

# WORK PLAN 2020–21

NATIONAL RED IMPORTED FIRE ANT ERADICATION PROGRAM - SOUTH EAST QUEENSLAND

This publication has been produced by the National Red Imported Fire Ant Eradication Program, BIOSECURITY QUEENSLAND, DEPARTMENT OF AGRICULTURE AND FISHERIES.

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#### REVISION HISTORY

Version no.	Approval date	Comments
1	29/05/2020	This document was provisionally approved subject to satisfactory resolution of outstanding issues, such as the price of toxicant bait treatment.

## CONTENTS

Contents .....	3
Introduction.....	5
Table 1: Goals and area matrix.....	6
Table 2: Planned treatment summary.....	6
Table 3: Indicative program budget.....	7
Operating principles .....	7
Eradication.....	8
Objectives .....	8
Strategies .....	8
Iterative eradication treatment.....	8
Eradication treatment, monitoring and surveillance innovation .....	9
Map 1: Eradication area .....	11
Evaluation .....	12
Containment.....	13
Objectives .....	13
Map 2: Containment area.....	14
Strategies .....	15
General fire ant mitigation .....	15
Human-assisted spread mitigation.....	15
Boundary containment.....	16
Eradication area protection.....	17
New infestation .....	17
Detections in previous eradication treatment areas.....	18
High-density detections.....	18
Polygyne detections.....	18
Assistance with new fire ant incursions .....	18
Continuous improvement.....	18
Evaluation .....	19
Clearance .....	20
Objective.....	20
Strategies .....	20
Risk-based surveillance for residual fire ants .....	20
Fire ant reinfestation monitoring .....	21
Responsive treatment of residual fire ants .....	21

Demonstration of freedom from fire ants.....	21
Odour detection dog surveillance .....	21
Continuous improvement.....	21
Map 3: Clearance area.....	22
Evaluation .....	23
Stakeholder mobilisation.....	24
Objectives .....	24
Strategies .....	24
Understand stakeholder attitudes and perceptions.....	24
Raise stakeholder awareness .....	24
Build stakeholder support .....	25
Empower stakeholder participation .....	25
Continuous improvement.....	26
Evaluation .....	27
Program governance .....	28
The national red imported fire ant eradication program steering committee.....	28
National exotic invasive fire ant scientific advisory group .....	28
Risk management sub-committee.....	28
Program reporting .....	28
Table 4: Governance committee meeting and reporting schedule 2020–21 .....	29
Business improvement .....	30
Evaluation, reporting and planning .....	30
Table 5: Planning and reporting products .....	30
Professional development .....	30
Optimising functional teams.....	31
Glossary .....	32

## INTRODUCTION

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 (10-year Plan) that commenced on 1 July 2017.

The 10-year Plan specifies that it will be supported by an annual work plan for each financial year. This document is the work plan for 2020–21 and it provides a summary of the activities to be undertaken in the fourth year of the Program.

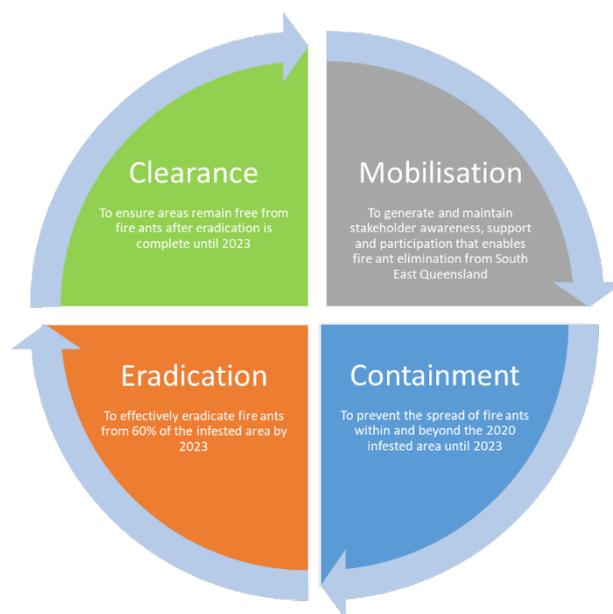
The presentation of the activities in this work plan is structured around the goals for the program that form the foundation of the Three-Year Eradication Strategy (2020–23) (Fig. 1). *Eradication, Containment, Clearance/Freedom and Stakeholder Mobilisation.* Additional sections focused on Program governance, human resources and research and innovation are also included.

A list of objectives with key performance indicators and targets for each goal has been developed to enable effective assessment of the program's performance and progress towards the goals of the three year strategy.

The eradication strategy over the 10-year Plan is to reduce the size of the infestation in a staged treatment program, progressively rolling from the west to east of the SEQ infestation. The 10-Year Plan divided the operational area into four priority target areas (**Areas 1–4**), with eradication treatment commencing to the west in **Area 1**. After commencement of this plan, fire ants were detected to the west of Area 1. To address the risk of further spread, the Steering Committee<sup>1</sup> endorsed broad-scale eradication treatment of an area five kilometres beyond all recorded infestation. This area is known as the **Western Boundary area**.

The broad-scale eradication treatment of Area 1 and the Western Boundary area is now complete, and these areas will progress to clearance operations in 2020–21. These operations involve searching for and destroying any remaining or new infestations of fire ants in this area, and ongoing monitoring of sites until enough evidence is gathered to declare the area free from fire ants.

The new eradication area (**Area 2**) extends five kilometres eastward of the eastern border of Area 1 and to the northern and southern operational area boundary. Area 2 is approximately 46 000 hectares and incorporates much of the suppression area formerly known as the Western Suppression area. To protect eradication Area 2, buffer zones two kilometres wide along the eastern and western sides of Area 2 will protect against the threat of spread westward into Areas 1 and 2. These buffer zones will be known as the **A1/2 and A2/3 Overlaps**.



**Figure 1: Three year goals**

<sup>1</sup> The Steering Committee comprises representatives from the Program funding partners—the Commonwealth and each of the States and Territories.

Planned containment activities will be conducted around the operational area boundary and in the A1/2 and A2/3 Overlaps. Responsive treatment of reported fire ants in the remaining operational area will focus on high-density infestations and polygyne fire ant colonies.

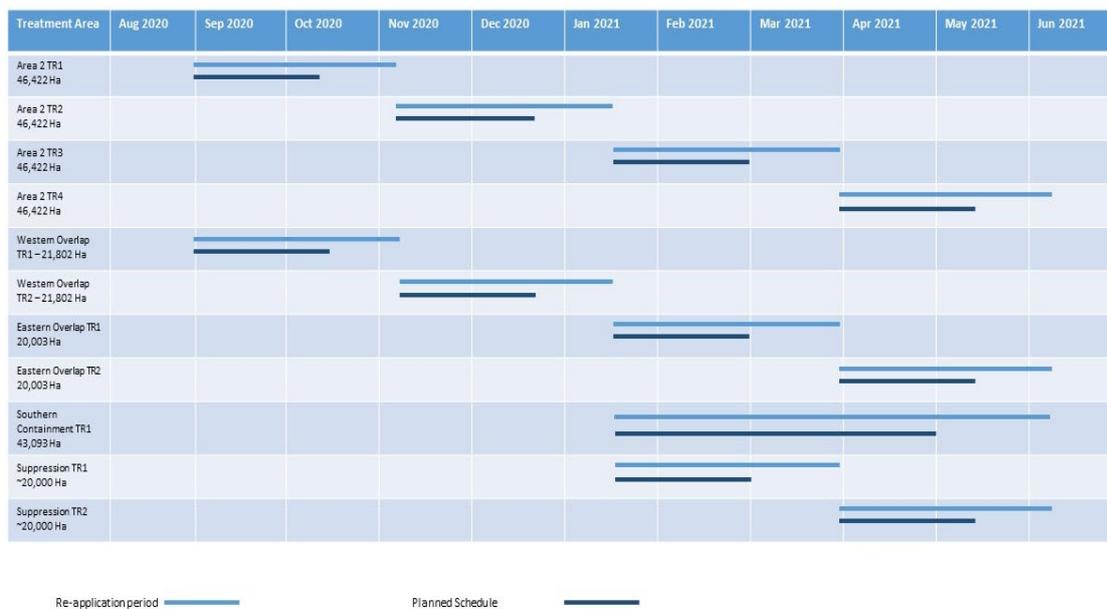
Table 1 (below) indicates the areas in which activities under the four goals will be undertaken.

**TABLE 1: GOALS AND AREA MATRIX**

	Eradication	Mobilisation	Containment	Clearance
<b>Area 1</b>				
<b>Western Boundary Area</b>				
<b>Area 2</b>				
<b>A1/2 and A2/3 Overlaps</b>				
<b>Remaining Operational Area</b>				

Table 2 below provides a summary of planned eradication and containment treatment for 2020–21. The ‘twelve week duration’ indicated is the optimal elapsed time between treatment rounds.

**TABLE 2: PLANNED TREATMENT SUMMARY**



The sequencing of treatment areas and sub-areas is provided for planning and budgeting purposes only and is subject to change in accordance with operational requirements. If there are delays due to weather or other factors, which result in delays to the schedule, program management will determine the most appropriate action. The schedule allows for the required 10 week minimum between applications of bait.

