

National Red Imported Fire Ant Eradication Program—South East Queensland

First quarter (July-September) report 2017–18

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Summary of activities

On 5 July 2017, the National Red Imported Fire Ant (fire ant) Eradication Program in South East Queensland (the National Program) interim Steering Committee was convened for the first time in Brisbane. Subsequent to this meeting, on 26 July 2017, the Agriculture Ministers' Forum approved an allocation of \$411.4 million over 10 years for implementation of the National Program's *Ten Year Eradication Plan 2017–18 to 2026–27 (the Ten Year Plan)*. Ministers also approved a Governance Plan for the National Program as well as formal establishment of the National Program's Steering Committee, which was charged with providing leadership, advice, and direction on all aspects of program delivery. The process to appoint the Chair of the Steering Committee commenced mid-August 2017 with the appointment to be finalised prior to the Steering Committee meeting scheduled for 17 November 2017.

Significant planning and preparation efforts continue in relation to increasing the scale of eradication and enhancing the fire ant treatment regime in order to fulfil the National Program's objective. Progress on ramp-up activity to date includes developing a new organisational structure for the National Program to align activities with the strategies articulated in the Ten Year Plan and 2017–18 Work Plan. Additionally, the positions of Executive Director and Director have been advertised and it is expected that over 100 additional personnel are required for implementation of the Ten Year Plan.

Furthermore, during this quarter numerous procurement contracts were approved for: aerial charter services; bait supply; labour hire; and specialised odour detection dog training and kennelling with the National Program employing 96.1 full time equivalent and 39 contract personnel at 30 September 2017. Negotiations to secure an alternative site for a new head office, which will consolidate the present Moggill-Richlands office arrangements as well as satellite sites for Area 1 are also underway. Under the Ten Year Plan, Priority Area 1 (Area 1) was identified to receive eradication treatment in the first 2 years of the National Program, with Areas 2, 3 and 4 to receive eradication in subsequent years. Operating efficiencies to enhance treatment efforts in this area are planned for 2017–18. Completion of the majority of ramp-up activities relating to staff recruitment, accommodation, and procurement is expected by 31 March 2018, with remaining work subsequently transitioned to the National Program.

Much of the National Program's focus during the first quarter was preparing for the expanded planned treatment regime outlined in the 2017–18 Work Plan. Planning for eradication and suppression treatment was finalised on 23 August 2017, with treatment expected to commence in September 2017. However, delays in treatment preparations (see Planned treatment) resulted in eradication and suppression efforts being rescheduled to October 2017 with treatment to be conducted seven days per week to assist with making up for this delay.

Responsive bait treatment was also applied to new infestations across 900 hectares within the operational area as well as two significant infestations detected at Lowood and Beaudesert. This resulted in 5 815 mounds being destroyed by direct nest injection (DNI). There were 102 new areas of fire ant detections in the first quarter (See Appendix 2 Map of detections).

Delineation surveillance around new infestations was also conducted during the quarter, with 2 206 hectares subject to delineation surveillance in the 2017–18 year to date. This surveillance is designed to determine the extent and severity of the infestation and is intended to curtail the need to return to the same area to treat subsequently detected nests.

Eight sentinel sites were also surveyed with fire ant infestations detected at Lowood and Beaudesert, which triggered reporting of these significant detections to the Steering Committee (see Detections of importance).

The National Program operates under the Ten Year Plan. The 2017–18 Work Plan outlines the annual activities to be undertaken by the National Program. The primary components of the Ten Year Plan can be broadly grouped into three core functions—treatment, surveillance and movement controls. Science, and community and stakeholder engagement support these core functions. Other essential areas include information services, administration, policy, governance and management.

TREATMENT

Planned treatment activities during 2017—18 will focus on Area 1.

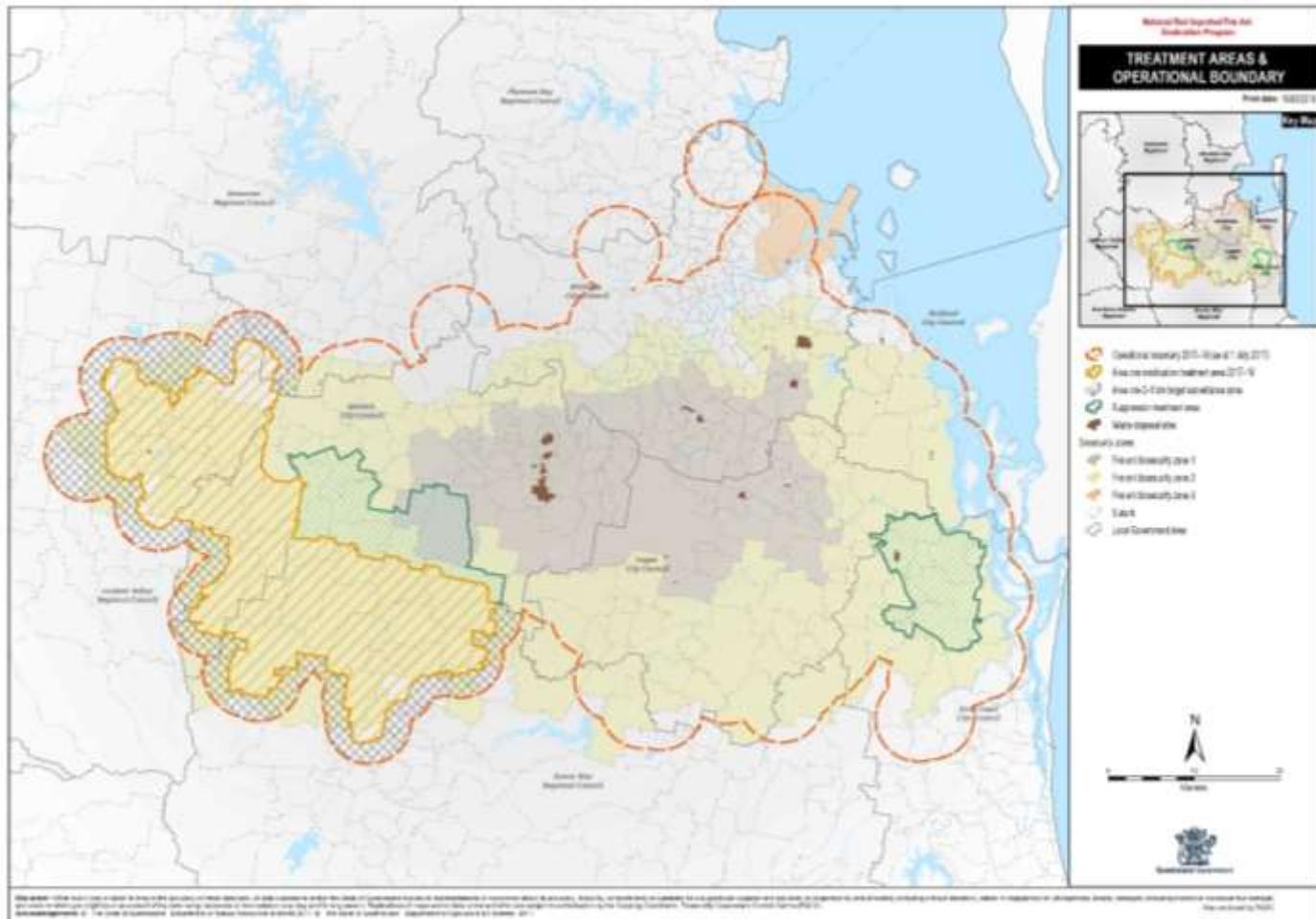


Image 1: An overview of the treatment areas in 2017–18

Planned treatment

Eradication treatment—Area 1

Annual target: Treat approximately 84 000 hectares per round—252 000 hectares over three rounds

Planned eradication treatment was originally scheduled to commence in September 2017 when ground temperatures become conducive for treatment. However, due to delays in contractual arrangements regarding labour hire, helicopters and bait supply, treatment was scheduled to commence in October 2017. These issues will not reoccur in future as they were directly related to the scaling up of the National Program and have since been resolved. Appropriate actions such as conducting aerial operations seven days a week and appointing additional contract field personnel will be undertaken to ensure that treatment can be conducted within required time frames.

The expected completion dates for each eradication treatment round are:

- Treatment round 1—January 2018
- Treatment round 2—April 2018

- Treatment round 3—June 2018.

