NATIONAL
Fire Ant
Eradication
PROGRAM

# Quarterly Report 3 2021–2022

Report to: National Steering Committee: January to March 2022

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# 1. Scope of report

In July 2017, the National Red Imported Fire Ant Eradication Program began its 10-year Eradication Plan, 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 2022.

# 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 at 31 March 2022

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

| Stakeholder mobilisation | | | | |
|---|---|---|---|---|
| **Objectives** | | **KPI** | **KPI target (2021 22)** | **Progress against KPIs** | **Status** |
| 1 | and adjacent to, the fire ant biosecurity<br><br>presence of fire ants,<br><br>options to manage | **a.** Percentage of stakeholders aware of the presence of fire ants in South East Queensland | 95% of stakeholders report awareness in surveys by June 2022 | The report providing stakeholder behavioural insights was received in November 2021. Of those surveyed, 97% reported | |
| | | **b.** Percentage of stakeholders aware of the risks posed by fire ants | 95% of stakeholders report awareness in surveys by June 2022 | The aforementioned stakeholder report showed 99% were aware of the risk which exceeds the target. | |
| | | **c.** Percentage of stakeholders aware of fire ant biosecurity zones | 85% stakeholders report awareness in surveys by June 2022 | The aforementioned stakeholder report showed 86% of those surveyed were aware of the of the zones which exceeds the target. | |
| | | **d.** Percentage of stakeholders aware of fire ant self-management options | 50% of stakeholders report awareness in surveys by June 2022 | • The aforementioned stakeholder report showed 38% of those surveyed were aware of self-management options which does not meet the target.<br>• The Queensland Government has established a Fire Ant Suppression Taskforce (FAST) to work alongside the program to manage the suppression of fire ants in areas pending eradication treatment by the program. FAST will manage community-led suppression i.e. self-treatment activities from 31 March 2022. | |
| 2 | Stakeholders within the fire ant biosecurity zones support the Program and its activities to eradicate fire ants | **a.** Percentage of stakeholders opposing NFAEP operations | Less than 1% opposition annually | Between 1 July 2021 and 31 March 2022 the program received 94 refusals out of a total 39 887 properties visited for treatment. This equates to less than 1% opposition (0.2%). | |
| | | **b.** Percentage stakeholder disclosing to be satisfied with NFAEP operations | 80% satisfaction disclosed in surveys by 2022 | The aforementioned stakeholder report showed 90% of those surveyed said they were satisfied which exceeds the target. | |
| 3 | fire ant biosecurity zone actively participate in fire ant self-management actions (i.e. checking yards, reporting fire ants and/or treating fire | Percentage of stakeholders participating in fire ant self-treatment actions | 90% stakeholders participating in fire ant self-treatment actions by June 2022 | • The aforementioned stakeholder report showed 63% of<br><br>Suppression Taskforce (FAST) to work alongside the<br><br>pending eradication treatment by the program. FAST will manage community-led suppression i.e. self-treatment | |

| Containment | | | | | |
|---|---|---|---|---|---|
| **Objectives** | | **KPI** | **KPI target (2021 22)** | **Progress against KPIs** | **Status** |
| 4 | To mitigate the spread and<br><br>ants by reducing the relative density and vigour of the fire ant | **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 | • The aforementioned stakeholder report showed 8% of<br><br>increase from the 6% reported in the February 2021 stakeholder report but does not meet the target of 16%.<br><br>Suppression Taskforce (FAST) to work alongside the program to manage the suppression of fire ants in areas pending eradication treatment by the program. FAST will manage community-led suppression i.e. self-treatment |  |
| | | **b.** Percentage of fire ant infestations that are polygyne | Less than 1% of fire ant infestations are polygyne | • Of the 1495 samples tested for social form in Q3, 19 (1.3%) were polygyne. These were collected from 17 separate sites (1.2% of all sites tested).<br><br>91 (1.7%) were polygyne, collected from 55 sites across 26 suburbs (1.3% of all sites tested).<br><br>*6586 samples tested were polygyne. These came from 69 separate sites across 30 suburbs (1.3% of the total*<br><br>• In Q3, only 565 field samples were collected and sent for genetic analysis due to changes in sample collection made by Operations that resulted in less samples being taken (e.g. 2390 samples were collected in Q2).<br><br>collected and sent for genetic testing. Only 499 of these<br><br>samples collected in Q3, three of which were diagnosed as polygyne.<br>• The backlog in genetic testing exists mainly due to an increase in samples over recent years, by applying sample triaging backlog has reduced to some extent for |  |
| | | **c.** Relative spread of fire ants within containment area as measured through population genetics | number of genetically distinct fire ant populations (i.e., family clusters) | 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 five genetically distinct fire ant sub-populations. While this is an<br><br>by two other clusters merging. All clusters are still in genetic |  |