Table 3 below provides a summary of program costs for 2020–21 including treatment and supporting services.

TABLE 3: INDICATIVE PROGRAM BUDGET

Function	Section	Cost
Eradication treatment and surveillance <sup>1</sup>	Ground treatment	\$ 7,325,228
	Aerial treatment	\$ 17,570,162
	Planning, dispatch and responsive treatment	\$ 2,499,952
A1/2 and A2/3 Overlaps treatment and surveillance <sup>2</sup>	Ground treatment	\$ 2,874,445
	Aerial treatment	\$ 5,342,040
	Planning, dispatch and responsive treatment	\$ 1,170,400
Containment and responsive treatment and surveillance <sup>3</sup>	Ground treatment	\$ 1,481,921
	Aerial treatment	\$ 2,754,090
	Planning, dispatch and responsive treatment	\$ 603,400
Strategy and Business support <sup>4</sup>	Science, Communications and Engagement, Policy and Strategy, Business Systems and Intelligence, Business Support, Executive management	\$ 15,250,000
<b>Total</b>		<b>\$ 56,871,640</b>

<sup>1</sup> Accounts for operational expenses for conducting 3x IGR and 1x Toxicant treatments in Eradication area (44642 ha)

<sup>2</sup> Accounts for operational expenses for conducting 2x IGR treatment in Overlap areas (41800 ha)

<sup>3</sup> Accounts for operational expenses for conducting 1x IGR treatment in within Containment area (43100 ha)

<sup>4</sup> Accounts for funding of Executive management, Business Support and Strategy directorate functions at levels equivalent to FY 2019 -2020

## OPERATING PRINCIPLES

**Community-focused**—enable and support a safe, healthy and successful SEQ community through transparent and strategic engagement.

**Science-driven**—integrate scientific expertise, risk-based analysis and current empirical evidence to design program activity.

**Collaborative**—partner with government agencies, industry and the SEQ community to amplify the program’s treatment objectives.

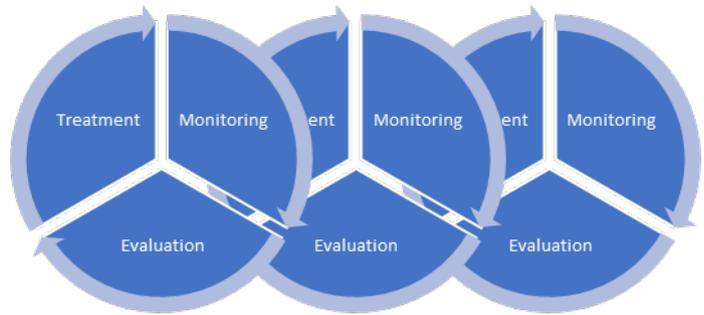
**Efficient and effective**—invest in contemporary technologies and practices to continuously improve our operations and maximise the program’s benefit to the public.

**Flexible**—adapt to the dynamics of our environment and improvise in order to overcome the challenges we encounter.

**Empowered**—invest in staff training and development to nurture a culture of high performance and responsibility.

## ERADICATION

To eradicate fire ants from SEQ, the program must progressively eradicate the ants from targeted areas within the infested area. However, during the next three years the program will adopt a more agile approach to eradication, with more regular (annual) cycles of evaluation against the intended outcomes of eradication efforts (Fig. 2). This approach will facilitate the rapid adoption of novel prescribed treatment regimes (e.g. new insecticides, community self-management and/or improved targeting of treatment enabled by innovated surveillance techniques) and optimise the efficiency and effectiveness of eradication outcomes.



**Figure 2 - Framework for Eradication operations**

## OBJECTIVES

The objective for fire ant eradication activities for 2020–21 is:

1. to progressively decrease the fire ant infestation in Area 2 through targeted eradication treatment.

## STRATEGIES

### ITERATIVE ERADICATION TREATMENT

The program will adopt an iterative approach to fire ant eradication treatment activities, with regular evaluation of stakeholder support, treatment progress and effectiveness to inform subsequent operations until objectives have been met.

The treatment regime for Area 2 will involve a combination of Insect Growth Regulator (IGR) and Toxicant (TOX) treated fire ant baits. These baits will be applied in a single season, with three IGR treatments and a single TOX treatment within one year. Consistent with recommendations of the Scientific Advisory Group, the eradication area will be divided with one half having the TOX treatment applied first, and the other half applied last. Monitoring will be conducted in both areas to evaluate the effectiveness of the new treatment regime, and compare scheduling of the toxicant round.

Area 2 consists of a combination of rural and agricultural land, and residential properties, with almost all considered as viable fire ant habitat.

Following each round, the program will monitor a number of selected sites in the treatment area to determine whether treatment has been effective.

There are multiple application methods used by the program to undertake treatment activities:

- Aerial (helicopter – used for larger properties and is the most cost-effective method of treatment)
- All-Terrain Vehicle (ATV – typically used for larger properties that are not suitable for aerial treatment but are inefficient for foot application)
- Foot (typically used for smaller properties where it's not practical to use ATV and aerial)

- Blower truck (typically used on road verges where it's safer to use as opposed to other methods of treatment application).

This treatment regime is a change from previous IGR only methods and a detailed evaluation of the success or failure of this regime will be undertaken at the end of the 2020–21 treatment season. The addition of a TOX treatment is to expedite nest death, as IGR stops the successful reproduction of workers that provide food and nest maintenance. With IGR alone, and through natural worker attrition, nest death can be up to 6 months from IGR application, whereas the addition of a TOX treatment may reduce this significantly.

The Program has received biometric advice from the Queensland Department of Agriculture and Fisheries that, to prove with at least 95% confidence this new treatment regime kills RIFA, a monitoring sample of between 110 and 250 nests is required per treatment, distributed across 20-40 different trial sites.

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## SITES AT RISK FROM INCOMPLETE TREATMENT

Due to several factors including unsuitable habitat, cropping, organic certification and access issues, it may not be possible to complete 100 percent of each round of treatment on all properties. Risk analyses will consider the proportion of untreated areas on these properties to guide responsive action.

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## ERADICATION TREATMENT, MONITORING AND SURVEILLANCE INNOVATION

### 1. *Remote sensing surveillance*

Field trials of this technology in infested areas were recently completed (March 2020) and showed promising results. Consequently, large-scale pilots in 2020 will further develop the technology, with the aim of operational deployment in June 2021—the start of surveillance season. It is planned that during 2020–21, remote sensing surveillance will be trialed over 20 000 hectares in Area 2 with ground truthing by surveillance staff of selected areas.

### 2. *Insecticide treatment innovations*

In 2020–21, the program will pursue the following innovation opportunities:

- Wettable bait**—Current fire ant baits are ineffective if applied in wet weather, which results in significant days lost each season due to rain. This is due to the bait (rather than insecticide) denaturing in wet weather and becoming unappealing to fire ants. The program will continue to work with product suppliers and research organisations to develop wettable baits, which can be used as an alternative product for treatment during periods of wet weather.
- Combination insecticide treatments**— The success of the new eradication treatment approach using combinations of IGR (three applications) and TOX (one application) will be monitored with a before-after design, where sites known to have had fire ant infestation will be evaluated before and after eradication treatment activities. The selection of sites will be stratified spatially to ensure coverage of the whole of Area 2; for example, 1 site per 1000 hectares will be selected where a positive detection of ants has been made. These sites will not be treated other than by the routine eradication treatment schedule. After every treatment round, monitoring sites will be searched for the presence/absence of ants and known nests evaluated for ant activity or other indications of being affected by the bait (such as deformities, change in worker demographics).
- Stakeholder self-management**—working with stakeholders to develop products and methods that can be used by stakeholders themselves for the treatment of fire ants. Empowering stakeholder self-management will help contain the spread of fire ants and, in coordination with program-led eradication activities, contribute to the eradication of fire ants from SEQ.

### 3. *New eradication treatment technologies*

A new project to identify avenues for innovative treatments will be explored. This project comprises four main phases:

1. Investigate the biology of fire ants to elucidate points in the life cycle that may be able to be exploited in relation to treatment strategies
2. Further investigate biological 'weak spots'
3. Target projects and identify organisations for specific innovative research
4. Facilitate and coordinate research investigation.

Treatment research may include emerging technologies (e.g. CRISPR), reviewing/reinvigorating ideas that may have been abandoned due to lack of technology and identifying further knowledge gaps.