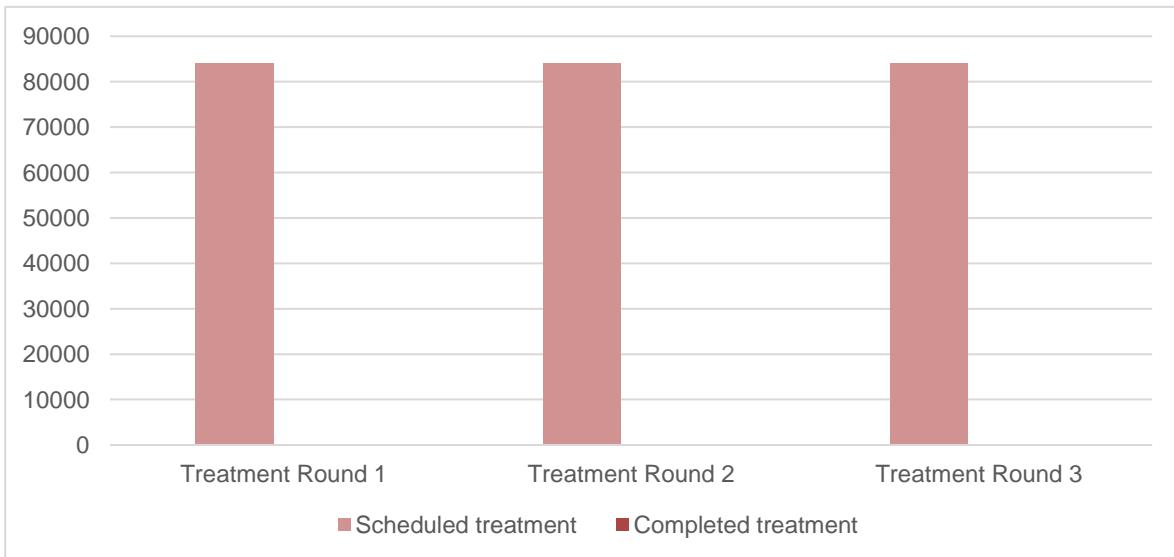


Figure 1: Planned eradication treatment scheduled and undertaken for 2017–18

Planning for eradication treatment was finalised on 23 August 2017.

Suppression treatment—Areas 2, 3 and 4

Annual target: Treat approximately 32 000 hectares per round—64 000 hectares over two rounds

Planned suppression treatment is scheduled to commence in January 2018. The timing of the two rounds of planned suppression treatment will coincide with rounds 2 and 3 of planned eradication treatment so that there will not be a long delay until subsequent rounds are undertaken (the following year). All new infestations in Areas 2, 3 and 4 are responded to on an ongoing basis in a timely manner (see Responsive treatment).

Planning for suppression treatment was finalised on 23 August 2017.

Responsive treatment¹

Annual target: Destroy all new infestations² whether destruction is through planned treatment activities or direct nest injection in conjunction with broadcast baiting

Responsive treatment is conducted in response to new detections of fire ant infestations³.

During the first quarter of 2017–18, 5 815 mounds were destroyed by direct nest injection (DNI). This represented 24.23% of the DNI budgeted for in 2017–18. In the areas immediately adjacent to the mounds that were destroyed, 900 hectares of responsive bait treatment was applied (9% of the budgeted responsive bait treatment for the year), as represented in the map in [Appendix 1](#). All nests destroyed by DNI were treated in accordance with the DNI protocol.

¹ Involves baiting around the nest at the time of detection then followed-up with application of the DNI protocol 10 days after detection.

² New infestations include infestations that are ‘new finds’ (i.e. infestation not detected previously and subsequently treated by the National Program).

³ Responsive activity treatment occurs *post facto* (i.e. immediately after detection) and is therefore measurable only in retrospect.

During the first quarter there were 102 new areas of one or more fire ant detections found in 1 kilometre ×1 kilometre grid squares ([Appendix 2](#)). Clearance⁴ of fire ant infestation is expected to be achieved after multiple rounds of planned eradication treatment. Apart from outlying infestations, clearance activities will commence after intensive eradication treatment has been completed in Area 1 (2019–20).

SURVEILLANCE

Surveillance methods

The methods currently used by the National Program for undertaking surveillance are summarised below.

Each of these methods will be reviewed at regular intervals during the Ten Year Plan to ensure that the most efficient and effective techniques are used. New surveillance methods will be investigated as they emerge over the life of the Ten Year Plan.

Visual surveillance by field teams

Field teams are the primary method used by the National Program to undertake planned surveillance activities. Techniques employed include food lures and visual inspection of the ground in a systematic search method. Visual surveillance is best undertaken in the cooler months when fire ants are more likely to be foraging. In these months, operational staff that undertake and coordinate treatment in the warmer months will undertake planned surveillance activities.

Field teams may also undertake delineation surveillance as a part of the responsive eradication process.

Odour detection dog teams

Odour detection dogs are an important surveillance method, particularly over small areas of land, as they can detect immature fire ant nests with no visible soil disturbance from a distance of several metres away. The focus of the odour detection dog teams will be to confirm the absence of fire ants following treatment of isolated infestation and to assist in targeted surveillance as a part of the staged clearing process. The odour detection dogs are also a useful publicity tool to encourage community surveillance and are used to assist in delineation surveillance in areas where this is a public risk associated with other methods, such as schools, and for outlier detections.

The National Program has seven odour detection dogs, six operate in the field and one is used for community engagement purposes. Two dogs are currently in training. Dog team validation testing will be undertaken throughout each year with a minimum 80% detection rate required for each dog.

Following the completion of Phase Two: treatment in Area 1, the National Program will consider whether additional odour detection dogs are required. As odour detection surveillance dogs reach retirement age (approximately 6–8 years) they will be considered for communication and engagement or alternatively the dogs will transition to retirement.

⁴ Search and Clearance is Phase Three in the staged approach of the Ten Year Plan.

Remote sensing surveillance

2017–18 target: Progress of the research and development phase will be monitored through key project milestones. Remote sensing surveillance activities (flights and ground component) will not be operational in 2017–18. The objective is to test new technology in preparation for flight trials in future financial years.

The National Program has used remote sensing surveillance in the past to assist in confirming the absence of fire ants around the perimeter of the known infestation and so delimit the area of infestation. This involved broad scale surveillance using airborne cameras mounted on helicopters that flew over large areas to capture visible, near infrared and thermal images of possible fire ant mounds. Fire ant mounds are a distinctive size and shape and, in suitable weather conditions, mound temperatures can be up to 20°C warmer than the ground surrounding them. The captured images were refined by applying algorithms formulated by the University of Sydney for the National Program, with the images then analysed manually by Program officers. The final step was to ground truth identified points of interest using field teams to ascertain whether or not fire ants were present.

Remote sensing surveillance activities (flights and ground component) will not be operational in 2017–18. The previous technologies (infra-red cameras) used by the National Program for undertaking remote sensing surveillance are now obsolete and the use of new technologies for broad scale surveillance must be investigated⁵. The formal procurement process for remote sensing surveillance progressed to the invitation to offer (ITO) phase during the first quarter of 2017–18. This is the first stage of an open tender process whereby private operators are invited to submit an offer and quote to provide the goods and/or services required for the project. The next step in the process is the evaluation of submissions by an evaluation panel of independent and National Program experts. Once a successful supplier(s) has been selected, contract negotiations will occur, with research and development activities likely to begin in the third quarter of 2017–18. Progress of the research and development phase is monitored through key project milestones.

The use of remote sensing surveillance, in combination with odour detection dog teams and other on-ground surveillance methods, will enable the National Program to achieve the best possible results and the most cost effective budget for fire ant detection and eradication. Wider applications of this technology could be considered for future incursions of other exotic pests by adjusting the spectral ‘signals’ and algorithms used to automate detection.

Table 1: Time frames and progress for the remote sensing surveillance research and development project

Key deliverables	Estimated due date	Status
Invitation to offer (ITO) released to market	Sep 2017	Complete
ITO closes	10 Oct 2017	Close of ITO extended to COB 10 Oct 2017 (10 responses received as at 30 Sep 2017)
Evaluation of ITO responses	Nov 2017	Not commenced
Negotiations with supplier(s)	Nov 2017	Not commenced
Research and development contract(s) finalised	Dec 2017	Not commenced

⁵ The National Program is looking to replace image capture and aerial deployment technologies (including higher resolution imagery, use of different spectra and drone aircraft) as well as refine the detection algorithm to remove the need for manual screening of points of interest.

