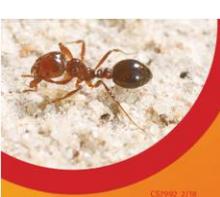




2019–20 WORK PLAN

NATIONAL RED IMPORTED FIRE ANT ERADICATION PROGRAM SOUTH EAST QUEENSLAND



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INTRODUCTION

The fire ant¹ 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 an 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 in operation 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. However, small pockets of high density infestation have started to impact on human and animal health and well-being.

Ten year eradication plan

The eradication of red imported fire ants continues under the National Red Imported Fire Ant Eradication Program (the Program) which has a nationally endorsed Ten Year Eradication Plan (Ten Year Plan) that commenced on 1 July 2017.

The aim of the Ten Year Plan is to provide a comprehensive strategy for the Program to eradicate red imported fire ants from South East Queensland over the period 2017–18 to 2026–27.

Objectives²:

1. *Reduce infestation until fire ants are no longer present in South East Queensland and ensure areas remain free from fire ants through the implementation of eradication measures.*
2. *Prevent spread of fire ants to non-infested areas (using a combination of treatment, monitoring of compliance with movement restrictions pertaining to fire ant carriers³, and public education/engagement).*
3. *Provide evidence to demonstrate freedom from fire ant infestation in the South East Queensland region following the process to declare proof of freedom.*
4. *Help prevent the establishment of new incursions of invasive ant species Australia-wide by building capability in, and provision of, invasive ant response and eradication expertise.*

Strategies

The Ten Year Plan contains several key strategies to achieve these objectives, including the following which are reproduced to provide context for this document.

- A progressive 'rolling' strategy that focuses intensive eradication activities initially in infested areas on the outer western and south-western perimeter of the Operational Area and then shifts eradication effort inwards to areas with persistent infestation. A feature of the progressive rolling strategy is the need to overlap the staged treatment areas to ensure that areas are not at risk of re-infestation.
- Coordinated and focused eradication activities in priority areas over three phases: *search and suppress; treat; and search and clear.*
- An extended operational area for eradication activities 5 km beyond all known existing infestation, including a combination of treatment and surveillance, activities to prevent human-assisted spread, and stakeholder engagement to provide confidence that the area has been fully defined.
- Collaboration with industry and the wider community to achieve eradication objectives.
- Communication and engagement with the public and stakeholders to support operational activities of treatment, surveillance and compliance.

¹ *Solenopsis invicta*.

² Abbreviated from the Ten Year Plan.

³ Materials that are capable of moving fire ants such as soil, mulch, animal manure, baled hay or straw, potted plants and turf.

- Educating and informing stakeholders and the wider community to build confidence in the Program.
- Encouraging reporting of suspect fire ants and risk mitigation activities to prevent human-assisted movement.
- Greater engagement with industry, local government and residents to pursue collaborative arrangements for them to treat and undertake structured surveillance on land for which they are responsible.
- Staged clearing of suburbs and confirmation that priority areas are free from fire ants following the completion of treatment, which will progressively reduce the Operational Area and provide confidence that eradication is successful.

Activity areas

The **Operational Area** is defined in the Ten Year Plan as the ‘*Total area of known infestation confirmed by delimitation⁴ and adjusted for known and predicted infestation spread since completion of delimitation*’ (five kilometres beyond all known infestation).

The Operational Area serves the important function of identifying the extent of Program planned 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.

The first eradication treatment area is in the west of the Operational Area and is predominantly rural and agricultural land. Eradication treatment commenced in this area in 2017–18 and is scheduled to be completed in 2019–20. This eradication treatment area, known as **Area 1**, extends two kilometres beyond all known infestations detected between 2012 and May 2017 (87,600 hectares).

Since the eradication treatment area was determined, detections have been made further west. In response to the risk of further spread, in August 2018 the Steering Committee⁵ endorsed broad scale eradication treatment at key risk locations outside Area 1. An eradication treatment area five kilometres beyond all recorded infestation was created and is known as the **Western Boundary area**.

To protect the eradication treatment areas treatment will be undertaken in a buffer zone two kilometres within the eastern edge of Area 1, known as the **Area 1 Overlap**. Treatment will also be undertaken in the area defined as the **Western Suppression area** on the western side of Area 2. This is designed to protect any nuptial flights taking place close to the eradication treatment area boundary.

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). The increase in high density infestation in these Areas 2–4 and the impact this is having on humans and animals, indicates there is a need for suppression activity prior to the eradication activities commencing in these areas.

Treatment and surveillance activities

Treatment

To destroy fire ant infestation, either an area is baited with an insect growth regulator (IGR) or a nest is directly injected (DNI) with a non-repellent pesticide or both. A toxicant bait may also be applied around the immediate vicinity of the nest.

‘Suppression’ is differentiated from ‘eradication’ by the treatment outcome. Eradication treatment aims to eliminate all fire ant infestations, whereas suppression treatment aims to reduce the number of infestations or stop the number increasing. ‘Eradication’ requires repeated broad scale application of treatment material,

⁴ The action of fixing the boundary or limits of something.

⁵ The Steering Committee comprises representatives from each of the Program funding partners—the Commonwealth and each of the States and Territories.

whereas 'suppression' of red imported fire ant activity involves the targeted application of treatment material or a reduced number of broad scale applications.

The treatment applied depends on the location of the detection and the risk to human and animal health or to spread of the infestation. In Area 1 and the Western Boundary area, successive rounds of IGR bait have been applied to eradicate fire ants. Any subsequent detections following the final bait round will be investigated and treated by DNI to immediately destroy the nest.

IGR bait is also applied to the Western Suppression area, however its proximity to Areas 2–4 implies that this area is a buffer between the eradication and suppression areas. The Western Suppression area will become part of Area 2 (for eradication treatment) when the treatment program moves east in 2020–21.

DNI and toxicant bait are applied when a rapid destruction of an infestation is required, such as when there is a high risk to human or animal health or of the infestation spreading beyond the Operational Area.

IGR bait is applied on foot by using a hand-held spreader, from the back of an all-terrain vehicle, or it is broadcast aerially by helicopter. Baiting is ideally conducted when soil temperature is greater than 20 degrees Celsius and ants are foraging and usually occurs between mid-September and May–June. Surveillance is undertaken to determine if fire ants are foraging, and therefore treatment could be successful, outside of these periods.

