Quarterly Report 3
2020–21

National Red Imported Fire Ant Eradication Program
South East Queensland

Report to: National Steering Committee

Period: January–March 2021

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1. Scope of report

The National Red Imported Fire Ant Eradication Program began its 10-year Eradication Plan in July 2017, which focuses on finding, containing and eradicating fire ants in South East Queensland.

Running from 2017 to 2027, the 10-year Eradication Plan's underpinning strategy is subject to verifiable eradication. It includes five phases and three checkpoints before proof of freedom from fire ants is declared (see Table 1 below). Using a staged, rolling treatment strategy from west to east, the aim is to contain the extent of the fire ant infestation (Phase 1) and reduce the size of the infestation in South East Queensland until eradication.

Table 1: Overview of fire ant management strategy

Phase	What?	How long?
Phase 1: Containment	Establishing and containing fire ant infestation boundaries	Until area moves to Phase 2: Eradication in line with the program's *10-year Eradication Plan*
Phase 2: Eradication (treatment)	Treatment of large, targeted eradication areas	Over 1-3 years depending on eradication treatment approach
Checkpoint 1: Evaluation of eradication treatment completion to check success of treatment		
Phase 3: Clearance	Search eradication areas and treat any residual fire ants	Minimum 2 years
Checkpoint 2: Check probability of freedom from fire ant infestation for each clearance zone		
Phase 4: Clearance zone freedom	Conduct further surveillance in Clearance Zones to be confident no fire ants remain	Until risk of ceasing surveillance is acceptably low (1-5 years)
Checkpoint 3: All clearance zones have individually reached a low risk level of fire ants		
Phase 5: (Area) Freedom	Respond to any detections reported with active surveillance discontinued	When there is overall probability all of South East Queensland is free from fire ants (5+ years)
All clearance zones declared free = **Proof of Freedom declared of Queensland Infestation**		

This report outlines progress in delivering the 10-year Eradication Plan and the program's annual work plan. This includes relevant key performance indicators for the period of January–March 2021.

2. Key insights

Progress against key performance indicators (KPIs)

Progress against program KPIs is summarised in Table 2. Most KPIs are reported on a yearly and/or three-yearly basis, however since they apply to activities scheduled at different times not all KPIs are reported in the quarterly reports.

Table 2: Progress against KPIs traffic light report as at 31 March 2020

Yearly KPI completed | On track/progress as anticipated | Monitoring/minor issues | Off track/critical issues | Not required/not relevant

Mobilisation					
Objectives		**KPI**	**KPI target (2020–21)**	**Progress against KPIs**	**Status**
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	**a.** Percentage of stakeholders aware of the presence of fire ants in South East Queensland	92% of stakeholders report awareness in surveys by June 2021	The report on the first of two surveys this calendar year to determine relevant stakeholder awareness, participation and attitudes was received in late February 2021. Of those surveyed, 95% reported awareness of fire ants. See Mobilisation below for more detailed information about results.	
		b. Percentage of stakeholders aware of the risks posed by fire ants	30% of stakeholders report awareness in surveys by June 2021	The aforementioned February 2021 report showed 98% were aware of the risk which exceeds the target.	
		c. Percentage of stakeholders aware of fire ant biosecurity zones	60% stakeholders report awareness in surveys by June 2021	The aforementioned February 2021 report showed 81% of those surveyed were aware of the of the risk which exceeds the target.	
		d. Percentage of stakeholders aware of fire ant self-management options	30% of stakeholders report awareness in surveys by June 2021	The aforementioned February 2021 report showed 34% of those surveyed were aware of self-management options which exceeds the target.	
2	Stakeholders within the fire ant biosecurity zones support the program and its activities to eradicate fire ants	**a.** Percentage of stakeholders opposing NRIFAEP operations	Less than 1% opposition annually	The program received no refusals to treat a property this quarter.	
		b. Percentage stakeholder disclosing to be satisfied with NRIFAEP operations	90% stakeholders disclosing to be satisfied with NRIFAEP operations by June 2021	The aforementioned February 2021 report showed 72% of those surveyed said they were satisfied. It will not be known if the program has achieved a 90% level of satisfaction until early in the 2021–22 year when the next survey is completed.	
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 disclosing that they participate in fire ant self-management actions	20% stakeholders participating in fire ant self-management actions by June 2021	The aforementioned February 2021 report showed 98% of those surveyed participated which exceeds the target.	

Containment					
Objectives		**KPI**	**KPI target (2020–21)**	**Progress against KPIs**	**Status**
4	To mitigate the spread and establishment of fire ants by reducing the relative density 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 surveyed disclosing that they treat fire ants themselves	A report on the results of the first of two surveys this calendar year to determine relevant stakeholder awareness, participation and attitudes was received in late February 2021. There was no base line data prior to this report to use as a benchmark to measure an increase. However, 7% of people surveyed said they treat fire ants themselves.	●
		b. Percentage of fire ant infestations that are polygyne	Less than 1% of fire ant infestations are polygyne	A backlog in genetic tests exists mainly due to an increase in samples in 2020. In Q3, 5.5% of samples were tested with no polygynes found. The 2019–2020 annual genetics analysis finalised in Q1 found the proportion of sites with polygyne infestation was less than 1% when analysed on a yearly basis.	●
		c. Relative spread of fire ants within containment area as measured through population genetics	Maintain at 4 or increase the number of genetically distinct fire ant populations (i.e. family clusters) within South East Queensland	The number of distinct populations for 2020–21 will not be known until the annual analysis report is finalised in February 2022. The 2019–20 annual genetic analysis found 5 genetically distinct fire ant sub-populations. While this is an increase from 4 in 2018–2019, the new cluster was formed by two other clusters merging. All clusters are still in genetic bottleneck, indicating genetic fitness is still low.	●
5	To mitigate spread of fire ants by restricting the movement of fire ant carriers (materials) within, between and beyond the fire ant biosecurity zone	**a.** Percentage of high-risk stakeholders aware of fire ant movement controls	50% of high-risk stakeholders are aware of movement restrictions/ requirements by June 2021	The aforementioned February 2021 report showed 92% of those surveyed were aware, which exceeds the target.	●
		b. Percentage of high-risk stakeholders checked for compliance with human-assisted fire ant movement controls	The top 25% riskiest stakeholders checked for compliance at least once annually	562 audits were undertaken which is 33% of the 1698 (top 25% riskiest stakeholders) planned audit target.	●
		c. Number of significant detections linked to human-assisted movement	Zero significant detections linked to human-assisted movement	Neither the three significant detections nor the detection found outside the Operational Boundary in Q3 were linked 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 by 25% (7136 ha) from 2019-2020 levels (5709 ha) by June 2021	3535 ha of surveillance was completed, of which 2697 ha is within 5 km of the operational boundary and 838 ha is outside the operational boundary.	●
		b. Percentage of stakeholders living near and beyond the Operational Boundary who look for and/or treat fire ants themselves	50% stakeholder participation by June 2021	The aforementioned February 2021 report showed 49% of those surveyed looked for and/or treated fire ants themselves. Although 1% below target, it will likely reach 50% 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 Boundary	Zero fire ants that are likely to be from original nests remaining alive 12 months after prescribed treatment regime	Post-treatment validation surveillance was conducted on 29 sites near and beyond the Operational Boundary with no remnant infestation found.	●
7	To mitigate the re-establishment of fire ants in eradication	**a.** Percentage stakeholders living in buffer areas who look for and/or treat fire ants themselves	10% stakeholder participation by June 2023	The aforementioned February 2021 report showed 69% of those surveyed in buffer areas looked for and/or treated fire ants themselves, which exceeds the target.	●

Objectives		KPI	KPI target (2020–21)	Progress against KPIs	Status
	and clearance areas from adjoining (within 2 km from; buffer areas) fire ant infested areas	**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	• The program is ahead of schedule as Round 2 of the Eastern Overlap started earlier than planned due to wet weather in other treatment areas. • Treatment in the Western Overlap began in September 2020 and concluded in November. Round 1 of the Eastern Overlap began in November and ended in January 2021. • Of the planned 41 835 ha to be completed by 31 March, 41 897 ha (100.15%) has been completed.	
		c. Presence/absence of fire ants following application of 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	Post-treatment validation surveillance conducted on four sites found no remnant ants.	
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	Assistance by the program is limited due to movement controls between borders during the COVID-19 pandemic.	

Eradication

Objectives		KPI	KPI target (2020–21)	Progress against KPIs	Status
9	To effectively eradicate fire ants from targeted areas within South East Queensland	**a.** Percentage of stakeholders who support NRIFAEP activities within eradication area	Less than 1% stakeholder opposition annually	The program received no refusals to the program this quarter and visited 22 583 sites.	
		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	• Treatment in Area 2 commenced on 1 September 2020. Rounds 1 and 2 were completed in November 2020 and January 2021 respectively. • Of the planned 141 480 ha to be treated by 31 March, 133 603 ha (94.43%) was completed.	
		c. Number of fire ant nest infestations in monitoring (positive control) sites following completion of prescribed treatment regime	Zero fire ants present in monitoring sites (Area 1/WB) within three months of completion of prescribed treatment regime	• Area 1/WB monitoring was completed in early 2020 with no fire ants detected following the prescribed treatment regime. Eradication Area 2 monitoring was established but will not be finalised until after June 2021.	
		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 eradication area (Area 1/WB)	• The eradication area (A1/WB) consists of 23 950 sites (or properties) of which a sample number of sites is surveyed in line with the clearance surveillance priority map. • From June to March 46 detections were found—representing 2.2% of all sites surveyed.	
10	To progressively decrease the fire ant infestation in South East Queensland through targeted eradication	Increase in the operational area that has effectively completed a prescribed treatment regime for fire ant eradication (as in obj 9)	33% of the 2019–2020 operational area by June 2021	• Treatment continued in Area 2, the Western Overlap and Eastern Overlap areas in Q3. • By June 2021 (following the current treatment season) the total area to have received treatment as a proportion of the total operational area will be 33% (Total area of WB, EA1 and A2 = 211 580.65 ha; Total area of operational boundary = 645 105.25 ha).	

Objectives		KPI	KPI target (2020–21)	Progress against KPIs	Status
11	To reduce the cost of fire ant eradication treatment, monitoring and surveillance activities while meeting KPIs	**a.** Average per hectare cost of the program's prescribed treatment regime 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	The calculation for this KPI is being finalised.	●
		b. Average per hectare cost of the program's fire ant monitoring and surveillance regimes to effectively eradicate fire ants	By June 2023, average per hectare cost of monitoring and surveillance regime is reduced by 10% from 2019-20 costs	As above.	●

Clearance

Objective		KPI	KPI target (2020–21)	Progress against KPIs	Status
12	To detect and destroy any residual fire ant infestations and gather evidence to support the demonstration of freedom from fire ants in clearance areas	**a.** Searches of locations[2] deemed to be at highest risk of residual fire ants	The top 10% riskiest locations[3] have been searched by June 2021	Of the planned target of 5000 ha to be surveyed this fiscal year 2661 ha (53.2%) was surveyed as at 31 March. In addition, around 1230 ha of responsive surveillance has occurred in the zones which, combined with completed clearance surveillance, equates to 77.8% of the search area surveyed.	●
		b. Total area searched for the presence/absence of fire ants	Every clearance zone has at least 5% of the area[4] surveyed by June 2021	• As of 31 March, 90 of the 93 clearance zones had a minimum 5% of the planned area surveyed. • One of the unsurveyed zones does not have safe viable habitat to survey and will not be surveyed. • One zone is yet to start after being re-assessed for viable habitat to safely accessed to survey. • The third zone has known infestation so no clearance surveillance has been undertaken since the detection. Approximately 160 ha of delineation and targeted surveillance has occurred in this zone which, combined with completed clearance surveillance, would equate to 35% of the search area surveyed.	●
		c. Presence/absence of fire ants in areas searched	Zero fire ant detections at locations **other than** the top 20% riskiest locations	• This target was not met. Nine (9) detections were outside the top 20% riskiest locations this quarter.	●
		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	• Nine (9) detections were made in the clearance area in Q3. • Treatment will be undertaken to ensure zero fire ants remain from original nests 12 months after the prescribed treatment regime is completed.	●

1. Re Objective 10: The program Work Plan stated 38% instead of 33% and was a calculation error that will be corrected in a future update of the 2020–21 Work Plan. 2. Re Objective 12a: 'Sites' has been replaced by 'locations' for this KPI due to a change in terminology made after the 2020–21 Work Plan was completed. It will be corrected in a future update of the Plan. 3. Re Objective 12a Clearance zones are prioritised in line with the Clearance and Proof of Freedom Surveillance Optimisation Framework residual ant risk score based on the history of treatment in the zone. 4. Re Objective 12b: Areas with a viable habitat to survey only.

Summary of planned treatment and surveillance

Planned treatment includes eradication, suppression treatment and clearance.

Table 3: Planned Treatment Program Schedule 2020–21 as at 31 March 2021

Task			Month	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Planned Treatment	Planned Season Ha	YTD Ha													
Area 2	185 693	133 603													
Western Overlap	21 804	21 259													
Eastern Overlap	40 062	20 638													
Southern Supression	44 921	5 856													
High Risk	57 356	39 670													
	349 836	**221 026**													

Planned — On track — Delayed but expected to complete — Risk of not achieving target

Table 4: Planned treatment as of 31 March 2021

Round 1	No. of hectares			
Location	Planned year total	Planned YTD total[2]	YTD actual	% YTD
Area 2	185 692	141 480	133 603	94.43
Western Overlap	21 804	21 804	21 259	97.50
Eastern Overlap	40 062	20 031	20 638	103.03
Southern Supression[1]	44 921	14 974	5 856	39.11
High Risk [3]	57 357	50 527	39 670	78.51
Total	349 836	248 516	221 026	88.94

1. Scheduled to begin treatment from March 2021. 2.The total planned treatment differs to that budgeted because treatment activity is responsive to the changing needs for each week/month of the treatment period. See Finance on p30 for further information. 3. High Risk includes Clearance treatment and treatment responding to southern significant detections at Wyaralong Dam, Canungra, and Mount Nathan.

See **Appendices 1a, b and c** to view the progress maps.

Table 5: Planned Surveillance Program Schedule 2020–21 as at 31 March 2021

Task	Planned Season Ha	YTD Ha	Month: Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Planned Surveillance														
Clearance - High Priority	5 000	2 685												
Clearance - Low Priority	8 250	6 938												
Sentinel	1 570	1 622												
Targeted	2 630	3 585												
Responsive Surveillance														
Public Reports / Delineation	8 960	12 149												
	26 410	**26 979**												

Planned — On track — Delayed but expected to complete — Risk of not achieving target

Each clearance area is assigned a residual fire ant risk score—based on the history of treatment in this area—and ranked by risk relative to each other. The 10 clearance areas with the highest relative risk are high priority and assigned to receive 125 ha of clearance surveillance while all other clearance areas are to receive 15 ha of clearance surveillance.