Key deliverables	Estimated due date	Status
Development of project plan, including time frames for: <ul style="list-style-type: none"> specific spectral bands and related sensors tested / validated detection algorithm development based on any imagery collected from sensor validation (if possible) prototype image capture solution developed 	Dec 2017	Not commenced
Commence project (as specified above)	Jan 2018	Not commenced

Planned surveillance

Targeted surveillance⁶

Annual target: Survey 5 000 hectares, including a minimum of 2 500 hectares (50%) conducted in the 2–5 kilometre target surveillance zone in Area 1

A total of 1 119 hectares or 22.38% of the total area planned for targeted surveillance was undertaken during the quarter. This is represented in the map in [Appendix 3](#).

Sentinel site surveillance

Annual target: Survey 17 sentinel sites (sentinel site areas or locations) in total across the entire perimeter of the South East Queensland⁷infested areas

During the quarter, eight sentinel sites were surveyed visually by field staff. Fire ants were detected at two sentinel sites—Lowood and Beaudesert—triggering significant detection reports. A complete list of sentinel sites is provided in [Appendix 4](#).

Encouraging and promoting community surveillance through community engagement

Annual target: Maintain high levels of public reporting of suspect fire ant infestation to the National Program. This is reflected through the number of public reports received

The National Program received 1 036 public reports of suspect fire ants during the quarter, with 535 samples verified as fire ant (see Figure 2). This highlights the key role the public play in identifying fire ants in South East Queensland.

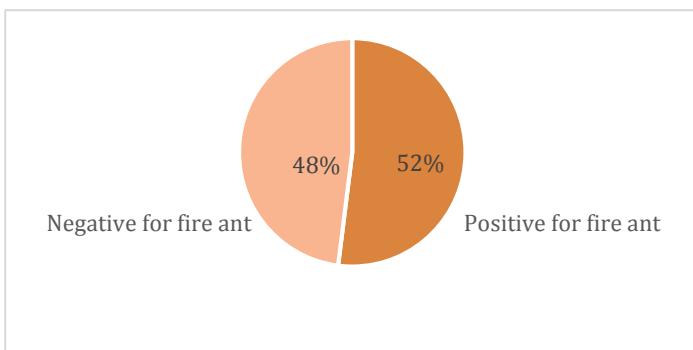


Figure 2: Proportion of positive or negative suspect fire ants reported by the public during the first quarter 2017–18

⁶ Targets are expressed as annual targets.

Responsive surveillance

Delineation surveillance

Annual target: All new detections receive the minimum amount of delineation surveillance in a radius of 100 metres (around the infestation)

During the first quarter, delineation surveillance was undertaken on 2 206 hectares (approximately 22.06% of the delineation surveillance budget). All new detections of fire ant received delineation surveillance in a radius of 100 metres around the infestation in order to determine its extent and density.

Post-treatment validation surveillance

Annual target: All outlier detections and significant detections receive validation surveillance in accordance with National Program protocols

An outlier detection is an infestation detected beyond the fire ant biosecurity zone⁸. A significant detection is a new infestation discovered beyond the operational boundary⁹.

Post-treatment validation surveillance is undertaken, usually by odour detection dogs, to confirm that treatment has resulted in the destruction of the nest. Validation surveillance is undertaken following treatment of outlier, significant and outlying detections. It is not undertaken to clear large areas of infestation.

During the first quarter, post-treatment surveillance was undertaken on 119 hectares.

Detections of importance: Significant and outlier detections

Annual target: Detections of importance¹⁰ receive extended treatment, surveillance and other National Program activities as outlined in the National Program protocols

Two detections fell within the definition of a significant detection during the first quarter of 2017–18. Provisional reports were provided to the Steering Committee and National Biosecurity Management Consultative Committee within nationally agreed notification time frames.

1. Lowood (August 2017): Infestation detected during sentinel site surveillance on a residential development site approximately 5 kilometres beyond the operational boundary (2017–18). Delineation surveillance was completed within a 500 metre radius from the point of detection and totalled 108 hectares. A further 640 hectares of surveillance, targeting high risk sites, was undertaken from 500 metres to 2 kilometres. The area is considered low risk due to no reproductive viability of colonies¹¹.
2. Beaudesert (September 2017): Infestation detected during sentinel site surveillance on a residential development site approximately 6 kilometres beyond the operational boundary (2017–18). National Program activities including treatment, surveillance, genetic testing and tracing are in progress at this site.

Finalised significant detection reports will be provided to the Steering Committee and National Biosecurity Management Consultative Committee once the full regime of National Program activities (treatment,

⁸ Under the Biosecurity Act 2014 there is provision to establish the whole or part of the state as biosecurity zone for a stated biosecurity matter, in this case fire ants and fire ant carriers. Fire ant biosecurity zones have been established in areas of SEQ where fire ants have been detected or where it is likely that fire ant infestation exists.

⁹ The operational area is the total area of known infestation confirmed by delimitation and adjusted for known and predicted infestation spread since completion of delimitation (5 kilometre beyond the outermost known infestation—active and inactive—and detected within a set time frame). The operational area will not remain static, possibly increasing initially as surveillance increases around Area 1 and then decreasing as the priority areas with confirmed infestations reduce over the life of the National Program.

¹⁰ Detections of importance include significant detections (which are beyond the operational area boundary) and may include other outliers (i.e. beyond the biosecurity zone) if the infestations are assessed to potentially have a significant impact on the National Program's eradication objectives.

¹¹Reproductive ant colonies contain alates (winged reproductive form) of both or alternative sexes.

surveillance, tracing and investigation) have been completed. At this stage, these detections are within the capacity of the National Program to manage within existing arrangements.

PREVENTING HUMAN-ASSISTED SPREAD

Annual target: Monitoring compliance with and enforcing the legislated movement controls

Compliance checks

The National Program undertakes a range of compliance checking activities to ensure that movement of fire ant carriers are occurring in accordance with the legislated movement controls, either under the Biosecurity Regulation 2016, under a biosecurity instrument permit or as part of the general biosecurity obligation. Compliance checks comprise site visits to businesses and properties involved in product movement (movement of fire ant carriers¹²). Compliance checks are either announced or unannounced, dependent on the situation or activity that leads to the compliance check being required.

Compliance officers may check treatment records and sales records relating to movement of fire ant carriers as well as review and supervise risk mitigation measures undertaken on site—such as ensuring chemical treatment is carried out in accordance with the permit requirements (for example in the turf industry) and the processing¹³ of carriers is undertaken as per the Biosecurity Regulation 2016.

A compliance initiative around turf farms commenced following a significant detection at Beerwah and possible links to the movement of turf from the fire ant biosecurity zones. Compliance checks were undertaken at all known turf farms within the fire ant biosecurity zones. The checks involved close scrutiny of operator understanding and compliance with requirements relating to chemical application and record keeping. A number of recommendations came out of this initiative, ranging from greater levels of supervision and assistance to non-compliant businesses, development of record keeping templates, and investigation of the use of soil testing (to identify the level of chemical applied) to assist in the assessment of compliance.

Of the 88 compliance checks undertaken during the first quarter, there were only five minor instances of non-compliance. Three involved the turf industry in relation to record keeping and chemical application requirements. The other two instances were in relation to the movement of manure without adequate storage and hay not being removed from the paddock it was baled in within 24 hours. The non-compliance was acknowledged by each client and corrective actions were taken. See [Appendix 5](#) for a map of compliance checks.

Managing serious non-compliance

During the first quarter of 2017–18, the National Program worked to resolve two ongoing investigations into alleged movements of soil from within the fire ant biosecurity zone to outside the zone. In collaboration with the Biosecurity Queensland Investigations Unit, the investigative actions have resolved all issues and cases are expected to be closed in October 2017.

¹² Fire ant carriers include soil, mulch, animal manure, baled hay or straw, potted plants, turf, mining or quarrying products and compost.

¹³ Mechanical disturbance processing includes: grinding, crushing or screening to adequately disrupt a fire ant colony and therefore minimise the risk of spreading fire ants.

COMMUNICATION AND ENGAGEMENT

Annual target: Communication and engagement activities delivered to the suburbs within the priority Area 1 and continued engagement activities within the wider South East Queensland infested area

Communication and educational activities encourage community surveillance. Communication and engagement with the public and other stakeholders occurs to: notify landholders of upcoming planned suppression activities; encourage reporting of suspected fire ants, prevent human-assisted movement; and ensure individual awareness of the general biosecurity obligation¹⁴ in regards to fire ants. The focus of these efforts in 2017–18 will be in Area 1. However, activities will still continue to be conducted across Areas 2, 3 and 4. The National Program has commenced processes to appoint an expert, external organisation to undertake market research to assist with determining the most effective communication tools to be used and to tailor messaging for different areas undergoing eradication activities. The use of tailored tools and messaging in different areas will best influence and encourage target audience active participation.