Targeting monitoring of planned treatment areas follows each treatment round to assess treatment effectiveness.

To quickly address infestations where there is a high risk to human or animal health and safety, or further spread of infestation, responsive treatment is undertaken involving either DNI, baiting the surrounding area with IGR, applying toxicant bait or a combination of these treatments.

Responsive actions are unplanned and occur in response to new detections or heavy infestations. New detections may be reported by the public, industry or other levels of government, or may be detected by the Program through its treatment and surveillance activities.

Surveillance

Surveillance is currently undertaken by field staff or by odour detection dogs. 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 2019–20.

Surveillance is conducted for different purposes and with different aims. There are two categories of surveillance – planned and responsive. Planned surveillance includes **sentinel**, **targeted**, **community** and **monitoring**. Responsive surveillance includes **delineation** and **post-treatment validation**. To help defend the Operational Area boundary, planned **sentinel** surveillance is undertaken at more than 300 sites outside of the boundary in suitable fire ant habitat. To preserve the eradication treatment area, planned **targeted**, **community** and **monitoring** surveillance is undertaken to assess the level of infestation.

Responsive **delineation** surveillance is conducted around any new detection to determine the extent of the infestation. Delineation surveillance is of particular importance for detections close to the Operational Area boundary, either within five kilometres inside or outside of the boundary to verify that infestations exhibit no further spread, or for the early detection of further spread. Finally, to ensure treatment has successfully resulted in the destruction of new 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 Area boundary or in eradication treatment areas.

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 biosecurity 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.

Communication and stakeholder engagement

Community and stakeholder engagement activities are critical in ensuring the public is well-informed about the presence of red imported fire ants in South-East Queensland and their responsibility under the *Biosecurity Act 2014* and the *Biosecurity Regulation 2016*.

Communication, education and engagement activities will continue to raise awareness and encourage community participation with the Program. A broad range of activities will be implemented to support engagement with targeted audiences.

There will continue to be a strong focus on collaborating with key stakeholders including industry and local government to enable their support of the Program's goals.

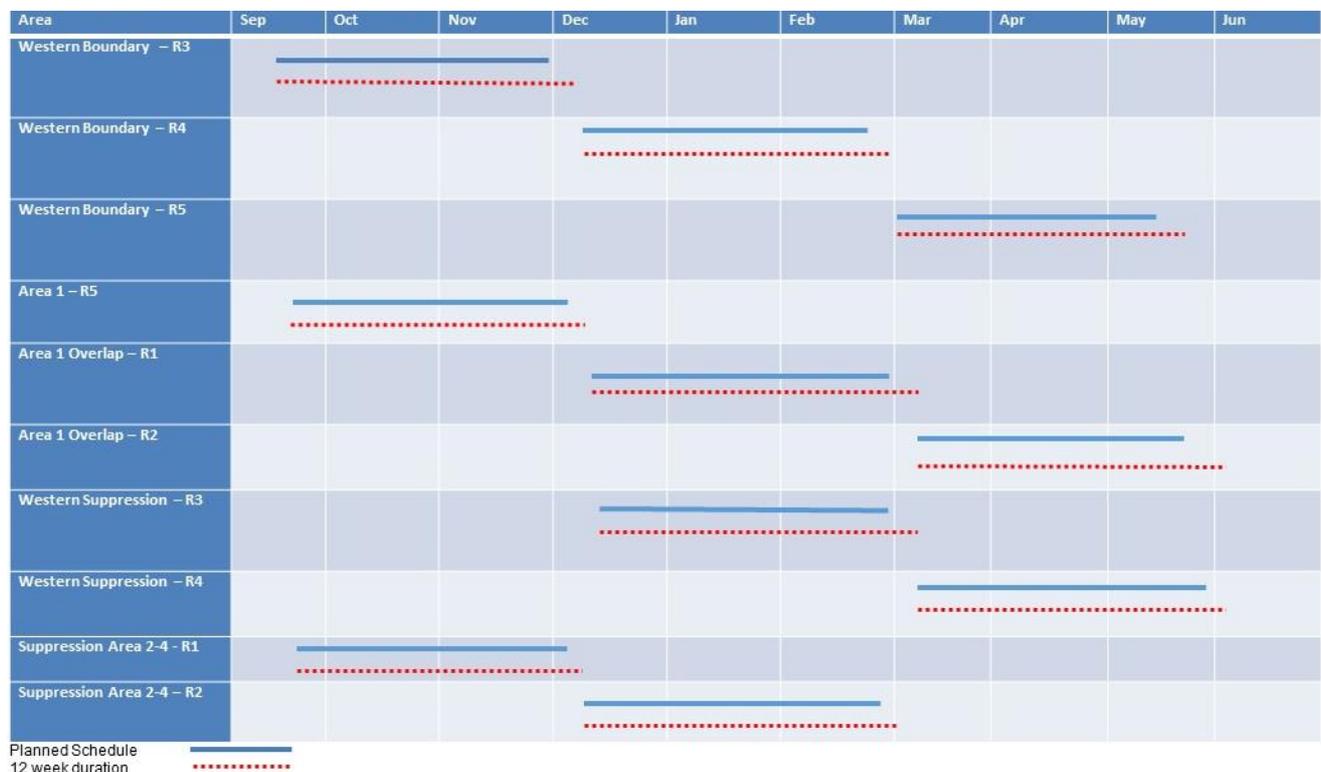
Work plan 2019–20

The Ten Year Plan specifies that it will be supported by an annual work plan for each financial year. This document is the work plan for 2019–20 and it provides a summary of the activities to be undertaken in the third year of the Program's ten year eradication plan. The presentation of the activities in this work plan is broadly aligned with the objectives of the Ten Year Plan and comprises four main sections focusing on 'eradication', 'containment', 'clearance' and 'continuous improvement'.

