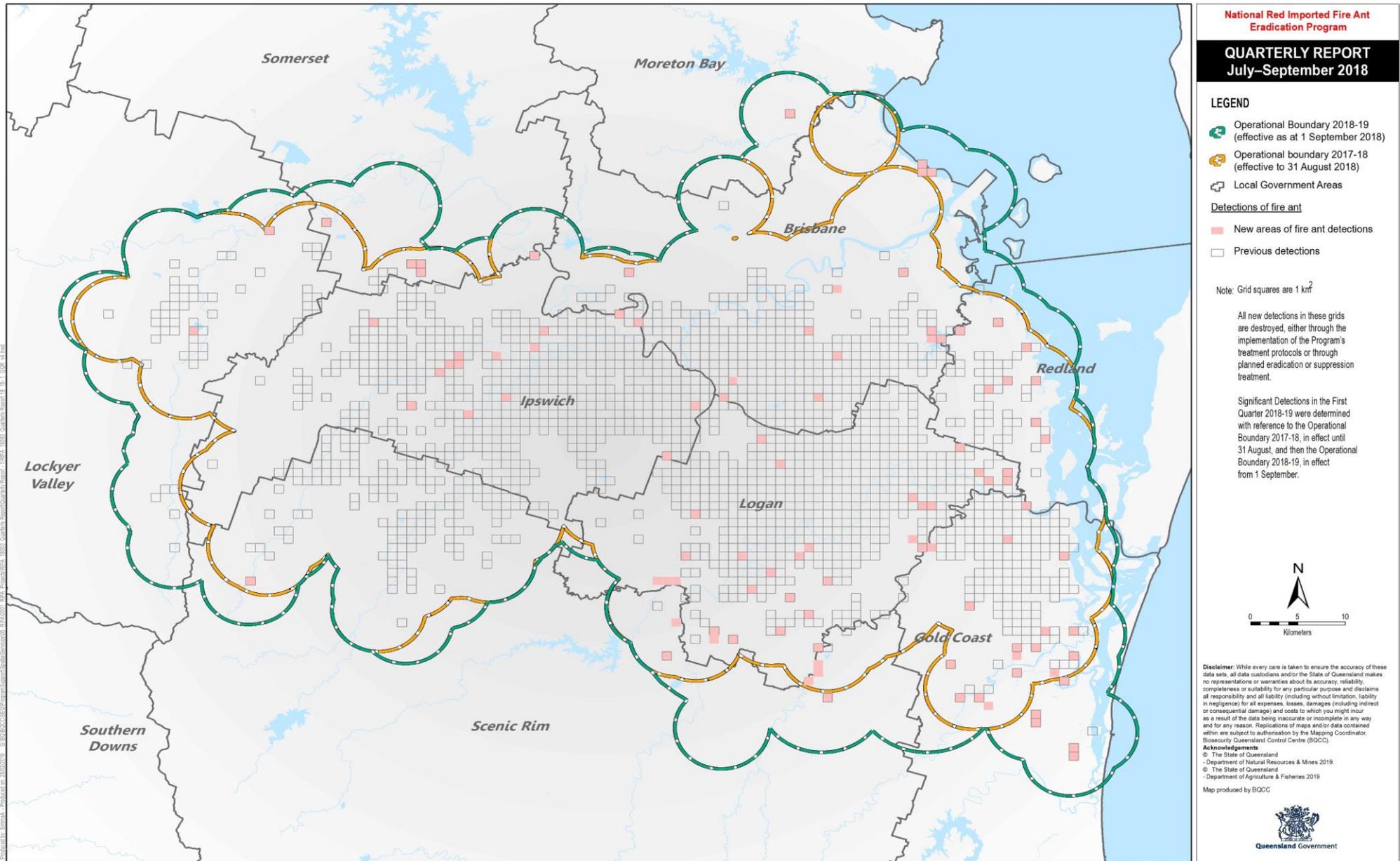
	boundaries of each area are indicative only and will be updated as a part of the biennial review of the Ten Year Plan.
Program	National Red Imported Fire Ant Eradication Program in South East Queensland
Progressive 'rolling' strategy	The west to east progression over the operational area of planned treatment and surveillance activities contributing to pest eradication.
Odour detection dogs	Dogs specifically trained for the purpose of searching for and positively identifying fire ants.
Operational area	Total area of known infestation confirmed by delimitation and adjusted for predicted infestation spread since completion of delimitation. The operational area will not remain static, possibly increasing initially as surveillance increases in Stage 1, and then decreasing as the areas with confirmed infestation reduce over the life of the Program.
Operational boundary	A 5 kilometre buffer around known infestations detected within a set timeframe. This boundary is reviewed on an annual basis.
Outlier detection	An infestation detected beyond the fire ant biosecurity zone.
Regulation	Biosecurity Regulation 2016, which prescribes procedures that must be followed when moving or storing a fire ant carrier.
Remote sensing surveillance	Remote sensing surveillance involves airborne cameras mounted on helicopters which fly over broad areas to capture visible, near infrared and thermal images of possible fire ant mounds.
Scientific Advisory Group	A group of eminent scientists brought together to identify and advise on key scientific principles, as well as on policy and compliance matters. This group may also include technical and analytical experts from time to time.
Search and clear activities	The treatment and surveillance required to identify and treat remnant fire ant infestation post eradication treatment, in order to clear an area of infestation.
Search and suppress	See 'Suppression activities'.
Sentinel sites	Term used to describe areas of land that will be used to monitor for the presence or absence of fire ants.
Significant detection	A new infestation discovered beyond the operational boundary.
Staged approach	Priority areas will receive coordinated and focused eradication activity in three phases. Underpinning this approach, each area will receive an optimal treatment regime of up to six treatments over two years during phase 2.