During the first quarter, the National Program was on track to meet all engagement activity targets for the year. More specifically, it undertook a range of engagement activities that potentially reached over 15 120 people (see Table 2).

Table 2: Engagement activities undertaken for the first quarter

Engagement Source	Engagement Activity	Target (year)	Actual (first quarter)	Actual (year to date)
School program	School visits	80	19	19
	Students attending	7 500	1 968	1 968
General awareness training (including both industry and community)	Training sessions provided	96	20	20
	Number of trainees	2 400	695	695
Events attend (event season Mar–Sep)	Number of events attended	50	15	15
	People directly engaged	24 000	12 460	12 460

Community engagement activities focussed on informing the public in Area 1 of the impending treatment to be undertaken by the National Program. This was achieved through a range of activities including the placement of public notice announcements in regional newspapers and local radio stations regarding aerial treatment activities.

¹⁴ All Queenslanders have a 'general biosecurity obligation' under Queensland's *Biosecurity Act 2014*.

SCIENCE, RESEARCH AND DEVELOPMENT

Scientific research

Annual target: Ensure monitoring results of science trial sites are provided to both the National Program and cost-share partners

Sub-target: Three bait efficacy trials undertaken in Willowbank, Chuwar, and Purga

Science fire ant bait assessments

Table 3 provides a summary and targets for the three trial locations.

Table 3: Chemical trial site details

Trial location (suburb and area)	Chemical / bait trialled	Number of treatment rounds to be applied	Date trial is expected to commence and finish	Purpose of trial
Willowbank – Area 2 ¹⁵	Distance Plus (pyriproxyfen = attractant) and Distance (pyriproxyfen)	6	Commenced March 2016 (expected completion date January 2018)	To determine the efficacy of Distance® Plus in comparison to the standard Distance® used by the Program
Chuwar – Area 2	Siesta (metaflumizone), Synergy (pyriproxyfen and hydramethylnon), Distance (pyriproxyfen)	4	To commence November 2017 (expected completion date December 2018)	To determine whether the addition of a toxicant to the treatment regime provides a faster kill of polygyne infestations than the standard insect growth regulator treatments
Purga – Area 2	Siesta (metaflumizone), Synergy (pyriproxyfen and hydramethylnon), Distance (pyriproxyfen)	4	To commence November 2017 (expected completion date December 2018)	To determine whether the addition of a toxicant to the treatment regime provides a faster kill of polygyne infestations than the standard insect growth regulator treatments

The trial at Willowbank is underway however the trials at Chuwar and Purga are expected to commence in November 2017.

Willowbank

The National Program has assessed the performance (efficacy) of two fire ant baits on two adjacent plots separated by a road in Willowbank (within fire ant biosecurity zone 2). The purpose of the assessment was to compare the efficacy of two baits—one that is currently used by the National Program (Distance® Ant Bait) and one that is not (Distance® Plus Ant Bait)—on high-density polygyne infestations.

¹⁵ Area 2 as defined in Ten Year Plan.

Distance® (pyriproxyfen)—standard insect growth regulator bait currently used by the National Program

The assessment undertaken in September 2017 showed no fire ant activity in all nests observed in this plot, indicating that the infestation was destroyed after five applications. The fifth application was applied in April 2017. A sixth and final treatment will be made as required under the National Program treatment protocol.

Distance Plus® [pyriproxyfen plus attractant (protein)]—bait not currently used by the National Program

The assessment undertaken in September 2017 showed no viable nests remaining. One nest contained some ants. However, the colony was not considered viable because of the reduced activity observed, with the nest composition limited to just two de-alated females (no queens) and a few sluggish workers. There appeared to be no external mound building activity and grass was growing out of, and throughout, the mound, indicating that the nest was not being actively maintained. This plot had been heavily infested. A sixth and final treatment will be made as required under the National Program treatment protocol.

The results of this limited, single plot/site bait assessment demonstrates that Distance® Plus could be used with confidence in the National Program. Distance® Plus contains an attractant and can be applied at a higher rate than Distance® which may be an advantage for treatment of polygyne infestations.

Chuwar and Purga

The National Program intends to assess the suitability of Siesta® (metaflumizone), Synergy® Pro (hydramethylnon and pyriproxyfen) and Advion® (indoxacarb) alongside, and in combination with, Distance®. These assessments have not yet commenced due to rain, and because of a delay in the delivery of Advion®. Test sites were being investigated in Chuwar and Purga, with testing expected to commence before the end of 2017. While the Purga site is to proceed for bait assessments, the Chuwar site may no longer be a suitable option pending slashing of tall grass. The National Program is in the process of identifying a replacement site should Chuwar not prove feasible. Alternative sites are selected based on the advice of operational staff undertaking surveillance.

Genetic analysis and genotyping

Annual target: Ensure the results of genetic analysis and research is reported to both the National Program and cost-share partners

Sub-target: Social form testing to determine whether a colony is monogyne or polygyne undertaken within 30 working days

Genetic analysis of fire ant samples assists the National Program in a number of different ways—including social form testing to determine whether a colony is monogyne or polygyne. A polygyne colony will have multiple queens, while a monogyne colony has a single queen. Polygyne and monogyne social form trends for this year cannot be established with certainty at this early stage.

More than three quarters of fire ant samples (85%) collected during the quarter remain untested at this time. This is due to an unforeseen shortage of qualified technical officers to carry out this testing. The role of senior Technical Officer has since been filled on a temporary basis and will be advertised for permanent filling in the near future. National Program resources will be subsequently redirected in the second quarter of 2017-18 to help clear the backlog of samples that require social form testing.

Scientific support of National Program activities

Annual target: Provide ongoing support for key National Program functions. This can be reported through diagnostic samples delivered, science-based trials for risk mitigation purposes and scientific principles for key National Program policies and protocols

Diagnostic support

Sub-target: All samples diagnosed within two working days (48 hours)

The National Program diagnostic laboratory receives samples from a number of sources, including National Program personnel, members of the public, government and industry stakeholders. During this quarter, a total of 1150 ant samples were received by the National Program, with 874 or 79% diagnosed as fire ants (see Figure 4). All samples submitted during this quarter were diagnosed within 24 hours.

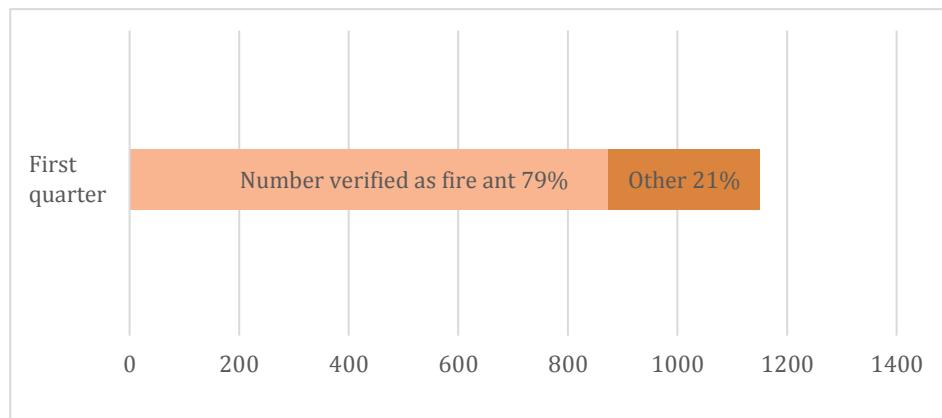


Figure 4: Proportion of total samples diagnosed as positive for fire ant

PLANNING, PROCESSES AND SYSTEMS

The National Program will continue to provide program policy and management, operational planning and scheduling, mapping, information services, and administrative services as required to support the eradication effort.

Eradication planning and quality assurance

Treatment and surveillance

Target: Deliver treatment and surveillance planning requirements for 2018–19 by the end of March 2018

Eradication planning entails the collection, collation, analysis and dissemination of information to determine when, where and how treatment and surveillance will be undertaken in accordance with the strategy outlined in the Ten Year Plan. Eradication planning is informed by science based research, technical expertise and international best practice in eradication techniques. Underpinning this planning is a risk-based eradication approach that prioritises treatment and surveillance areas to reduce the risk of further fire ant spread. The 2017–18 eradication and suppression treatment areas were finalised on 23 August 2017.