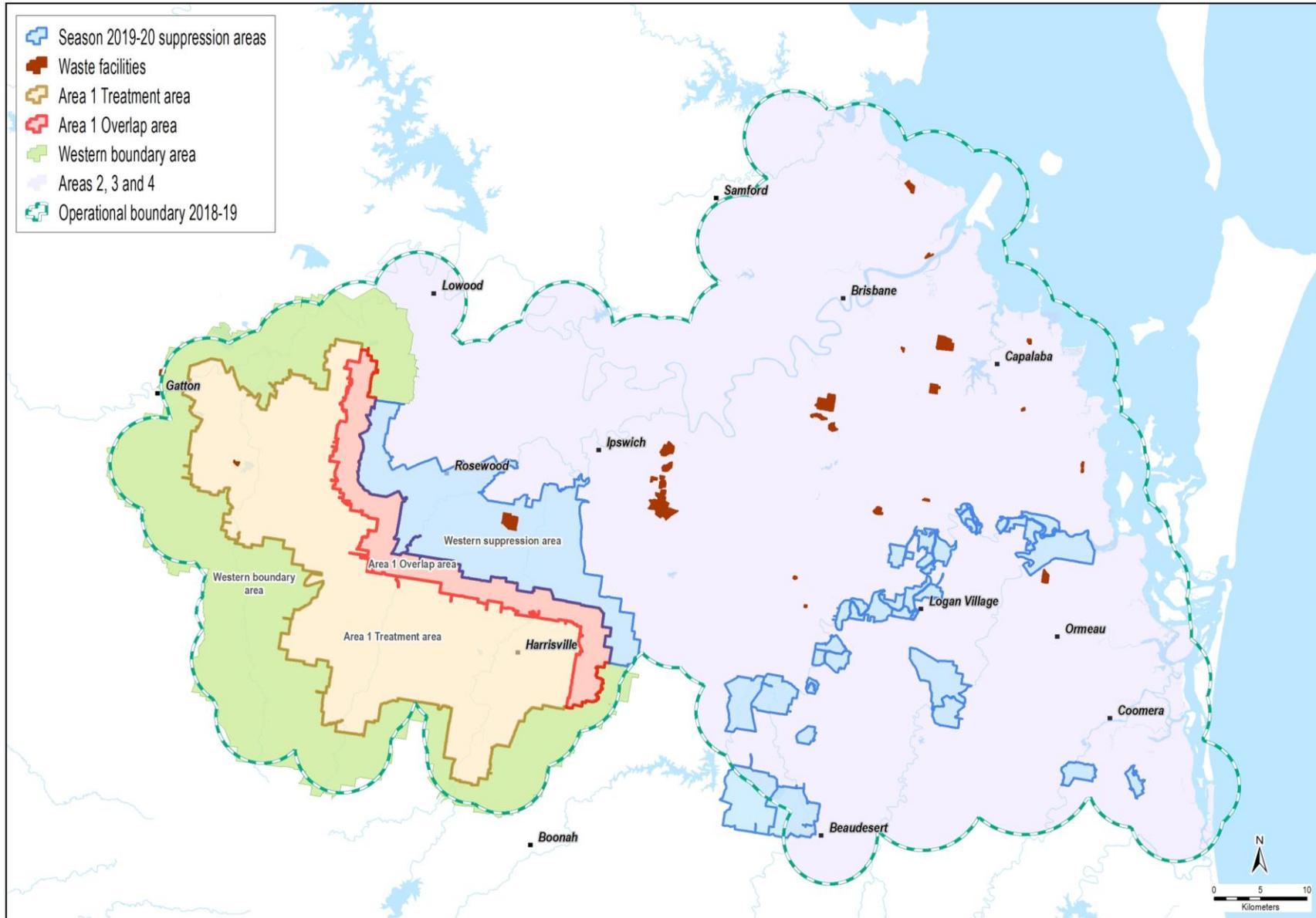
A list of 'deliverables' in each section provides a summary of the key activities that will be undertaken by the Program in pursuit of the Ten Year Plan objectives. The Program's progress on undertaking these key activities will be reported to the Steering Committee and published online on a quarterly and annual basis.

Table 1 below provides a summary of planned eradication and suppression treatment for 2019–20. The 'twelve week duration' indicated is the optimal elapsed time between treatment rounds.