Steering Committee	A committee of nominated representatives from each Program cost-sharing partner, with an independent chair, tasked with providing oversight of performance and risk.
Suitable habitat	That part of an area to which treatment is being applied that would sustain a fire ant population, exclusive of 'hard stand' such as buildings, and of environs unable or highly unlikely to support a fire ant population such as bodies of water and very dense forest.
Suppression activities	The minimum required treatment and surveillance to contain and suppress spread, in accordance with the Program Treatment Protocol. Infestation in areas that are not in the current priority area receiving treatment will receive suppression treatment. The intent of suppression treatment will be to mitigate spread from and in the areas that have not yet undergone focused and coordination eradication activity.
Surveillance	An official process that collects and records data on pest occurrence or absence by survey, monitoring or other procedures.
Ten Year Eradication Plan (or Ten Year Plan)	Ten Year Eradication Plan for the National Red Imported Fire Ant Eradication Program South East Queensland 2017–18 to 2026–27.
Treatment	Means the application of chemical solution, or substance impregnated with a chemical solution, for the purposes of destroying an infestation of red imported fire ant.
Treatment season	Treatment is undertaken during the warmer months when fire ants are more likely to forage. The season is generally from September to May.
Work Plan	Detailed plan outlining the eradication activities that will be undertaken in the upcoming financial year.

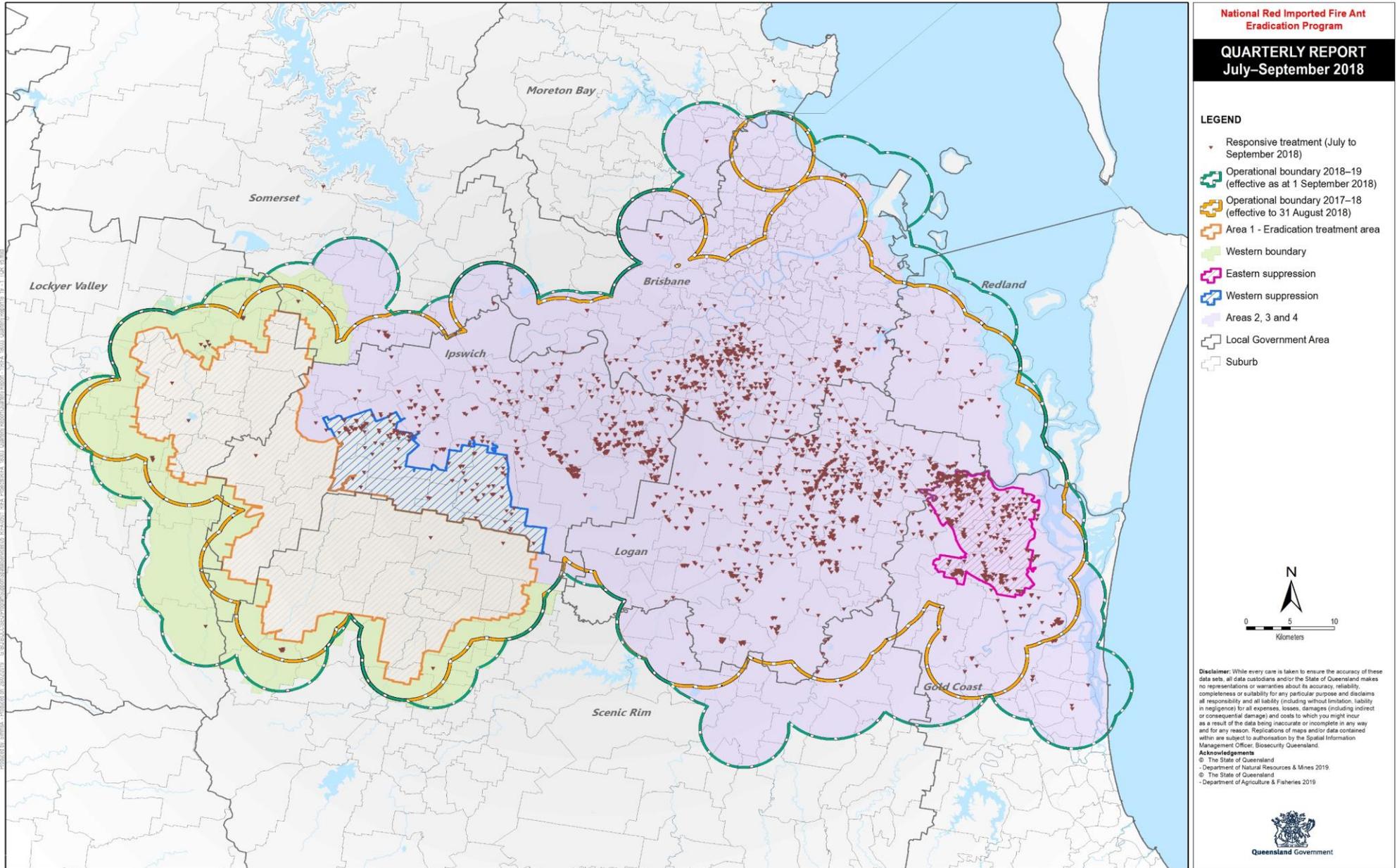
Appendix 1: Overview map of the operational boundary