Quality assurance

Target: Develop quality assurance measures for treatment and surveillance undertaken in 2017–18

Quality assurance is essential within the National Program to demonstrate accountability and ensure eradication treatment and surveillance is carried out in accordance with established protocols. The activities detailed in the Ten Year Plan and the 2017–18 Work Plan will be monitored to ensure that all planned treatment eradication activities have occurred and targeted areas have received the amount of treatment and surveillance required to achieve eradication. The implementation of National Program procedures and protocols will be closely monitored, as these are critical to ensuring that eradication techniques and methods have been applied correctly.

A dedicated planning and quality assurance unit will be established early in 2018, with new systems and processes developed to implement the 2018–19 Work Plan.

Information systems

Annual target: Provide all operational field staff with field mobility solutions¹⁶

Fire ant management system

A range of major enhancements to facilitate direct access to the Fire Ant Management System (FAMS) by National Program personnel through the use of mobile devices began in October 2017 and are scheduled to continue until December 2017. After the major enhancements have been completed, bug fixes and subsequent enhancements that have been identified will be undertaken.

Field mobility

Table 4: Progress on the implementation of field mobility

Key deliverables	Estimated due date	Status
Assessment of potential mobility solutions	Oct 2017	In progress
Development of Esri ¹⁷ prototype	Oct 2017	Planned
Confirmation and documentation of additional mobility requirements / user stories	Nov 2017	In progress
Project plan for mobility implementation	Nov 2017	Not commenced

¹⁶ Field mobility will allow all field officers including the aerial treatment unit, pest management technicians and odour detection dog handlers to utilise mobile information systems in the field enabling the real time data capture, reporting and accessing of information such as the compliance history of individuals and businesses.

¹⁷ Environmental Systems Research Institute supplying geographical information system software.

Community and stakeholder engagement

The National Program has commissioned the development of a Community and Stakeholder Engagement System (CaSES)¹⁸ using Microsoft Dynamics 365. This new system will provide a much improved customer relationship management system. This will greatly enhance the effectiveness of public reporting of invasive ants and communication with the program's clients. It will also involve a new online portal and mobile friendly form to enable members of the public to report suspected fire ants on the spot.

CaSES is being designed to directly work with the Fire Ant Management System to enable field operations staff to schedule treatment and sample collection jobs as they flow in and, importantly, record community surveillance effort where members of the public have advised that their yard is clear. This will reduce the surveillance workload and allow the National Program to focus on the eradication treatment areas.

Development of solutions for communication and stakeholder engagement will greatly assist in managing the vast amounts of client information the National Program currently inputs, enabling the National Program to better record customer details and tailor communications to its customers. It will also enable the National Program to better record and evaluate community surveillance and manage campaigns.

The process to implement CaSES is underway, with the internal approvals process completed. Configuration and specification of modules is underway and is due for completion by the end of January 2018, with the system becoming live and functional by April 2018.

Policy, strategic planning and governance

Annual target: Deliver on key policy documents (as detailed in the 2017–18 Work Plan)

Policies, strategies and plans

Tables outlining the progress of the development of key policy, strategy and plan documents are provided in [Appendix 6](#).

Significant meetings

On 5 July 2017, the Steering Committee met in Brisbane. The draft Ten Year Plan was circulated for subsequent comments, and approval will be sought at the next meeting on 17 November 2017.

On 26 July 2017, the Agriculture Ministers' Forum met to consider the draft Governance Plan for the National Program and the National Program's expansion. Members approved the draft Governance Plan and the National Program's expansion with funding of \$411.4 million over 10 years. The forum also approved the membership of the Steering Committee, which provides strategic oversight of the National Program.

Risks

Delays in activities necessary to ramp up the National Program following the Agriculture Ministers' Forum decision on 26 July 2017 has delayed treatment in 2017–18. Key activities which have taken longer than expected include securing satellite sites, securing co-located accommodation for head office, procurement for helicopters, and contracting additional personnel. These delays are directly associated with the initial scale-up of the National Program and, therefore, are not expected to re-occur in future. The environmental risk to the National Program's objectives is compounded by rainfall, which can impede the application of treatment during the remaining months of the treatment season. The National Program proposes to treat on weekends and employ additional field staff to make up for the delay.

¹⁸ Previously known as the Customer Relationship Management System.

BUDGET AND FINANCE

Annual target: Monitor and ensure that the cost of delivering eradication plan activities does not exceed the indicative budget for 2017–18 of \$38 million

The National Program's expenditure as at 30 September was \$3,741,642¹⁹. Expenditure was under the projected year-to-date budget, due predominantly to the delay in commencement of planned treatment. Expenditure breakdown is shown in Figure 5 below and financial table provided in [Appendix 7](#).

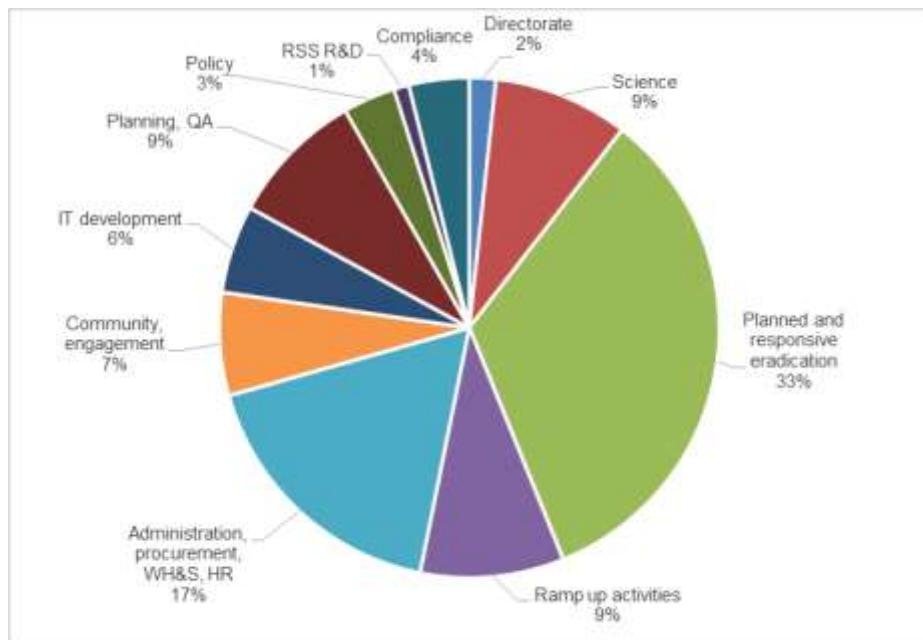


Figure 5: Proportion of expenditure by National Program activity in 2017–18 (year to date)

Staffing

Table 5: National Program staffing numbers as at 30 September 2017

Full time equivalents at end of quarter		Contractors	
current	required	current	required
96.1	98	39	36

¹⁹ For comparison, the Program's expenditure to the end of June (2016–17) was \$18.790 million—which was 98.5% of the available budget (\$19.068 million), comprised of \$16.027 million approved cost-share funding, \$0.466 million carryover of unspent funds from 2015–16 and \$2.575 million supplementary funding from Queensland.

Taskforce and national program ramp-up

Annual target: Achieve key deliverables (such as satellite accommodation, general procurement, recruitment of additional staff and procurement of aerial charter, additional vehicles and additional bait supplies)

Taskforce activities will transition to business-as-usual activities undertaken by the National Program by 31 March 2018.