Table 6: Surveillance progress—planned and responsive—2020–21

Surveillance task*	Year to date completed area (Ha)	Planned area year to date (Ha)	Year to date sites completed	Planned sites (year)
Sentinel	1 622	1 570	309	265
Clearance	9 623	10 834	1 661	1 560
Targeted	3 585	2 630	2 073	2 864
Responsive	12 149	6 811**	13 763	N/A
Total	**26 979**	**21 844**	**17 806**	**4 689**

*Sentinel surveillance—planned surveillance on sites outside and just inside the operational boundary; Clearance surveillance—planned surveillance on sites within previous eradication treatment areas: Area 1 and Western Boundary; Targeted surveillance—planned surveillance on sites within 5 km of the operational boundary which had previous infestation; '** This refers to a notional allocation for responsive surveillance around new detections based on previous years, for planning purposes only. See **Containment** below for further information on surveillance.

The surveillance season commenced in late June 2020 and concluded at the end of August 2020. The program will continue surveillance in the clearance areas for the remainder of the financial year. See **Appendix 2** to view the progress map.

3. Mobilisation: Activities to generate and maintain stakeholder awareness, support and participation that enables fire ant elimination from South East Queensland.

Raising stakeholder awareness

Major projects—market research, branding and website

Market research

The report on the first of two surveys this calendar year to determine stakeholder (residents and businesses) awareness, participation and attitudes as well as advertising recall was received in late February 2021. Overall, awareness about fire ants remained high but there was little knowledge by residents and businesses about self-treating fire ants, particularly when it comes to buying bait and applying it themselves. This is to be expected given the program had previously advised against self-treatment. Businesses seemed to have a higher awareness and knowledge of fire ants than residents. Both stakeholder groups believe everyone can make a difference to fighting fire ants.

The survey was conducted via phone contact with 559 residents and 250 business within SEQ between 12 January to 2 February covering people inside of and just outside (by 5 km) the program's operational boundary. Phone calls were chosen over another method due to specific locations targeted and required quotas, and to lessen the risk of skewed data.

The second survey will start at the beginning of the next financial year.

Appendices 3a and b provide a snapshot of the outcomes of this survey. In brief:

Table 7: Market research summary—February 2021

Topic	Residents	Businesses
Awareness	• High levels of awareness of fire ants (76%) • More than half know about the program (61%) • Only 39% were aware they can engage a licensed pest manager to treat and 13% aware they can self-treat by buying bait and applying it	• Very high awareness of fire ants (92%) • Most have knowledge of the program (83%) • 60% were aware they can engage a licensed pest manager to treat and 38% aware they can self-treat by buying bait and applying it
Participation	• 35% had checked their yard for fire ants in the last 12 months however, those in eradication areas were higher (Area 1 at 67% and Area 2 at 71%) • Of those who had had treatment 66% were satisfied with treatment	• 52% had checked their workplace for fire ants in the last 12 months. This was higher for those with eradication treatment in Area 1 at 74% but only marginally higher for Area 2 at 54% • Of those who had had treatment 79% were satisfied with treatment
Attitudes	• Keen to follow recommendations (93%) • Believe everyone can help make a difference (91%) • More than half see fire ants as a large problem but 10% don't see it as a problem for their area and 5% not a problem for their household	• Keen to follow recommendations (93%) • Believe everyone can help make a different (92%) • More people think that fire ants are a problem in their area compared to residents but still low (29%) but more think it's a bigger problem for SEQ than themselves (64%)
Advertising recall	• 37% recalled information/advertising however, those with eradication treatment had a very high awareness (Area 1 at 82% and Area 2 at 88%)	• 60% recalled information/advertising with those with eradication treatment a much higher awareness (Area 1 at 76% and Area 2 at 96%)

The research will be used to:

- provide baselines for our KPIs and provide more precise goals moving forward
- develop tailored messages that target specific groups (down to suburb level)
- inform advertising choices for targeted groups.

Other projects

The creative agency appointed to lead the program's **rebrand project** presented seven potential brand ideas for consideration. All ideas were presented to the Steering Committee and a new brand look-and-feel selected. Final creative concepts, including revised signage, document and brochure templates are due to be presented to the program by the end of April 2021.

Planning for the program's **campaign website** is continuing. The program aims to deliver a staged rollout, initially delivering a nationally branded homepage with a campaign URL—fire-ants.com.au or fire-ants.net.au—linking to existing content across each of the franchise websites. A new web structure and content migration will follow.

Major campaign—Eradication treatment

The eradication treatment campaign continued to roll out in Quarter 3 with residents in Area 2 receiving digital communication to complement material received in Quarter 2.

The second phase of the program's online advertising through Newscorp publications ran during February and March. While the number of advertisement views across the network was high at 88 447 impressions, the click-through rates (which demonstrate a higher level of engagement) were low. The program is seeking advice from Newscorp/Mediacom about boosting the click-through rate.

Development of the final phase of the eradication treatment social media campaign is now complete. This geo-targeted campaign is scheduled to run for an 8-week period from mid-April. Campaign content is a selection of new posts, videos and imagery as well as previous high-performing posts.

Major campaign—community treatment blitz projects

An extensive communication and engagement campaign was delivered to raise awareness, support and promote participation in the Yarrabilba, Gold Coast and Tamborine Mountain self-management pilots.

- Ten interactive displays were delivered at local shopping hubs, community markets and school pickups, directly engaging 987 people.
- Static displays were installed at key locations within the Yarrabilba and Tamborine Mountain communities.
- Roadside corflute signage was erected at nine locations in Tamborine Mountain and 10 locations at Yarrabilba. Corflute signage will be installed at 19 locations on the Gold Coast in April.
- A mobile variable messaging sign (VMS) was positioned at the entrance to Yarrabilba for four weeks, with a second unit moving to Tamborine Mountain and the Gold Coast from April. While in situ at Yarrabilba the sign was vandalised and is currently being repaired.
- Yarrabilba registration flyers were hand delivered to nearby businesses and 1500 residents.
- The Tamborine Mountain and Gold Coast registration flyers will be delivered in April.
- Engagement officers doorknocked at over 130 households to encourage residents to register for the pilot program.
- A community partnership group was formed to help guide the Yarrabilba pilot project, with five meetings taking place.

For the Yarrabilba project a phased social media campaign with six stages targeted residents and businesses in this area. Phase 1–3 of this campaign comprised eight advertisements detailing what the community fire ant treatment blitz is, how to register, how to join a closed Facebook group created for the project, reminders of the treatment weekend and how to complete treatment. This content has reached 31 465 contacts and received close to 2000 engagements.

The closed Facebook group, exclusive to community members who registered for the project, provided information, updates and online interaction opportunities

between the program and community members. The program is the first business area in the Department of Agricultural and Fisheries (DAF) to use a closed Facebook group in this way. This group acquired over 100 members and 73 engagements during this quarter.

A similar approach will be used for the Tamborine Mountain and Gold Coast community treatment projects.

Major campaign—Lifestyle

Encouraging all residents to manage fire ants on their properties is a priority for the program. As such, a lifestyle campaign was developed aimed at educating landowners and tenants in non-eradication areas between February and June 2021.

As part of the campaign, a direct mail piece was produced to educate residents about fire ants, their risks, the program, the 10-year Eradication Plan and self-treatment options. In particular, it explained why there was a need for all South East Queensland residents to play their part in the fight against fire ants. Advertising and promotion through digital and traditional media, as well as engagement with community networks and peak bodes, was also developed and submitted to the Queensland Government Advertising and Communication Committee (GACC) for approval.

The direct mail piece was delivered to 10 000 householders in Yarrabilba and surrounding suburbs in late December 2020 and 39 536 householders around Upper Kedron in February 2021. Suburbs included in the first delivery were Jimboomba, South Maclean, Logan Village, Yarrabilba, Flagstone Riverbend and Glenlogan. Suburbs included in the second delivery were Upper Kedron, Enoggera Reservoir, Ferny Grove, Keperra, Mitchelton, The Gap, Bardon, Mount Coo-tha, Chapel Hill, Kenmore Hills, Brookfield, Upper Brookfield, Lake Manchester, Kholo and Pine Mountain. The general education campaign planned for residents in non-eradication areas was put on hold by the Minister for Agricultural Industry Development and Fisheries until a later date. The exception was the aforementioned community self-treatment projects planned for Yarrabilba, Tamborine Mountain and the Gold Coast.

Major campaign—Southern suppression

In line with a change to the program's treatment plan, a small campaign to communicate with residents near the southern boundary of the infestation was fast-tracked in Quarter 3. The campaign, due to end in April 2021, advises residents in suburbs of the Scenic Rim and Gold Coast of fire ant treatment in their area and encourages them to let treatment teams enter their property when asked.

- a letter was delivered to 7997 residents in the Southern Suppression Area
- email notification sent to local community groups and sporting clubs
- an upcoming 'Get Savvy' event will be attended with an interactive display in April.

This campaign was supported by a six-week, two-phased social media campaign. In the first phase (16 days) of the campaign content reached over 23 000 people with almost 5.5% of those clicking on the website link inviting people to learn more about fire ants.

Detections of importance campaigns

As per its detections of significance protocol, the program alerted industry and residents in the areas of Brendale, Tarome and Tamborine Mountain to check their properties for fire ants and report any suspect ant nests. Activities included:

- **Direct notifications:** emailed to 572 businesses and 39 local community groups and sporting clubs in Brendale and surrounding suburbs, flyers delivered to 10 826 residents and businesses in Brendale and surrounding suburbs of Warner and Strathpine, 323 residents and businesses in Tarome, and 4066 residents and businesses in Tamborine Mountain.
- **Displays:** installed at Brendale; Tamborine Mountain Library for five weeks to be moved to the Vonda Youngman Community Centre in mid-April and an interactive display organised for the Tamborine Mountain Show in April.
- **Roadside signage:** placed in nine locations around Brendale, six locations around the Tarome and nine locations around Tamborine Mountain.
- **Social media:** ran two-week social media campaigns in Tarome and Tamborine Mountain advising residents to take action reached nearly 50 000 people and achieved 48 285 engagements. The first 10 days of the Brendale campaign reached more than 14 000 people with videos watched 10 800 times for more than three seconds. The campaign is due to end on 5 April 2021.

Social media sentiment was 49% positive, 43% neutral and 8% negative. A significant shift from negative sentiment towards positive/neutral on the related social media content has been observed in Quarter 3 compared to Quarter 2. Last quarter negative sentiment averaged 34%. This is likely a reflection of increased community awareness due to improved and repeated communications with local residents about treatment in their suburbs and detections of importance.

Similar activities for Mount Nathan are about to begin.

General awareness

The program continued its monthly stakeholder newsletter—Fire ant news—in Quarter 3, with all three newsletters being opened by an average of 33.75% of the subscriber database. Several people unsubscribed from the newsletter across January, February and March, likely to be a result of combining a large number of program databases at the end of 2020 (the database currently stands at 10 267 people).

In addition to the aforementioned campaigns, program key messaging continued to be released through minor and micro social media campaigns and program updates. Forty-seven (47) social media posts (organic and paid) resulted in 35 619 engagements. Sentiment of these posts held steady at with 67% of the 514 comments on social posts positive, 20% neutral and 13% negative. Compared to Q2 there was a shift from negative to neutral sentiment with negative sentiment decreasing 6% to 13% this quarter. On Facebook—the program's highest performing platform—fire ant messages reached almost 400 000 people (377 935). Our main webpage daf.qld.gov.au/fireants received 8544 page views during this quarter.

Other general awareness activities included both static and interactive displays in key community locations including schools, supermarkets and local markets engaging with close to 1000 people.

Media

Engagement with media outlets continued with a range of stories about community fire ant treatment projects and the importance of following fire ant movement controls shared. The four media releases distributed to South East Queensland media and information or interview requests received from media outlets resulted in 15 media mentions.

The media releases about the Yarrabilba community fire ant treatment project and the illegal movement of material from Maudsland to Coolangatta had the best reach, with more than 257,400 people reached and an advertising spend rate equivalent of $28 430.

While the program's media monitoring software no longer determines a story's sentiment, the program deems 14 of the 15 stories as neutral or positive. The only negative story was published in the Fassifern Guardian and a result of a significant detection found in Tarome. The program provided a statement to the journalist however this was not used.

Training

The program delivered Fire Ant Awareness and Fire Ant Treatment Training to 336 stakeholders during Quarter 3. The program has been also continued development of an online learning management system, providing self-driven course to targeted groups. This quarter, it was decided to pilot online learning with the Building and Development Industry. The course has been designed (initial draft) and is now being used to acquire quotes for the development work and host platform.

Scripting progressed for the series of training videos to be used as part of online learning. Scripts are in final approvals with filming to be finalised in mid-2021.

Councils

Local councils continue to be a focus area of program engagement. As well as monthly reports, several councils are now engaged as part of treatment project activities.

Logan City Council has commenced treatment for fire ants in Yarrabilba, where our first community treatment pilot project is taking place. The same approach is being applied in Tambourine Mountain, with Scenic Rim Regional Council and the Gold Coast target suburbs, with City of Gold Coast. These councils will be using bait supplied by the program for this pilot areas. A meeting with Ipswich City Council is also pending to discuss the upcoming treatment plan.

Building stakeholder support

Industry

The communications and engagement plan supporting changes to the fire ant biosecurity zones was completed and is ready for implementation as soon as the new zone map is approved. Communications will target both industry and community in suburbs new to the zones as well as suburbs moving from zone 1 to zone 2.

Communications pieces have been prepared and approved for the turf industry, informing them of changes to the Australian Pesticides and Veterinary Medicines Authority (APVMA) bifenthrin permit. This is good news for the industry which has been wanting change for some time. Changes are:

- bifenthrin treatment for turf will reduce from a double application to a single higher dose, pre-harvest application of 1.8 L per hectare of 240g/L bifenthrin product (or its equivalent in the other concentrations)
- waiting times between treatment and harvest will reduce from 28 days to just 48 hours
- re-treatment of turf, not cut and moved, is required on the seventh week after the first treatment.

Planning has commenced for a hay industry field day following-up the Hay Industry Collaboration Group meeting in December 2020. The field day will give farmers a practical demonstration of storage requirements for their products. The event is planned for May 2021.

In addition, more than 170 business in the Southern Suppression area received notification about treatment occurring in their suburbs and what they can do to support the effort.