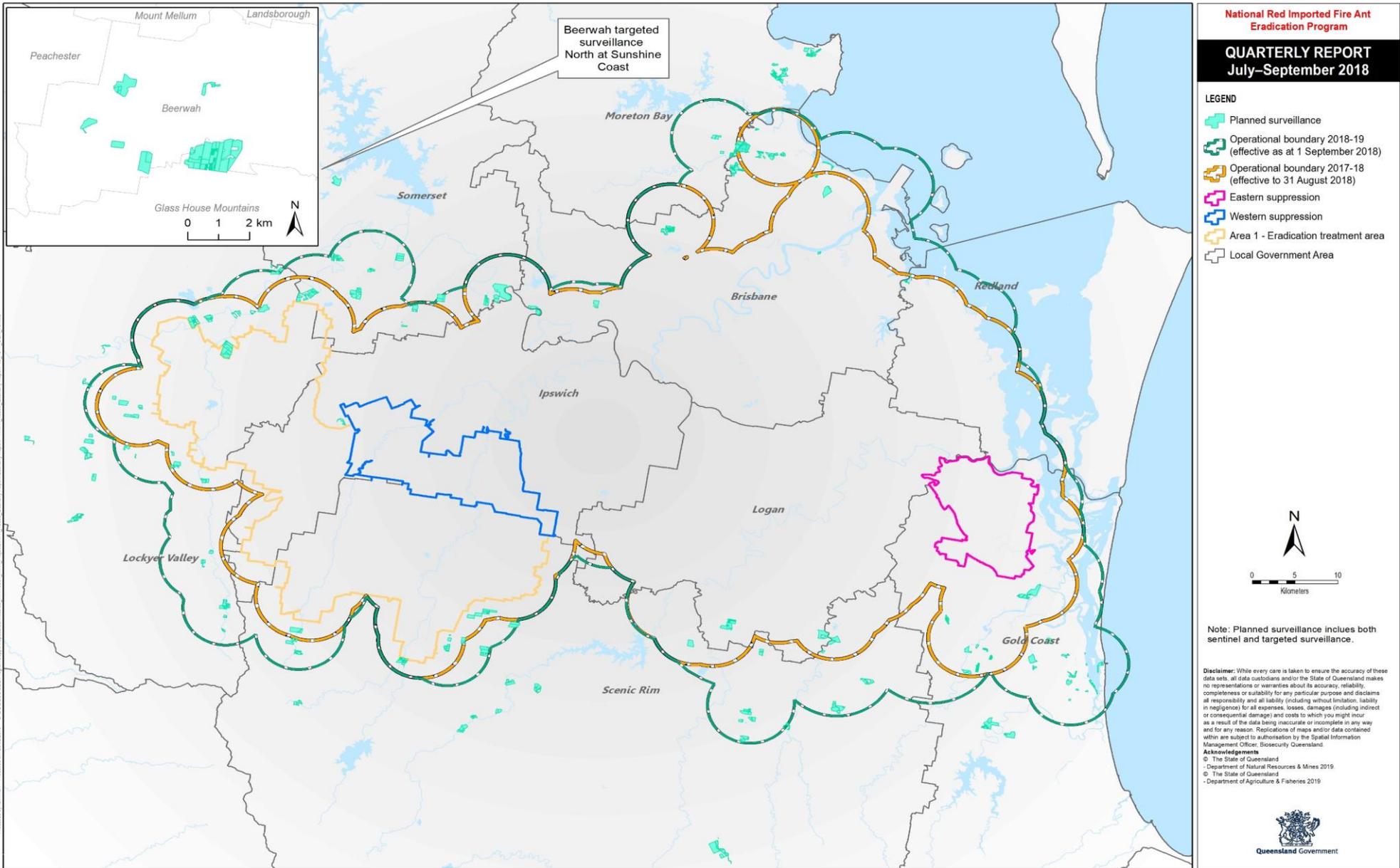
# Appendix 2: Map of New Detections (First Quarter 2018-19)