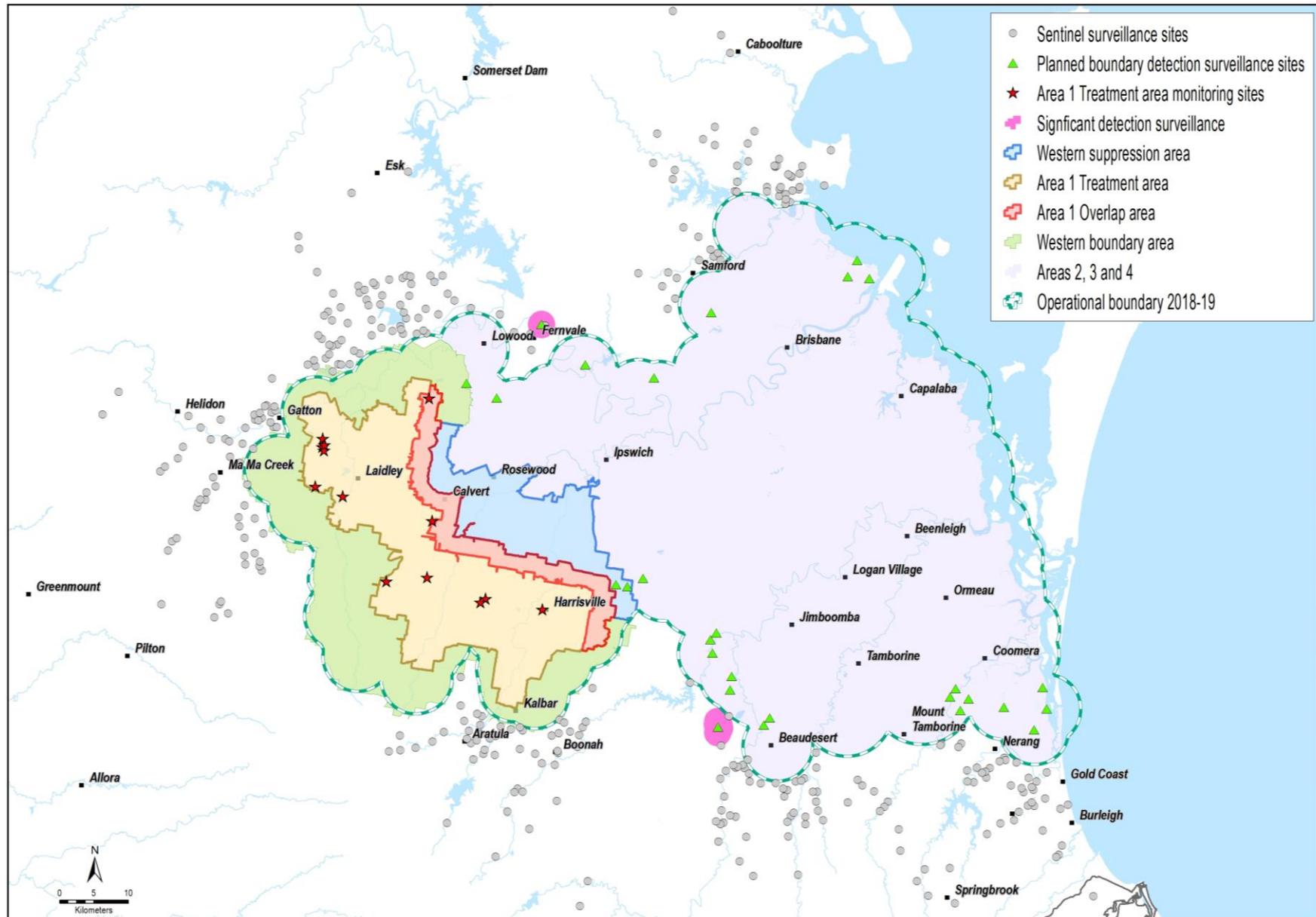
Table 1: Planned Treatment Summary



Map 1: Fire Ant Treatment Areas



Map 2: Planned Surveillance Areas



ERADICATION

Phase 2 – Treatment (Area 1, Area 1 Overlap and Western Boundary area)

Objective 1: Reduce infestation until fire ants are no longer present in South East Queensland and ensure areas remain free from fire ants through the implementation of eradication measures.

The broad scale application of IGR bait to eradicate fire ants in Area 1 and the Western Boundary area will be completed in 2019–20. Following the final treatment round, the treatment area will be assessed for any remaining infestations and monitored for new detections.

The broad scale baiting treatment will be supported by surveillance and targeted community engagement activities. Following the final round of bait treatment, any new detections within Area 1 will be destroyed as a priority.

Planned treatment

As indicated in *Map 1: Treatment Areas*, the bait application plan for this year will continue the previous year's eradication treatment in the Lockyer Valley, western Scenic Rim and portions of the Ipswich City Council areas. Specifically, treatment will comprise:

- one round of IGR bait applied throughout the area known as Area 1—approximately 87,600 ha
- up to three rounds of IGR bait applied throughout the area identified as the Western Boundary area—approximately 77,700 ha (233,100 ha in total)
- up to two rounds of IGR bait applied throughout the area defined as Area 1 Overlap—a two kilometre buffer within the eastern edge of Area 1—16,000 ha. This means that this area will receive up to seven rounds of treatment by the end of 2019–20.

See *Map 1: Fire Ant Treatment Areas* and *Table 1: Planned Treatment Summary*.

Targeted communication and engagement activities will inform residents of Program activity in the area and include information about property access and their GBO. Following the fifth round of eradication treatment of Area 1 a targeted communication and engagement campaign will raise awareness that we believe the area has been cleared of fire ants and the importance of continuing to check for infestation.

Responsive treatment

It is anticipated that the fifth round of eradication treatment of Area 1 in the first half of 2019–20 will have eliminated 95 per cent of fire ants in this area. Consequently, any new detections found in this area will be treated immediately and will undergo thorough analysis to determine the likely cause of the infestation and possible spread. Where human-assisted movement is the potential cause of new detection, further investigation may be necessary.

The new detection will be destroyed as a priority by DNI with IGR or toxicant bait spread around the detection, if necessary.

Surveillance

Surveillance of the eradication areas will comprise the following approaches:

Community surveillance

The objective of community surveillance is early detection of any remaining or new fire ant infestation within Area 1 and the Western Boundary area. This activity will also help assess bait treatment efficacy, help to estimate the sensitivity of community surveillance, and promote positive public stakeholder engagement.

A broad communication campaign will be delivered targeting all residents in Area 1 and the Western Boundary area to conduct surveillance over winter and report findings to the Program. A selection of residents with known previous fire ant infestation will be directly engaged and encouraged to participate.

The campaign is intended to provide the Program with additional evidence:

- of treatment efficacy
- of the sensitivity of community surveillance
- to influence further treatment requirements
- to inform proof of freedom.⁶

Monitoring surveillance

Planned monitoring surveillance will be undertaken at the 13 long-term treatment monitoring sites established in Area 1. This surveillance will help assess treatment efficacy and whether further treatment rounds are required.

Post-treatment validation surveillance

The odour detection dog teams will undertake post-treatment surveillance of previously reported infestation in these areas. This will allow individual colonies to be officially cleared and add to the evidence required to support clearance and proof of freedom for treated areas.

See *Map 2: Planned Surveillance Areas*

Preventing human-assisted spread

Program activity will be focused on managing the risk of spread associated with the movement of carrier materials from Areas 2–4 into the eradication area. This area is predominantly agricultural with some areas of new housing, industrial development and road construction. Compliance activity will be focused on these types of activities to ensure risk is minimised. New movement controls will also provide a legislative means of addressing this risk.

Communication and engagement activities will support the achievement of this objective, with the aim of raising awareness of the important role that individuals and industry play in keeping this area free from fire ants.