| Objectives | | KPI | KPI target (2021 22) | Progress against KPIs | Status |
|---|---|---|---|---|---|
| 5 | To mitigate spread of fire ants by restricting<br><br>(materials) within, between and beyond the fire ant biosecurity | **a.** Percentage of high-risk stakeholders aware of fire ant movement controls | 95% of high-risk stakeholders are aware of movement restrictions/ requirements by June 2022 | The aforementioned stakeholder report showed 93% of those surveyed were aware which does not meet 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 | • 219 audits were undertaken in this quarter (653 audits YTD). Compliance staffing levels have fluctuated due to these roles being contractor based, with staff regularly leaving to take up more secure positions. During the quarter, 3 staff moved on to other roles. Proposal is to make these roles temporary Biosecurity Qld to help with<br><br>• YTD 38% of the 1698 (top 25% riskiest stakeholders) | |
| | | **c.** Number of significant detections linked to human-assisted movement | Zero significant detections linked to human-assisted movement | No detections were linked to human assisted movement during the quarter. | |
| 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 66% from 2019-2020 levels (5 710 ha) by June 2022 | • The total ground surveillance completed in 2020–21 was<br><br>• RSS was not undertaken in the 2020–21 year. RSS flights have been completed over a total of 24 240 ha in 2021–22. Of these 10 747 ha have been validated by ground teams.<br>• Total ground and RSS (validated) surveillance for 2021–22 | |
| | | **b.** Percentage of stakeholders living near and beyond the Operational Boundary who look for and/or treat | 50% stakeholder participation by June 2022 | The aforementioned stakeholder report showed 55% of those surveyed looked for and/or treated fire ants themselves which | |
| | | **c.** Presence/absence of fire ants following prescribed treatment regime<br><br>and beyond the 2019-20 Operational | Zero fire ants that are likely to be from original nests remaining alive 12 months after prescribed treatment regime | • The prescribed treatment regime is currently underway for all detections that were confirmed near and beyond the boundary this quarter.<br>• No fire ants were confirmed to be survivors from original | |
| 7 | To mitigate the re-<br><br>from adjoining (within<br><br>areas) fire ant | **a.** Percentage stakeholders living in buffer areas who look for and/or treat fire ants themselves | 75% stakeholder participation by June 2022 | The aforementioned stakeholder report showed 69% of those surveyed in buffer areas looked for and/or treated fire ants | |
| | | **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 | As of 31 March 2022, a total of 60 187 ha of Overlap treatment has been completed. This is 90% of the planned YTD progress | |
| | | **c.** Presence/absence of fire ants following application of prescribed treatment regime for fire ant | Zero fire ants remaining from original nests 12 months after prescribed treatment regime completed | overlap area during the quarter.<br>• Four of the 70 detections were on previously infested properties. | |

| Objectives | | KPI | KPI target (2021 22) | Progress against KPIs | Status |
|---|---|---|---|---|---|
| | | | | • The original nests on those properties were not injected with a liquid insecticide by direct nest injection; a toxicant bait was applied.<br>• The eastern overlap area treatment is applied to contain and protect the buffer area from re-infestation.<br>• The area received only one round of IGR baiting during 2021-22, so infestation is expected.<br>• Genetic tracing was not done on the four nests due to cost, so while it is likely the ants are remnants of a | |
| 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 | There were no requests for assistance for any fire ant detection or eradication activities outside of SEQ during quarter 3. | ● |

## Eradication

| Objectives | | KPI | KPI target (2021 22) | 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 | From 1 July 2021 to 31 March 2022 the program received 94 refusals out of a total 39 887 properties visited for treatment. This equates to less than 1% opposition (0.2%). | ● |
| | | **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 | There is no planned eradication treatment related to this KPI to report on in 2021–22. | ● |
| | | **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 within three months of completion of prescribed treatment regime | • Prior to the commencement of broadscale eradication treatments in Area 2 in September 2020, multiple monitoring sites were established to evaluate the effectiveness of treatment regimes. Fire ant nests on these sites have been monitored continuously since.<br>• By the end of Q2, 100% of all 480 original monitoring nests across all sites appeared to be dead. No further activity has been detected during monthly monitoring through Q3.<br>• Monitoring is continuing at all sites and will include full-site surveillance in the upcoming winter to further evaluate the effectiveness of the treatment regimens applied in Area 2 from 2020–2022. | ● |
| | | **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 | • Eradication Area 2 consists of 8582 sites (or properties).<br>• From June 2021 to March 2022 17.8% of the total number of sites in Area 2 have been surveyed with 1.1% confirmed to have fire ants.<br>• Additional treatment rounds are planned during 2021– 22 in these areas. | ● |
| 10 | To progressively decrease the fire ant | Increase in the operational area that has effectively completed a | 33% of the 2021–22 operational area by June 2022 | • There is no planned eradication treatment related to this KPI to report on in the 2021–22 financial year, however this target was achieved by June 2021 (following the | ● |

| Objectives | | KPI | KPI target (2021 22) | Progress against KPIs | Status |
|---|---|---|---|---|---|
| | infestation in South East Queensland through targeted eradication | prescribed treatment regime for fire ant eradication (as in obj 9) | | previous treatment season). The total area that has received treatment as a proportion of the total operational area is 33% (Total area of WB, EA1 and A2 = 211 580.65ha; Total of operational boundary = 645 105.25ha). | |
| 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 33% from 2019–20 | • The calculation for this KPI is being finalised and will be reported by June 2022.<br>• Preliminary data indicates the program is achieving savings with an average combined spend of $140 per hectare for all treatment and surveillance for Q3, 2021–22. This is 13% less than $161 per hectare for Q3, 2020–21.<br>• Further analysis will be reported in future reports. |  |
| | | **b.** Average per hectare cost of the Program's fire ant monitoring and surveillance regimes to effectively eradicate fire ants | Average per hectare cost of monitoring and surveillance regime is reduced by 33% from 2019–20 costs by June 2022 | The calculation for this KPI is being finalised and will be reported by June 2022. See 11a for preliminary combined surveillance and treatment spend per hectare. |  |