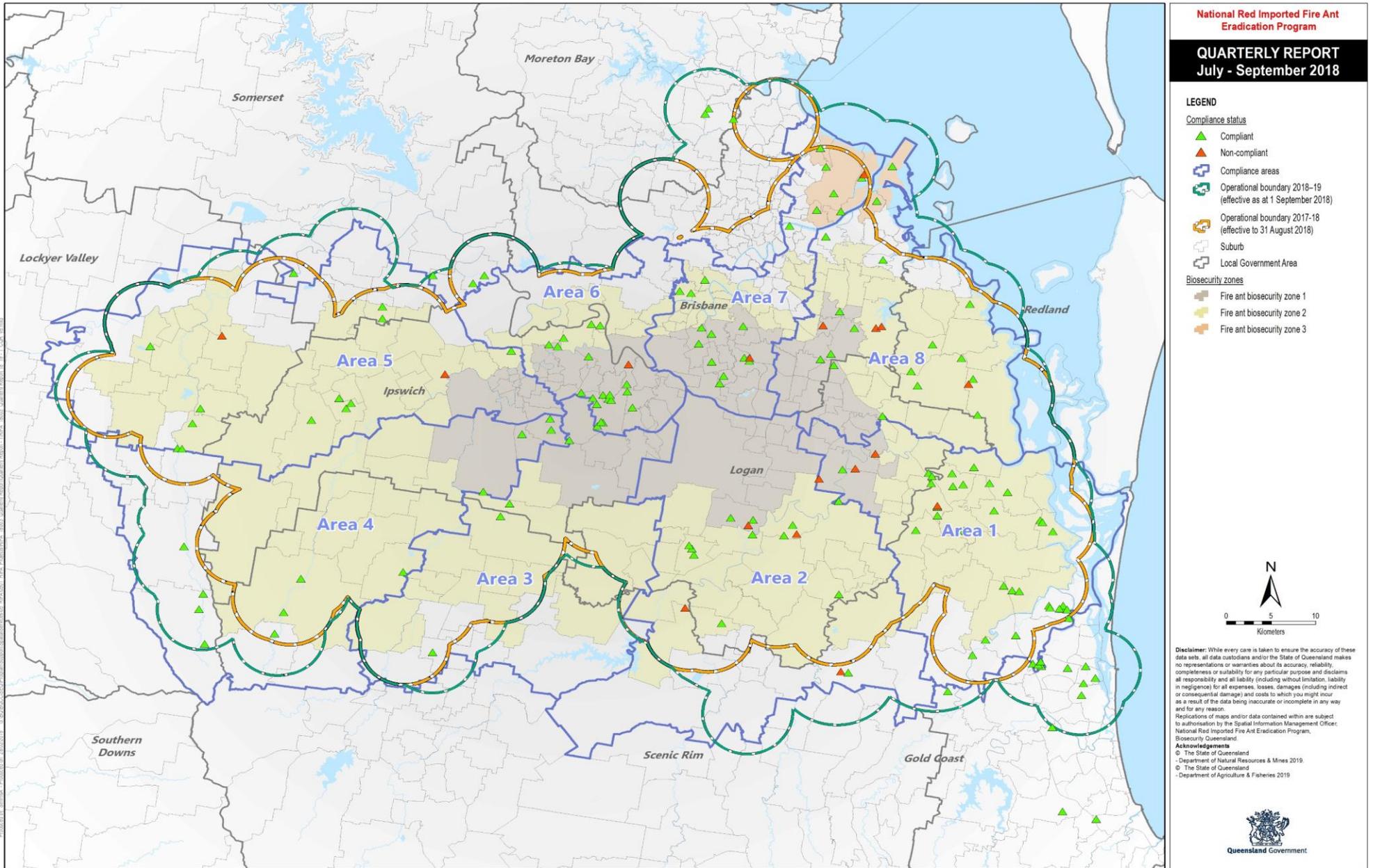
# Appendix 3: Map of Responsive Treatment (First Quarter 2018-19)



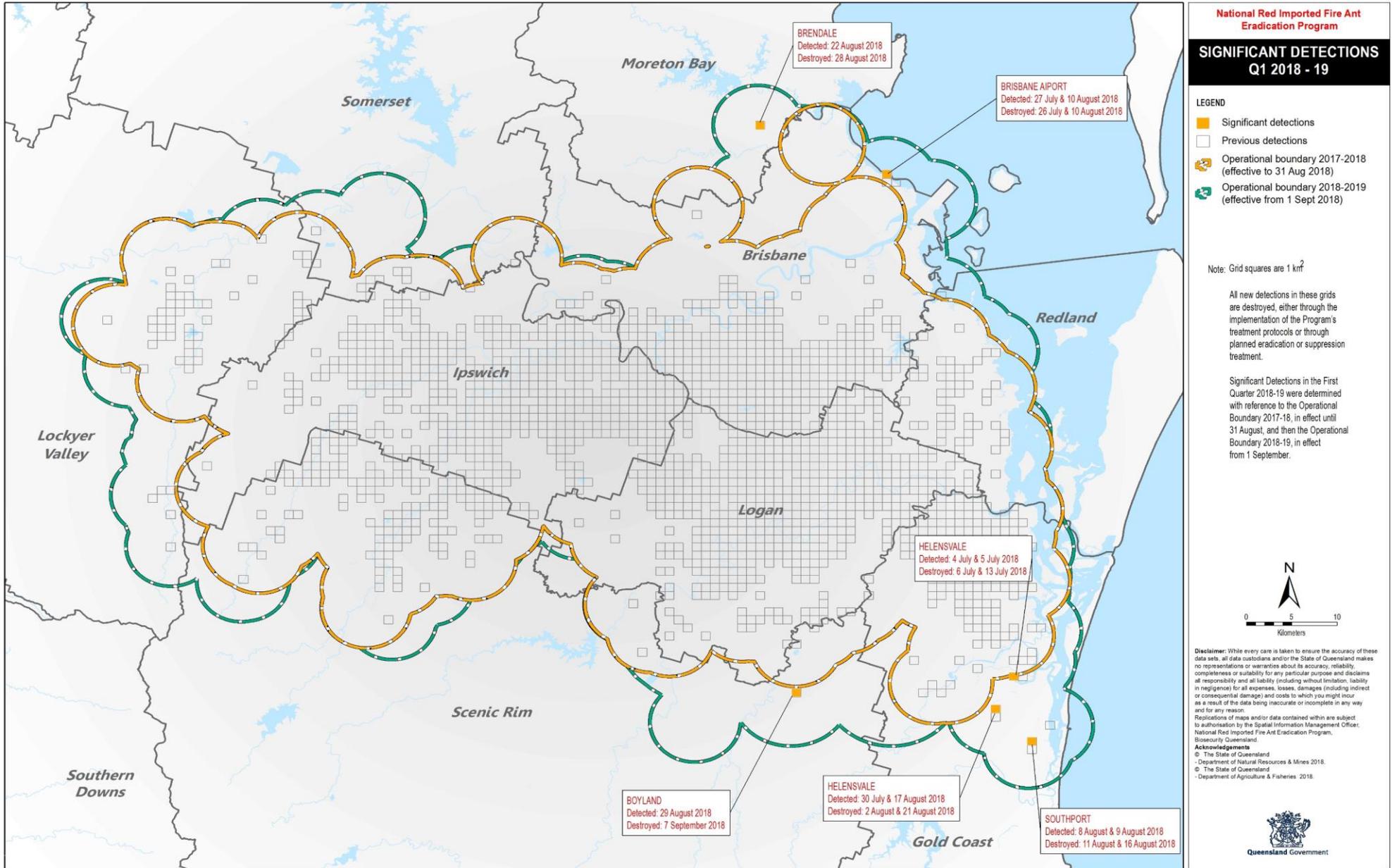
# Appendix 4: Map of Planned Surveillance (First Quarter 2018-19)