Deliverables

The following list summarises the main eradication-related deliverables that will be pursued by the Program over the course of 2019–20:

1. the planned eradication activities listed above and in Table 1
2. the provision of targeted treatment information, including property access and the general biosecurity obligation, to all the residents within the areas listed in Table 1 before and during the treatment season
3. the investigation, analysis and destruction of every new detection found in Area 1 and Western Boundary area as a priority
4. the surveillance activities listed above (sentinel surveillance, community surveillance and treatment verification)
5. odour detection dog clearance of colony points in the eradication areas
6. the provision of targeted information about movement controls and the general biosecurity obligation to high risk businesses (e.g. hay producers, landscaping yards, civil and road construction companies, earthmovers and plant hire) and local government
7. a compliance strategy addressing the highest risk activities.

⁶ A particular area will be declared free of red imported fire ants two years following the last treatment of confirmed infestation in that area.

CONTAINMENT

Phase 1 – Search and Suppress (Areas 2–4)

Objective 2: Prevent spread of fire ants to non-infested areas (using a combination of treatment, monitoring of compliance with movement restrictions pertaining to fire ant carriers, and public education/engagement).

The Program's containment actions comprise on-the-ground suppression of fire ant activity through the application of IGR bait and DNI to fire ant nests and carrier movement controls and sanctions to reduce the human-assisted spread of fire ants from one location to another.

In addition to suppression treatment on the eastern border of Area 1 to protect the investment in eradication, high-density and polygyne⁷ infestations within Areas 2–4 will also be targeted for suppression treatment.

Fire ants will be contained within the Operational Area boundary as much as possible with prompt destruction of any infestations detected within 5kms of the boundary. A network of sentinel sites will also be established outside of the boundary to act as early warning of spread further afield.

Planned suppression treatment

Suppression treatment this year will comprise:

- up to two rounds of IGR bait applied throughout the area defined as the Western Suppression area—approximately 26,800 ha per round
- two rounds of IGR bait applied to areas identified as having high-density or polygyne infestation—approximately 22,000 ha per round.

The areas identified for high-density and polygyne treatment include parts of the Ipswich Council Region and Logan and Scenic Rim Council Regions and selected areas of the Gold Coast, including Maudsland and Arundel/Helensvale. The Program will also conduct two rounds of treatment on waste facilities amounting to around 1,600 ha.

See *Map 1: Fire Ant Treatment Areas* and *Table 1: Planned Treatment Summary*.

Responsive treatment

For new, low density infestations, the Program will trial a new procedure of treating all nests with a toxicant bait at the same time that ant samples are collected from the infestation by field staff. This is intended to immediately destroy the nest and should result in a decrease in required scheduling of DNI. Scheduling of DNI will only occur if the site owner reports that the initial treatment with toxicant has not worked after four weeks. Trials of different types of toxicant bait have shown variability in treatment efficacy. Consequently, this treatment regime will provide further field trials to determine which toxicant baits are most effective and should be utilised more broadly in the Program.

If there is a high risk to public safety (e.g. school, childcare centre, high-use parks or where the property owner/occupier is allergic to ants), toxicant bait will be applied at the time of sample pick up, with DNI scheduled as a priority.

Significant detections⁸ and boundary detections⁹ will be prioritised for immediate analysis and destruction.

Surveillance

Surveillance outside of the area undergoing eradication treatment (Area 1, Area 1 Overlap and the Western Boundary area) will comprise planned sentinel surveillance and responsive delineation surveillance in response to boundary and significant detections.

⁷ A colony where the progeny are produced by a number of queens.

⁸ A new detection found outside the Operational Area boundary.

⁹ A new detection found up to 5km inside the Operational Area boundary.



Sentinel surveillance

Sentinel sites are established in high risk habitat (for fire ant infestation) outside the current Operational Area boundary. Surveillance at these sites is aimed at giving confidence that the Program has accurately delineated the area infested by fire ants for eradication activities. Approximately 330 sites around the outside of the Operational Area will be checked by Program field staff for evidence of fire ants.

Boundary detection surveillance

Boundary detections in Areas 2, 3 and 4 are a high priority for surveillance during the winter season. A 500 m radius buffer around each detection towards the Operational Area boundary only (e.g. half of a circle) will be the minimum area surveyed.

Boundary detections will be investigated by Program field staff and/or odour detection dogs and destroyed as a priority.

Significant detection surveillance

There were a total of eight significant detections in 2018–19. Six of those detections (Helensvale, Brisbane Airport, Southport, Boyland and Brendale) were incorporated within the new Operational Area boundary which was determined in September 2018. Two detections remain outside the current boundary—Fernvale and Bromelton.

Program field staff and/or odour detection dogs will conduct surveillance of suitable areas out to a minimum of 2km of these detections. As noted previously, any new detections will be investigated and destroyed as a priority.

See *Map 2: Planned Surveillance Areas*

Self-management options

This year the Program will advise the community about the option of managing their own treatment of fire ant infestations, rather than relying on scheduled Program treatment.

Information provided through engagement and communication activities will now include self-management as an option for managing fire ant infestations. Program information will also include advice on the most appropriate pesticides for specific situations, application rates, safety and appropriate usage.

The Program will also provide training to pest management technicians (PMTs) in the correct application of IGR bait and DNI so that local governments, utilities, industry, community organisations and individuals can contract a PMT to undertake fire ant treatment on their behalf.

These arrangements will complement, rather than replace, the work of the Program, particularly in areas where the Program's focus is on containment and suppression, rather than eradication. This will enable affected parties to self-manage and mitigate the impact of fire ant infestations on land under their control.

The Program will also investigate rolling out self-management options through community pilot projects.

Communication and engagement plans will be developed and delivered in order to increase awareness within industry, local government and the community of the self-management options.

Prevention of human-assisted spread

Human activity within the infested area, such as farming, intensive horticulture, gardening, industrial and residential development can result in the transportation of carrier materials and continues to present a high risk of spreading fire ants.

In 2019–20 the Program will continue targeting high risk industries to mitigate the risk of human-assisted spread of fire ants, supported by efforts to increase public awareness of legislated movement controls and encouraging voluntary compliance.



A particular focus will be given to products being transported beyond the biosecurity zone boundaries, as well as to Area 1 and the Western Boundary area.

The Program will also work with local government to ensure that activities such as housing and industrial developments, road construction, maintenance and construction of parks and gardens are appropriately managed to address the risk of fire ant spread.