## Clearance

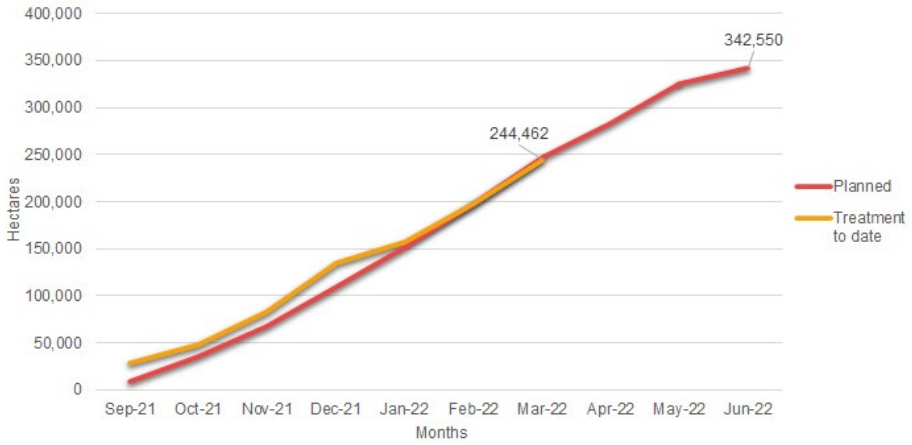
| Objective | | KPI | KPI target (2021 22) | Progress against KPIs | Status |
|---|---|---|---|---|---|
| 12 | To detect and destroy any residual fire ant infestations and gather evidence to support the demonstration of freedom from fire ants in clearance areas | **a.** Searches of locations[2] deemed to be at highest risk of residual fire ants | The top 10% riskiest locations[3] have been searched by June 2022 | • On track to achieve this target by June 2022.<br>• No additional ground surveillance occurred in these areas during this Quarter. As of 31 March, 2983 ha of the required 5125 ha of clearance surveillance by ground teams has been completed (58% of riskiest locations by ground teams). Of these locations, 7 are within a 2021–22 treatment area so no further surveillance will be done.<br>• There are no Area 2 clearance zones within the top 10%.<br>• RSS flights had been completed over 8419 ha in these locations and validation of predictions by ground teams had been completed over 2 910 ha (31% of riskiest locations by air). | |
| | | **b.** Total area searched for the presence/absence of fire ants | Every clearance zone has at least 5% of the area[3] surveyed by June 2022 | • Of the 101 Clearance Zones in the Western Boundary,<br><br>of the area surveyed (100%).<br>• 65 clearance zones had received remote sensing |  |
| | | | | | |
| | | **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 | • Fifteen (15) detections were made in in the third quarter.<br>• None of the fire ant detections were from original nests.<br><br>remain from original nests 12 months after the prescribed treatment regime is completed. |  |

## Summary of planned treatment and surveillance

Planned treatment in 2021–22 includes suppression and clearance treatment. The summer treatment season commenced in September 2021 and is scheduled to finish in June 2022.

See Appendix 1 to view the map of planned treatment areas and progress.

### Figure 1: Planned treatment progress against schedule at 31 March 2022




### Table 3: Planned treatment progress at 31 March 2021

| Area | No. of hectares | | | |
|---|---|---|---|---|
| Treatment area | Planned year (Ha) | Actual YTD (Ha) | Planned YTD (Ha) | % YTD |
| Area 1 | 99 690 | 86 161 | 80 287 | 107 |
| Significant detections | 51 660 | 41 682 | 41 650 | 100 |
| Contingency for new detections (A1 / SD / A2) | 44 000 | 31 033 | 28 674 | 108 |
| Overlaps | 75 400 | 60 063 | 66 770 | 90 |
| Southern suppression | 85 800 | 31 638 | 47 594 | 66 |
| Self-treatment+ | 5 000 | 1 697 | 5 000 | 34 |
| Total | 342 550* | 252 274 | 269 975 | 93 |

*excludes polygyne and responsive notional allocations of 10,100 ha.

+ When the target for self-treatment was being calculated it included the whole of each property identified for treatment. The decision to treat only front yards using self-treatment meant the planned target cannot be achieved. The Queensland Government has established a Fire Ant Suppression Taskforce (FAST) to work alongside the program to manage the suppression of fire ants in areas pending eradication treatment by the program. FAST will manage community-led suppression i.e. self-treatment activities from 31 March 2022.

See Appendix 2 to view the map of responsive and planned surveillance areas and progress.