# Appendix 5: Map of Compliance Checks (First Quarter 2018-19)



# Appendix 6: Map of Significant Detections (First Quarter 2018-19)





## Appendix 8: Significant Detections (July 2017 to September 2018)

Location		Discovery		Infestation			Distance (km)		Treatment	Surveillance			Carrier movement		Genetics	Notification
Suburb	Priority Area	Detected	Source	Mounds	Alates	Brood	Op. Boundary	Nearest nest	DNI	Delineation	Targeted	Validation	Inbound	Outbound	Social form	Steering Committee
Lowood	1	03/08/2017	Sentinel	9	Yes	No	5	10	10/08/2017	Yes	Yes	Clear	Unconfirmed	Unconfirmed	Monogyne	04/08/2017
Beaudesert	2,3,4	20/09/2017	Sentinel	5	Yes	Yes	6	11	21/09/2017	Yes	Yes	Clear	Yes	No	Monogyne	25/09/2017
Bridgeman Downs	2,3,4	05/01/2018	Public	1	No	No	1.4	4	05/01/2018	Yes	Yes	Clear	Yes	No	Monogyne	09/01/2018
Thornton	1	04/04/2018	Targeted	7	Yes	No	1.1	1.45	06/04/2018	Yes	Yes	Clear	No	Yes	Monogyne	06/04/2018
Blenheim	1	05/04/2018	Public	1	Yes	Yes	0.37	1.7	24/04/2018	Yes	Yes	Clear	No	No	Monogyne	10/05/2018
Thornton	1	11/05/2018	Targeted	1	No	No	2.4	1.45	18/05/2018	Yes	Yes	Clear	Yes	No	Monogyne	18/05/2018
Thornton	1	11/06/2018	Public	5	Yes	No	1.7	3	12/06/2018	Yes	Yes	Not Required	No	No	Monogyne	15/06/2018
Labrador	Gold Coast	28/06/2018	Public	1	Yes	No	7.5	8.6	29/06/2018	Yes	Yes	Clear	No	No	Monogyne	02/07/2018
Townson	1	29/06/2018	Targeted	5	Yes	No	3.6	3.8	04/07/2018	Yes	Yes	Not Required	Yes	No	Monogyne	05/07/2018
Helensvale	Gold Coast	04/07/2018	Targeted	19	TBC	TBC	0.47	1.9	06/07/2018	Yes	Yes	Results to come	No	Yes	Monogyne	06/07/2018
Brisbane Airport	2,3,4	24/07/2018	Public	5	Yes	Yes	0.73	3.4	26/07/2018	Yes	Yes	Results to come	Yes	No	Monogyne	27/07/2018
Helensvale	Gold Coast	30/07/2018	Targeted	7	TBC	TBC	1.3	5.6	02/08/2018	No	No	Results to come	Yes	No	Monogyne	02/08/2018
Southport	Gold Coast	08/08/2018	Targeted	6	Yes	Yes	6.8	3.2	11/08/2018	Yes	No	Results to come	No	No	Monogyne	10/08/2018
Brendale	2,3,4	22/08/2018	Targeted	3	Yes	No	2.8	5.3	28/08/2018	Yes	No	Results to come	No	No	Monogyne	12/09/2018
Boylard	2,3,4	29/08/2018	Sentinel	2	No	No	0.84	6	07/09/2018	Yes	Yes	Results to come	Yes	Yes	Monogyne	12/09/2018