Systems used within larger organisations will be assessed for effectiveness and implementation throughout all levels of the organisation will be verified. Strategies will be developed to address the risk of spread associated with high volume movements of soil carried out by subcontractors, small-scale and sole operators.

All Biosecurity Instrument Permits (BIPs) which are due to expire will be reviewed, reassessed and reissued in accordance with current risk mitigation requirements. Fifty percent of current BIPs will be audited to ensure compliance with the permit conditions.

More flexible regulatory tools will be built into the management of fire ant carriers to further meet the needs of industry, with a self-assessment tool to evaluate and manage the risk of fire ant spread associated with carrier movement being considered.

The Program's compliance response will be commensurate with risk and the seriousness of any offences identified. With the introduction of penalty infringement notices (PINs) for a range of offences, a rapid enforcement response can be effected and non-compliant behaviour quickly remedied.

Biosecurity Orders will continue to be used where it is necessary to clarify the requirements that ensure effective risk mitigation measures are applied.

These activities will be supported through awareness raising activities using various channels, including community and stakeholder engagement activities.

Deliverables

The following list summarises the main containment-related deliverables that will be pursued by the Program over the course of 2019–20:

8. the planned suppression activities listed above and in Table 1
9. analysis and destruction of all new boundary detections and significant detections
10. the surveillance activities listed above (sentinel surveillance, boundary management and significant detections)
11. community self-management arrangements endorsed by the Steering Committee and implemented
12. all newly infested sites assessed as a high risk of product movement, high-density or polygyne infestation checked for compliance with the legislated movement controls within five business days
13. compliance checks for half of all biosecurity instrument permits in effect during 2019–20
14. compliance strategies that address high risk industries and locations
15. penalty infringement notices issued for minor non-compliance with movement controls.



CLEARANCE

Phase 3 – Search and Clear

Objective 3: *Provide evidence to demonstrate freedom from fire ant infestation in the South East Queensland region.*

Eradication treatment on the first treatment area will not be completed until later this year. The focus of relevant activity this year will be on developing a plan and processes for declaring freedom from infestation in the years to come.

The Program will work to identify an achievable definition of freedom, in consultation with the scientific community, the Steering Committee and the National Exotic Invasive Ant Scientific Advisory Group (SAG) that reflects the scientific and economic constraints on achieving 100% elimination of fire ants and the potential for re-infestation by undiscovered colonies and through international trade.

Supporting methodologies

In addition to on-the-ground field staff examination, the Program will deploy odour detection dogs and mathematical modelling in considering whether a treated area should be declared free of fire ants.

Mathematical modelling will be used to estimate the probability that the subject area is cleared through analysis to determine an appropriate 'minimum probability of fire ant absence' in an area for it to be considered free of fire ants.

Various mathematical models will be developed to assist in the eradication and proof of freedom strategies of the Program, including those described briefly below.

The dynamic occupancy and abundance model uses program data on known presence and abundance of fire ants to estimate the probabilities of infestation and predict density of infestation, through time, for locations throughout the eradication zone. The output of this model will be used to prioritise areas for future surveillance and treatment activities. This modelling approach accounts for differences in habitat suitability, treatment effort, and fire ant detectability.

The bio-economic model of optimal clearance surveillance will guide the amount of surveillance required to achieve a cost-optimal level of belief in eradication after all known fire ant infestations have been destroyed, drawing on comparable modelling adapted to Program-specific parameters and conditions.

CONTINUOUS IMPROVEMENT

Objective 4: *Help prevent the establishment of new incursions of invasive ant species Australia-wide by building capability in, and provision of, invasive ant response and eradication expertise.*

The Program will continue to pursue opportunities to improve operational practices through deployment of improved information management tools, research and analysis, review of operating protocols and the provision of advice and support to the Steering Committee and senior Program managers to ensure the Program continues to meet the objectives of the Ten Year Plan.

Information systems

The information systems that underpin the Program are critical to managing the day-to-day operational activities necessary to achieve eradication. The Program will continue to invest in the development of the Fire Ant Management System (FAMS) and the Client and Stakeholder Engagement Solution (CaSES) to address the key capability gaps in real-time reporting and the management of customer service and stakeholder interactions. The planned enhancements to FAMS and CaSES are geared towards improving the Program's spatial capabilities and the availability of information for strategic analysis and planning purposes and streamlining existing, manual and costly processes (for example the creation of field work). Business efficiencies and resource cost savings will be realised with refining and automating, in-part, the creation and allocation of field work.

Investment in whole-of-Program digitalisation will remain a priority, with the development of a proof of concept (PoC) mobile, digital data capture capability for field trials early 2019–20. The PoC will be targeted at select field teams and will run in parallel with the existing paper-based process. The PoC will demonstrate the opportunities available through modern, digital technologies and challenge the Program's field staff to think differently about how they perform their work. Depending on the results of the PoC trials, the outcomes will then guide the agile development of a digital, in-field data capture solution that will be rolled out across the field teams.

Investment in business intelligence gathering through the analysis of the Program's data is a high priority for the Program in 2019–20. Enriched intelligence will benefit the Program by gaining the insights necessary to better understanding the infestation, the whereabouts and hotspots, and the impact of the Program's operational activities. The additional intelligence will inform, support and provide further confidence in the Program's strategic and operational decision making.

Research and analysis

Science and research priorities in 2019–20 will build on the work undertaken in previous years. These priorities will include:

- collaborating on new products (e.g. Bioclay, wettable baits) and treatment methods for the eradication of fire ants
- continuing to test a range of broadcast and/or mound treatment baits, such as Amdro®, Advion® and Synergy Pro®
- undertaking predictive modelling to estimate current probabilities of spread, which can be used to inform future treatment activities
- developing a Proof of Freedom plan to ensure the Program is progressing towards eradication, which will be evaluated by both the national Steering Committee and the SAG
- providing ongoing routine scientific services to the Program, including ant diagnostics, genetic analysis, permit applications and renewals, bait testing, odour equipment production and validations for the odour detection dog team, community engagement specimens and colony maintenance.

Remote sensing surveillance (RSS)

The RSS project is a research and development collaboration between the Program and our research partners, aiming to deliver a field-ready solution underpinned by proven advances in remote sensing technologies and artificial intelligence.