**Figure 2: Planned surveillance progess against schedule at 31 March 2022**

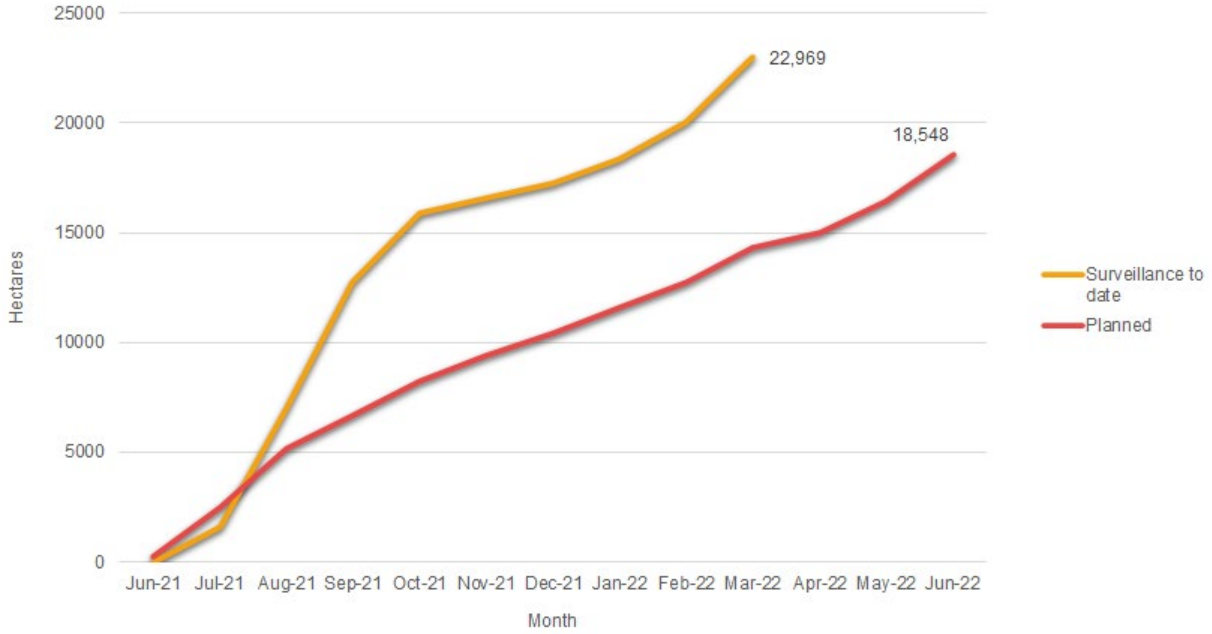



**Table 4: Surveillance progress—planned and responsive at a 31 March 2022**

| Surveillance Area* | Planned Year (Ha) | Actual YTD (Ha) | Planned YTD (Ha) | % Ha Completed YTD |
|---|---|---|---|---|
| Clearance | 4 500 | 3 875 | 3 361 | 115 |
| Sentinel | 1 300 | 1 037 | 1 078 | 96 |
| Targeted | 4 200 | 4 488 | 3 102 | 145 |
| Responsive | 8 500** | 13 569 | 6 770 | 200 |
| **Total** | **18 500** | **22 969** | **14 311** | **160** |

*Sentinel surveillance—planned ground surveillance on sites outside and just inside the operational boundary; Clearance surveillance—planned ground surveillance on sites within previous eradication treatment areas: Area 2; Targeted surveillance—planned ground 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.

A total 47 058 ha were surveyed via Remote Sensing Surveillance technology between June and October 2021 (see p14 for more information).

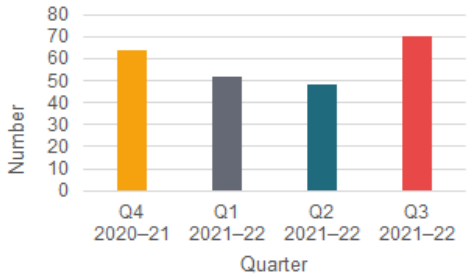
The winter surveillance season commenced in late June 2021 and concluded during September 2021. The program will continue surveillance in all areas for the remainder of the financial year.

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

## Raising stakeholder awareness

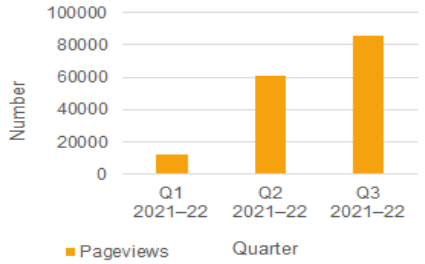
Primary communication channels used to raise awareness across community and industry, including trends across quarters.

**Figure 3: Media stories mentioning the fire ant program**



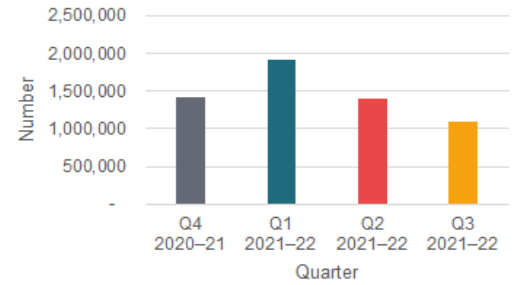

- A total of 67 news media stories mentioned the program or fire eradication this quarter, a 46% increase in those received in Quarter 2, 2022.
- The sentiment of the articles was varied and were mostly neutral.
- 55% of the stories stemming from one journalist at ABC Radio, with the subject matter focused on the program's funding, progress and future.
- The remaining articles (45%) focused on the impact of recent floods on fire ant reports and treatment updates.