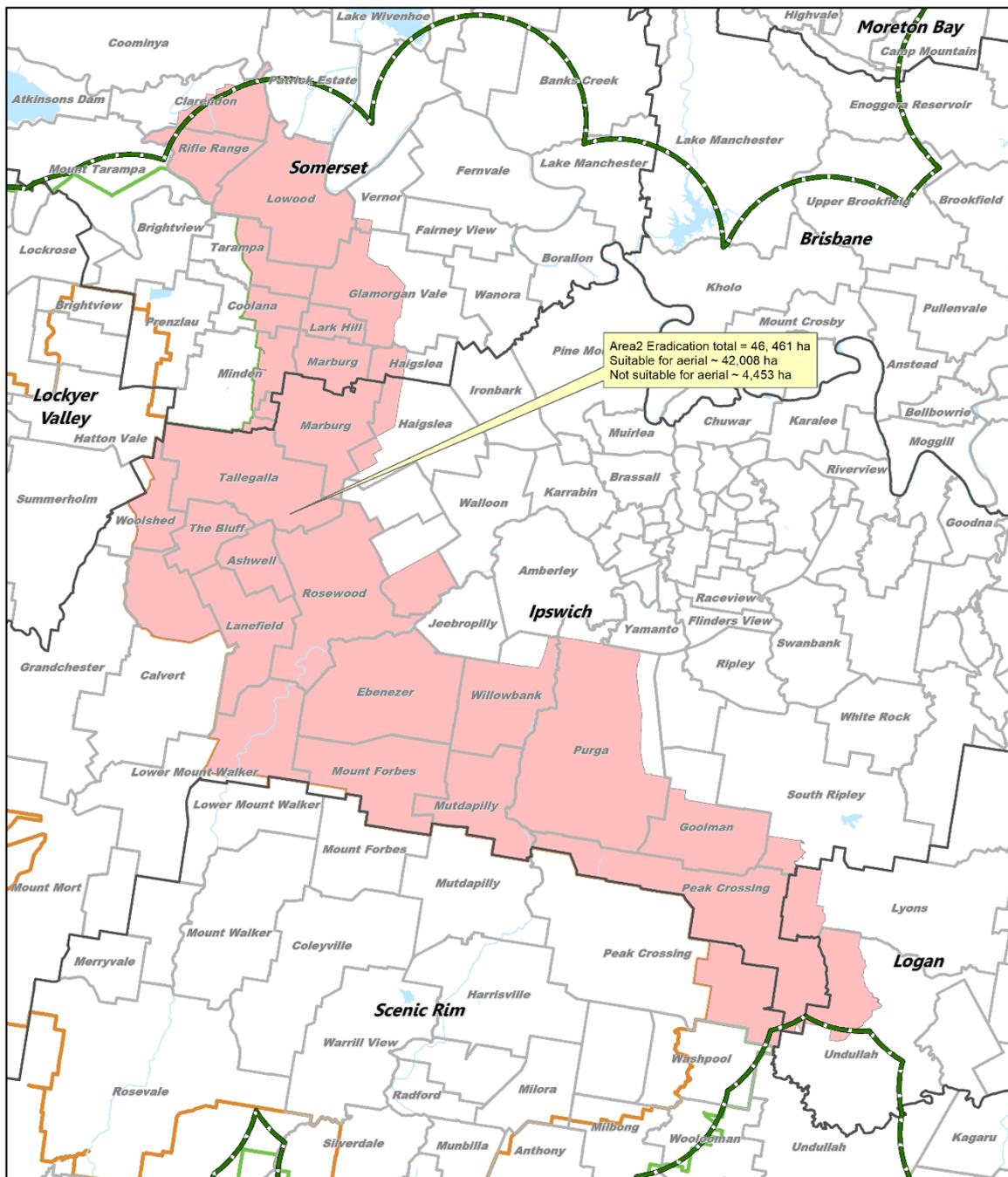
#### *4. Real-time mobile information technologies*

The Digital Field Capability Implementation Project aims to deliver a robust, consistent and effective technology solution that meets the Program's current and emerging mobile data capture requirements. This will enable improved information quality and timeliness in support on the increased scale of treatment and surveillance activities.

The desired end state is to develop a digital tool that enables field staff operational flexibility and agility in conduct, capture and recording of field activities. To achieve this, the Program needs to evolve the existing manual paper based, static systems to dynamic systems that enable real-time reporting and decision-making. This tool, called FORAGE, is currently under development for initial release on ruggedised tablet devices. The tool will significantly reduce the double-handling of data, improve data accuracy, enhance our field teams' abilities to work independently and in remote locations, and ultimately contribute to reducing the cost of conducting fire ant eradication operations.

A map of the Eradication area (Area 2) is on the following page.

MAP 1: ERADICATION AREA



National Red Imported Fire Ant Eradication Program

ERADICATION AREA 2

Legend

- Area 2 eradication area
- Area 1 treatment area
- Western boundary area
- - - Operational boundary 2019-20
- Local Government Area
- Suburb



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## EVALUATION

The program's performance in eradication activities will be assessed against the following KPIs and objectives.

Eradication			
Objective	KPI	KPI Target (2020–21)	
9	To effectively eradicate fire ants from targeted areas within SEQ	a. Percentage of stakeholders who support NRIFAEP activities within eradication area	Less than 1% stakeholder opposition annually
		b. Total area receiving prescribed treatment regime for fire ant eradication (i.e. all planned insecticide treatment rounds)	Prescribed treatment regime applied to 99% of planned area
		c. Number of fire nests infestations in monitoring (positive control) sites following completion of prescribed treatment regime	Zero fire ants present in monitoring sites (in Area 1) within three months of completion of prescribed treatment regime
		d. Percentage of eradication area within which fire ants are detected following prescribed treatment regime completion	Residual fire ant infestations are detected in less than 1% of the total eradication area (in Area 1)
10	To progressively decrease the fire ant infestation in SEQ through targeted eradication	Increase in the operational area that has completed a prescribed treatment regime for fire ant eradication	38% of the 2019–2020 operational area by June 2021
11	To reduce the cost of fire ant eradication treatment, monitoring and surveillance activities	a. Average per hectare cost of the program's prescribed treatment regimes to effectively eradicate fire ants	Average per hectare cost of applying prescribed treatment regime for fire ant eradication is reduced by 10% from 2019–20 costs by June 2023
		b. Average per hectare cost of the program's fire ant monitoring and surveillance regimes to effectively eradicate fire ants	Average per hectare cost of monitoring and surveillance regime is reduced by 10% from 2019–20 costs by June 2023

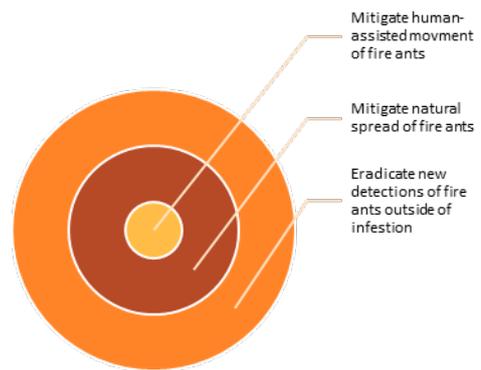
## CONTAINMENT

To continue to contain the SEQ fire ant infestation, a concerted effort must be made to mitigate both the natural and human-assisted spread of fire ants, and to eradicate fire ants detected outside of designated containment areas.