Initial field trials of a prototype are expected to be completed by the end of 2019. It is anticipated remote sensing will provide an opportunity for greater Program efficiencies, as well as providing further visibility over the extent of fire ant spread.

Deployment of the new technology will be used to support verification of eradication as the Program moves eradication treatment east under the 'rolling' strategy. It may also enable the Program to replace broad scale treatments with more targeted and efficient alternatives.

Quality management

Quality management priorities for this year include ensuring the protocols and policies that guide implementation of the Ten Year Plan are up to date and approved, initially focusing on detections of importance and surveillance protocols. Treatment documents will be the subsequent focus, prior to the commencement of the treatment season.

All operational field staff will receive training on the approved, updated processes before commencement of the treatment season. To ensure eradication treatment activities are implemented correctly and completely, regular gap analysis will be undertaken throughout the season and actions implemented to address non-compliance with updated processes.

The rigour of the process of treating significant, boundary and polygyne detections will be enhanced to enable the achievement of milestones to be monitored from detection to clearance.

Deliverables

The following list summarises the main continuous improvement-related deliverables that will be pursued by the Program over the course of 2019–20:

16. a digital data capture capability for operational field staff implemented before the start of the treatment season
17. a Proof Of Freedom plan for endorsement by the Steering Committee
18. completed field trials of an RSS prototype by the end of 2019
19. a management of detections of importance protocol.

PROGRAM ADMINISTRATION

Biosecurity Queensland will continue to administer the Program efficiently and in accordance with public sector administration best practice. Program administration activities will continue to enable resources and capabilities to be utilised effectively and contribute to realisation of the Ten Year Plan.

Efficiency and effectiveness audit

The Ten Year Plan stipulates that an efficiency evaluation of the Program will be scheduled every two years, or as required by the Steering Committee. The evaluation is intended to provide assurance to the cost-share parties that the Program is being conducted in an efficient and effective manner and delivering value for money.

The **terms of reference** for the audit provide that the audit will evaluate Program efficiency and effectiveness, and whether implementation of the Ten Year Plan, using current methods and approach, is meeting the Program's objectives, including:

- evaluate whether activities detailed in the Ten Year Plan and annual Work Plans are being implemented as described and the basis for any changes that have occurred to the plans
- assess whether the activities of the Program are conducted in an effective and efficient manner, including the cost-effectiveness of the Program
- assess whether more cost-effective resource deployment options exist and identify opportunities for efficiencies
- recommend actions to improve Program delivery and/or the Ten Year Plan where necessary to meet Program objectives
- prepare and present a report on the efficiency and effectiveness of the Program since 1 July 2017.

An internal evaluation of the Ten Year Plan was undertaken from January to March 2019 and an Addendum to the Ten Year Plan has been drafted outlining the outcomes and required amendments to the Plan.

Governance and operational planning and procurement audit

Business Improvement plan

The Program commissioned an audit on governance and operational planning and procurement activities in 2018-19. The audit recommendations were presented to the Steering Committee in early 2019. A business improvement plan, based on the audit findings, will be implemented in 2019–20 to give effect to the audit recommendations.

Procurement

In line with the recommendations outlined in the procurement audit commissioned in 2018, in 2019–20 the Program will support information sessions and formal training in procurement and purchasing, contracts management and contract performance reviews for relevant staff and financial delegates.

The Program will also undertake annual reviews of the major contracts between the Program and suppliers of IGR bait, aerial bait application services and labour hire to undertake operational field work during the treatment season.

The Program will develop a forward schedule of procurement activities to be undertaken and ensure it aligns with the NRIFAEP Strategic and Operational plans. It will establish a process to periodically assess contract management activities to evaluate compliance with key processes and controls. This will include establishing a process to periodically assess contract management activities such as compliance with key processes and controls; assignment of contract management roles and responsibilities; and completion of required documentation (e.g. contract management plan/checklist).



Human resources

The capability and effectiveness of Program staff will continue to be developed through 2019–20. Specific staff development activities will include the running of a *leadership* course for Program managers and a *mentally healthy workplaces* course for supervisors and managers.

Additionally, a monthly field team leaders meeting will be reinstated to enable the sharing of information and experience relating to the operational environment between geographically dispersed operational field teams. The meetings will provide a formal mechanism to identify issues of mutual concern and operational improvements and bring these matters to the attention of senior Program management.

A ‘workforce group’ comprising representatives of each Program business area will also be established to raise and discuss issues directly with the Steering Committee and the Biosecurity Leadership Team, exclusive of the General Manager and Directors.

The regular all-staff breakfast barbecues will continue, enabling senior management to inform staff about Program progress and initiatives and provide a forum to address staff queries and concerns.

Workplace health and safety

The Program will seek to increase awareness of health and safety in the workplace through an education program to improve the Program’s safety culture; and encouraging staff and management to accurately report incidents in a timely manner. Measurable Program incident reporting targets will be defined which align with internal control measures.

Program policy

Program policies to facilitate sound decision making and the achievement of effective outcomes will continue to be developed and implemented. Significant policy projects for 2019–20 will include:

Biosecurity zones realignment

The Operational Area is currently divided into three biosecurity zones—based loosely on the density of fire ant infestation—which are the foundation of the regime for controlling the movement of carrier materials. These biosecurity zones need to be periodically redefined to reflect the progress of the Ten Year Plan and the changes in infestation densities of the suburbs within the zones. Furthermore, the boundaries of the current treatment areas do not align with the biosecurity zones.

The current biosecurity zones will be redefined to reflect the progress of the eradication plan and align with the treatment area boundaries.

The revised biosecurity zones will be publicised through awareness raising activities using a range of channels as part of a comprehensive communications and engagement plan.

Program business plan

An annual business plan will be developed which will identify the Program goals for the financial year and the steps needed to reach them. The business plan will be supported by a three-year rolling plan that will indicate how the Program will address expected future challenges, including changes in the demographic and geographic environment, changes in stakeholder engagement, the revised funding profile, internal operating processes and measurement of Program progress. This three year plan will provide a road map for the immediate future direction of the Program.

The annual business plan will be a summary of the specific business unit work plans for the coming 12 months. The business unit work plans will identify the particular actions each unit needs to undertake to contribute to the Program goals, as well as the risks and resource requirements.