**Figure 4: Website pageviews—fireants.org.au**

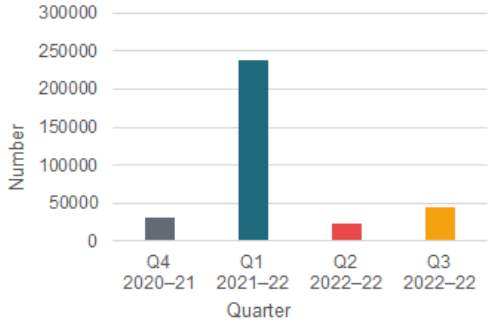
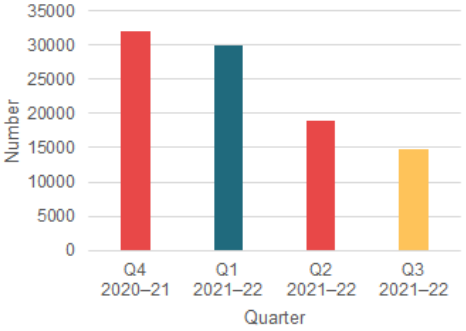



- Website traffic on fireants.org.au continued to increase, with close to 42 000 users visiting 85 846 pages. This is an increase of 41% from last quarter.
- More than 73% of web visitors were driven to the website from organic social media posts or paid advertising.
- A total of 85% of visitors are using a mobile or tablet device to navigate the website.
- The Net Promoter Score (NPS) used to better gauge community satisfaction of the program is now at 20—up 3 points since last quarter Scores are measured with a single survey question and reported with a number between -100 to 100. A score of 10–30 is good, and a score of over 50 is exceptional.

**Figure 5: Social media reach**



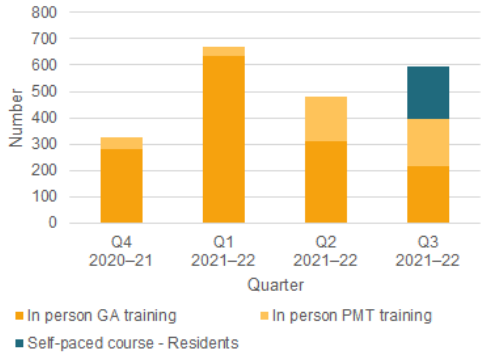

- Our paid social advertising effort resulted in a total of 49 adverts and three boosted posts shown to an audience of 1 033 790 people. This was a combination of five social media advertising campaigns covering topics such as eradication treatment, newsletter subscriptions, community surveillance and self-treatment.
- Overall, the paid adverts attracted 474 534 engagements and 40 449 clicks to our website—fireants.org.au
- Across this quarter, the program published 15 monthly organic social media (5 boosted) posts on Facebook, Twitter, Instagram and LinkedIn, covering topics such as the program's new fire ant map, penalty infringement notices and the importance of looking for and reporting fire ants.
- The organic social posts were seen by 56 981 people and 17 141 of these people engaged with the message (30.08%).

| | |
|---|---|
| **Figure 6: Direct mail delivered**<br>  | • A total of 44 283 direct mail pieces were delivered in Q3 across three separate campaigns – community surveillance Round 5, Tamborine Mountain Phase 2 reminder and Gold Coast self-treatment.<br>• The delivery of direct mail pieces tends to be highest in the first quarter of each financial year as this corresponds to the seasonal commencement of two major communication campaigns – Community Surveillance and Planned Treatment Operational Support. |
| **Figure 7: Emailed newsletters and notices opened**<br>  | • A total of 19 electronic newsletters and notifications were sent to external and internal stakeholders in the form of Fire ant news, InformANT, community and industry alerts in this quarter.<br>• Overall, 37 900 people received the communication with 14 745 (39%) opening or reading the message—slightly higher than last quarter but still down on the industry standard of 42%. |

## Building support and empowering stakeholders

### Stakeholder training

**Figure 8: Stakeholder fire ant awareness and treatment training**




- In January 2022, the first online training course was made available to the public (residents). This online training course is purpose built for residents to know and understand how to look for, report and treat fire ants.
- In March 2022, the second online training course was made available for businesses and industry. This course replaces the monthly scheduled in-person online training sessions with a self-driven training course accessible and convenient to those who are involved with, and/or manage, worksites.
- Scheduled monthly in-person online training sessions continue to be offered while businesses and industry take up the online course option.
- In-person online training sessions will continue for pest management technicians (PMTs) until the third online training course for this group becomes available at the end of July 2022.
- With the development of the online courses on the Rise platform, negotiations are underway with Bunnings Australia to introduce our courses through their own learning platform (LMS). The proposed long-term outcome is for large organisations to take on the role of advocate by training their staff on our behalf.