Complaints and feedback

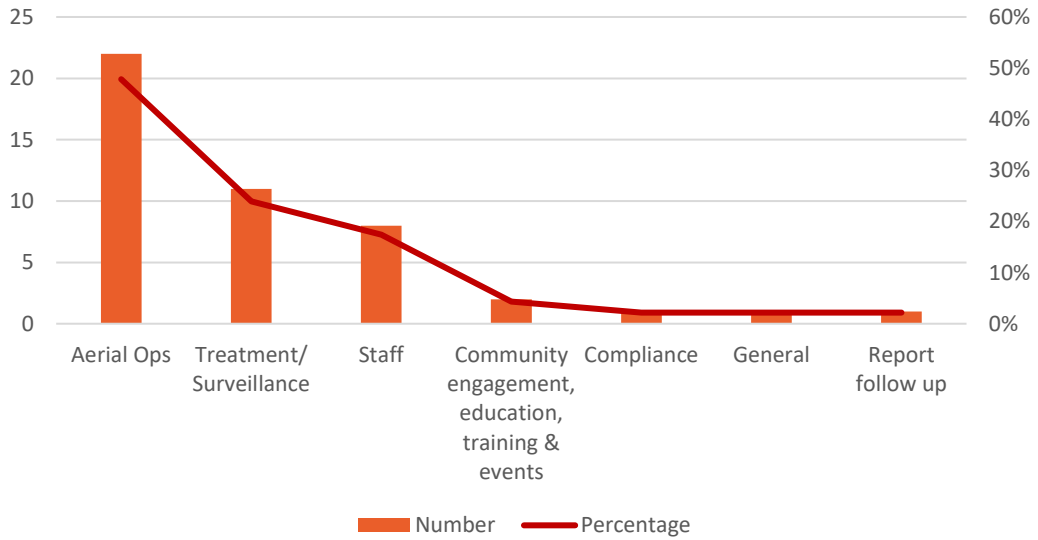
In addition to reports of suspect fire ants 1737 contacts were received by the department's Customer Service Centre about fire ants this quarter. Where the centre requires further input to respond to a caller the contact is forwarded to the program. Of the 500 contacts referred to the program, 91% (453) were general enquiries and 9% (47) complaints.

The majority of complaints were about aerial operations (48%), treatment/surveillance (24%) and staff behaviour (17%). Complaints about aerial operations were consistent with other quarters e.g. helicopter noise and treatment scheduling. Staff related complaints mainly related to driving behaviours and perceptions that staff are taking long breaks or congregating in public spaces. All complaints are addressed and responded to promptly by the relevant team within the program.

In Q3 the communication and engagement team delivered an additional two 'engaging with influence' training sessions to field team leaders. The purpose is to continue to improve the communication skills of our field team staff, where needed, and give them the tools to manage challenging interactions with community stakeholders. Area coordinators for field teams also held toolbox talks to discuss behaviours and public perception.

To minimise ongoing angst towards the program's operational activities subtle messaging that humanises our field teams was incorporated into our communications, including a Facebook post that referred to our staff working in the heat and the rain.

Figure 1: Complaints—number and percentage in Quarter 3—2020–21



Refusing treatment by the program

No landowners refused treatment on their property this quarter. Some site owners refused entry by ground crews entering their properties after aerial baiting had been completed however, negotiations with landowners resulted in all sites being treated (see Table 8).

Table 8: Refusing treatment by the program in Quarter 3 2020–21

Month	Reason	Outcome
January	• Five sites were treated by air, and then refused aerial buffering (back up ground treatment). • One site initially refused ground treatment.	All six sites were treated following negotiation with the site owners (without the use of enforced entry).
February	• No refusals to treatment were received this month	Not applicable
March	• Two sites initially refused aerial treatment.	One site has since been treated while the other site is due to be treated in April 2021.

Empowering stakeholder support

Self-treatment initiative

The **Yarrabilba community fire ant treatment blitz** has successfully launched. This is the program's first community treatment pilot and leads the way for projects in Tamborine Mountain and Gold Coast. More than 200 households undertook the first round of treatment either using bait provided to them by the program or via program field teams. There were challenges from a systems and data perspective however, 60 households have provided feedback on the first round saying that the treatment was easy to do. A second round of treatment will be conducted in May followed by an evaluation.

Two community groups have agreed to partner with the program to help deliver the **Tamborine Mountain community fire ant treatment blitz** i.e. Landcare and the Chamber of Commerce. Members for both have received face-to-face presentations and are providing valuable engagement opportunities with the community. This is the first time the program is trialling the joint-delivery of a community treatment project. At the end of the quarter, 60 households had registered before information flyers had even hit mailboxes. Treatment will take place in May.

The **canegrowers self-treatment pilot** has been extended after a positive evaluation and requests from stakeholders to continue. Farmers in Coomera have now received enough bait to conduct three additional rounds of treatment (adding to the first two) over the remainder of 2021. We are also continuing our **primary producers' pilot** which has been extended to not only include the eradication treatment area but the southern suppression area. Farmers are treating buffer zones to avoid gaps in treatment due to cropping.

The program has been working with the Department of Education to progress the education self-treatment project. Communications are now in place with training for state schools due to proceed next quarter i.e. after Easter 2021.

All 20 **sports and recreational facilitates** commenced their fire ant treatment and will complete another facility treatment next quarter. The project for **waste facilities** also commenced with high-priority facilities directly engaged to teach them about their obligations and options for self-treating fire ants.

4. Containment: Activities to prevent the spread of fire ants within and beyond the program Operational Area.

While eradication remains the primary focus of the program, containment through the suppression of the existing infestation in non-eradication areas and preventing further spread remains a high priority. This includes prioritising detections of importance (DoI) at or near the operational boundaries, work with high-risk material industries to ensure compliance and vigilance to prevent spread through the human-assisted movement of fire ants, and working with the community to suppress the pest in area with a of heavy ant population. Landowners and residents in South East Queensland also play a critical role in suppressing the pest by treating properties or land they own or manage. This helps reduce the size and scope of the eradication task and degrades the genetic integrity of fire ant colonies.

Boundary containment

The program uses a risk-based approach to surveying for and eradicating fire ants from near the operational boundary. This includes sentinel surveillance in high-risk habitats and targeted surveillance around operational boundary areas to detect new or returning ant infestation. Clearance surveillance is also done using new monitoring sites within planned eradication areas to detect any residual ants.

Surveillance

The surveillance season commenced in late June 2020 and concluded at the end of August 2020. The program has suspended surveillance in the clearance areas (Area 1 and the Western Boundary) for the remainder of the financial year to focus on meeting treatment targets. Clearance surveillance using remote sensing cameras mounted in helicopters will begin in 2021–22 to locate any residual infestation. See **key insights** above to view surveillance data for this quarter and **Appendix 2** to view the progress map.

Through proactive surveillance and communications encouraging people to check their yards and report suspect ants there were 4 detections found outside of the operational boundary and 13 detections within 5 km inside of the operational boundary (see **detections of importance** on page 20 for further information). The program acted immediately to destroy these infestations and ensure there were no further nests near the detections and will carry out risk assessments on detections of importance and adapt responses as needed.

Eradication area protection

Suppression

Suppression treatment continued in the Western Overlap and Southern Suppression began in March. Progress is outlined in Table 9.

Table 9: Planned suppression progress up to 31 March 2021

Round 1	No. of hectares			
Location	Planned year total	Planned YTD total[1]	YTD actual	% YTD
Western Overlap	21 804	21 804	21 259	97
Eastern Overlap	40 062	20 031	20 638	103
Southern Suppression	44 921	14 974	5 856	39
High-risk [2]	57 357	50 227	39 670	78

Round 1	No. of hectares			
Total	164 144	107 036	87 423	82

1. The total planned treatment differs to that budgeted because treatment activity is responsive to the changing needs for each week/month of the treatment period. See Finance below for further information. 2. High Risk includes Clearance Treatment and southern significant detections at Wyaralong Dam, Canungra, and Mount Nathan.

Responsive treatment

Responsive treatment is delivered when the community reports suspected fire ants and they are identified as positive. It is also delivered when positive sightings are found by program field staff in the normal course of treatment and surveillance work. These are prioritised according to level of risk. Detections presenting a high risk to public safety (such as those in schools, parks and sporting grounds) are given the highest priority along with fire ant detections outside or near the program's operational boundary (see **Detections of importance** on p19).

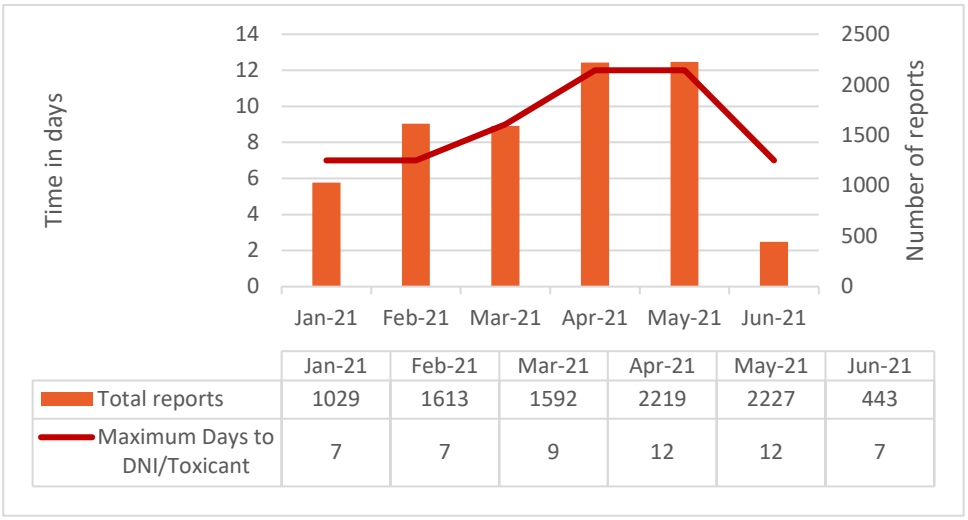
Community reports of fire ants

There were 4234 public reports of potential fire ants this quarter, which is around a 9% increase from the same quarter last year (3882). Only two of these reports were residents confirming that they checked their yards and found nothing.

Notably, 554 people reported that they, or someone they know was stung, and 421 people actively went looking for fire ants. When asked "how did you hear about us?", the top five responses were website, other, word-of-mouth, fire ant awareness training and officers working in the area. The 'other' field was mainly people who had reported fire ants previously or they had heard about them through their local council.

Most reports were about potential fire ants at residences (71%). The maximum days for the program to treat reported suspect fire ants this quarter was between seven and nine days.

Figure 2: Public reports and maximum days to direct nest injection (DNI) treatment from January 2021 to June 2021



	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
Total reports	1029	1613	1592	2219	2227	443
Maximum Days to DNI/Toxicant	7	7	9	12	12	7

Figure 3: Where suspect ants were found in Quarter 3 2020–21

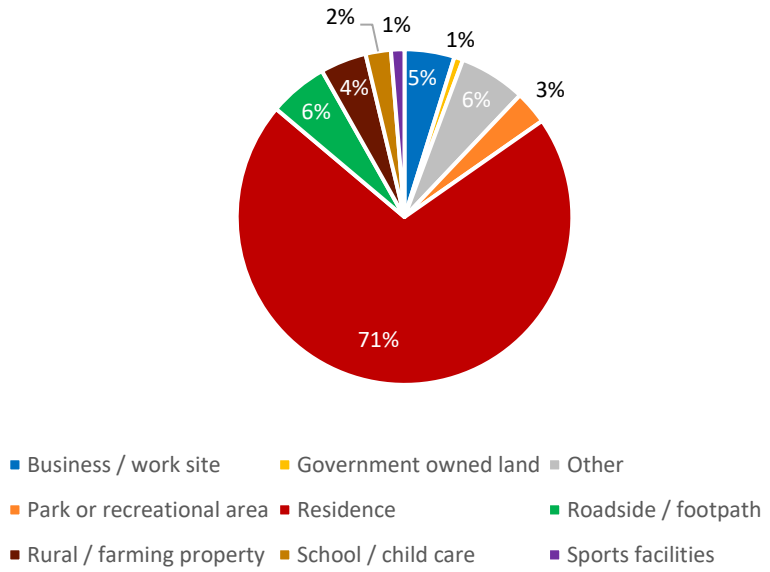


Figure 4: What made people report suspect ants in Quarter 3 2020–21

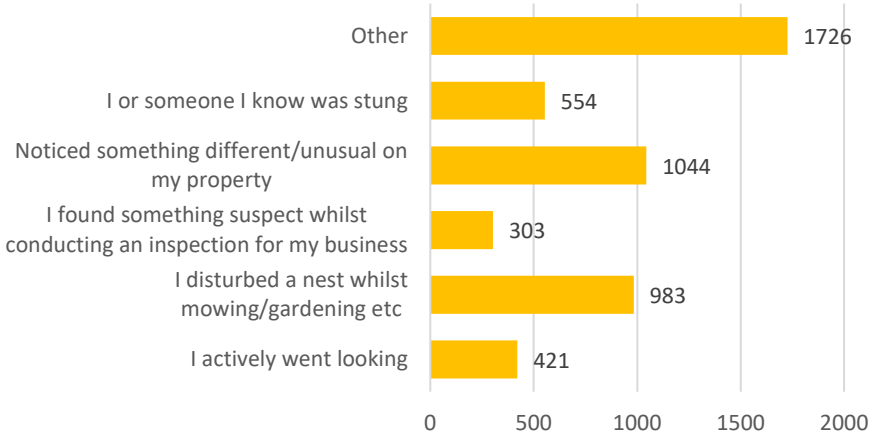


Figure 5: How people reporting suspect ants heard about the program in Quarter 3 2020–21

Detections of importance

Detections of importance pose a heightened risk to the achievement of the program objectives and overall success, and receive urgent attention. They include detections outside the operational boundary, detections up to five kilometres inside the operational boundary in place at the time of detection, detections located within an area that has received three or more rounds of eradication treatment and detections located within areas that are currently undergoing clearance and freedom activities.

Eradication treatment activities continued during this quarter with the focus on Area 2 and targeted treatment areas in Area 1 and Western Boundary. Due to the high number of detections made in the first quarter (100), surveillance activities continued throughout the second and third quarters. Fewer detections of importance were found in the third quarter compared to the first quarter (26 compared to 100), though this number was slightly higher than the detections found during the second quarter (23). The program is currently risk assessing these detections to determine whether further action is required.