An immediate focus of the business planning process will be determining the next area to be subjected to Phase 2 treatment – eradication. This area will be identified as Area 2. A multitude of factors need to be



considered in defining Area 2 including the terrain, the optimal size, the most efficient and effective delineation of the area, the appropriate mix of treatment approaches and the available budget allocation.

Risk mitigation self-assessment tool

The Program will develop a tool for use by businesses that will assist them to undertake a self-assessment of their vulnerability to fire ant infestation at their premises as well as the risk of movement of fire ant carrier material either to or from their premises. The tool will include a checklist of best practice mitigation measures to prevent infestation and restrict the movement of fire ants in or out of the premises in carrier material, as well as advice on self-managing the treatment of existing infestations.

The Program is also exploring options for formally recognising the compliance of individual organisations with movement controls as a way of promoting the benefits of compliance for both organisations and the wider community.

Program governance

The Program provides funding and administrative support to several advisory bodies that assist in achieving the Ten Year Plan objectives through providing guidance on Program operations.

Steering Committee

The National Red Imported Fire Ant Eradication Program (SEQ) Steering Committee provides guidance and support to the Program's operational team on all aspects of the Program's delivery to ensure that it has the best chance of achieving its objectives. The membership comprises senior officials from the Australian, state and territory governments, with an independent chairperson.

Secretariat support is provided by the Program.

The Steering Committee is scheduled to meet four times in 2019–20 and consider, inter alia, the following matters:

- Interstate movement controls on carrier materials
- Community self-treatment arrangements
- Funding realignment to accommodate Western Boundary area treatment
- Recommendations of previous Program audits
- Efficiency and effectiveness reviews of the Program and the Steering Committee

See *Appendix 1: Steering Committee calendar of events*

National Exotic Invasive Ant Scientific Advisory Group

The Steering Committee established a National Exotic Invasive Ant Scientific Advisory Group (SAG) to provide specialist scientific advice on exotic invasive ant eradication. The Group is funded through the Program and reports directly to the Steering Committee. Members of the SAG are nominated by the members of the Steering Committee.

Secretariat support is provided by the Program. The Group meets periodically throughout the year and at the Steering Committee's request.

Risk Management Sub-committee

The Risk Management Sub-Committee has been established to provide assurance to the Steering Committee and cost-share partners about the suitability and relevance of the Program's risk management structures and arrangements. Membership comprises two or more members of the Steering Committee, one external non-government risk specialist and one external government risk specialist. The sub-committee meets twice a year and secretariat support is provided by the Program.



Deliverables

The following list summarises the main program administration-related deliverables that will be pursued by the Program over the course of 2019–20:

20. a business improvement plan endorsed by the Steering Committee
21. biosecurity zones realigned with operational areas
22. a Program business plan endorsed by the Steering Committee
23. a tool for self-assessment of risk and application of risk mitigation measures.

Glossary

TERM	DEFINITION
Biosecurity zones	Fire Ant Biosecurity Zones (zones) have been established in areas of South East Queensland 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 5km inside the Operational Area boundary.
Carrier materials	Materials that are capable of moving fire ants such as soil, mulch, animal manure, baled hay or straw, potted plants and turf.
Community surveillance	Searching by the community, industry and other areas of government for fire ants.
Clearance	Surveillance activity to confirm that an area previously subject to eradication treatment is free of fire ant infestation.
Containment	The prevention of the spread of fire ant infestation through either suppression activities (see below) or actions to prevent fire ants travelling such as movement controls within biosecurity zones.
Odour detection dog (or detection dog)	Dogs specifically trained for the purpose of searching for and positively identifying fire ants.
Direct nest injection (or DNI)	The injection of contact insecticide directly into a nest or mound to kill the colony which destroys the nest within an approximate 5 day time period.
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. See <i>Map 1: Eradication Areas</i> for the location of current eradication treatment.
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.
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.
Monogyne	A colony where all the progeny are produced from a single queen.
Operational Area	Total area of known infestation confirmed by delimitation and adjusted for predicted infestation spread since completion of delimitation. The Operational Area for 2019–20 is defined as 5 km from all known infestation detected from 1 July 2013 to 31 August 2019.

TERM	DEFINITION
Operational Area boundary	The line drawn around the Operational Area.
PMTs	Pest Management Technicians.
Polygyne	A colony where the progeny are produced by a number of queens. Polygyne colonies tend to have higher nest/mound densities and reproductive rates than Monogyne colonies. Polygyne infestation is generally more difficult to eradicate due to the need to treat multiple queens with bait; and their increased ability to found new colonies if they become dispersed (i.e. if some queens in a nest are killed, the workers will move the remaining queens to safety in a new location).
Remote sensing surveillance	Remote sensing surveillance involves the collection and analysis of aerially captured imagery to survey for the presence of fire ant mounds. Previously the Program has used visible, near infrared and thermal spectra for this purpose.
Significant Detection	A new detection found outside the Operational Area boundary.
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.
Suppression activities	Targeted nest destruction and minimal bait application to contain and suppress the spread of fire ant infestation. See <i>Map 2: Suppression Areas</i> for the location of current planned suppression treatment.
Treatment season	Treatment is undertaken during the warmer months when fire ants are more likely to forage. The season extends approximately from September to May.

Appendix 1: Steering Committee calendar of events

July 2019						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
(21	22	23	24	25	26	27
28	29	30	31			

August 2019						
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25	26	27	28	29	30	31

September 2019						
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29	30					

October 2019						
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27	28	29	30	31		

November 2019						
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24	25	26	27	28	29	30

December 2019						
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22	23	24	25	26	27	28
29	30	31				

January 2020						
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February 2020						
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March 2020						
Su	Mo	Tu	We	Th	Fr	Sa
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April 2020						
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19	20	21	22	23	24	25
26	27	28	29	30		

May 2020						
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June 2020						
Su	Mo	Tu	We	Th	Fr	Sa
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

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Steering Committee Meetings
 Risk Management Steering Committee
 Public Holidays

Scientific Advisory Group
 Stakeholder Forum

Reports to the Steering Committee	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Quarterly Report												
Annual Report												