Attachment 2

Appendix 9: National Red Imported Fire Ant Eradication Program South East Queensland 2018–19 Targets

National Red Imported Fire Ant Eradication Program South East Queensland 2018–19 Targets				
#	Activity	Output Target	Result - Q1	
<b>Area 1 Eradication Treatment Area, Western Boundary Area and Western Suppression Area</b>				
1.	Planned treatment	100% of suitable habitat within Area 1 receives up to two rounds of treatment in the 2018–19 treatment season.	Not applicable*	
2.	Planned treatment	Eradication treatment applied over approximately 14,235 sites and 87,583 ha during 2018–19.	Not applicable*	
3.	Planned treatment	100% of suitable habitat within the Western Boundary area receives up to two rounds of treatment in the 2018–19 treatment season.	Not applicable*	
4.	Planned treatment	Eradication treatment applied over approximately 10,022 sites and 77,713 ha during 2018–19.	Not applicable*	
5.	Planned treatment	100% of suitable habitat within the area receives up to two rounds of treatment in the 2018–19 treatment season.	Not applicable*	
6.	Planned treatment	Suppression treatment applied over approximately 2,765 sites and 19,181 ha during 2018–19.	Not applicable*	
7.	Treatment communication and stakeholder engagement	41,000 residents within Area 1 Eradication Treatment Area, Western Boundary and Western Suppression areas are provided targeted treatment information, including property access and their General Biosecurity Obligations, via various channels prior to and during the treatment season.	222 500 residents	
8.	Treatment communication and stakeholder engagement	100% of instances of denial of access resolved and access achieved by the end of the current treatment round.	Not applicable*	
9.	Responding to new detections	100% of new detections posing a high risk to public safety are treated by direct nest injection within 2 business days of positive identification.	Detection 1	Percentage 100%**
10.	Responding to new detections	100% of new high risk detections are treated within 10 business days of positive identification.	Detections 4	Percentage 50%**
11.	Responding to new detections	100% of new detections are treated within 15 business days of positive identification.	Detections 43	Percentage 33%**
12.	Responding to new detections	100% of reports or sample submissions from the public that are positively identified as fire ant result in a communication outlining treatment expectations within 10 days of the date of positive identification.	Currently unavailable***	
13.	Boundary management	A minimum of 5,500 ha of planned surveillance completed.	1894 ha # Sites – 336	
14.	Boundary management	A pilot program launched to recruit, train and support a limited number of landholders in undertaking surveillance on their own property as part of the planned surveillance program.	Not yet commenced	
15.	Boundary management	100% of all Significant Detections treated in accordance with the relevant protocol.	100%	
16.	Boundary management	100% of Significant Detections cleared as eradicated 12 weeks after treatment.	100%	
<b>Areas 2 – 4</b>				
17.	Responding to new detections	100% of new detections posing a high risk to public safety are treated by direct nest injection within 2 business days of positive identification.	Detections 46	Percentage 26%**
18.	Responding to new detections	100% of new high risk detections are treated within 10 business days of positive identification.	Detections 191	Percentage 51%**

### National Red Imported Fire Ant Eradication Program South East Queensland 2018–19 Targets

#	Activity	Output Target	Result - Q1	
19.	Responding to new detections	100% of reports or sample submissions from the public that are positively identified result in a communication to the submitting entity outlining treatment expectations within 10 days of the date of positive identification.	Currently unavailable***	
20.	Development corridors	Suppression treatment applied over approximately 3800 ha of development corridors during 2018–19.	Not applicable*	
21.	High density infestation	Suppression treatment applied over approximately 3,000 ha of high density infestation during 2018–19.	Not applicable*	
22.	Polygyne colonies	Three rounds of treatment applied over approximately 1,470 ha infested by polygyne colonies during 2018–19.	Not applicable*	
23.	Boundary management	Suppression treatment applied over approximately 24,250 ha near the operational boundary.	Not applicable*	
24.	Boundary management	A minimum of 4,750 ha of planned surveillance completed.	2920 ha # Sites – 1837	
25.	Boundary management	100% of all Significant Detections treated in accordance with the relevant protocol.	100%	
26.	Boundary management	100% of Significant Detections cleared as eradicated 12 weeks after treatment.	100%	
<b>Gold Coast Development Corridor</b>				
27.	Eastern suppression	100% of designated planned suppression treatment areas within the Gold Coast local government area receive up to two rounds of treatment.	Not applicable*	
28.	Eastern suppression	Suppression treatment applied over approximately 15,583 sites and 13,643 ha during 2018–19.	Not applicable*	
29.	Eastern suppression	35,800 residents within Eastern Suppression area are provided targeted treatment information, including property access and their General Biosecurity Obligations, via various channels prior to and during the treatment season.	120, 000	
30.	Eastern suppression	100% of instances of denial of access resolved and access achieved by the end of the current treatment round.	Not applicable*	
31.	Industry engagement	Eight of the largest residential development and civil construction companies directly engaged on at least 4 occasions throughout 2018–19.	8 engaged	
32.	Development treatment	100% of designated planned suppression treatment areas within the Gold Coast local government area receives up to two rounds of treatment.	Not applicable*	
33.	Development treatment	Suppression treatment applied over approximately 700 ha during 2018–19.	Not applicable*	
34.	Boundary management	100% of designated suppression treatment areas within the Gold Coast local government area receives up to two rounds of treatment.	Not applicable	
35.	Boundary management	Suppression treatment applied over approximately 1500 ha during 2018–19.	Not applicable	
36.	Targeted surveillance	A minimum of 750 ha of planned surveillance completed during 2018–19.	816 ha # Sites – 358	
37.	Compliance monitoring	100% of large scale development sites undergo compliance monitoring at least once.	100% (currently six)	
38.	Responding to new detections	100% of new detections posing a high risk to public safety are treated by direct nest injection within 2 business days of positive identification.	Detections 8	Percentage 63%**
39.	Responding to new detections	100% of new high risk detections are treated within 10 business days of positive identification.	Detections 34	Percentage 56%**
40.	Responding to new detections	100% of reports or sample submissions from the public that are positively identified result in a communication to the submitting entity outlining treatment expectations within 10 days of the date of positive identification.	Currently unavailable***	
<b>Compliance</b>				