Table 10: Fire ant detections of importance Quarter 3 2020–21

Type*	No.	Location/s
Significant	3	Tamborine Mountain, Tarome and Mount Nathan
Outside Boundary	1	Tamborine Mountain
Boundary	13	Boyland (2), Wonglepong (1), Mundoolun (1), Birnam (1), Brendale (2), Allenview (2), Tamborine Mountain (1), Veresdale Scrub (1), Gleneagle (1) and Beaudesert (1)
Clearance area	9	Mutdapilly (1), Mount Walker (3), Coleyville (2), Thornton (1), Harrisville (1) and Kulgun (1)

*Significant = A new detection found outside the program Operational Area boundary. Outside boundary = A detection found outside the program Operational Area boundary that is an extension of a significant detection. Boundary = A new detection found up to 5 km inside the program Operational Area boundary. Clearance area = Former eradication area undergoing surveillance and residue ant search and destroy activities.

Significant/outside boundary detections

- Three significant detections and one detection outside the program operational area boundary were found during the third quarter: three in the Scenic Rim local government area and the other in the Gold Coast local government area. While this is a higher number than desired, the program prioritises extended treatment and surveillance actions to ensure the infestation is destroyed.
- Each new significant detection is reported to the program's cost-shared partners and the Queensland Minister for Agricultural Industry Development and Fisheries, with three reports submitted this quarter. One of the four detections made this quarter is not considered a new detection for reporting purposes as they were additional nests found on the original Tamborine Mountain significant detection property and are part of the response to that significant detection.
- Nests at the sites were immediately destroyed and treatment and surveillance activities between a minimum of 500 mand up to 2 km beyond the infestation took place.
- Investigations were done into the movement of inbound and outbound fire ant carriers onto and from each site, specifically focussing on the last 12 months.
- If materials that can carry fire ants needed to be removed from the site, co-operation was sought with the companies/landowner to implement measures prior to the movement.
- Genetic analysis was conducted to determine if the nests are related to the existing SEQ population and the fire ant colony's social form (monogyne or polygyne). All the detections were from the current infestation and were monogyne.
- Further testing was also undertaken to identify relatedness to nearby colonies and investigations carried out into related fire ant carrier product movements. No direct linkages were found in genetic tracing activities to-date, however further testing will be done periodically as more samples come in.

Boundary detections

- There were 13 boundary detections (detections made within 5 km of the operational boundary) during the third quarter in local government areas of Scenic Rim (11) and Moreton Bay (2).
- The program assessed the risk associated with each detection and responded in accordance with program protocols as outlined for significant detections above.
- All nests were promptly destroyed with an insecticide by either applying direct nest injection or broadcast baiting, depending on risk. Scope of treatment ranged from a minimum of 100 m from the nest to 2 km beyond the infestation.
- The number of detections around the boundary presents a significant risk to the program's containment objectives. Further analysis is underway to determine whether a heightened response (including broadscale treatment) is required to ensure further spread does not occur, particularly to the south of the program's operational boundary.

See **Appendix 5** for more a map of detection locations and **Appendix 6** for further detail on their circumstances and management.

Polygyne detections

Genetic analysis of the social form of fire ants is undertaken to determine treatment activities required. Multi-queen colonies (polygynes) have increased risk of spread from human-assisted movement and strengthen the colony by increasing the genetic diversity within the population compared to single queen colonies (monogynes). As such, one of the KPIs of the program is to maintain ~1% or less polygyne sites within the South East Queensland infestation. This is far less than overseas polygyne proportions, which are often between 40 to 70% or higher.

Table 11: Ant samples analysed in Quarter 3 2020–21

Quarter	No. ant samples for analysis	Proportion polygyne sites	No. untested^
2019–2020 annual quarterly average	**1 967**	**0.96%**	**83 (4%)**
1	911	1.25%*	2 (0.22%)*
2	1 622	0.99%*	219 (13.5%)*
3	710†	0%	671 (94.5%)

*Q1 and Q2 values have been updated as of the end of March 2021 as further samples in the backlog have been tested since previous reports. ^Excludes samples found to have <15 ants, which are not suitable for analysis. † The number of ant samples to be analysed may increase as there is a backlog currently being decontaminated/processed; thus, exact numbers are not available at this time.

The proportion of sites with polygyne infestation in this quarter remain low and within the target KPI of 1%; however, very few samples collected in this quarter have been analysed. Additionally, the samples collected in Quarters 1 and 2 have been updated from the previous report to reflect the testing of those samples in recent months. While the proportion of polygynes was reported in Quarter 1 at over 5%, the updated value is now far less. This is because any samples that are suspected of being polygyne in the field (multiple nests in close proximity) are prioritised for testing; therefore, preliminary results will be biased to have a higher polygyne proportion compared to when all samples are tested.

A considerable backlog in genetic tests is still present for both the current and previous quarter, predominantly due to an increase in samples in 2020 and difficulty in purchasing genetic laboratory consumables due to COVID-19 demand. While this has been partially rectified in our genetics laboratory, the backlog has now shifted to the earlier stage where samples are decontaminated prior to genetic analysis at the Berrinba laboratory. Methods to increase throughput at this stage are currently being investigated.
The 2019–2020 annual genetics analysis was finalised in Quarter 3, finding that 0.93% of sites are of the polygyne social form, which is less than the 1% KPI. The majority of known polygyne infestation is within the central and east Ipswich local government area, which is currently undergoing treatment as part of the program's polygyne strategy. It is anticipated that the proportion of polygynes will further decrease in the next one to two years as this targeted treatment is successful.

Human-assisted spread mitigation

Human-assisted spread poses a significant risk to containment where fire ants are transported via fire ant carriers like soil, mulch, turf, hay and potted plants. To manage these risks the program promotes voluntary compliance through stakeholder education (see **Mobilisation** above) and targets industries most likely to transfer fire ants through compliance audits. Changes to fire ant biosecurity zones in May 2020 introduced new suburbs within the zones and meant several businesses and individuals were subject to the Biosecurity Regulation 2016 for the first time. Given both their general limited knowledge and previous contact with the program, if found non-compliant this group has been made aware of the requirements and generally given two weeks to achieve compliance.

Compliance audits

The *Compliance Scheduled Activities Plan 2020–21* (compliance plan) was developed to ensure the highest risk industries undergo compliance assessment over the fiscal year with the results of these assessments creating reliable inferences of overall industry compliance levels each year. These businesses fall into a number of broad industry types. These include landscaping services, hay producers, poultry farms, earthmovers, waste facilities, civil construction, builders and developers and quarries. Based on available information within the program's FAMS database and other online business advertising platforms such as Yellow Online, the total number of operators within these industries totals approximately 7000.

The industries that were selected for the quarter were tree services (i.e. tree lopping and mulching), nurseries and hay growers. Industries were prioritised on factors such as compliance history, the nature of the carriers they typically move, extent of past contact with the program and volume of trade. All these factors impact the risk of human-assisted spread.

This quarter, 231 audits were done with 159 planned and other audits mostly with earthmovers and building and construction/development businesses.

Table 12: High risk industry audits—numbers compliant versus non-compliant

High risk industry	No. audits	No. non-compliant	% non-compliant	Outcome
Hay	44	12	27%	• 10 advisory notices, 1 biosecurity order and 1 penalty infringement notice (PIN) issued. • Most non-compliance arose from incorrect storage.
Tree lopping and mulching	48	3	6%	• All non-compliant services were issued with advisory notices and are now compliant.
Nurseries	67	31	46%	• All non-compliant nurseries, except one, were issued with advisory notices to transition to compliance or make a submission on how they intend to transition to compliance within 10 business days. They will be reaudited early in 2021–22 to confirm they are compliant.
Earthmoving	41	2	4%	• One company was issued a PIN and Biosecurity order. One company received an advisory notice. Both companies are now compliant.
Civil construction and builders	13	0	0%	
Landscaping	7	2	28%	• One company was issued a PIN and one was issued an advisory notice. Both were for incorrect storage of hay. Both companies are now compliant.
Turf	6	1	16%	• Advisory notice issued. The business is now compliant.
Quarry	3	0	0%	n/a
Waste facilities	1	0	0%	n/a
Utilities	1	0	0%	n/a

Continuing to extensively engage and communicate with industry in addition to audits will be key to improving compliance levels. See **Appendix 4** for the locations of compliance activities.

5. Eradication: Activities to effectively eradicate fire ants from South East Queensland.

The planned eradication season began in September marking an important milestone for the program by moving from the Lockyer Valley, Scenic Rim and parts of Ipswich (Area 1 and the Western Boundary) east to new parts of greater Ipswich and western Logan (Area 2). Eradication treatment Area 1 and the Western Boundary moved to Eradication Clearance that involves targeted surveillance and spot treatment over several years rather than broad scale treatment across the whole area.

Eradication treatment in Area 2 is using an alternative model to that used in Area 1 and Western Boundary to initiate a potential expedited strategy to eradicate fire ants. Area 2 eradication treatment involves four rounds of intensive treatment in one year instead of two to three rounds of treatment per year for two to three years as applied to Area 1 and Western Boundary. In addition, the area has been sectioned into three distinct treatment areas with different treatment regimes used in each. This is to identify the most effective way to deliver eradication more quickly. One of the three areas will receive four rounds of insect growth regulator (IGR) bait, which is intended to make the queen infertile and the nest to die out due to starvation. A second area will receive IGR bait for three rounds initially (targeting the queen), with a fast-acting bait used to target worker ants in the fourth round to expedite worker death and nest starvation. A third area will receive IGR bait initially, to make the queen sterile, followed by a fast-acting bait in the second round to kill the worker ants, and then a further two rounds of IGR to maintain the queen's sterility if she has survived. Monitoring of the three eradication treatment regimes is undertaken monthly with a review of the efficacy of the various treatments undertaken at the end of the treatment season in June 2021.

For the current eradication treatment area (Area 2), monitoring sites have shown a decline in fire ant colonies remaining, providing evidence that transitioning to Phase 3 in Area 2 may be possible following this year's treatment season. At the end of the current treatment season (during Quarter 4), Area 2 fire ant monitoring will be fully assessed.

Table 13: Planned eradication treatment progress

Round 1	No. of hectares			
Location	Planned year total	Planned YTD total	YTD actual	% YTD
Area 2	185 692	141 480	133 603	94.43

Table includes daily and weekly adjustments. YTD = year to date.

Table 14: Challenges and solutions to eradication treatment in Quarter 3—2020–21

Challenges	Solutions
Due to unfavourable weather conditions, there were 46.5 scheduled aerial treatment days lost during this quarter.	Aerial treatment was conducted across weekends to help get planned treatment back on schedule.

Further information about eradication treatment is outlined in the **key insights** part of the report. Refusals to allow treatment on properties is outlined on p15.

Monitoring the efficacy of broadscale bait treatments in Area 2

As the program prepared to move into a new eradication area (Area 2) in the 2020–21 treatment season, a new broadscale eradication treatment methodology was developed for implementation and evaluation under an adaptive management approach. Under this approach, four bait rounds would be applied in a single treatment season (September 2020–June 2021). In addition, a fast-acting bait would be included in the treatment sequences in parts of Area 2 to see if this could further accelerate eradication.

In advance of applying these broadscale eradication treatments in Area 2, extensive surveillance was undertaken to locate live fire ant nests so their responses to baiting could be monitored. Fire ant nests detected and confirmed for monitoring the efficacy of the three eradication treatment strategies to be applied in Area 2 over the 2020–21 treatment season are:

- 322 nests (northern section: treatment strategy = 4 x IGR treatment rounds)
- 149 nests (central section: treatment strategy = 3 x IGR treatment rounds + late Advion treatment in round 4)
- 64 nests (southern section: treatment strategy = 3 x IGR treatment rounds + early Advion treatment in round 2).

Alongside this monitoring of treatment efficacy, pitfall trapping at 6-week intervals is also occurring to monitor the potential impacts of broadscale baiting on non-target ant species.

All monitoring nests have been visited on a 4-week/monthly schedule since September 2020 and assessed for the level of fire ant activity. By the end of February 2021, >85% of the total number of monitoring nests across all of Area 2 appear to be dead. Very wet weather during March 2021 has delayed the completion of the most recent monitoring round at some sites due to access issues, including the inundation of some nest locations by water.

The results to date are being compiled into an interim report however, the early indications are that all three treatment strategies are performing well. Continued monitoring into the 2021 winter will be necessary to help assess whether the strategies of applying four bait treatment rounds in a single season (with some including a fast-acting bait i.e. Advion) have achieved the objective of eradication in a single treatment season or if further treatment rounds will be required.

6. Clearance: Activities to ensure defined areas remain free from fire ants after eradication is complete.

The 2020–21 year saw the program move to Phase 3 search and clear (clearance) activities in Area 1 and Western Boundary; to locate and destroy any residual ants in these former intensive eradication treatment areas. Intensive eradication treatment will then progress east into parts of greater Ipswich and western Logan (Area 2).

An update on the evaluation of current clearance surveillance conducted in Area 1 and Western Boundary was given to the Steering Committee in February 2021, where the program still could not conclude that Area 1 and Western Boundary were totally free from fire ants. However, results indicate the goal is achievable with continued surveillance and appropriate responses to detections. Therefore, more surveillance was conducted in the summertime for Area 1 and Western Boundary.

Following the surveillance of all areas initially identified as the highest priority, under the surveillance priority risk map, further clearance surveillance was focused on areas adjacent to or near previously searched priority areas. This continued into the third quarter, where additional assessment on the summer surveillance results helped to inform the prioritisation of areas for the 2021–2022 winter clearance surveillance period.

Surveillance will resume in May 2021 focusing on remaining clearance areas. Clearance areas still to be done are those identified in the clearance priority heat map as ‘risky’. These are predominantly those not in the top 20% riskiest clearance areas (as per the clearance surveillance priority heat map).
Further risk analysis is being undertaken and strategies will be implemented to address any gaps in treatment and/or surveillance to protect the clearance area from further re-infestation.

Clearance area surveillance and protection

- There were nine detections in clearance areas this quarter: Mutdapilly (1), Mount Walker (3), Coleyville (2), Thornton (1), Harrisville (1) and Kulgun (1).
- These are considered lower risk detections, those with fewer nests and no apparent reproductive viability, and therefore each received a minimum of 500 m treatment and surveillance perimeter.
- Surveillance in the clearance area will continue into the 2021–22 season until such time as the program is satisfied no residual infestation remains and areas can progress to the next phase of the freedom framework (Phase 4–freedom). This phase involves a cost-optimised volume of surveillance.

Table 15: Challenges and solutions to clearance activities in Quarter 3 2020–21

Challenges	Solutions
Nil.	

Clearance and proof of freedom strategy

Following the completion of the first year of clearance surveillance in Area 1 and Western Boundary, modelling was undertaken to demonstrate whether a further year's surveillance was required to conclude if any of the clearance zones could be considered cleared. Given the number of remnant infestations discovered the amount of surveillance conducted was not enough (< 50% certainty per clearance zone) to conclude that another year's surveillance was not warranted. Modelling a hypothetical scenario of a second year with no additional detections did show that an additional year of surveillance would be sufficient (>50% certainty in local clearance zone eradication) to progress from Phase 3 to Phase 4.