### OBJECTIVES

The objectives for fire ant containment for 2020–21 are

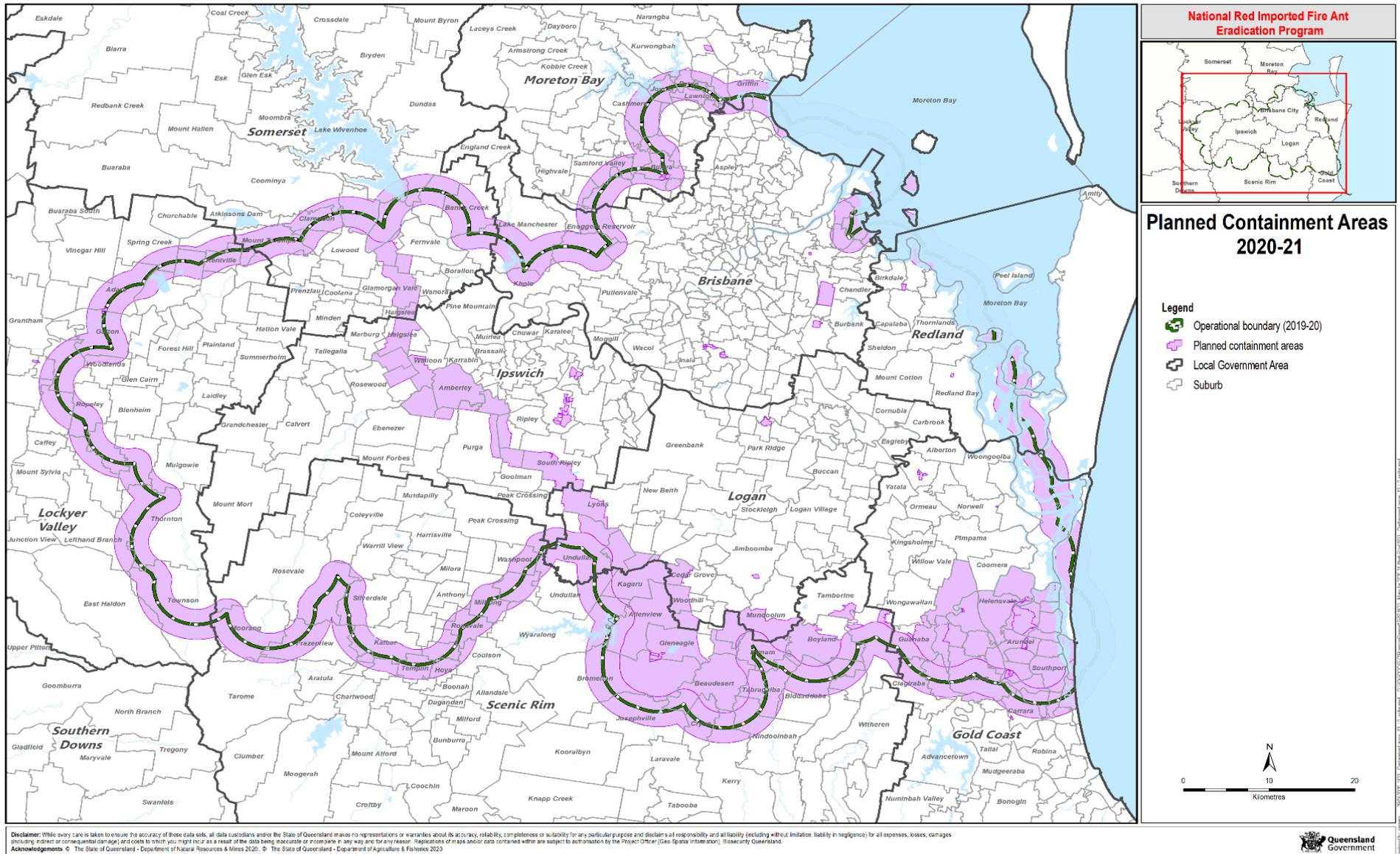
1. to prevent the spread and establishment of fire ants by reducing the intensity and vigour of the fire ant infestation
2. to prevent the spread of fire ants by restricting the movement of fire ant carriers (materials) within, between and beyond fire ant biosecurity zones
3. to prevent the establishment of fire ants near (within 5 km) and beyond the 2019–20 operational boundary
4. to prevent the re-establishment of fire ants in eradication and clearance areas from adjoining (within 2 km from—overlap areas) fire ant infested areas
5. assist with other (outside of SEQ) fire ant detection and eradication activities in Australia as requested.



**Figure 3 - Framework for fire ant containment**

A map of the Containment area is on the following page.

## MAP 2: CONTAINMENT AREA



### GENERAL FIRE ANT MITIGATION

To eradicate fire ants it is critical that the density of fire ants within the infestation area is minimised. Doing this will reduce the vigour of fire ants, potentially leading to easier eradication, and reduce the probability of fire ants spreading. The program will adopt a targeted and responsive approach to this, which will include stakeholder mobilisation as addressed in the mobilisation section below as well as:

1. ensuring that treatment is administered as scheduled through effective resource management
2. ensuring that any treatment gaps are identified and treated to ensure integrity of the whole treatment area
3. minimising the time lags between aerial treatment and ground treatment
4. ensuring staff (program and contract) numbers are maintained
5. suppressing high-density and polygyne fire ant infestations
6. minimising the genetic diversity of fire ant populations.

Through monitoring and analysis of detections of fire ants, the Program will proactively target areas of high-density infestations for treatment. High-density areas will be determined by the number of confirmed detections (high density is defined as 40 per hectare). Aerial treatment is the preferred application method. This treatment (particularly the complementary ground treatment) will be assessed based on risk, operational requirements and budgetary constraints.

Every polygyne colony identified will receive a scientifically tailored response until polygyne treatment research is completed in June 2021. The treatment protocols for polygyne infestations will reflect either the research requirements—for polygyne field sites—or best practice treatment regimes as determined by this research.

A sample of fire ants will be collected from every site detection and subject to genetic analysis. Genetic analysis will test for:

1. the social form status of the fire ant infestation (monogyne or polygyne)
2. the genetic (microsatellite) marker pertaining to nest relatedness of each fire ant nest.

This information will allow analysis of the population genetics of the SEQ infestation and evaluate its spread and genetic health. Furthermore, with sufficient sampling and genetic analysis, the genetics of an individual fire ant detection can be used to evaluate whether a movement is through natural spread or human-assisted movement.

### HUMAN-ASSISTED SPREAD MITIGATION

Human-assisted spread poses a significant risk to containment and the achievement of the program's objectives. Fire ant carriers include soil, gravels, mulch, compost, turf, hay and potted plants. Both residents and a range of industries move these products on a daily basis (e.g. civil construction, quarries, earthmovers and haulage companies, landscaping suppliers etc.). The high level of residential and commercial development in SEQ, often occurring in areas near the outer limits of the fire ant infestation, increases the likelihood of the spread of the fire ants beyond their current limits.

To manage these risks the program will implement the following:

1. promoting voluntary compliance through the mobilisation of stakeholder participation in preventing human-assisted spread:
  - a. promoting voluntary compliance with targeted communications, engagement and on-line tools for high risk industries
  - b. the reporting of suspect movements to the Program will be encouraged.

- c. Establishing industry collaboration forums for high risk industries such as hay

Further details of the Program's engagement with the community over 2020–21 can be found in the Mobilisation section

2. robust industry risk profiling:
  - a. identifying the industries and operators whose work risks the movement of fire ants
  - b. assessing risk of spread of fire ants by considering the following variables: type of carrier, extent and frequency of carrier movement, location of work, size of industry, nature of the work and compliance history
  - c. using evidence gathered from compliance activities to re-evaluation industry risk
3. targeting the highest risk operators for compliance assessments through:
  - a. assessment of previous compliance history
  - b. prioritisation of high risk sites such as those with high density infestation, polygyne infestation, detections of importance
  - c. using intelligence provided by investigations into infestations likely to be the result of human assisted movement including through genetic analysis
4. maximising deterrence through:
  - a. adopting a firm but fair approach to enforcement, taking decisive action where necessary
  - b. using formal enforcement options (infringement notices, biosecurity orders and prosecution) in instances of substantiated non-compliance
  - c. publicising enforcement action taken.
5. fire ant biosecurity zones
  - a. changes to the fire ant biosecurity zones in May 2020 mean that a number of businesses and individuals will be subject to the Biosecurity Regulation 2016 for the first time. The Program will focus communication activities on those clients in the first few months of 2020–21 to improve their understanding of their obligations under the Biosecurity Act in relation to fire ants.
6. review of the regulatory framework
  - a. movement controls review—A review of the fire ant movement controls and the underpinning scientific principles commenced in 2019–20 with the results due to be presented to the Program's Steering Committee in late 2020. It is anticipated that the outcome of the review will enable the development of movement controls acceptable to all Australian jurisdictions and affected industries. The implementation of the revised movement controls will likely require further amendments to the Biosecurity Regulation 2016.
  - b. the Program will investigate the feasibility of implementing regulation that requires individuals and businesses who create habitat suitable for fire ants to take steps to prevent fire ants becoming established and/or eradicate the species if it has become established on a property for which they are responsible.
7. Maximising compliance capacity
  - a. the Program will investigate the possibility of utilising local government compliance officers to issue penalty infringement notices (PINs), as authorised officers under the Biosecurity Act, for non-compliance with fire ant controls. The Program will also conduct an annual review of the compliance workload and the capacity available to be applied to that task.

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## BOUNDARY CONTAINMENT

The program will adopt a risk-based approach to surveying for and eradicating fire ants from near the infestation boundary. Along with the mobilisation of stakeholders reporting fire ants this will include:

1. surveillance
  - a. sentinel surveillance – more than 250 sentinel sites have been identified in high risk habitat (or fire ant infestation) within 2km outside and inside the current operational boundary which equates to 1,260 ha that has had planned resourcing allocated to for the 2020–21 season. Sentinel sites will be located between detections around the boundary where no previous surveillance has been undertaken (key components regarding possible new sites in the 2km area).
  - b. targeted surveillance / boundary detection surveillance – up to 30 areas inside the operational boundary will receive surveillance based on risk of infestation. Boundary detections within the past year will receive follow up surveillance out to 500m to ensure no residual infestation is detected. New monitoring sites will be established within Area 1 and the Western Boundary to detect any residual fire ants and intrusions from the remaining operational area.
2. a rapid, co-ordinated response and detailed investigation (including genetics) of all relevant detections of importance.
3. ongoing surveillance and treatment of all fire ant boundaries (within 5 km of infestation limit) and significant (outside infestation limit) detections until fire ants are no longer present.

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### SOUTHERN CONTAINMENT

The Program plans to conduct one round of planned treatment in the Southern Containment Area. This area comprises approximately 43 100 hectares, extending a minimum of 5 km inside the southern edge of the Operational Boundary from the A2/3 Overlap at Undullah and Flinders Lakes, through to Maudsland at the Gold Coast. Based on the size of the property (> 5 hectares) approximately 90 percent of the Southern Containment Area may be suitable for aerial bait application.