## National Red Imported Fire Ant Eradication Program South East Queensland 2018–19 Targets

#	Activity	Output Target	Result - Q1
41.	Preventing human-assisted spread	100% of sites assessed as at risk in relation to product movement, high density or polygyne infestation will undergo compliance monitoring within 5 days of notification.	Due Q2
42.	Preventing human-assisted spread	Compliance checks conducted for half of biosecurity instrument permits in effect during 2018–19.	Annual Target - 87 21 BIPs conducted = 24%
43.	Preventing human-assisted spread	100% of cases of non-compliance are resolved within 1 month except where a formal investigation is required.	100%
44.	Preventing human-assisted spread	A compliance strategy is developed for major development corridors including Brisbane to Gold Coast and Brisbane Airport.	Gold Coast strategy developed and ongoing implementation Brisbane Airport strategy under development
45.	Preventing human-assisted spread	The risk of human assisted spread posed by at least 6 high risk industries is reduced as a result of targeted engagement and compliance activities.	Annual target
46.	Preventing human-assisted spread	A total of 500 high risk businesses visited to communicate movement restrictions, assess compliance levels and to identify barriers to compliance.	190 Checks
47.	Preventing human-assisted spread	A total of 2,000 communication activities including correspondence sent to industry groups, regarding movement restrictions are undertaken with high risk businesses.	Nil
48.	Biosecurity zones	100% of new detections made outside biosecurity zones will undergo compliance monitoring within 5 business days of notification.	92%
<b>Continuous Improvement</b>			
49.	Eradication planning	The 2019-20 Work Plan is completed by the end of May 2019 and the Surveillance Plan completed by the end of April 2019.	Due Q4
50.	Information systems	Treatment and surveillance undertaken by the Program will be recorded through a mobile, digital solution by end of 2018–19.	Underway
51.	Information systems	All systems are fully functional for 95% of business hours.	99%
52.	Information systems	Future state systems solution based on recommendations of ICT Systems review decided by the end of 2018–19.	Annual target
53.	Remote sensing surveillance	Field trials of a remote sensing surveillance prototype are complete by the end of 2018–19.	Annual target
54.	Remote sensing surveillance	A remote sensing solution that identifies red imported fire ant mounds, with a confirmed true positive detection rate of at least 50%.	Annual target
<b>Science</b>			
55.	Diagnostic Services	All suspect fire ant samples submitted to the Program diagnosed and results communicated internally within 2 business days.	92%
56.	Diagnostic Services	100% of ant samples are accurately identified and results reported.	99.9%
57.	Genetic testing	Social form testing to determine whether a colony is Monogyne or Polygyne undertaken within 30 working days of sample submission to the lab.	91%
58.	Genetic testing	100% of Significant Detection Reports include sub-population assignment, social form assessment, and where relevant, outcomes of relationship testing.	100%
59.	Genetic testing	No increase in the proportion of the fire ant population confirmed as Polygyne.	Nil
60.	Genetic testing	No increase in the genetic fitness within the South East Queensland infestation, as measured by the number of sub-populations.	Biennial target