The current method of prioritising clearance surveillance based on treatment differences and previously known infestations has been potentially very effective with a steady decrease in the number of remnant infestations discovered. The program believes there is a possibility of progressing some clearance zones from clearance stage into freedom surveillance. Area 1 and Western Boundary are on-track to have ≥10% total surveillance coverage by March 2022.

For clarity, an additional phase has been proposed to the *Clearance and Proof of Freedom Strategy*, to differentiate between fixed clearance surveillance and treatment activities, and variable rate freedom surveillance.

The amount of clearance surveillance currently being conducted (>10% of area over 2 consecutive years) may be sufficient to declare clear any clearance zones without a recent (i.e. within 2 years) detection. Any cleared zones would then commence Phase 4: Clearance area freedom surveillance.

The proof of freedom working group has been working on collating expenses related to eradication, clearance, and freedom surveillance, and has devised a useful heuristic for selecting an appropriate budget for freedom-related activities. This is outlined in the draft proof of freedom strategy document based on scientific literature and includes the risk-weighted expectation of responsive treatment.

The program commenced the first Structured Expert Elicitation program (STEEP) group in early February 2021 to set a consensus 'prior' certainty in local freedom from fire ants in each clearance zone to budget the amount of surveillance and responsive treatment dollars needed to declare ultimate freedom from fire ants. That budget and timeframe is variable and can be selected by the ultimate decision-maker.

7. Research and innovation: Science and innovations to improve treatment, surveillance and diagnostic techniques.

Polygyne research and eradication

A pilot trial testing several different bait treatments and combinations of baits against polygyne fire ant infestations was conducted through 2020. The aim was to investigate the feasibility of eradicating localised polygyne infestations within a single treatment season rather than over several years. The latter had historically been considered essential based on the application of two-three rounds of IGR baits per year for 2–3 years. This field trial took place across three heavily infested polygyne sites with the first application of baits taking place in May 2020 and further rounds of baits applied to most plots on a fortnightly basis through June–November. For plots still showing signs of ant activity the last treatments were applied in mid-November and the final assessments of all trial plots completed in late December. The results have since been compiled and a final report is in preparation.

In summary, the pilot results indicated that the most promising alternative baiting regimes were those containing repeated fortnightly applications of fast-acting baits (Advion and Amdro in rotation) and fortnightly Amdro/Distance blends. Based on the results from the pilot trial, three treatment regimes were selected for further evaluation and field application against known polygyne infestations in Area 2 with the goal of attempting to locally eradicate these within the current 2020–21 treatment season. These selected treatments were:

- Amdro 2.5 kg/ha + Distance 2 kg/ha blend
- Advion 1.7 kg/ha + Distance 2 kg/ha blend
- Advion 1.7 kg/ha only

Commencing from January 2021, all known polygyne sites in Area 2 (17 sites, approx. 700 ha total) started to receive targeted bait treatments with one of these regimes in addition to any broadscale bait treatment rounds already scheduled as part of the eradication treatments in Area 2. The plan, weather permitting, is to apply these additional bait treatments approximately every 4 to 8 weeks up to a total of 3 to 4 times before the end of the treatment season in late May/June 2021. As of the end of March 2021, one round of targeted polygyne treatments has been applied and the second is in progress.

Remote sensing surveillance project

The remote sensing surveillance project is critical for efficiently detecting fire ant infestations. The intended use for the technology is in establishing clearance and for targeting treatment in eradication areas.

In 2020, the project focused on collecting additional data to train the algorithm further and increase the ability to detect nests. Between June and September 2020, the project captured approximately 13 000 ha of imagery and significant quantities of further training data from an additional 12 sites. COVID-19 and travel restrictions from Victoria caused some alterations to the planned remote sensing surveillance project as the vendor's technical staff are based in Melbourne. After discussions with the vendor, one of the technical staff was based in Brisbane for the duration of the project's flights. Fortunately, no major technical issues arose during the flight data collection period.

The project is currently preparing for the upcoming surveillance season in winter this year. Since last year’s flights, the project has been focusing on preparation the project becoming operational in the upcoming season. Activities have included:

- Developing a project plan for the Department of Agriculture and Fisheries (Qld) Information and Communication Technology Committee (ICTC) executive’s approval
- Budget development
- Contract negotiations
- Contribution to surveillance planning and operational integration through working group participation
- Improving data collection and storage methodologies and preparing Standard Operational Procedures
- Development of the Aerial Remote Sensing Surveillance Specific Task Analysis and Risk Assessment i.e. a workplace health and safety document for helicopter usage/flights).

Other research and innovation

The program has asked Dr Megan Star, Central Queensland University, to develop a proposal to assess the economic impacts of the potential spread of fire ants across states—including industry, social and environmental impacts over a 10-year period. This was initiated to gather information on the economic value of the eradication program for various purposes. A proposal has been received from Dr Star and is under consideration by the program.

In preparation for the above economic modelling being requested, the program investigated using climate modelling to create an appropriate geographic range for potential fire ant impacts. Citing a Centre for Excellence for Biosecurity Risk Analysis (CEBRA) report focused specifically on previous efforts to project climate suitability for fire ants, Professor Jane Elith (University of Melbourne) advised that climate suitability modelling for fire ants in Australia was, at best, unlikely to be necessary. Previous model projections are inconsistent, failing to define a climate envelope for fire ants in Australia. This suggests climate is generally not a limiting factor for fire ants in Australia. This conclusion matches the projection done for the ten-year eradication plan as well as belief among program scientists that few places in Australia are cold or dry enough to prohibit fire ants establishing. Following this advice, the program is not seeking further climate modelling at this stage.

The program also discussed whether an update was needed to previous habitat modelling in preparation for the economic modelling. However, there have been several iterations of habitat modelling in the past 20 years, all with similar findings. The last model was finalised in 2017 prior to the current 10-year Eradication Plan and is still considered suitable for the program's requirement.

8. Governance and accountability: Includes business improvement, significant meetings related to governance, and risk management.

Risk management

The program has three high risks detailed in Table 17.

Table 16: High risks to the program in Quarter 3 2020–21

Risk type	Risk description, controls and treatment
Strategic	**Risk description:** Risk to eradication and containment: Extreme wet weather events (e.g., flood, heavy rainfall) assist fire ant colonies to disperse over a greater geographical area.
	Risk controls: (1) Contingency planning will be undertaken to ensure appropriate targeted surveillance/treatment is undertaken following a significant climatic event; (2) Pre-planning including infestation assessment, genetic tracing, spatial analysis of spread through flight and flood mapping. (3) Planning forecasting probable infestation spread.
	Treatment: Reprioritisation of planned suppression treatment to limit the risk of spread along water courses. Flooding contingency fund. Flood modelling and responsive planning.
Operational	**Risk description:** Risk to capability: Information systems are ineffective at supporting increased scope of national program and demand for timely and accurate performance data; this arises from poor functionality or data integrity due to data entry, programming, configuration errors, viruses or incorrect business logic.
	Risk controls: 1. Resources dedicated to developing the program's existing information systems and how they interface to improve efficiency and accuracy of data entry and reporting. 2. Server performance monitoring. 3. Ability to upgrade if required.
	Treatment: Information systems to undergo continual improvement. Review of existing systems technology and current business processes to ensure best fit solutions are implemented. Continually review performance and recommend upgrades accordingly.
Operational	**Risk description:** Risk to capability: If self-management does not have the desired take up by Industry the program should focus on avoiding possible increasing costs of suppression, at the expense of eradication.

Risk type	Risk description, controls and treatment
	Risk controls: The self-management program is divided into several sub-programs to better meet the needs of each target group; improvements to baiting options available to landowners and industry.
	Treatment: Ongoing refinement and adjustment will be undertaken to meet the needs to consumers and industry sectors. Coordination with high-density suppression treatment will also be undertaken to ensure the self-management projects are effective as possible. The project team has been replaced by a dedicated Principal Engagement Officer, now employed by the program; this officer will have additional support to adequately plan and deliver the self-management strategy and program; market research has been completed to better understand community perceptions and attitudes to self-management; CSE structure now reflects a community focussed stream and an industry-focussed team to better service the needs of stakeholders; the self - management team will work closely with operations to ensure effective delivery.

COVID-19

There have been no reported cases of program staff contracting COVID-19. Changes in routine to protect the health and safety of staff and the community include:

- Up to 50% attendance at Berrinba with numbers at other program sites adjusted depending on the ability to maintain social distancing.
- When staff use one vehicle one person sits in the front seat and the other in the back seat on opposite sides of the car with windows down and air conditioning off.
- If an operational team member tests positive to COVID-19 the entire team will be directed to self-isolate at home.
- Contact with customers is made by phone, where possible, to avoid human contact.
- Staff have been provided with hygiene products including hand sanitiser and alternative solutions where necessary.
- Additional weekday cleaning in all commons area including frequent touch points.

Meetings of importance

The Steering Committee held an extraordinary meeting on 19 January 2021 to discuss bringing forward funding for 2021–22 and the revised scope of work for 2020–21. This included options for maintaining the current level of response effort to fully test the response model and to maintain effectiveness. The Steering Committee also discussed potential reviewers and the scope for the biannual efficiency and effectiveness review of the program.

The Steering Committee held its quarterly meeting on 24 February 2021 via teleconference. Topics included a proposal to the National Biosecurity Committee on the program objectives, bringing forward of funding for 2020–21, branding options, finances and capital acquisitions, a progress update on treatment, surveillance activities in Area 1 and the Western Boundary, and the 2021 efficiency and effectiveness review of the program. An update was also provided on the engagement process with industry stakeholders on the recently released CSIRO report on the *Review of Red Imported Fire Ants Scientific Principles and Movement Controls*.

The Risk Management Sub-committee met on 16 March 2021. Items discussed included the status of the Risk and Issues Register and the reporting capability, the Business Improvement Register incorporating actions captured from the *Efficiency and Effectiveness Review Report*, the 2021–22 treatment season and the program challenges, self-treatment and the current trials, the CSIRO Report, communication constraints placed on the program, proof-of-freedom and evidence of clearance, and the development of an audit program.

9. People and culture: Includes staff levels, workplace health and safety, and employee development, engagement and culture.

Table 17: Staff numbers in 2020–21

Position	Q1	Q2	Q3
Permanent	76	85	88

Temporary	54	41	39
Contractor—office	42	44	44
Contractor—field	247	183	168
Total	419	353	339

Workplace health and safety

The program received 92 reports related to workplace health and safety during this quarter which is an increase of 12 incidents compared to the incidents reported in Quarter 2. The major cause of injury continues to be falls, trips and slips (not from a height). Topography and vegetation continue to raise challenges with regards to safe footing. Utility terrain vehicles (UTVs) are utilised where appropriate to decrease exposure. Workplace health and safety representatives maintain a focus across the program to heighten awareness and identify workable solutions for all identified risks.

Table 18: Injuries in 2020–21

Injury Classification	Q1	Q2	Q3
Repetitive movement and other muscular stress	3	3	4
Contact or exposure to electricity	0	1	1
Contact or exposure to heat and cold	1	2	4
Fall, trip, slip (not from a height)	10	15	9
Hitting or being hit by an object/s	1	4	4
Total	15	25	22

Table 19: Workplace health and safety incidents in 2020–21

Category	Q1	Q2	Jan	Feb	Mar	Q3
Hazards	3	1	0	1	0	1
Near miss	3	6	4	3	2	9
Property damage	24	51	28	16	15	59
Totals	30	58	32	20	17	69

Volunteers

Following the extended period of inactivity due to COVID-19, nine of the programs 23 volunteers have retired from service with 14 volunteers remaining. A strategy has been drafted with the intention of reviving the program's structured volunteer management. A volunteer day to both welcome back the active volunteers and farewell the retiring ones is planned during National Volunteer Week in May. Historically, volunteers have contributed over $25 000 of in-kind value to the program each year. Volunteers are currently scheduled to attend the Tamborine Mountain Show and have also delivered a community talk to the Gold Coast Rose Society.

10. Finance

The 2020–21 initial budget build for the program, including treatment requirements, was $5.5 million above the program fiscal limit. The program is taking an agile approach to budget monitoring in 2020–21 with a view to prioritising treatment areas and utilisation of more efficient methods of delivering treatment and surveillance in order to remain with in the fiscal limit. When budgeted for the financial year, the total number of hectares to be treated for the year was distributed evenly across the months during the treatment season. However, actual treatment hectares planned for a month is adjusted weekly/monthly responsive to work scheduling, weather and identified priorities. The total planned treatment hectares for the year remains unchanged.

Expenditure to budget

As of 31 March 2021, the program has a minor overspend mainly as a result of:

- $189K underspend in remote sensing surveillance (R&D) consists of savings from a timing difference for training costs of ($5K), timing difference of contractor trial placements ($19K), unused project contingency cost ($105K) and timing issue on the mapping image storage payment ($70K).
- $120K underspend in systems and technology innovation due to underspend in a FAMS Project ($84K). Underspend is IT application charges of $12K and timing issue on amortisation of IT system.
- $229K underspend in science services and eradication assessment relate to salary recovery of $84K which biosecurity staff were deployed for remote sensing trials project, underspend in project cost ($50K) and contractor expenses ($51K), and motor vehicle related expenses ($10K). The underspend is offset by overspend in laboratory consumables and services expense ($18K), plant and equipment maintenance ($17K), IT user charges expenses ($11K) and collaborator expense ($20K).
- $71K underspend in planning and quality assurance consists of underspend in salary expense due to vacant position filled by contractor ($105K), timing issue on mapping software subscription costs for ESRI 2020–21 and Near maps annual subscription fees ($44K). This underspend is offset by overspend in contractor expense ($77K).
- $0.9M overspend in Operations is mainly contributed by Field Contractors expense ($1.75M), aircraft hire cost ($550K), personal protective equipment (PPE) purchases ($36K), employee allowance and overtime payments ($118K) and extra vehicle hire ($530K) due to COVID-19 proximity restrictions. Additional contractors have been mobilised during the treatment season to meet operational requirements. The overspend will be offset with an underspend when teams are reduced towards the end of the treatment season as part of the program's agile budget approach. The overspend is offset by underspend of $2.2M in baiting costs.
- $264K underspend in strategy policy performance and compliance as results of budgeted cost for an AO5 (Policy Officer) for the full year with no actual cost in July 2020–March 2021, a vacant funded position (Principal Policy Officer) and a salary expense of Principal Policy Officer costed in operations program area (will be fixed within next month) $223K, a timing difference for cost for the efficiency audit ($55K), unused travel budget ($10K), and timing issue on Steering Committee Chair expense ($14K). The underspend is offset by overspend in policy and compliance contractor ($73K).
- $140K underspend in community and stakeholder engagement consists of timing difference of costs for biosecurity zone and self-treatment campaigns amounting to $96K and $102K respectively and a timing difference for the cost of bait sachets for the Gold Coast Self-treatment Campaign of $43K. A further underspend in employee related cost of $53K was as a result of a vacant funded AO4 position. This was partially offset by an overspend of $176K in contractor costs.
- $110K overspend in program support and business support area as a result of accrual for external vehicle hire transactions for operations. While $87K is charged to business support as a default of the card holder's cost centre due to insufficient booking data from Corporate Travel Management (CTM). Other costs include an overspend in cleaning (Berrinba and Laidley) of $52K, facilities management and fit out costs amounting to $52K, waste disposal fee of $18K and computer consumables of $11K. The overspend was offset by an underspend in employee related expenses due to vacant positions in prior months ($58K), electricity ($12K) and property maintenance ($18K).