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### ERADICATION AREA PROTECTION

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#### A1/2 OVERLAP

The program will conduct up to two additional treatment rounds in the A1/2 Overlap, comprising approximately 21 800 hectares, and extending 2 km westwards from the western edge of Area 2. Based on the size of the property (greater than five hectares) more than 90 percent of the A1/2 Overlap may be suitable for aerial bait application.

This area will have received up to eight rounds of treatment by the end of 2020–21. The reason for additional rounds of treatment is that the entire western boundary of Area 2 did not previously form the entirety of the Western Suppression treatment area and has not received multiple treatment applications. Therefore, there is the potential that Area 1 could become re-infested if not treated.

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#### A2/3 OVERLAP

The Program will conduct up to two treatment rounds in the A2/3 Overlap, comprising approximately 20 000 hectares, and extending a minimum of two kilometres eastwards from the eastern edge of the Area 2. Based on the size of the property (greater than five hectares) approximately 90 percent of the A2/3 Overlap may be suitable for aerial bait application.

The reason for planned treatment is that terrain beyond Area 2 eastwards has not received any planned suppression treatment. Therefore there is the potential that Area 2 could become re-infested if this overlap area is not treated.

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### NEW INFESTATION

Significant detections and boundary detections will be prioritised for immediate bait treatment. Toxicant bait application is applied to destroy the nest and, ideally, will result in a decrease in the need for DNI using fipronil. Scheduling of DNI will occur if the initial treatment with toxicant has not worked after four weeks.

If there is a high risk to public safety (e.g. schools, childcare centres, high-traffic areas, parks or sports fields), sample collection will be prioritised and a toxicant bait applied at time of collection (within seven business days of public report) and DNI will be scheduled to occur within 14 business days of public report.

Self-management is offered as an option to people reporting fire ants in Areas 3-4 where there is no risk to public safety.

For planning and budgeting purposes, it is estimated that the program will provide responsive bait treatment (IGR or toxicant) over approximately 4 000 hectares to address new infestation throughout the year.

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#### DETECTIONS IN PREVIOUS ERADICATION TREATMENT AREAS

Any new infestations in the previous eradication treatment areas will be prioritised for treatment to ensure immediate nest destruction, and will require a scientific assessment to determine the appropriate response. Self-management options will not be encouraged in these areas.

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#### HIGH-DENSITY DETECTIONS

The program has analysed areas of repeated, high-density infestation. The areas recommended for treatment in 2020–21 include parts of Logan and Scenic Rim Council Regions that predominantly follow the course of the Logan River.

Subject to budgetary constraints, the Program will schedule up to two rounds of treatment in these areas (approximately 20 000 hectares per round, overall total 40 000 hectares). The Program will continually monitor high-density and polygyne infestation and modify and/or add to areas to receive planned treatment as appropriate. Aerial treatment is the preferred application method in these areas. The complimentary ground treatment is to be continually assessed based on risk, operational requirements and budgetary constraints.

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#### POLYGYNE DETECTIONS

Program research has found that polygyne nests are more difficult to destroy and require additional rounds of IGR treatment. High priority polygyne sites may be identified for multiple rounds of IGR bait treatment per year for two years, to ensure up to six rounds of treatment is completed.

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#### ASSISTANCE WITH NEW FIRE ANT INCURSIONS

The program will continue to support responses to new incursions of fire ants outside of the current SEQ infestation. The focus of the program is the eradication of fire ants in SEQ, but new incursions of fire ants may occur outside of this region within Australia from new incursions or a failure to contain the SEQ infestation. The program will respond to any new fire ant infestations within Queensland and any request for assistance with eradication in any other Australian jurisdiction.

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#### CONTINUOUS IMPROVEMENT

The program will continue to invest in improving the containment efforts of the program by:

1. conducting detailed analysis of all fire ant detections of importance
2. revising the risk profiles of fire ant carriers, locations and operators annually
3. reviewing operations management and response
4. ensuring that operational teams are performing to the level required
5. reviewing performance and reinforcing behaviour standards
6. reviewing resources (including equipment, vehicles and odour detection dogs) as required.

## EVALUATION

The program's performance in containing fire ants will be assessed against the following KPIs and objectives.

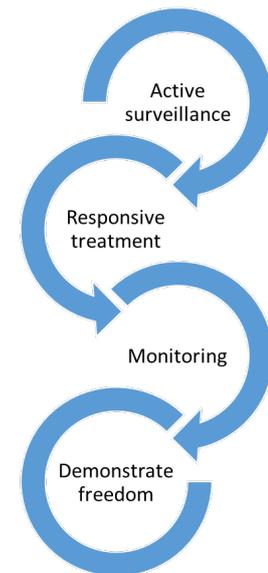
Containment		
Objective	KPI	KPI Target (2020–21)
4 To mitigate the spread and establishment of fire ants by reducing the intensity and vigour of the fire ant infestation	a. Percentage of stakeholders who treat fire ants themselves (i.e. self-management)	10% increase annually in stakeholders who treat fire ants themselves
	b. Percentage of fire ant infestations that are polygyne	Less than 1% of fire ant infestations are polygyne
	c. Genetic diversity of the fire ant infestations	Distinct fire ant genetic populations remain in 2019–2020 geographic clusters
5 To mitigate the spread of fire ants by restricting the movement of fire ant carriers (materials) within, between and beyond fire ant biosecurity zones	a. Percentage of stakeholder awareness of movement controls in stakeholders at highest risk of moving fire ants	50% high-risk stakeholder awareness by June 2021
	b. Percentage of stakeholders at highest risk of moving fire ants checked for compliance with human-assisted fire ant movement controls	The top 25% riskiest stakeholders identified were checked for compliance at least once annually
	c. Number of detections of importance that are likely to be due to the human-assisted movement of fire ants	Zero detections of importance that are likely to be due to human-assisted movement
6 To mitigate the establishment of fire ants near (within 5 km) and beyond the 2019–20 operational boundary	a. Total area that is surveyed for fire ants near and beyond the operational boundary	Area surveyed in a surveillance season is increased 25% from 2019–2020 levels by June 2021
	b. Percentage of stakeholders living near and beyond the operational boundary who look for and/or treat fire ants themselves	10% stakeholder participation by June 2021
	c. Presence/absence of fire ants following prescribed treatment regime at a site detection of fire ants near and beyond the 2019–20 operational	Zero fire ants that are likely to be from original nests remaining alive 12 months after prescribed treatment regime
7 To mitigate the re-establishment of fire ants in eradication and Clearance areas from adjoining (within 2 km from—buffer areas) fire ant infested areas	a. Percentage stakeholders living in buffer areas who look for and/or treat fire ants themselves	10% stakeholder participation by June 2021
	b. Percentage of buffer area receiving the prescribed treatment regime for fire ant containment (i.e. 2x insecticide treatment)	Prescribed treatment regime applied to 99% of planned area
	c. Presence/absence of fire ants following application prescribed treatment regime for fire ant containment at a site detection of fire ants within a buffer area	Zero fire ants remaining from original nests 12 months after prescribed treatment regime completed
8 Assist with other (outside of SEQ) fire ant detection and eradication activities in Australia as requested	The reported level of stakeholder satisfaction of the program's response to requests for assistance with new fire ant incursions	100% satisfaction reported by stakeholders

## CLEARANCE

To eradicate fire ants from SEQ, areas that have undergone eradication treatment must remain clear of fire ants until all ants are eliminated. At the conclusion of eradication treatment, it is expected that some areas will have residual fire ant populations due to sites falling within the less than one percent of area that was untreated (i.e. due to community opposition or other operational issues), or because polygyne fire ant nests were sufficiently robust to survive the prescribed treatment regime. Consequently, the program will adopt a four-stage Clearance strategy (Fig. 4) of:

1. surveillance of locations with highest risk of residual fire ants
2. treatment of any residual fire ants detected
3. ongoing monitoring (active and/or passive) to gather evidence for demonstrating freedom from fire ants
4. demonstrating and declaring area freedom from fire ants.

Major surveillance and treatment activities are expected to conclude within two years following the completion of eradication operations, but ongoing monitoring may be required for many years to demonstrate freedom from fire ants.



**Figure 4 - Framework for fire ant Clearance and declaring area freedom**

## OBJECTIVE

To detect and destroy any fire ant infestations and gather evidence to support the demonstration of freedom from fire ants in Area 1 and Western Boundary.

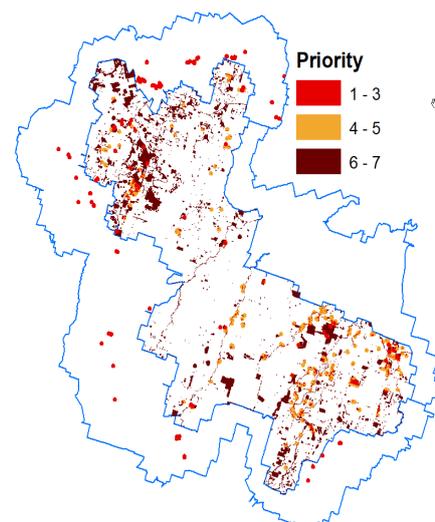
## STRATEGIES

### RISK-BASED SURVEILLANCE FOR RESIDUAL FIRE ANTS

The program will adopt a risk-based strategy for searching for residual fire ants within clearance areas. The risk of residual fire ants at any site will be modelled by analysing the relative completion of the prescribed treatment regime at every site and the results (presence/absence of fire ants) of recent monitoring and/or surveillance activities. This risk-model of residual fire ants (Fig. 5) will be used to prioritise clearance surveillance activities.