## National Red Imported Fire Ant Eradication Program South East Queensland 2018–19 Targets

#	Activity	Output Target	Result - Q1
61.	Genetic testing	No new, previously unknown populations identified.	Annual target
62.	Genetic testing	No decrease in the percentage of males identified as sterile.	Annual target
63.	Odour detection dog surveillance	All dogs demonstrate detection of more than 80% of fire ant nests in defined search areas.	Annual target
64.	New product testing	Results of trials of new products for the eradication of fire ant, due to be completed by the end of 2018, are incorporated into treatment plans if successful.	Due Q3
65.	Treatment efficacy monitoring	100% of bait randomly sampled for chemical residue testing, from 10% of bait supplied, meets minimum standards.	Due Q2
66.	Treatment efficacy monitoring	A total of 100 nests, from between 10 and 15 sites, monitored through the 2018–19 treatment season.	Due Q2
67.	Treatment efficacy monitoring	Nests observed as in decline, with visible bait effects, at all treatment efficacy sample sites.	Due Q2
68.	Science planning	Sites for planned surveillance have been selected by the end of December 2018.	Due Q2
69.	Science strategy	The Program Science Plan 2019-2023 is completed by the end of 2018–19.	Annual target
<b>Engagement</b>			
70.	New systems and approaches	Customer Relationship Management (CRM) software and processes successfully integrated within the Program by end of 2018–19.	Annual target
71.	New systems and approaches	30% of the total suspect ant reports for 2018–19 submitted via the CRM online portal.	Result from Q2 onwards
72.	New systems and approaches	25% of training requests are self-booked by attendees via the CRM online portal.	Result from Q2 onwards
73.	Encouraging community surveillance	30,000 people directly engaged through one-on-one conversation and provision of supporting information during 2018–19.	16 437 people engaged
74.	Encouraging community surveillance	4,000,000 people exposed to key messages through indirect methods such as broadcast or mass media methods during 2018–19.	Over 2.6 million
75.	Encouraging community surveillance	5,000 total suspect ant reports received from the public in 2018–19.	1276 total suspect ant reports received from the public
76.	Encouraging community surveillance	100% of suspect ant reports from the public receive an acknowledgement of receipt within 2 business days.	Currently unavailable***
77.	Encouraging community surveillance	50% of suspect ant samples submitted by the public positively identified as fire ant.	79%
78.	Industry engagement	2,000 industry and local council personnel targeted through attendance at fire ant awareness training sessions.	515 Personnel attended training
<b>Performance Management</b>			
79.	Strategic policy and Program performance	A policy for self-treatment for fire ants by landowners, businesses and general pest management technicians is developed by April 2019.	On track
80.	Strategic policy and Program performance	An update to the Fire Ant Biosecurity Zones is completed by July 2019.	On track
81.	Strategic policy and Program performance	A protocol for dealing with detections of importance and to define the operational boundary is completed by December 2018.	On track
82.	Strategic policy and Program performance	A policy for treatment will be completed by January 2019.	On track
83.	Strategic policy and Program performance	The Ten Year Eradication Plan is reviewed and updated by June 2019 for approval by the Steering Committee.	On track
84.	Strategic policy and Program performance	The Program Risk Management Plan is reviewed and updated by June 2019.	On track
85.	Strategic policy and Program performance	Quarterly reports are submitted to the Steering Committee for approval within 2 months at the end of each quarter.	Q1 report delayed. Expected delivery February 2019
86.	Budget and finance	Program expenditure does not exceed approved budget for 2018–19.	\$0.7M below YTD budget
87.	Budget and finance	All outstanding financial audit issues identified in the Chief Financial Officer assurance statement are actioned within 45 days of the internal controls self-assessment survey being signed off.	Not applicable

<b>National Red Imported Fire Ant Eradication Program South East Queensland 2018–19 Targets</b>			
<b>#</b>	<b>Activity</b>	<b>Output Target</b>	<b>Result - Q1</b>
88.	Budget and finance	Capital expenditure proposals for 2019-20 submitted to the Steering Committee for endorsement by 31 January 2019.	Due Q3
89.	Quality management	A plan for quality management is developed by the end of December 2018.	Due Q2
90.	Quality management	External auditors appointed to undertake reviews of Program finances and efficiency by the end of June 2019.	Annual target
91.	Quality management	All surveillance tools in use, demonstrate detection of more than 80% of fire ant nests in defined search areas.	Annual target
92.	Quality management	80% of all assessments of field staff adherence with Program protocols result in verification of compliance.	Annual target
93.	Quality management	Desktop analysis of a statistically significant area per treatment round demonstrates bait coverage is consistent with the relevant protocol.	Annual target
94.	Quality management	Field assessments of a statistically significant area per treatment round demonstrates 100% of bait application is consistent with the relevant protocol.	Annual target
95.	Quality management	75% of high risk sites undergo verification checks to ensure non-disturbance of bait applications and compliance with the treatment GBO.	Not applicable*
96.	Quality management	100% of sites in each treatment round are completely treated within 12 weeks.	Not applicable
97.	Quality management	Subsequent treatment rounds are completed within 10-14 week period from initial treatment round (only applicable in second round of 2018–19 treatment).	Not applicable
98.	Accommodation	A plan for securing accommodation needs in 2019-20 complete by the end of April 2019.	Due Q4
99.	Accommodation	100% of Program accommodation requirements secured 60 days prior to occupation.	100%
100.	Procurement	100% of major purchases (over \$5000) are in full compliance with relevant procurement policies and procedures.	100%
101.	Procurement	100% of Program staff undertaking procurement activities receive professional advice or training to ensure their full compliance with policies and procedures.	100% of relevant Program staff
102.	Human Resources	At any point during 2018–19 the number of positions vacant in excess of 12 consecutive weeks be less than 5% of the current establishment.	Due Q2
103.	Human Resources	60% of staff express a sense of positive engagement with the Program.	Annual target
104.	Human Resources	20% reduction in time lost to incidents.	Due Q2
105.	Human Resources	5% reduction in workplace health and safety incidents.	10% increase

\* Not applicable - This target relates to treatment season which will commence in the second quarter (October to December 2018).

\*\* The Program is working to re-calibrate work practices to meet these targets, it is expected that progress against this target will be incremental.

\*\*\* Currently unavailable – Reporting system not operational as yet.