Accommodation

Table 6: Progress in securing satellite sites and relocation of Moggill and Richlands personnel to the one location

Deliverables	Due date	Status
Finalisation of contract for head office	30 Nov 2017	A new site for co-location of staff has been identified and lease negotiations have commenced with the site owner. The suitable site has building and mechanical inspections scheduled for early October 2017, during which site fit-out requirements will be identified.
Selection of satellite depot sites	30 Nov 2017	Three remote satellite sites have been identified to service the geographic areas in Area 1. The sites are at Mutdapilly, Gatton and the Lockyer Valley local government area. Negotiations are occurring to establish the legal requirements to occupy and use the proposed sites.
Relocation of Moggill and Richlands staff into new head office	Initial relocation 31 Dec 2017	An accommodation plan is being developed that outlines a number of options to relocate all staff to the identified head office site. This forms part of the lease negotiations with the site owner.
	Second relocation Apr 2018	Due to current tenants occupying the new site, one of the current sites will be retained initially. The National Program will operate from the two sites initially for three months to allow the new site fit-out and enable increased National Program recruitment.
Establish satellite site in Gatton	Department of Agriculture and Fisheries site 28 Feb 2018	The Gatton site: Queensland Government approval processes have delayed the fit-out and property improvements.
	Lockyer Valley site Nov 2017	Negotiations are continuing to occupy a site in the Lockyer Valley Regional Council area.
Establish satellite site at Mutdapilly	28 Feb 2018	Electrician and cleaning works have been completed in readiness for occupation. The National Program is addressing legal requirements to occupy the site.
Secure aircraft facility at Wacol	Oct 2017	Initial works have been completed to enable increased aerial operations.
Aerial land sites identified and secured	Oct 2017	Aerial landing sites have been identified. The National Program is in the process of addressing legal requirements to occupy the site.

Major contracts

Table 7: Progress of the major contracts

Supply	Due date	Delivered date	Status
Aerial charter (new)	30 Sep 2017	22 Nov 2017 (3 year contract signed by the Director General)	Executive Council approved the proposed aerial charter procurement process and the contract went to open market.
Labour hire (new)	31 Oct 2017	2018	The previous direct contract with a single supplier has ceased. The National Program is currently sourcing from multiple suppliers.
Vehicle hire (new)	Mar 2018	Ongoing car hire arrangements as required	The National Program currently has 48 vehicles on lease arrangements. An additional 25 vehicles have been requested and future vehicle requirements are being investigated.
Bait (one year extension)	31 Dec 2017	5 Sep 2017	An interim purchase order for 214 tonne has been placed while an extension to the currently bait supply contract is arranged.
Odour detection dog supply and training (1 year extension)	31 Jan 2018	2 Aug 2017	Complete.
Ant colony facility (new)	28 Feb 2018	To be determined	Potential sites and solutions are being investigated.

Lower value contracts

Table 8: Progress of Monash modelling

Supply	Due date	Status
Operational strategy option modelling	Sep 2017	The project has been delayed. Negotiations continue to revise timelines for delivery of the final report.

Staff recruitment

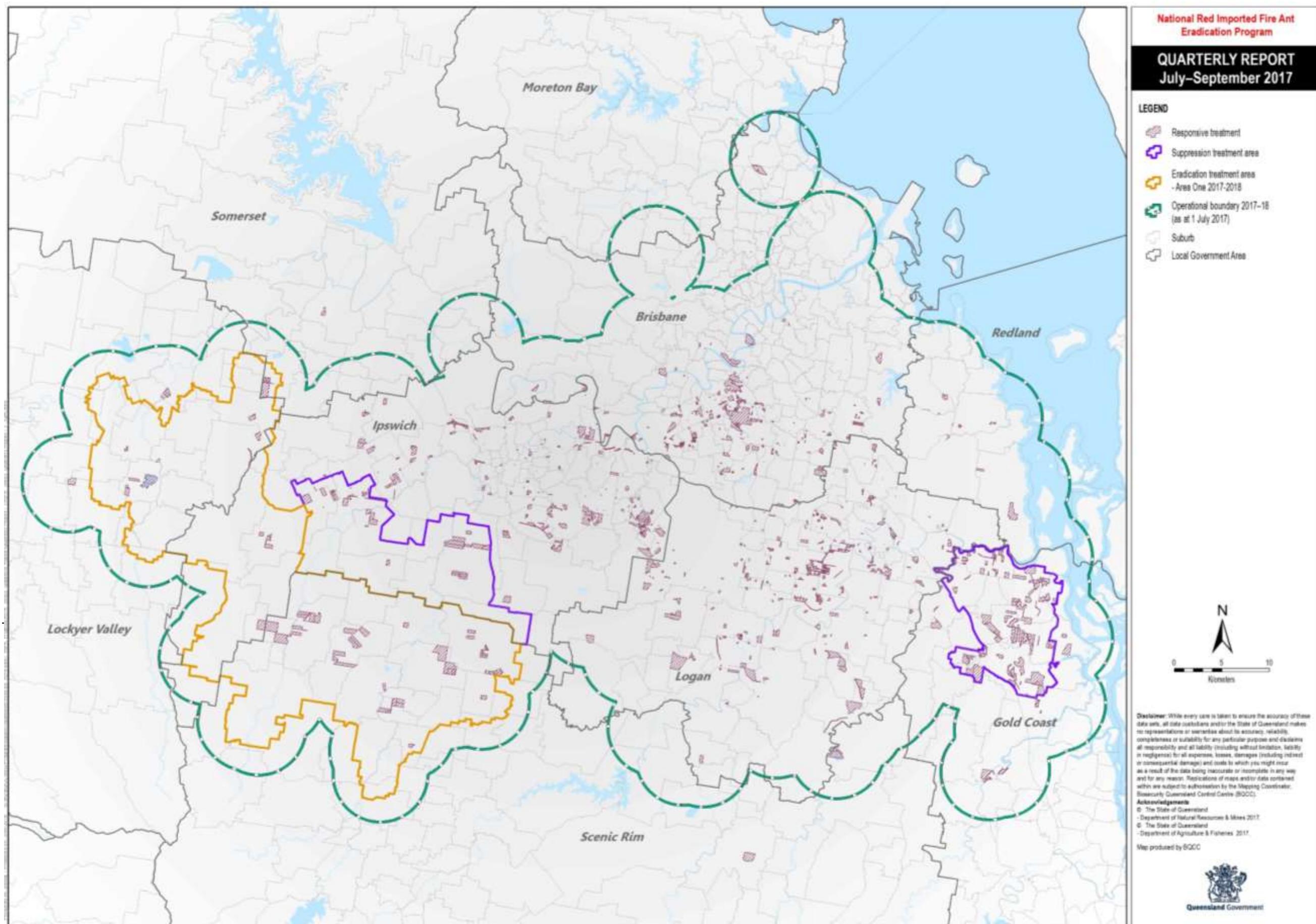
Table 9: Progress in recruitment of National Program staff

Deliverables	Due date	Status
Appoint ramp up positions	30 Sep 2017	All approved ramp-up positions have been appointed. Ongoing recruitment has occurred largely as a result of staff turnover due to short-term contracts being offered.

Deliverables	Due date	Status
Finalise National Program structure and recruitment plan	31 Oct 2017	A draft National Program structure has been submitted for approval to the Chief Biosecurity Officer and the Director, Human Resources (Department of Agriculture and Fisheries) in line with the model being proposed for the Biosecurity Queensland Organisational Capability Review. The recruitment plan outlining recruitment principles has been provided to the Director, Human Resources for consideration.
Appoint contract field staff	Oct 2017	Contract staff appointed.
Advertise priority 1 positions	30 Dec 2017	Priority 1 positions include senior leadership positions and the management team. The Executive Director and Director positions have been advertised and, in accordance with caretaker conventions, are currently on hold pending the result of the 2017 Queensland state election. Four manager positions are expected to be advertised in early December 2017.
Advertise priority 2 positions	31 Mar 2018	Priority 2 positions have been identified by the management team as being the next most critical positions required to progress National Program activities. These positions—which include operational, science and planning roles—will progressively be advertised from early 2018.
Advertise priority 3 positions	30 Jun 2018	Priority 3 positions comprise the remainder of new and/or vacant positions required to populate the new structure. It is anticipated that these positions will be advertised from March 2018 onwards.