### Community treatment projects

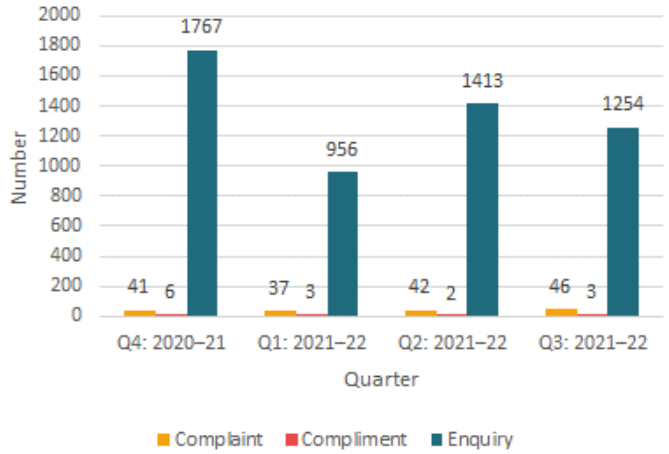
**Table 5: Community self-treatment projects status**

| Location | Status |
|---|---|
| Gold Coast | • In February 2022, Phase 2 of the campaign commenced, including another direct mail delivery to 13 700 residents in the target suburbs (Arundel, Gaven, Maudsland, Molendinar, Pacific Pines and Parkwood) encouraging them to participate and place stickers on their letterbox to opt in.<br>• In February and March 2022, field operations teams conducted treatment and left behind bait shakers at properties displaying the sticker.<br>• Of the 14 894 households targeted, 4610 bait shakers were delivered, a participation rate of 31% down from 40.5% in the first round. This is likely the result of stickers falling off letterboxes. In future we are looking to combine an online registration process as well as stickers to keep the local awareness that the stickers contributed. |
| Tamborine Mountain – Phase 2 | • 279 residents collected bait (from 3017 residential addresses) from the Visitor Information Centre with a total of 611 bait shakers handed out. |
| Calamvale Ward, Brisbane | • Program responsive teams continued to leave behind bait shakers after responding to reports of fire ant nests within the Calamvale ward. Suburbs include Algester, Calamvale, Drewvale, Forest Lake, Heathwood, Karawatha, Larapinta, Pallara, Parkinson, Stretton and Willawong.<br>• 201 Distance and 181 Synergy Pro shakers have been distributed, with approx. 70% delivered to sites in Pallara.<br>• Some residents proactively collected bait from distribution points—55 residents at the Calamvale Ward office and two at the Karawatha Forest Discovery Centre with a total of 110 Distance bait shakers handed out. |

The Queensland Government has established a Fire Ant Suppression Taskforce (FAST) to work alongside the program to manage the suppression of fire ants in areas pending eradication treatment by the program. FAST will manage community-led suppression i.e. self-treatment activities from 31 March 2022.

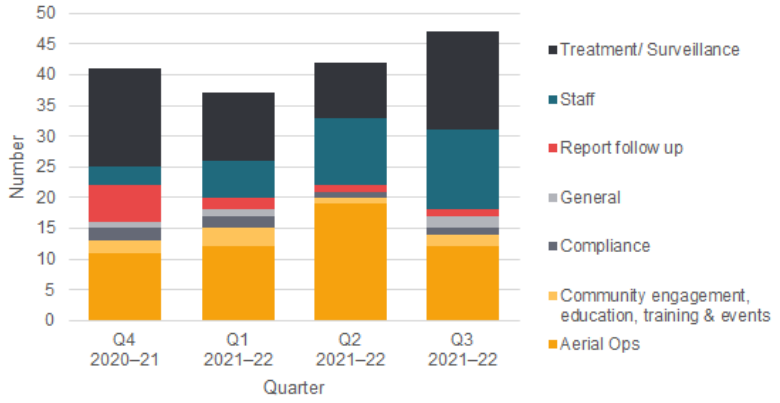
## Complaints and feedback

### Figure 9: Public contacts about fire ants other than suspect fire ant reports




- In addition to reports of suspect fire ants, 1303 contacts were received by the department's Customer Service Centre about fire ants this quarter.
- For 437 of those contacts, the centre referred the contact to the program for action. Overall, there were 46 complaints (3.5%), 3 compliments (0.2%), and 1254 enquiries (96.2%).

### Figure 10: Complaints per quarter




- Most complaints were related to treatment and surveillance activities (34%) followed by staff (28%) and aerial operations (26%).
- Complaints about treatment and surveillance were mainly due to Powers of Entry and pre/post treatment related comms and notifications (or perceived lack thereof). Staff complaints were varied but included alleged claims of dangerous driving, damaged property, interactions with animals and general behaviour.
- Complaints about aerial operations were consistent with other quarters and were mainly about livestock concerns, helicopter noise and bait treatment issues.
- All complaints are addressed and responded to promptly by the relevant team within the program.
- To minimise ongoing angst towards the program's operational activities, the communications and engagement team continue to include targeted messaging in a variety of communication materials. Regular meetings and toolbox talks are conducted by operational team leaders and managers to discuss any immediate or ongoing issues with staff.

**Refusing treatment by the program**

From 1 July 2021 to 31 March 2022 the program received 94 refusals out of a total 39 887 properties visited for treatment. This equates to less than 1% opposition (0.2%).