Table 20: Expenditure to budget as of 31 March 2021

Program area	Requested budget $	Current budget $	YTD Budget $	YTD actual $	Variance $
Program logistics and business support	3 464 063	3 464 063	2 571 032	2 681 056	-110 024
Remote sensing surveillance (R&D)	1 593 003	1 592 828	1 592 310	1 402 711	189 598
Systems and technology innovation	2 128 193	2 128 193	1 665 315	1,544 926	120 389
Community and stakeholder engagement	2 622 417	2 621 132	1 521 946	1 381 069	140 876
Science services and eradication assessment	3 035 072	3 035 246	2 240 363	2 010 948	229 416
Planning and quality assurance	2 753 752	2 958 747	2 181 517	2 111 780	71 737
Operations	39 165 284	40 028 659	30 584 598	31 481 664	-900 066
Directorate	860 036	860 036	643 779	659 244	-15 465
Self-management	508 562	508 562	381 217	373 451	7 766
Strategic policy performance and compliance	2 363 619	1 296 533	1 000 738	736 115	264 622
Total	**58 494 001**	**58 494 000**	**44 384 814**	**44 385 965**	**-1 151**

Note : Current budget has been revised reflecting position movement amongst program areas. Operation expenses include the remaining accrued expense from Western Boundary operations last financial year.

Significant procurement

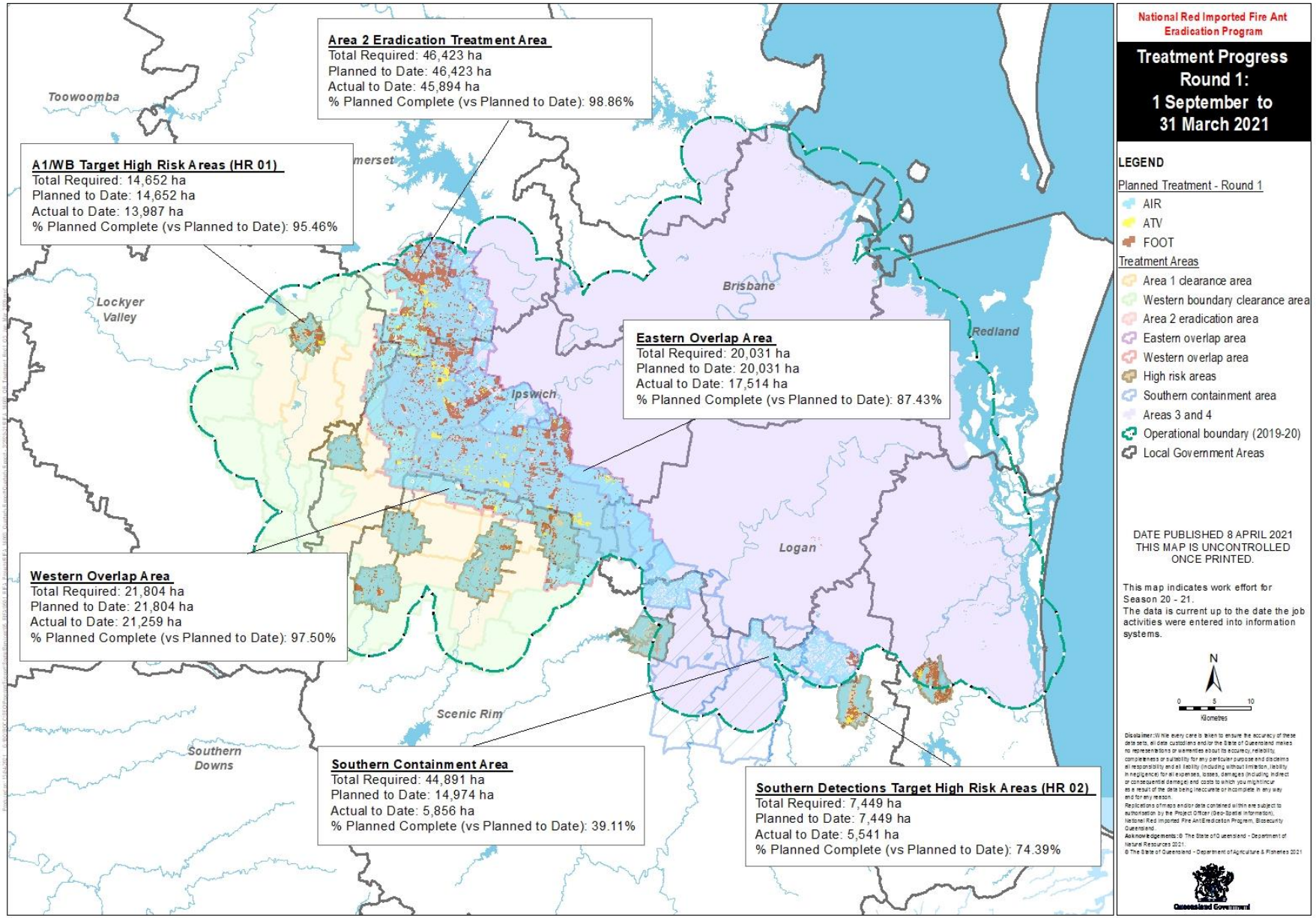
- Kennelling Odour Detection Dog (12-month extension option, revised cumulative value $252 143 including GST)
- Forklift Hire (variation 3 additional forklifts, revised cumulative value $57 932 including GST)
- Wacol Electrical Connection ($27 060 including GST)
- Commercial Office Cleaning (new 3-year contract $280 920 including GST)
- UTV Trailer Hire (13-week hire $19 890 including GST)
- Consumables for genetic analysis of ants (QiaCubeHT and Thermocyclers) (new 12-month contract, $215 000 including GST)
- Consumables for genetic analyser for the analysis of extracted DNA material (new 12-month contract, $60 000 including GST) and novate scientific equipment service and support contract
- Chair National Exotic Invasive Ant Scientific Advisory Group (new 2-year engagement $29 818 including GST)

Procurement planning

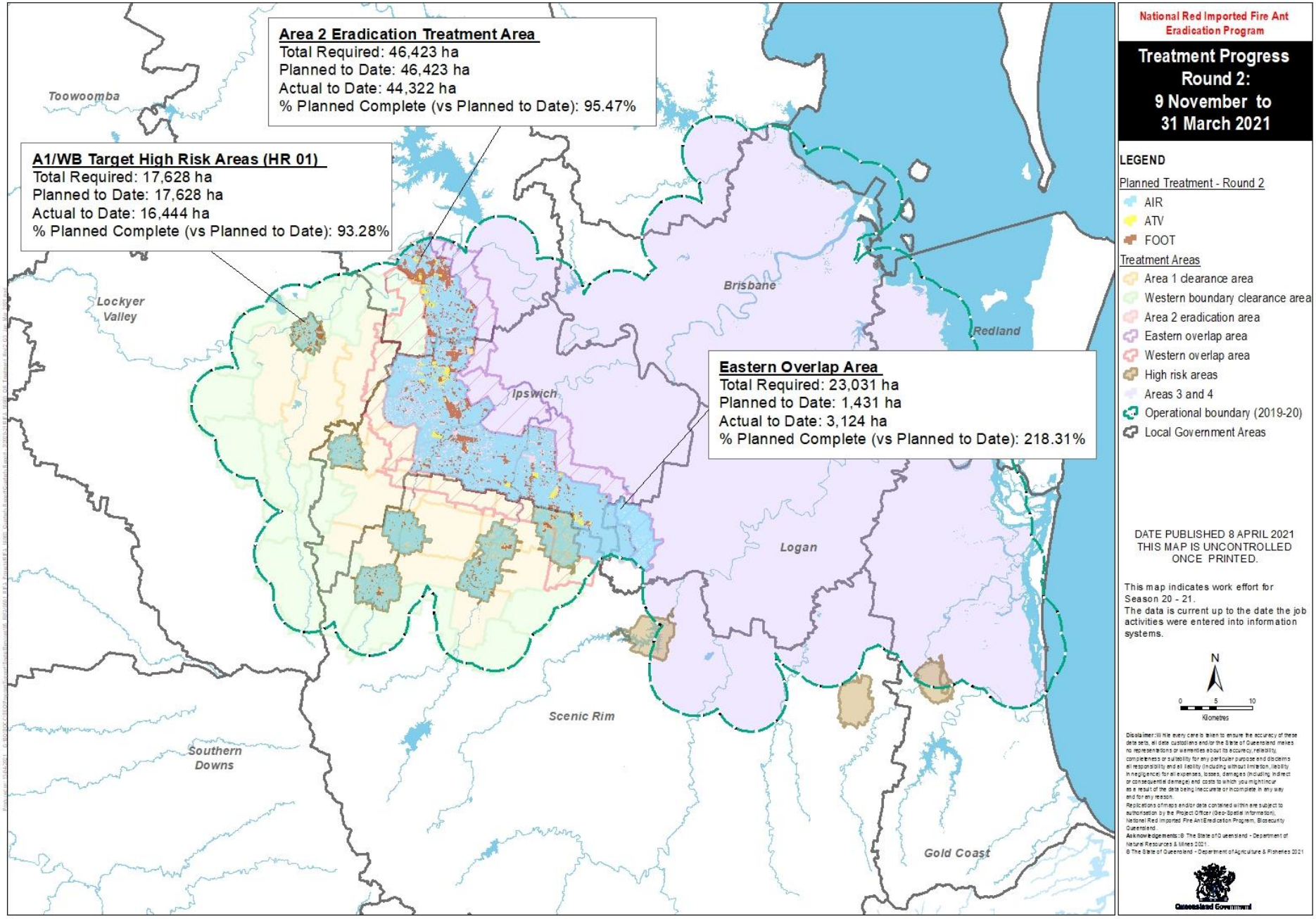
Planning has started in the following areas: road base parking pads–Wacol, NRIFAEP office based contingent workforce 2021–2022, remote sensing surveillance, NRIFAEP operational field workers 2021–2022.

11. Appendices

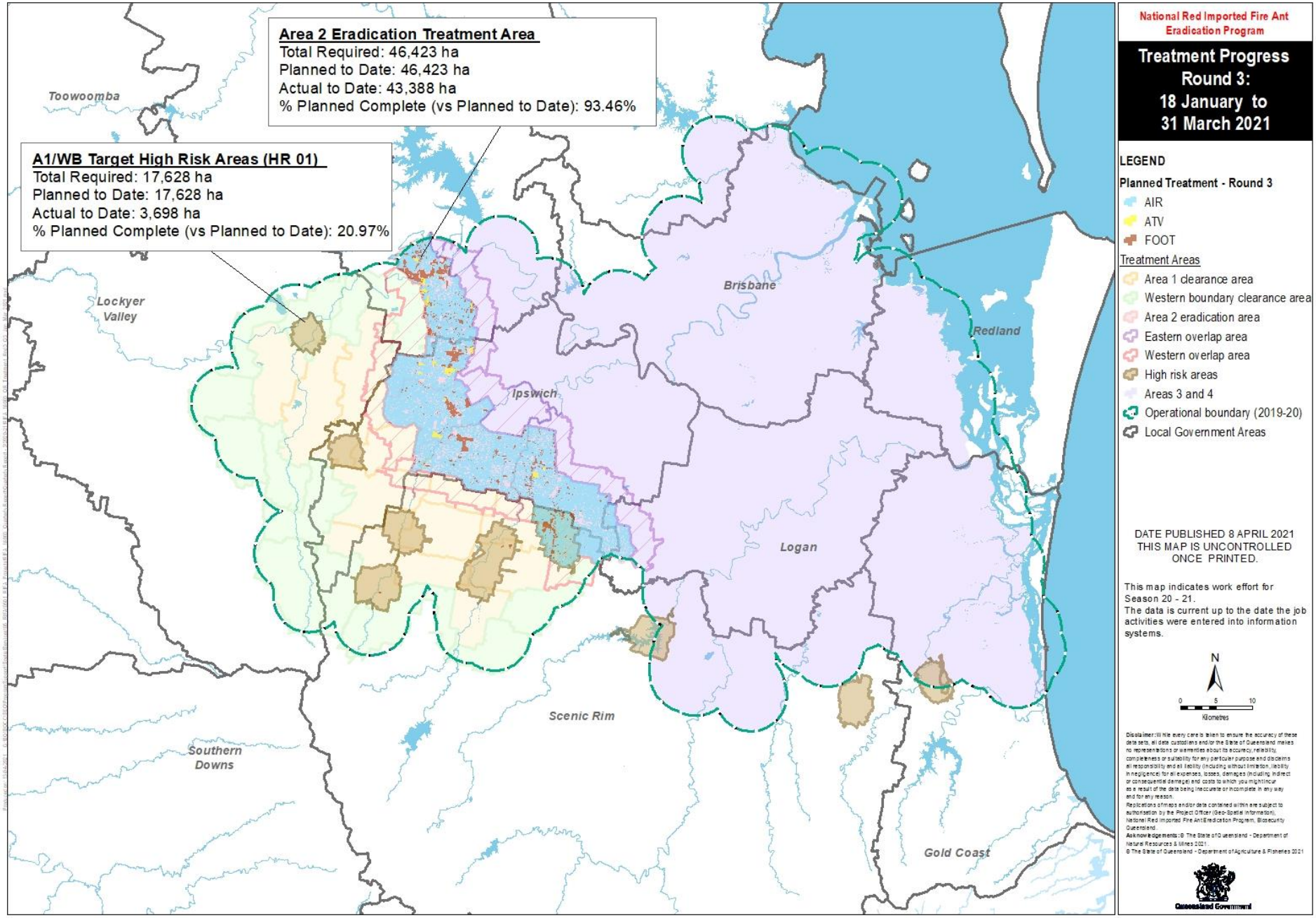
Appendix 1a—Planned treatment progress as of 31 March 2021 (Round 1)