Sites will be listed from highest to lowest risk, and the top 20 percent of riskiest sites will be actively surveyed for the presence/absence of fire ants within two years of the completion of eradication activities. It is expected that 20 percent of the riskiest sites will capture more than 99 percent of the risk of residual fire ants within clearance areas.

In late 2019–20 this analysis was conducted on all locations in Area 1 and Western Boundary to identify sites for further surveillance. Approximately 14 000 hectares, the bulk of which is in Area 1, have been identified for surveillance during the winter period in 2020–21. The results of these surveys will be used to initiate responsive treatment of residual fire ants and to further develop the risk model for the presence of residual fire ants.



**Figure 5 - Example of residual fire ant risk map for Area 1 and Western Boundary**

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## FIRE ANT REINFESTATION MONITORING

Throughout clearance activities, sites outside of the 20 percent of riskiest sites for residual ants will be monitored through stakeholder reporting. Due to operational limits, it is not possible to actively survey every site within clearance areas and it is essential that the community is mobilised to search for and report any fire ant infestations on their properties. Due to the high standard set for eradication activities, it is expected that there will not be residual fire ants outside of the 20 percent of riskiest sites. However, there is the possibility that the prescribed treatment regime was not one hundred percent effective and all clearance areas remain at risk of reinfestation from natural and/or the human-assisted spread of fire ants from existing SEQ infestations.

Stakeholder awareness and participation (reporting) within clearance areas will be raised through targeted communication and engagement activities—integrated within the program’s mobilisation strategy. Any suspect ants reported will be investigated and all those confirmed as fire ant will initiate responsive treatment. The presence and absence of fire ants discovered through this work will further develop the risk model for the presence of residual fire ants and be used for demonstrating freedom from fire ants.

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## RESPONSIVE TREATMENT OF RESIDUAL FIRE ANTS

Following the protocols for detections of importance, the detection of fire ants within the clearance area will trigger operations to eradicate the infestations. Any visible nest will be treated using direct nest injection, and/or broad-scale treatment and surveillance will be conducted out to a 500 m radius of detections. All detections will be investigated (including genetic testing) to determine the likelihood of the detection being due to natural spread of fire ants into the area from adjacent infestations, the human-assisted movement of fire ants or residual infestations that survived eradication treatment. Monitoring of this targeted treatment will be conducted six and 12 months after treatment to ensure that the fire ant infestation has been successfully eradicated.

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## DEMONSTRATION OF FREEDOM FROM FIRE ANTS

In 2020–21 work will continue on developing a model of the probability that fire ants have been eradicated and thus being able to demonstrate freedom from fire ants. The two key variables in this model are the total clearance area effectively searched for fire ants and the outcome (presence or absence of fire ants) of these searches. The combination of these will allow the program to estimate the probability that fire ants have been eradicated.

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## ODOUR DETECTION DOG SURVEILLANCE

To protect eradication areas, six months following final treatment, post treatment validation surveillance will take place in the Western Boundary and Area 1 to determine treatment efficiency by the odour detection dogs using the risk-based surveillance model. Dogs are the most accurate and precise surveillance tool in the program, capable of confirming presence or absence of ants in a clearly defined, discrete area. Odour detection dog teams will be used in conjunction with field surveillance teams to assess sites in Area 1 and Western Boundary to complement clearance activities. Tasking of the dogs will be focused on previously identified colony points and sample submissions.

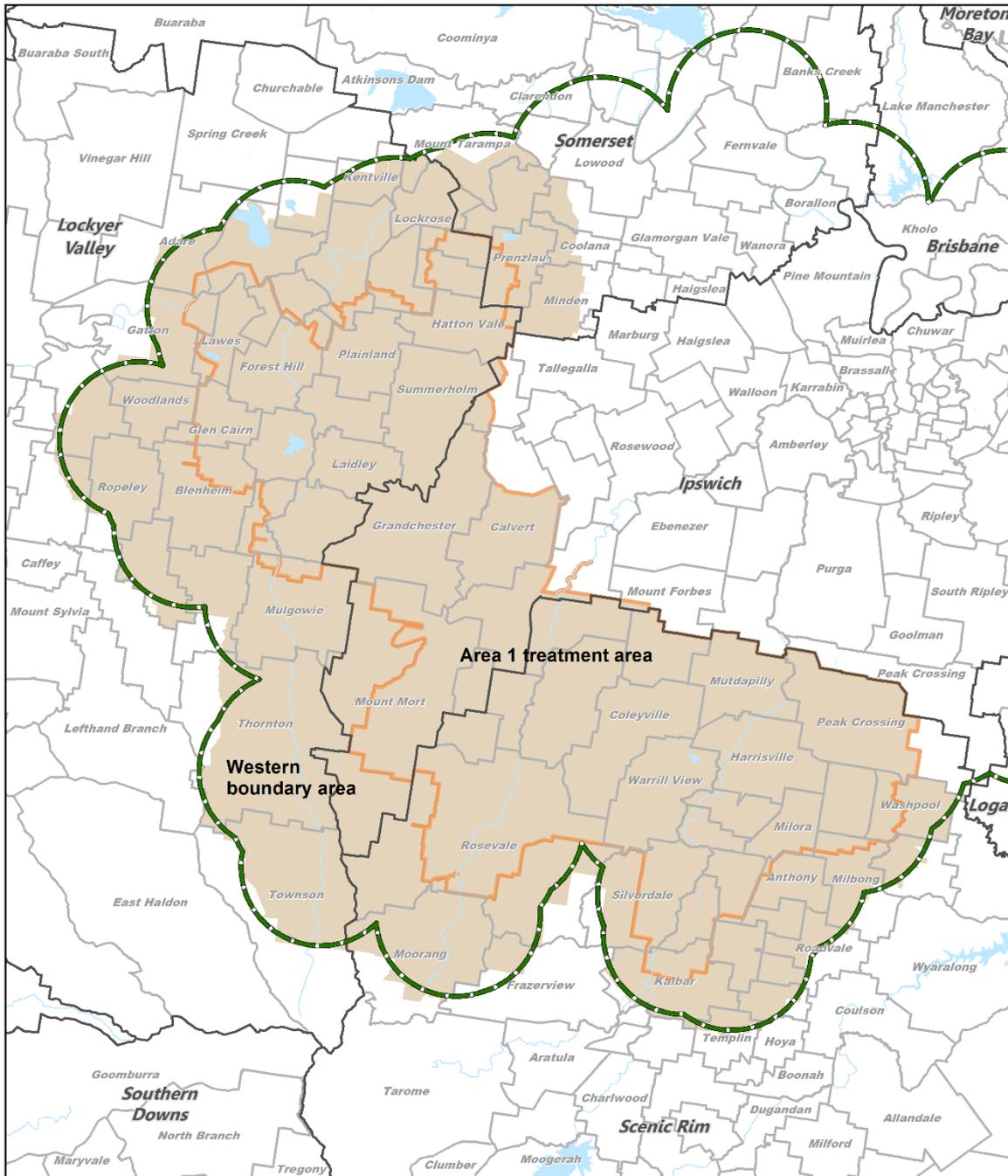
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## CONTINUOUS IMPROVEMENT

The program will continuously improve clearance activities by:

1. evaluating the efficiency and effectiveness of surveillance and treatment activities
2. rapidly adopting new surveillance and treatment technologies where appropriate.

MAP 3: CLEARANCE AREA



National Red Imported Fire Ant Eradication Program

CLEARANCE IN AREA 1 / WESTERN BOUNDARY

Legend

- Clearance area (A1 / WB)
- Operational boundary 2019-20
- Local Government Area
- Suburb



Disclaimer: While every care is taken to ensure the accuracy of these data sets, all data custodians and/or the State of Queensland makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential) and costs to which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.  
 Replication of these and/or data contained within are subject to authorisation by the Project Officer (Bio-Spatial Information), National Red Imported Fire Ant Eradication Program, Biosourcery Queensland.  
 Acknowledgements: © The State of Queensland - Department of Natural Resources & Mines 2023. © The State of Queensland - Department of Agriculture & Fisheries 2020.



EVALUATION

The program’s performance in clearing fire ants will be assessed against the following KPIs and objective.