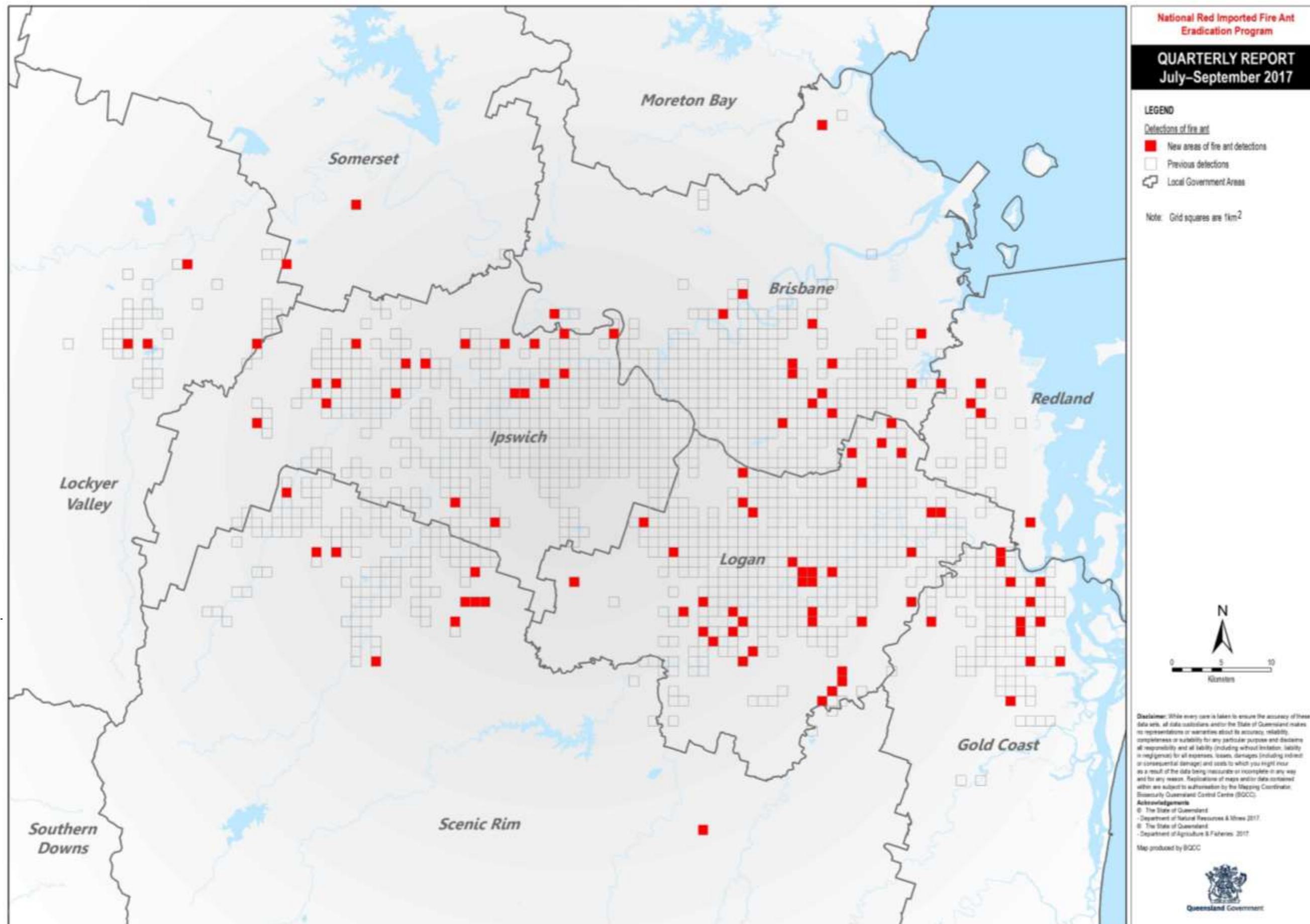
Appendix 1: Completed treatment (first quarter 2017–18)

This map is a representation of the areas where National Program treatment has been completed in the first quarter of 2017–18.



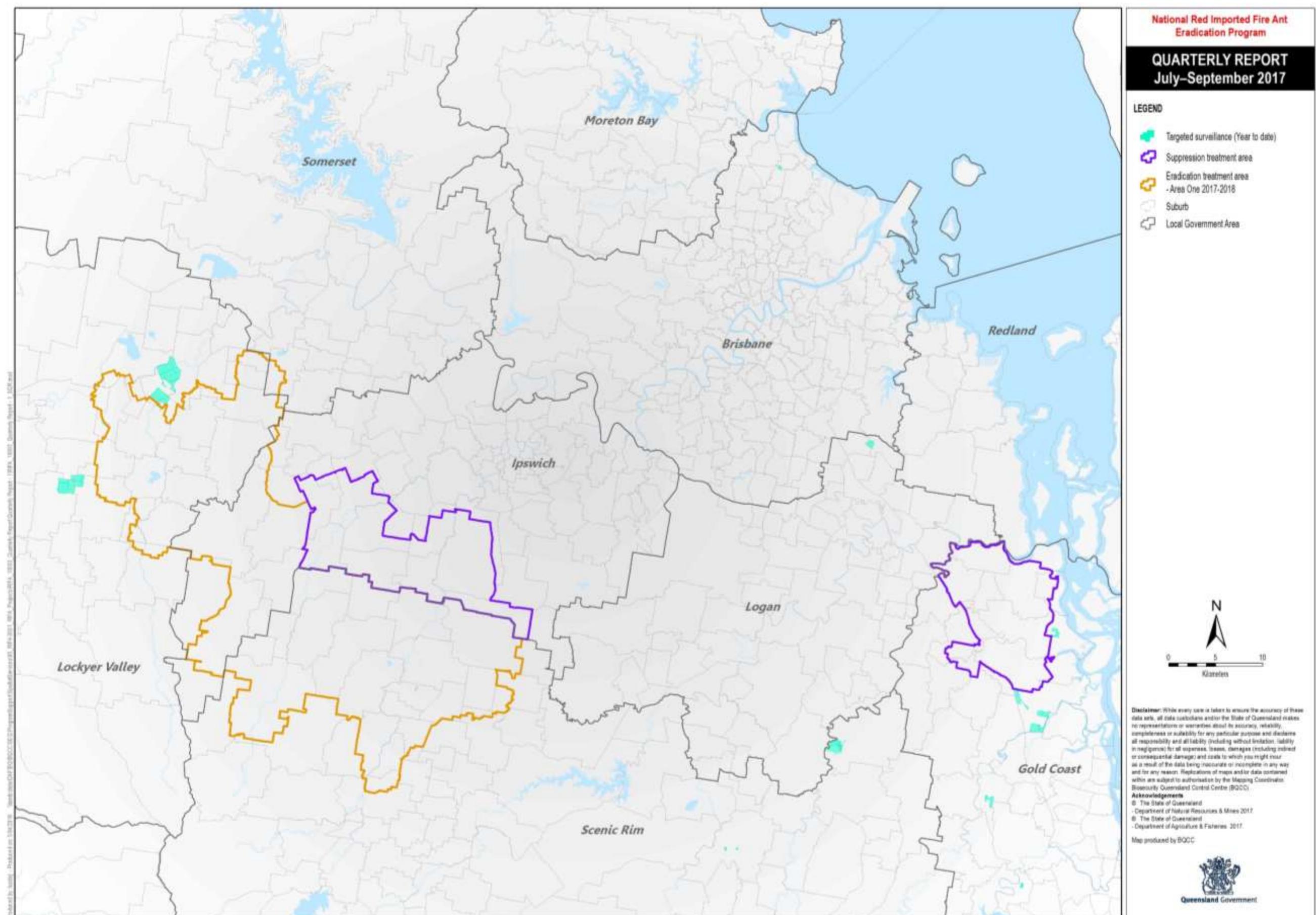
Appendix 2: Map of detections (first quarter 2017–18)

It should be noted that all new detections in these grids are destroyed, either through the implementation of the National Program's treatment protocols or through planned eradication or suppression treatment.



Appendix 3: Targeted surveillance (first quarter 2017–18)

This map is a representation of the areas where National Program targeted surveillance has been completed in the first quarter of 2017–18.