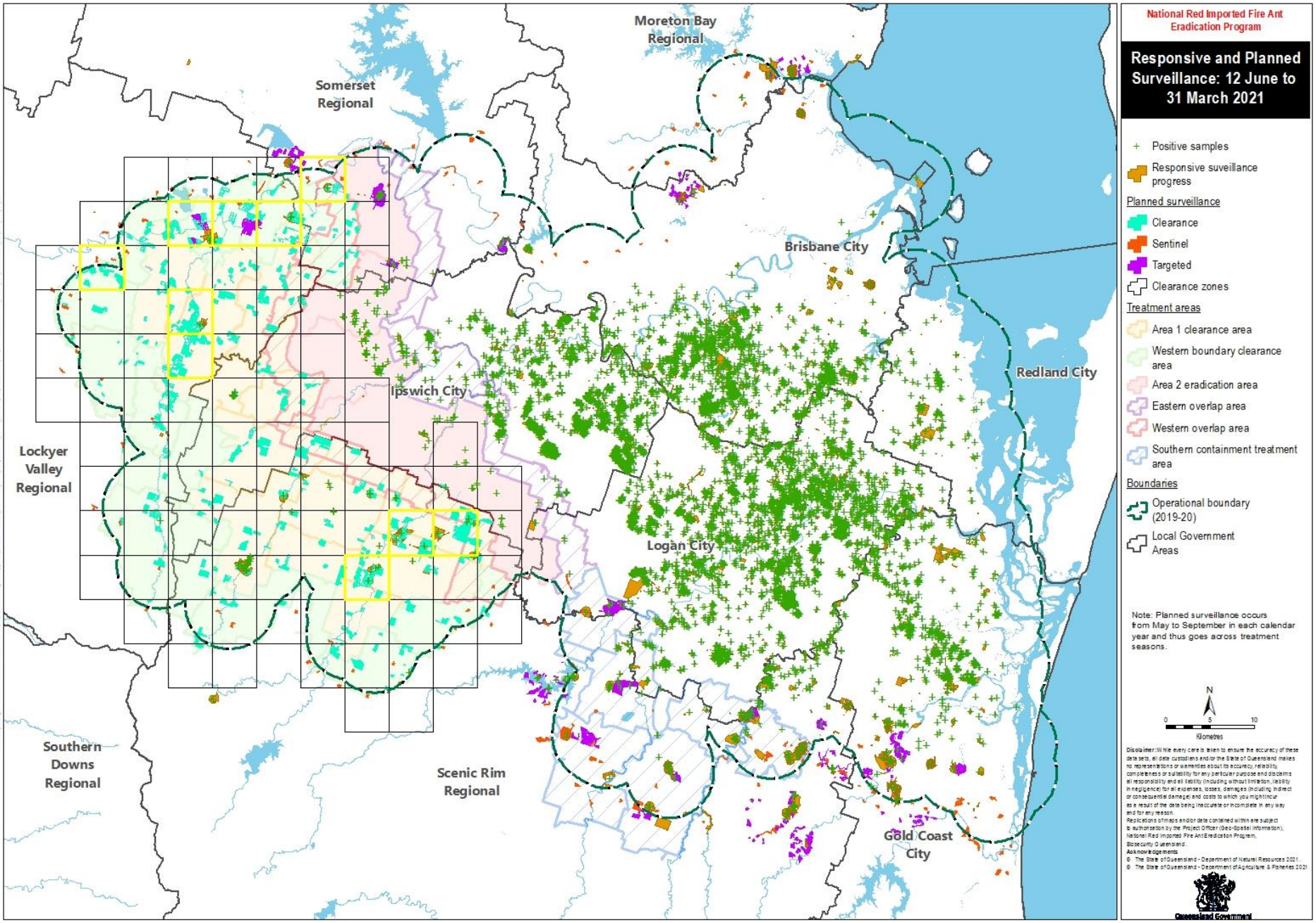
Appendix 1b—Planned treatment progress as of 31 March 2021 (Round 2)

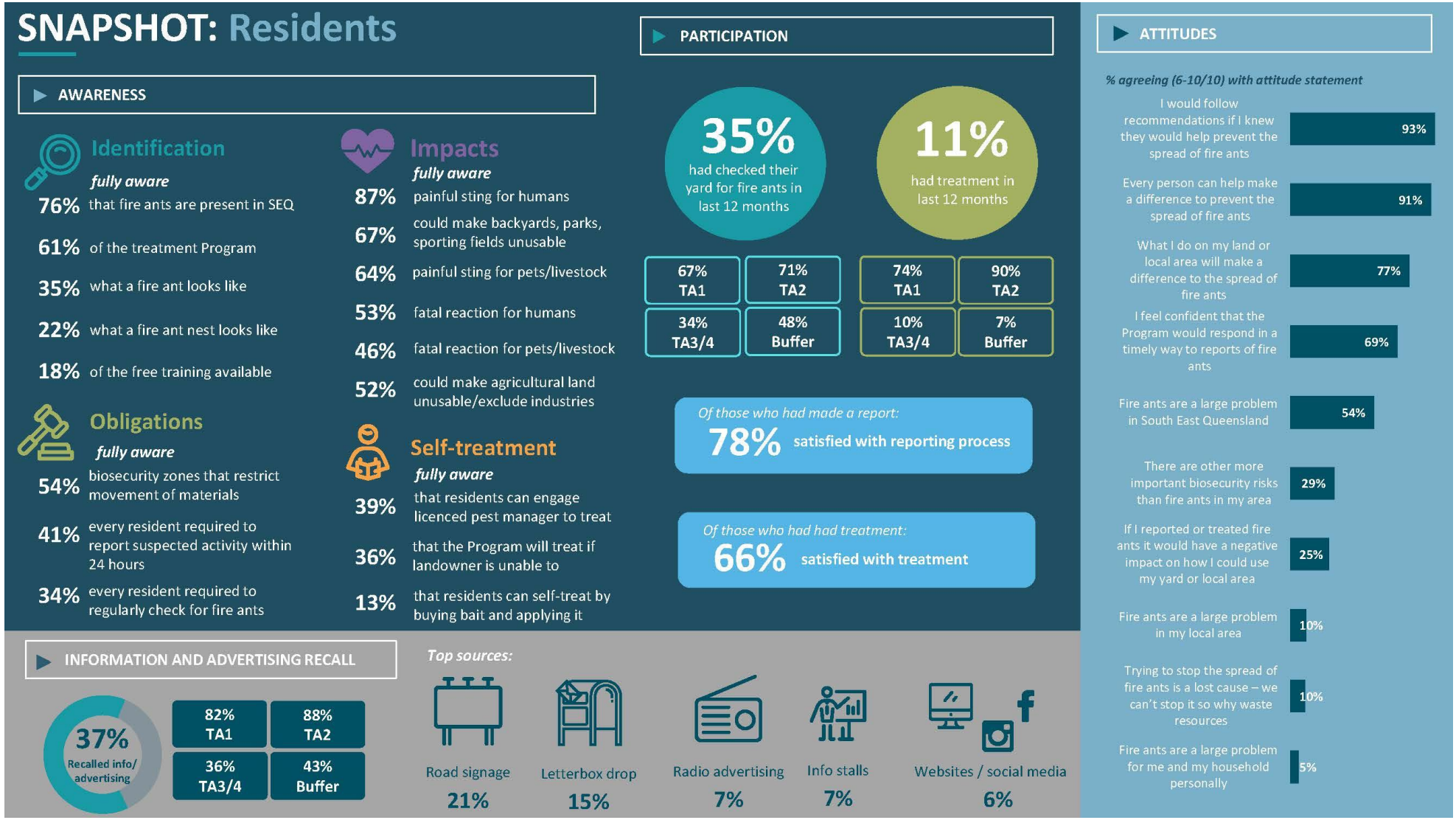


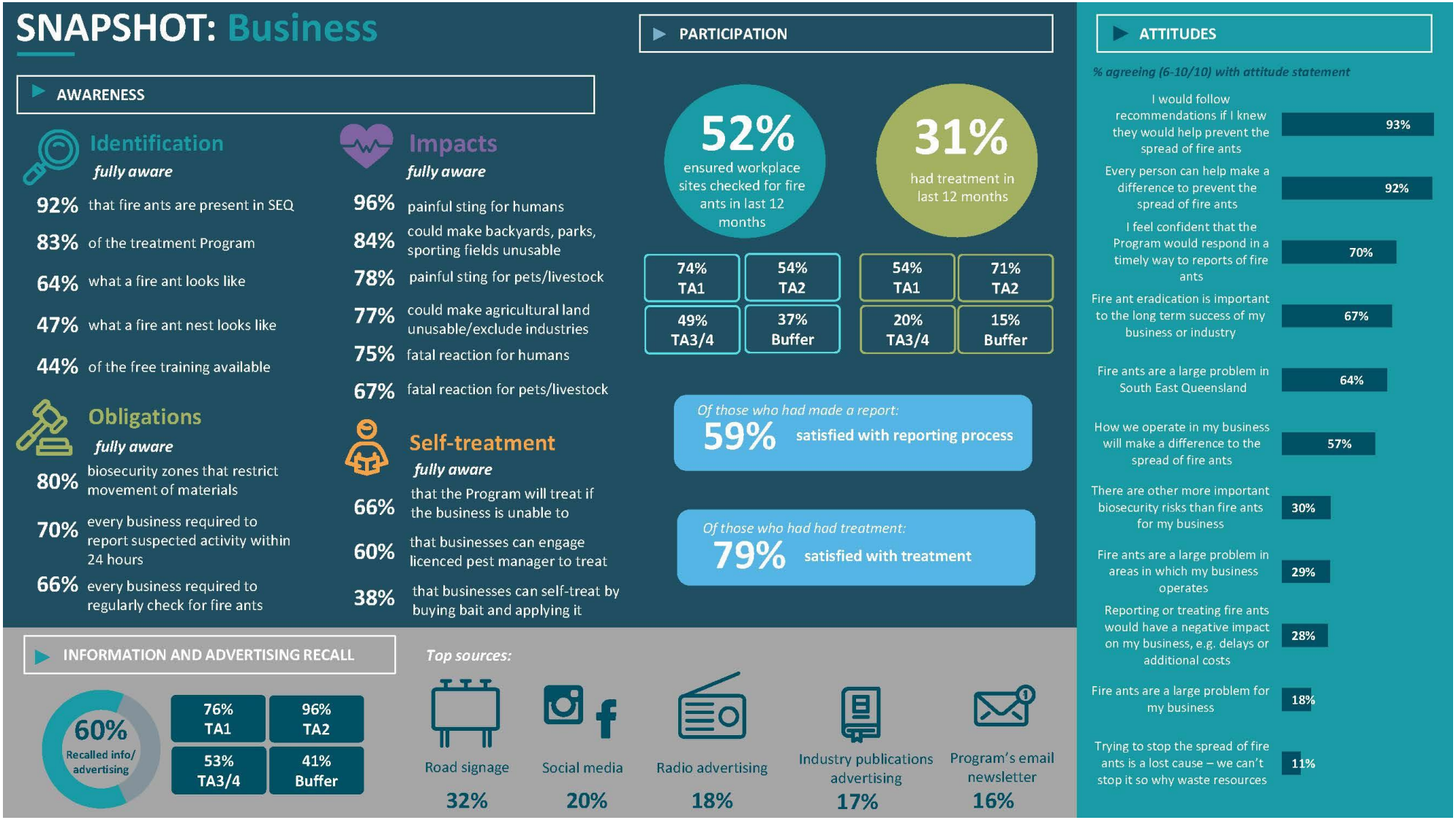
Appendix 1c—Planned treatment progress as of 31 March 2021 (Round 3)



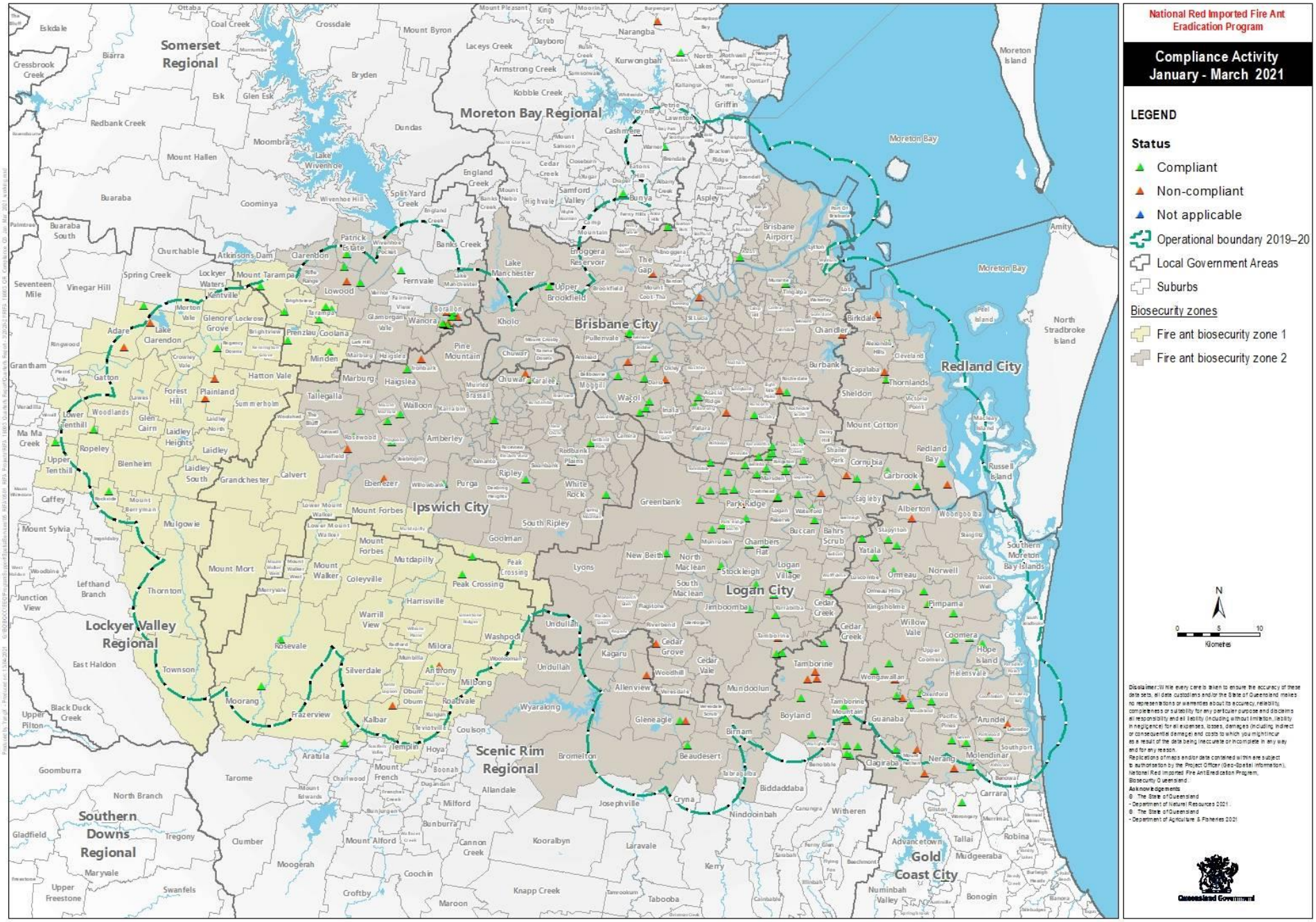
Appendix 2—Responsive and planned surveillance progress as of 31 March 2021