**Table 6: Refusals to accept fire ant treatment 2021–2022**

| Action | Q1 | Q2 | Q3 | Total as at Q3 |
|---|---|---|---|---|
| Clients refusing treatment | 6 | 39 | 49 | 94 |
| Consented to avoid compliance actions* | 0 | 0 | 34 | 34 |
| Treatment enforced with QPS assistance | 0 | 2 | 26 | 28 |
| Refused properties that remain to be treated | 6 | 37 | 32 | 32** |

*When faced with compliance action, i.e., a penalty infringement notice (PIN) for obstructing the program's authorised officers from undertaking treatment under a biosecurity program, some clients relented and gave permission for the treatment to occur.

**Treatment occurred on properties during quarter three that were refusals from the Q1 and Q2 periods, therefore the *total properties remaining* figure takes this into consideration and is not a sum of all three quarters; more a reflection of what is outstanding overall.

- Gaps in treatment coverage and failure to complete treatment rounds have prevented treatment success in the past.
- Landowner refusal to treatment is monitored and strategies implemented to ensure treatment occurs on all properties.
- Under section 261 of the *Biosecurity Act 2014* Authorised Officers may, at reasonable times, enter the place to take any action authorised by a biosecurity program.
- If landowners continue to refuse access the program will enforce its legal right to enter and treat the property with Queensland Police Service (QPS) in attendance and it is likely the landowner will be issued with an infringement notice.

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

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 and eradication area protection

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 monitoring sites within previous planned eradication areas to detect any residual ants (refer to the clearance section). During 2021–22 planned surveillance in the containment areas will be undertaken using ground teams and remote sensing cameras mounted on helicopters.

Suppression treatment is also conducted to protect the boundary and previous eradication areas.

## Surveillance

The winter surveillance season commenced in late June 2021 and concluded during September 2021. The program commenced sentinel surveillance during September 2021, as planned, and will continue clearance and sentinel surveillance during periods of unsuitable treatment weather. Targeted and responsive surveillance will continue throughout the treatment season utilising responsive field teams. Clearance and targeted surveillance using remote sensing cameras mounted

on helicopters began in the 2021–22 surveillance season to locate any residual infestation in Area 1 and the Western Boundary. Clearance surveillance by ground teams focused on Area 2.

See key insights above to view surveillance data for this quarter and Appendix 2 to view the progress map.

**Remote sensing (aerial) surveillance**

The 2021 Remote Sensing Surveillance (RSS) season saw imagery captured from approximately 47 000 ha from July until mid-October. Several nests were confirmed by field teams during RSS validation activities in locations where infestation was previously unknown. The goal for the 2022 season is to increase the amount of land surveyed using RSS technology, with plans to capture imagery from between 50 000 ha and 65 000 ha. To increase the likelihood of reaching this target, the RSS project will begin flights in early May 2022. Ground validation activities are to begin from two weeks after the initial deployment.

The strategic plan for the 2022 RSS season is to capture imagery from areas bordering planned treatment buffers, extending through to the containment boundary. This strategy will confirm that the planned treatment areas will sufficiently encompass any residual infestation and inform on the success of previous eradication treatment. RSS activities planned for the Southern Containment area will provide information about the extent of spread to the south and the relative density of infestation in that area, which will inform future treatment activities in this area.

**Suppression treatment**

The program will conduct up to two rounds of western and eastern overlap treatment to prevent reinfestation of areas where eradication treatment has been completed in 2020–21. The western overlap area is a minimum two km buffer west from the eastern edge of Area 2 and the eastern overlap is a minimum two km buffer east from the eastern edge of Area 2. One to two rounds of treatment will also occur in southern suppression treatment zones: North—a minimum three km buffer inside the operational boundary, north of known detections and South—a minimum two km buffer outside the operational boundary to the south of known detections.

## 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 for more information).

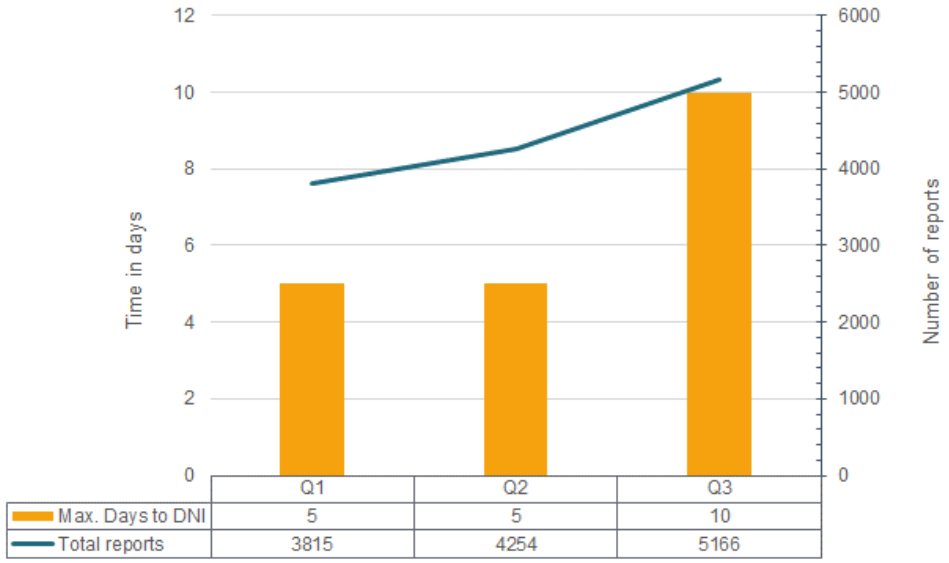
**Community reports of fire ants**

There were 5962 public reports of potential fire ants this quarter. Only four of these reports were residents confirming that they checked their yards and found nothing.