Appendix 4: Sentinel sites (first quarter 2017–18)

Locations	Land use	Expected completion date	Target hectares	Hectares completed (first quarter)	Surveillance date	Fire ants detected	Status/follow up
Beaudesert	Housing development	30 Jun 2018	89	89	19 Sep 2017	Yes	Significant detection
Gatton	Housing development	30 Jun 2018	99	99	21 Sep 2017	No	N/A
Lowood	Housing development	30 Jun 2018	32	32	10 Aug 2017	Yes	Significant detection
Fernvale	Housing development	30 Jun 2018	14	14	21 Sep 2017	No	N/A
Gleneagle	Turf farm	30 Jun 2018	218	218	2–22 Aug 2017	No	N/A
Coominya	Turf farm	30 Jun 2018	142	96	1 Sep 2016 and 9 Sep 2016	No	28% not completed due to dense vegetation/ forest
Mulgowie	Cropping	30 Jun 2018	20	20	1 Aug 2017	No	N/A
Gilston	Development	30 Jun 2018	34	10	24 Aug 2017	No	30% incomplete as area not suitable habitat (dense bush)
Fassifern Valley	Cropping	30 Jun 2018	75	0	28 Sep 2017 onwards		N/A
Upper Tenthill	Cropping	30 Jun 2018	32	0	28 Sep 2017 onwards		N/A
Bromelton	Waste facility	30 Jun 2018	66	0			No start date scheduled
Kalbar	Cropping/farm	30 Jun 2018	52	0			No start date scheduled
Lawnton ²⁰	Housing development	30 Jun 2018	52	52	22–26 Sep 2017	No	N/A
Keperra	Old quarry site	30 Jun 2018	58	0	N/A	N/A	Not possible to survey as fenced off
Boyland	Turf farm	30 Jun 2018	126	118	16 Jun 2017	No	6% of land too wet to survey
Adare ²¹	Cropping	30 Jun 2018	56	56	13 Sep 2017	No	N/A
Adare ²²	Housing development	30 Jun 2018	40	40	11 Sep 2017	No	N/A

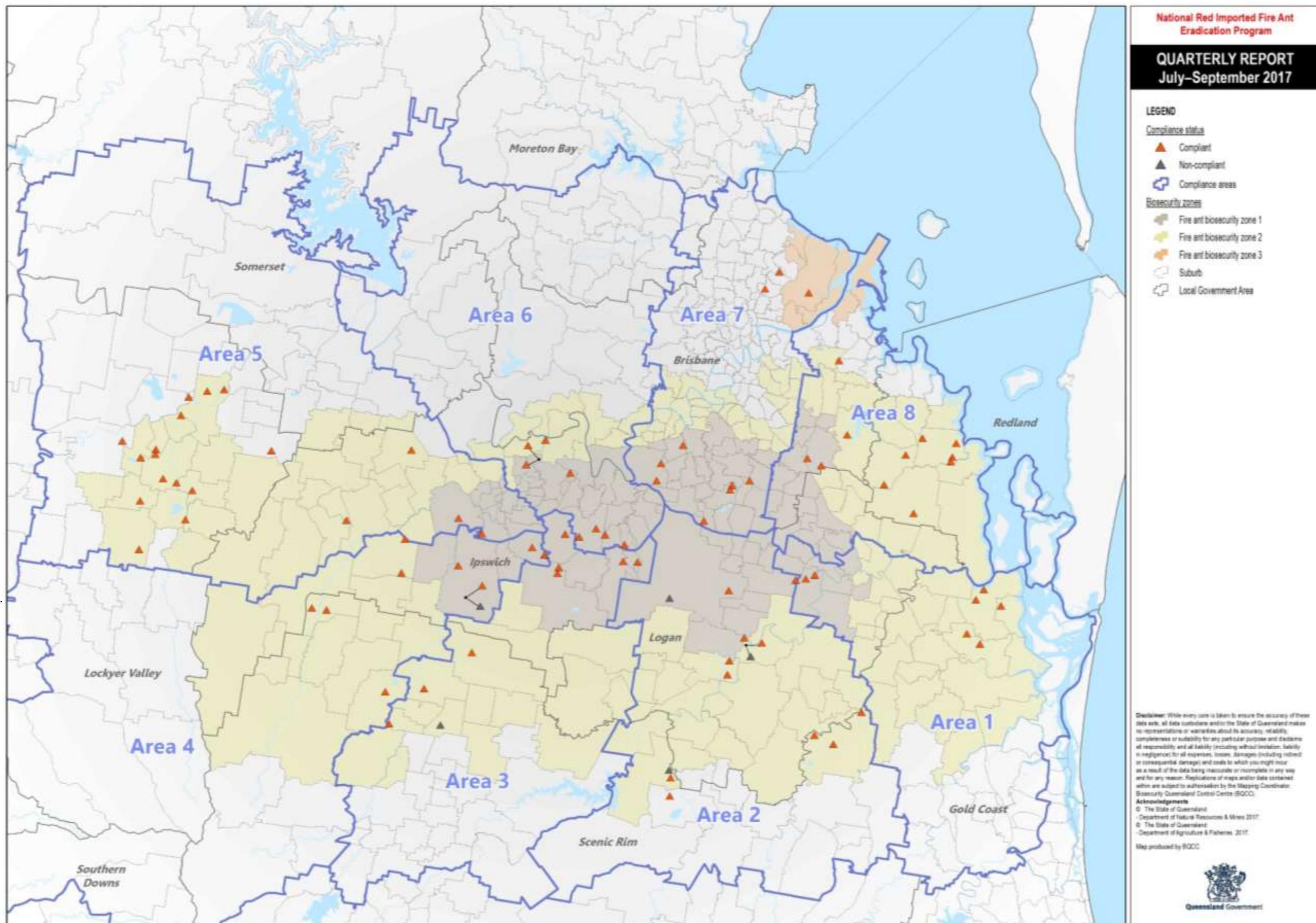
²⁰ Todd Road (Rivers Edge estate).

²¹ Millers Road.

²² Blue Grass estate.

Appendix 5: Compliance checks (first quarter 2017–18)

This map is a representation of the areas where program compliance checks have been undertaken in the first quarter of 2017–18



Appendix 6: Progress of policy, strategy and plan documents (first quarter 2017–18)

Policies

Task	Focus	Status
Waste facilities		Under review. Discussion paper drafted.
Managing large-scale disturbance		New. Discussion paper drafted.
Dealing with non-compliance (with movement controls)		New. Not commenced.
Fire ant biosecurity zones		Under review. Revised draft ready for approval.
Treatment for fire ants by general pest management technicians		New. Discussion paper drafted. Revised discussion paper to be drafted.
Treatment by landowners/businesses		New. Discussion paper drafted. Revised discussion paper to be drafted.
Genetics		New. Not commenced.
Declaration of proof of freedom		New. Not commenced.

Priority in 2017–18

Priority in future years

Plans and strategies

Task	Focus	Status
Ten Year Eradication Plan		Comments received from Steering Committee. Amended plan to be submitted at Steering Committee meeting 2 on 17 November 2017 for final approval.
2017–18 Work Plan		Draft to be submitted to Steering Committee in October 2017.
2017–18 implementation guide		New. Not commenced.
Compliance strategy		To be presented to Steering Committee in February 2018.
Communication and engagement plan		New. Commenced.
2018–19 Work Plan		New. Not commenced.

Priority in 2017–18

Appendix 7: Financial table (at 30 September 2017)

Activity	First quarter actual (\$)	First quarter budget (\$)
Directorate ²³	63 941	72 105
Science	327 537	362 656
Ramp up activities	348 212	396 456
Planned and responsive eradication	1 249 850	3 360 254
Administration, procurement, workplace health and safety, human resources	653 014	781 821
Community engagement	249 090	297 268
Compliance	145 841	243 408
Information technology development	212 258	105 000
Planning, quality assurance	328 386	330 622
Policy, governance	127 099	201 891
Remote sensing surveillance, research and development	36 413	175 822
Grand total	3 741 641	6 327 301

²³ Management costs and Steering Committee Chair remuneration.

Appendix 8: Glossary

Term	Definition
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 detection to confirm the extent of the infestation.
Detections of importance	See significant and outlier detections.
Direct nest injection	Involves the injection of chemical directly into a nest or mound to destroy the nest.
Fire ants	Red imported fire ant or <i>Solenopsis invicta</i> Buren 1972.
Fire ant 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 regularity provisions restrict movement of fire ants and fire ant carriers to help prevent human-assisted spread.
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
National Program	National Red Imported Fire Ant Eradication Program in South East Queensland
Nest	A structure which 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 treatment area	Areas which are targeted for intensive or suppression treatment.
Polygyne	A social form of fire ant where a colony may contain multiple queens and their offspring.
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, which 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.
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 National Program.
Operational boundary	A 5 kilometre buffer around known infestation detected within a set timeframe. This boundary is reviewed on an annual basis.

Term	Definition
Outlier detection	An infestation detected beyond the fire ant biosecurity zone.
Regulation	Biosecurity Regulation 2016. The Biosecurity Regulation 2016 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.
Significant detection	A new infestation discovered beyond the operational boundary.
Sentinel sites	Term used to describe areas of land that will be used to monitor for the presence or absence of fire ants.
Suppression activities	The minimum required treatment and surveillance required to contain and suppress spread, in accordance with the National Program treatment protocol. Infestation in areas that is 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, which have not yet undergone focused and coordinated eradication activity.
Surveillance	An official process that collects and records data on pest occurrence or absence by survey, monitoring or other procedures.
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 generally is from September to May (approximately).
Work Plan	Detailed plan outlining the eradication activities that will be undertaken in the upcoming financial year.