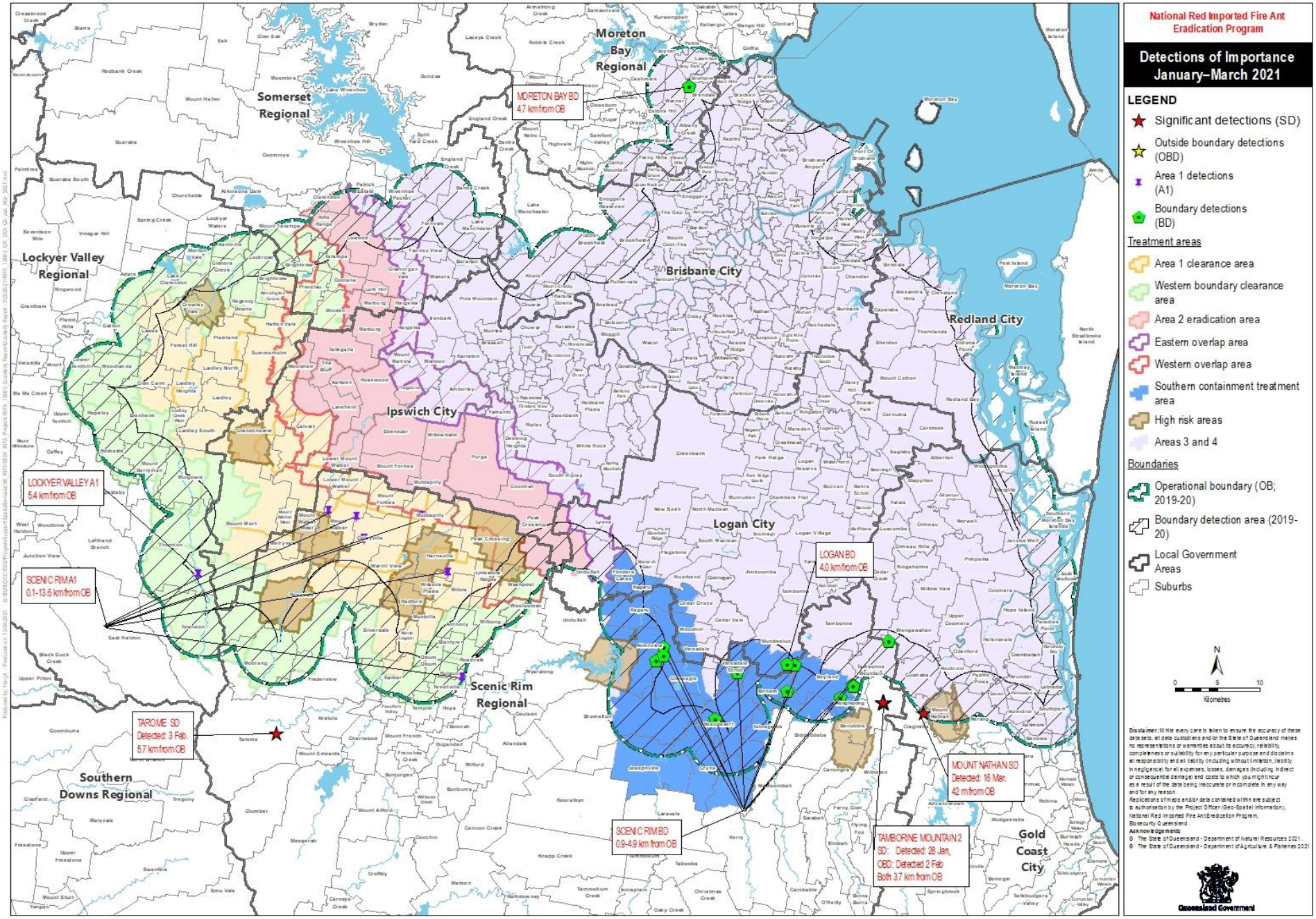

SNAPSHOT: Residents
AWARENESS
Identification
fully aware
76% that fire ants are present in SEQ
61% of the treatment Program
35% what a fire ant looks like
22% what a fire ant nest looks like
18% of the free training available
Obligations
fully aware
54% biosecurity zones that restrict movement of materials
41% every resident required to report suspected activity within 24 hours
34% every resident required to regularly check for fire ants
Impacts
fully aware
87% painful sting for humans
67% could make backyards, parks, sporting fields unusable
64% painful sting for pets/livestock
53% fatal reaction for humans
46% fatal reaction for pets/livestock
52% could make agricultural land unusable/exclude industries
Self-treatment
fully aware
39% that residents can engage licenced pest manager to treat
36% that the Program will treat if landowner is unable to
13% that residents can self-treat by buying bait and applying it
PARTICIPATION
35% had checked their yard for fire ants in last 12 months
11% had treatment in last 12 months
67% TA1
71% TA2
34% TA3/4
48% Buffer
74% TA1
90% TA2
10% TA3/4
7% Buffer
Of those who had made a report:
78% satisfied with reporting process
Of those who had had treatment:
66% satisfied with treatment
INFORMATION AND ADVERTISING RECALL
37% Recalled info/ advertising
82% TA1
88% TA2
36% TA3/4
43% Buffer
Top sources:
Road signage 21%
Letterbox drop 15%
Radio advertising 7%
Info stalls 7%
Websites / social media 6%
ATTITUDES
% agreeing (6-10/10) with attitude statement
I would follow recommendations if I knew they would help prevent the spread of fire ants 93%
Every person can help make a difference to prevent the spread of fire ants 91%
What I do on my land or local area will make a difference to the spread of fire ants 77%
I feel confident that the Program would respond in a timely way to reports of fire ants 69%
Fire ants are a large problem in South East Queensland 54%
There are other more important biosecurity risks than fire ants in my area 29%
If I reported or treated fire ants it would have a negative impact on how I could use my yard or local area 25%
Fire ants are a large problem in my local area 10%
Trying to stop the spread of fire ants is a lost cause – we can't stop it so why waste resources 10%
Fire ants are a large problem for me and my household personally 5%


SNAPSHOT: Business
AWARENESS
Identification
fully aware
92% that fire ants are present in SEQ
83% of the treatment Program
64% what a fire ant looks like
47% what a fire ant nest looks like
44% of the free training available
Obligations
fully aware
80% biosecurity zones that restrict movement of materials
70% every business required to report suspected activity within 24 hours
66% every business required to regularly check for fire ants
Impacts
fully aware
96% painful sting for humans
84% could make backyards, parks, sporting fields unusable
78% painful sting for pets/livestock
77% could make agricultural land unusable/exclude industries
75% fatal reaction for humans
67% fatal reaction for pets/livestock
Self-treatment
fully aware
66% that the Program will treat if the business is unable to
60% that businesses can engage licenced pest manager to treat
38% that businesses can self-treat by buying bait and applying it
PARTICIPATION
52% ensured workplace sites checked for fire ants in last 12 months
74% TA1
54% TA2
49% TA3/4
37% Buffer
31% had treatment in last 12 months
54% TA1
71% TA2
20% TA3/4
15% Buffer
Of those who had made a report:
59% satisfied with reporting process
Of those who had had treatment:
79% satisfied with treatment
INFORMATION AND ADVERTISING RECALL
60% Recalled info/ advertising
76% TA1
96% TA2
53% TA3/4
41% Buffer
Top sources:
Road signage 32%
Social media 20%
Radio advertising 18%
Industry publications advertising 17%
Program's email newsletter 16%
ATTITUDES
% agreeing (6-10/10) with attitude statement
I would follow recommendations if I knew they would help prevent the spread of fire ants 93%
Every person can help make a difference to prevent the spread of fire ants 92%
I feel confident that the Program would respond in a timely way to reports of fire ants 70%
Fire ant eradication is important to the long term success of my business or industry 67%
Fire ants are a large problem in South East Queensland 64%
How we operate in my business will make a difference to the spread of fire ants 57%
There are other more important biosecurity risks than fire ants for my business 30%
Fire ants are a large problem in areas in which my business operates 29%
Reporting or treating fire ants would have a negative impact on my business, e.g. delays or additional costs 28%
Fire ants are a large problem for my business 18%
Trying to stop the spread of fire ants is a lost cause – we can't stop it so why waste resources 11%

Appendix 4—Compliance activity in Quarter 3 2020–21



Appendix 5—Detections of importance in Quarter 3 2020–21



Appendix 6—Detections of importance circumstances and outcome in Quarter 3 2020–21

Location	Circumstances	Outcome
Significant detections and additional detections outside of the Operational Area boundary		
Tamborine Mountain	• Sixteen (16) reproductive nests discovered on a rural residential property in the southern part of the Tamborine Mountain locality. • 12 months prior to the detection a section of the property was cleared, two dams were repaired, and a shed was constructed. • 100m3 of mulch was brought onto the property in August 2020. • After mowing some long grass, the property owner reported a further eight (8) nests to the program two weeks after the initial discovery.	• All nests have been injected with a contact insecticide by direct nest injection. • Treatment with an IGR could not be completed owing to the land being waterlogged, but the owner has said he will participate in a self-treatment project that the program will be undertaking in the area in May 2021 as he expects the ground to be drier then. • Surveillance of surrounding properties has been undertaken with no further nests detected. • Genetic testing has not yet identified a source nest but has indicated that the nests on the property are not linked to each other and they come from three different Southeast Queensland sub-populations, therefore human assisted movement is a possible cause of this infestation. • The program is auditing the company that delivered mulch to the Tamborine Mountain property. • Compliance checks have been undertaken on several businesses that are moving fire ant carriers resulting in one advisory notice being issued to a tree lopper who was not storing mulch in compliance with the Biosecurity Regulation 2016. The program will revisit the company in a few weeks to ensure the notice is being adhered to.
Tarome	• One mature nest detected on a commercial red claw crayfish farm in the Scenic Rim local government area. • Brood assessment indicated the nest had been established for 12 to 18 months. • Earthworks had been undertaken on the property to construct additional aquaculture ponds within the past three years. • Surveillance of the rest of the property revealed no further nests.	• The nest, containing reproductive brood and alates, had to be extracted and the cavity flooded with boiling water as no chemicals could be applied on the property. • The nest was returned to program's laboratory where it was flooded to evaluate the contents. • One of the ants looked to be a fertile reproductive female, with no wing buds (i.e. not a new alate), which is believed to be the queen. • The program revisited the property after a few weeks to inspect the nest cavity and found no activity there and no new nests establishing. • Broadcast baiting with an IGR will occur on surrounding properties out to 500m from the nest. • Genetic testing revealed a second-generation (grandmother/granddaughter) relationship with nests located on a hay producing farm in the suburb of Moorang, 10 km north of the Tarome detection, suggesting there is other undetected infestation between the two properties. • Surveillance of suitable habitat between Tarome and Moorang will be undertaken by remote sensing surveillance during the cooler months when nests are more visible above ground.
Mount Nathan	• One mature nest detected on a previously infested property 42 metres away from the previous nest. • Brood assessment indicated the nest had been established for a minimum of six months. • No fire ant carriers had been brought onto or taken off the property in the last two years.	• The program had treated and surveyed the property and surrounds in response to the first detection in February 2020 and then again in November 2020 with no detections of fire ants. • Odour detection dog surveillance was also undertaken on the previous nest site in August 2020 with no residual fire ants evident. • Despite the absence of ants at the original location, the risk of further undetected infestation is high as there has been several fire ant detections made in Mount Nathan and surrounding suburbs in the past year. • As such, the program intends to conduct further targeted surveillance in the upcoming winter season and will re-survey and treat the property and surrounds, in keeping with program protocols. • Genetic testing will be undertaken to determine if the colony is related to the original nest on the property, other Mount Nathan nests, or other nests within the SEQ population.
Boundary		
Scenic Rim	10 detections made across 8 suburbs: Boyland (2), Wonglepong (1), Birnam (1), Allenview (2), Tamborine Mountain (1), Veresdale Scrub (1), Gleneagle (1) and Beaudesert (1).	• The detections were made in areas that have previously been infested and can be managed using existing program resources. • Surveillance and treatment between 100 to 500 m was conducted/applied following detection. • To mitigate the risk of spread one round of broadcast baiting will be applied in the Southern Containment Treatment Area during the 2020–21 treatment season.
Logan City	1 detection made in the suburb of Mundoolun	• The detections were made in areas that have previously been infested and can be managed using existing program resources. • Surveillance and treatment between 100 to 500 m was conducted/applied following detection.

Location	Circumstances	Outcome
		• To mitigate the risk of spread one round of broadcast baiting will be applied in the Southern Containment Treatment Area during the 2020–21 treatment season.
Moreton Bay	2 detections made in the suburb of Brendale.	• The detections were made on a commercial development property that was previously infested in 2018. • The new nests are situated in the next stage of the development. • The program is investigating carrier movement onto and from the property. • Fairly manageable risk following program protocols.
Clearance		
Lockyer Valley	1 detection in the suburb of Thornton.	• Three of the detections were made on properties that have been infested before. • Most nests contained reproductive brood, but the nests were quite young, likely to be less than 6-12 months old. • Analysis indicates that despite adequate treatment coverage on most properties, alates from sites with active infestation within 2km, which had received inadequate treatment, or the treatment interval was too great, could be the source of the infestation. • All detections will receive a minimum of 500 m treatment and surveillance in keeping with program protocols. • Surveillance in the clearance area will continue into the 2021–22 season until such time as the program is satisfied no residual infestation remains and areas can progress to the next phase of the freedom framework (Phase 4 freedom). This will include surveillance using remote sensing cameras mounted on helicopters commencing in 2021–22.
Scenic Rim	8 detections across five suburbs: Mutdapilly (1), Mount Walker (3), Coleyville (2), Harrisville (1) and Kulgun (1).	• Two of the detections across two suburbs have been included in targeted treatment area out to 2 km from the nests, to receive three rounds of broadcast baiting in the 2020–21 treatment season. • Two lower risk detections will be responded to in keeping with program protocols.