Clearance		
Objective	KPI	KPI Target (2020–21)
12 To detect and destroy any fire ant infestations and gather evidence to support the demonstration of freedom from fire ants in Clearance areas	a. Searches of sites deemed to be at highest risk of residual fire ants	The top 10% riskiest sites (in Area 1) have been searched by June 2021
	b. Total area searched for the presence/absence of fire ants	Area sufficient to show 5% probability that no fire ants remain in Clearance area by June 2021
	c. Presence/absence of fire ants in areas searched	Zero fire ant detections at sites other than the top 20% riskiest sites
	d. Presence/absence of fire ants following application of prescribed treatment regime for fire ant clearance at a site detection of importance	Zero fire ants remaining from original nests 12 months after prescribed treatment regime completed

## STAKEHOLDER MOBILISATION

Fire ant eradication efforts are only made possible through the ongoing support and participation of stakeholders; landholders, tenants, business owners, public servants and politicians who support program eradication efforts. However, community surveys conducted by Kantar Public in June 2018 have shown that while awareness of the term fire ants is high, detailed awareness in terms of identification, the impact of fire ants, and the importance of eradication is low.

Only 33 percent of those surveyed could correctly identify a fire ant and approximately 42 percent were disengaged. As a result, many were unaware of their role in eradicating the pest. Eighty-nine percent (89%) saw government as having the most responsibility for biosecurity matters, although, 56 percent believed they individually also have responsibility. One in three were unsure of their role.

In 2020–21, the program will work towards increasing the awareness of the community to the presence and risks of fire ant, generating behavioural change that fosters community support and ultimately empowering communities to manage their own fire ant infestation themselves (Fig. 6).



**Figure 6 - Framework for stakeholder mobilisation**

## OBJECTIVES

The objectives for stakeholder mobilisation for financial year 2020–21 are that:

1. stakeholders within, and adjacent to, the fire ant biosecurity zones are aware of the presence of fire ants, risks, controls and options to manage them
2. stakeholders within the fire ant biosecurity zones positively support the program and its activities to eradicate fire ants
3. stakeholders within the fire ant biosecurity zones actively participate in fire ant self-management actions (i.e. checking yards, reporting fire ants and/or treating fire ants).

## STRATEGIES

The mobilisation objectives will be achieved by implementing the following strategies:

### UNDERSTAND STAKEHOLDER ATTITUDES AND PERCEPTIONS

The first step in mobilising stakeholders is to understand their attitudes and perceptions toward the program and its activities.

1. Research stakeholders to understand awareness, attitudes and perceptions (sentiment), and propensity to support program activities.

### RAISE STAKEHOLDER AWARENESS

The second step in mobilising stakeholders is to raise awareness of fire ants and the risks they pose to people, the environment and the economy. Activities to raise stakeholder awareness will include:

1. broad-scale communication across SEQ highlighting the presence and risk of fire ants to the health and lifestyle of stakeholders, specifically
  - a. Integrated 'Lifestyle' Campaign across SEQ

2. broad-scale communication to promote awareness of spread through human-assisted movement
3. broad-scale communications to promote avenues for stakeholder participation in fire ant eradication (i.e. surveillance, reporting, self-management, community advocacy) in non-treatment areas i.e. Gold Coast
4. targeted engagement of stakeholders at significant pre-existing events which draw a significant number of citizens within SEQ (for instance, the Royal Queensland Show - Ekka)
5. expanding the accessibility of general awareness training to online platforms
6. actively promoting the best work of the program directly to key stakeholders (i.e. stakeholder networks and peak bodies).

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## BUILD STAKEHOLDER SUPPORT

Building upon efforts to raise stakeholder awareness, the next step is to build support for the program to conduct its activities. Central to this is enhancing and maintaining the reputation of the program with our stakeholders. Activities to build stakeholder support will include:

1. ensuring the Department of Agriculture and Fisheries (DAF) engagement principles are followed for all interactions with stakeholders
2. establishing acceptable customer service standards through the development of a Customer Charter
3. improving the skills of critical 'frontline' staff in delivering high quality customer service, and upskilling them in dealing with challenging customers
4. providing dedicated community engagement support for stakeholders with non-standard treatment needs (e.g. cropping issues)
5. improving public-facing website content and accessibility for customer information (e.g. interactive mapping, decision-trees)
6. responding to community reports of fire ants (including conducting control activities), complaints and/or requests for information and assistance according to timeframes within the Customer Charter
7. improving relationships with media by responding promptly to media requests, countering myths and factual errors
8. actively promoting 'good news stories' relating to the program strategies and activities to the community through the media (e.g. through proactive media releases )
9. ensuring key stakeholders are informed of program progress
10. publishing and promoting research in peer-reviewed scientific journals and conference attendance
11. managing the program's branding in parallel with Biosecurity Queensland and other cost share partners.

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## EMPOWER STAKEHOLDER PARTICIPATION

Ultimately, stakeholders will be empowered to participate in fire ant eradication activities and collaborate with the program in eradicating fire ants. Stakeholders will be empowered through:

1. enabling stakeholder surveillance and reporting of fire ants
  - a. providing publicly accessible tools and resources to assist in the identification of fire ants
  - b. expanding the number of opportunities available for the reporting of fire ants
2. enabling stakeholder treatment of fire ants
  - a. providing guidelines for the effective self-management of fire ants by market segments

- b. mitigating risks and removing barriers to self-management including addressing legislative issues and providing a supportive legislative framework
  - c. providing training of pest management technicians, relevant industries and government agencies in the effective treatment of fire ants
  - d. encouraging new treatment products to come to market through engagement with the chemical industries
  - e. providing a co-ordinated framework to enable stakeholders to contribute to self-management planning in their communities
- 3. enabling compliance with movement controls
    - a. providing information and guidance with regard to the movement of fire ant carriers
    - b. publishing online tools and interactive maps to assist stakeholders to improve compliance with movement controls
    - c. developing and, if appropriate, implementing options for market-based measures to provide incentives to businesses to improve compliance with movement controls
  - 4. enabling research collaborations
    - a. actively seeking, developing and funding collaborative research projects with industry and academic and government research organisations.

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#### CONTINUOUS IMPROVEMENT

The program will work to continuously improve tools and methodologies already employed to mobilise the community. These efforts will include:

- 1. reviewing the customer experience from first point of contact to resolution:
  - a. conducting an audit of current processes
  - b. reviewing and improving current customer relationship management (CRM) systems (i.e. CaSES, FAMS)
- 2. reviewing and improving current complaints management procedures
- 3. undertaking quarterly surveys of the community to evaluate the success of program activities.

## EVALUATION

The program's performance in mobilising stakeholders will be assessed against the following Key Performance Indicators (KPIs) and objectives.

Stakeholder mobilisation		
Objective	KPI	KPI Target (2020–21)
1 Stakeholders within, and adjacent to, the fire ant biosecurity zone are aware of the presence of fire ants, risks, controls and options to management them	a. Percentage of stakeholders reporting awareness of the presence of fire ants in SEQ	92% of stakeholders report awareness in surveys by June 2023
	b. Percentage of stakeholders reporting awareness of the risks posed by fire ants to their lifestyle	30% of stakeholders report awareness in surveys by June 2023
	c. Percentage of stakeholders reporting awareness of fire ant biosecurity zones	60% stakeholders report awareness in surveys by June 2023
	d. Percentage of stakeholders reporting awareness of fire ant self-management options	30% of stakeholders report awareness in surveys by June 2023
2 Stakeholders within the fire ant biosecurity zone positively support the program and its activities to eradicate fire ants	a. Percentage of citizens opposing NRIFAEP operations	Less than 1% opposition annually
	b. Percentage of positive community comments and media articles	10% annual increase by June 2021
3 Stakeholders within the fire ant biosecurity zone actively participate in fire ant self-management actions (i.e. checking yards, reporting fire ants and/or treating fire ants)	Percentage of stakeholders participating in fire ant self-management actions	20% stakeholders participating in fire ant self-management actions by June 2021

## PROGRAM GOVERNANCE

The program will continue to be managed in accordance with public sector administration best practice. Processes and strategies are in place to ensure the appropriate expenditure of program funding and the effective management of human and other resources and program risks. The program is governed by a number of committees and advisory groups, see below.

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### THE NATIONAL RED IMPORTED FIRE ANT ERADICATION PROGRAM STEERING COMMITTEE

The National Red Imported Fire Ant Eradication Program (SEQ) Steering Committee (the Steering Committee) provides guidance and support to the program on all aspects of the program's delivery to ensure that it has the best chance of achieving its objectives. The membership is made up of senior officials from the Australian, state and territory governments, with an independent chairperson. The Steering Committee meets quarterly to assess the program's progress and provides strategic advice on challenges faced by the program. Secretariat support is provided by the program.

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### NATIONAL EXOTIC INVASIVE FIRE ANT SCIENTIFIC ADVISORY GROUP

The Steering Committee established a National Exotic Invasive Fire Ant Scientific Advisory Group (SAG) to provide specialist scientific advice on exotic invasive fire 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. The SAG meets formally twice per year and has smaller working group meetings as required. Secretariat support is provided by the program.

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### RISK MANAGEMENT SUB-COMMITTEE

The Risk Management Sub-Committee (RMSC) 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 the Steering Committee Chair, two or more members of the Steering Committee, one external non-government risk specialist and one external government risk specialist. The RMSC meets twice a year and secretariat support is provided by the program.

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## PROGRAM REPORTING

The Program will provide the Steering Committee with monthly, quarterly and annual reports on the activities undertaken in the preceding period and progress toward the objectives of the 10-year Plan. Program management will subsequently review the activities detailed in each report to identify impediments to the achievement of those objectives, possible solutions and opportunities for further program improvement.

An annual work plan and a rolling three year strategic plan will also be provided to the Steering Committee for its endorsement, prior to the commencement of the new financial year.

A comprehensive reporting regime enables program managers and the Steering Committee to continually monitor the program's performance, ensuring resources and capabilities are utilised efficiently and effectively.

TABLE 4: GOVERNANCE COMMITTEE MEETING AND REPORTING SCHEDULE 2020–21

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>Meetings</b>												
Steering Committee		19/20			18/19			17/18			19/20	
Scientific Advisory Group				tbc						tbc		
Risk Mgt. sub-committee		18						16				
E&E Review sub-committee	17	14	18	16	13	18	15	19	19	16	20	18
Stakeholder Forum					19							
<b>Reports</b>												
Annual Report						31						
Quarterly Repot	31			31			31			31		
Monthly Report	17	14	18	16	13	18	15	19	19	16	14	18
Weekly reports												
<b>Plans</b>												
Annual Program Work Plan											14	
Three-year Strategic Plan											14	

## BUSINESS IMPROVEMENT

### EVALUATION, REPORTING AND PLANNING

The program conducts regular cycles of evaluation, reporting and planning to improve the efficiency and effectiveness of its operations. The program retrospectively examines its progress towards goals on a monthly, quarterly and annual basis, which is formalised into reports submitted to the Steering Committee. The Steering Committee reviews each report and advises the program of any improvements that are required. Furthermore, a revised three-year strategic plan and annual work plan is developed and submitted each year, adopting the learnings from the previous year's working into future operations.

The table below shows the products prepared by the program to facilitate activity planning and reporting and informing the program's governance committees.

TABLE 5: PLANNING AND REPORTING PRODUCTS

Activity	Timing	Steering Committee Endorsement
Annual Report	December	Y
Quarterly Reports	April, July, October, January	Y
Monthly Reports	Monthly	N
Three-Year Strategic Plan	May	Y
Annual Work Plan	May	Y
Risk Management Plan	February, July	Y
Budget Plan	June	Y
Capital Works Plan	January	Y
Treatment Plan	June	N
Surveillance Plan	June	N
Communications Plan	June	N
Business Improvement Plan	June	N

### PROFESSIONAL DEVELOPMENT

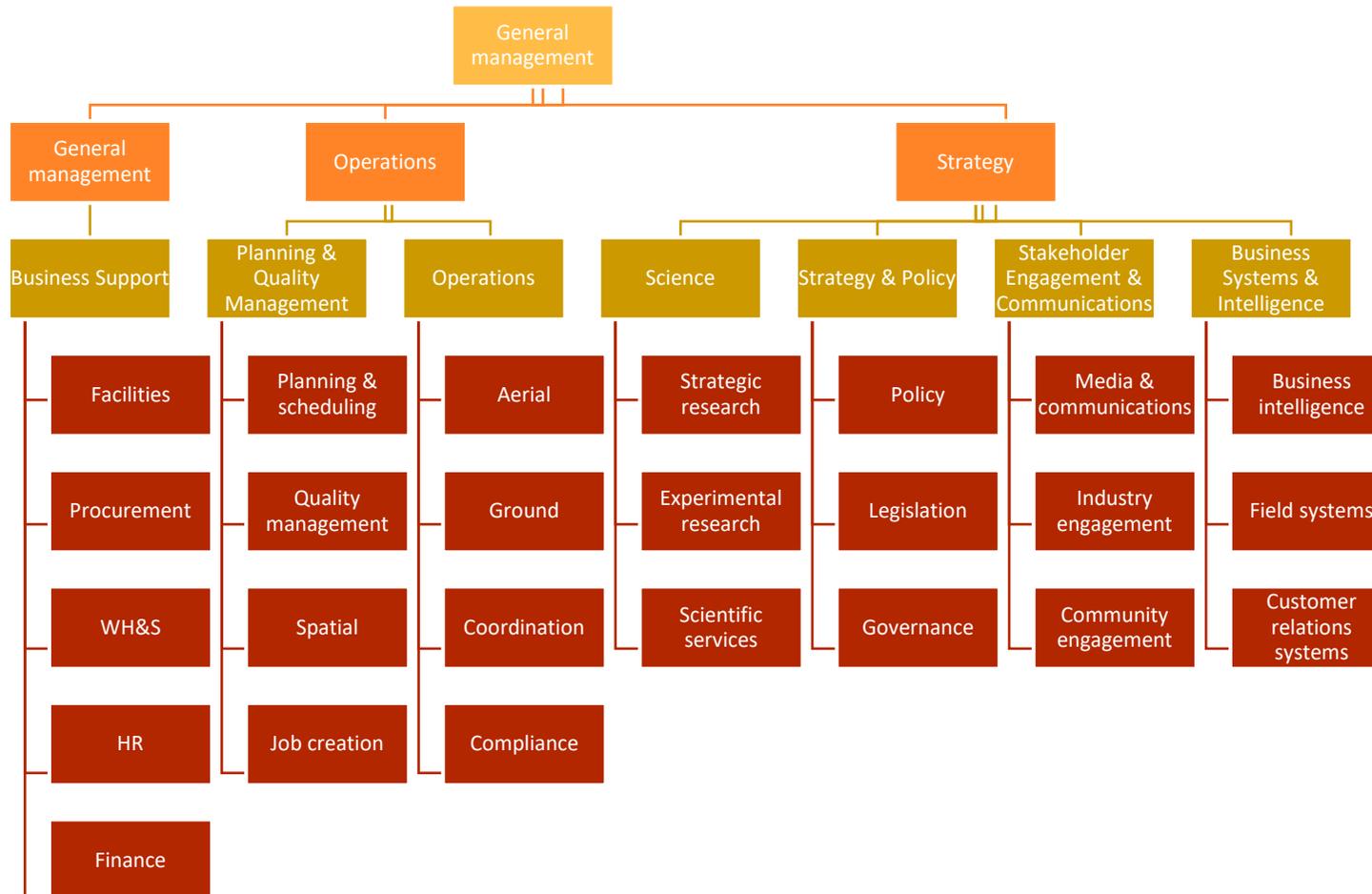
The capability of staff will continue to be developed to ensure the delivery of an effective and efficient treatment program that meets the expectations of all stakeholders. A particular focus will be equipping field staff with the confidence and ability to engage effectively with a multitude of external stakeholders, including agricultural producers and residential householders. These skills will become more important as the treatment program moves eastwards and deeper into built-up areas. Office-based staff will continue to participate in a suite of department-specific and wider public service career development opportunities to ensure the program demonstrates best-practice administration, planning, policy development, communication and scientific research. Specific staff development priorities for the program will include training in:

1. Digital skills
2. Project management
3. Agile thinking/working
4. Leadership
5. Change management
6. Performance management.
7. Negotiation skills

OPTIMISING FUNCTIONAL TEAMS

To deliver this strategy, the program will adopt the following organizational chart (Fig. 7).

Figure 7 - NRIFAEP Functional organisational chart



## 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. Movement controls restrict movement of fire ants and fire ant carriers within and out of the zones 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	Searching for and destroying any remaining or new infestations of fire ants in an area, and ongoing monitoring of sites in that area until enough evidence is gathered to declare the area free from fire ants.
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.
CRISPR	CRISPR technology is a tool for editing genomes to alter DNA sequences and modify gene function.
Delineation surveillance	Surveillance undertaken around new detections to confirm the extent of the infestation.
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 five day time period.

TERM	DEFINITION
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.
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 density infestation	An infestation of more than 40 fire ant nests per hectare.
High risk detection	Those detections that pose the greatest risk to eradication through 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.
Movement controls	Movement controls reference biosecurity zones and apply to individuals and commercial operators, and restrict the movement of materials that could carry fire ants.
Odour detection dog	Dogs specifically trained for the purpose of searching for and positively identifying fire ants.
Operational Area	Total area of known infestation confirmed by delimitation and adjusted for predicted infestation spread since completion of delimitation. The Operational Area for 2020–21 is defined as 5 km from all known infestation detected from 1 July 2013 to 31 August 2019.
Operational Area boundary	The line drawn around the Operational Area.
Penalty infringement notice (PIN)	A fine, under the Biosecurity Act 2014, available for a range of offences, including moving a fire ant carrier within or out of a fire ant biosecurity zone without following movement controls.

TERM	DEFINITION
PMTs	Pest Management Technicians (also known as ‘pest controllers’).
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.
Sentinel surveillance	Specific sites (sentinels) that are monitored for the presence or absence of fire ants.
Significant Detection	A new detection found outside the Operational Area boundary.
Steering Committee	A committee of nominated representatives from the Program’s cost-sharing partners, with an independent chair, tasked with providing oversight of performance and risk.
Suppression activities	The minimum required treatment and surveillance required to contain and suppress the spread the spread of fire ant infestation.
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, however this may be extended depending upon continuing evidence of ant foraging.