The top 10 suburbs to report fire ants were Jimboomba (Logan City), Greenbank (Logan City), Logan Reserve (Logan City), South Ripley (Ipswich City), Pallara (Brisbane City), Redbank Plains (Ipswich City), Park Ridge (Logan City), Bahrs Scrub (Logan City), New Beith (Logan City) and Ripley (Ipswich City). These 10 suburbs made up 29% of reports made this quarter.

The maximum days for the program to treat reported suspect fire ants this quarter was 10 days.

**Figure 11: Public reports and maximum days to direct nest injection (DNI) treatment 2021–2022**




## 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 and detections located within areas that are currently undergoing clearance and freedom activities.

There were 54 confirmed detections of importance this quarter as outlined in Table 7.

**Table 7: Fire ant detections of importance Quarter 3 2021–22**

| Type* | No. | Location/s |
|---|---|---|
| | 0 | |
| Boundary | 39 | Allenview (7), Beaudesert (7), Boyland (1), Bromelton (1), Flinders Lakes (1), Guanaba (2), Josephville (1), Kagaru (2), Maudsland (1), Mundoolun (6), Tabragalba (2), Tamborine Mountain (1), Veresdale (2), Veresdale Srub (4), Wongawallan (1) |
| Clearance area | 15 | Calvert (1), Coleyville (1), Mount Mort (1), Mount Tarampa (1), Mount Walker (1), Mutdapilly (1), Obum (1), Peak crossing (1), Plainland (5), Washpool (2) |

*Significant = A new detection found outside the program Operational Area boundary. Boundary = A new detection found up to 5 km inside the program Operational Area boundary. Clearance area = Former eradication area undergoing surveillance and residual ant search and destroy activities.

**Significant detections**

- While there have been detections beyond the boundary this quarter, they have all been in areas that have previously recorded infestation.
- There were no new significant detections during the quarter.

**Boundary detections**

- 39 boundary detections found in the local government areas of Scenic Rim (26), Logan City (9), and Gold Coast City (4).
- All the boundary detections were in the southern portion of the operational boundary, which poses a risk of spread to the New South Wales border and presents a risk to the program's containment objectives.
- Two rounds of broadcast baiting with an IGR were applied to the area during 2021–22 with a further round planned in 2022-23.
- 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 10 m from the nest to 2 km beyond the infestation.

See **Appendix 4** for a map of detection locations.

## Polygyne detections

Genetic analysis of the social form of fire ants is undertaken to guide treatment activities. Multi-queen colonies (polygynes) have an increased risk of spread via human-assisted movement and are more expensive and difficult to eradicate compared with single queen colonies (monogynes). As such, one of the KPIs of the program is to maintain the percentage of polygyne infested sites in southeast Queensland at or below ~1%. This is far less than the proportion of polygyne colonies seen in overseas infestations, which is often between 40% to 70% or higher.

Results for samples tested in Q3 are presented in Table 8. Of the 1495 samples tested for social form, 19 (1.3%) were polygyne. These were collected from 17 separate sites (1.2% of all sites tested in Q3). For the year to date (Q1-Q3), of all 5359 samples tested, 91 (1.7%) have been polygyne, collected from 55 sites across 26 suburbs (1.3% of all sites tested). These results are comparable to those from the previous financial year (2020-21) where 91 (1.4%) of the 6586 samples tested were polygyne and these came from 69 separate sites across 30 suburbs (1.3% of the total number of sites tested). Because multiple samples are frequently taken from a site, the percentage of polygyne-infested sites is more critical than the raw ratio of monogyne to polygyne samples.

In Q3, as presented in Table 9, 565 field samples were collected and sent for genetic analysis due to changes in sample collection made by Operations that resulted in less samples being taken (c.f. 2390 samples collected in Q2). In the year to date (Q1-Q3), only 499 of the 6279 field samples collected and sent for genetic analysis have been tested. This includes 47 samples collected in Q3, three of which were polygyne. The backlog in genetic testing exists mainly due to an increase in samples over recent years. Methods for increasing sample throughput are being investigated as well as methods for prioritising which samples should be collected/tested for social form. This will be important to ensure that the program is able to rapidly detect polygyne detections and respond in the most timely manner to prevent their spread.

### Table 8: Fire ant samples tested for social form 2021–22

| Testing period | No. samples tested^ | No. monogyne samples | No. polygyne samples | No. sites with monogyne colonies only | No. sites with polygyne colonies | No. Suburbs with polygynes (YTD) |
|---|---|---|---|---|---|---|
| **Q1 2021–22** | 2029 | 1984 | 44 (2.2%) | 1593 | 15 (0.9%) | 12 |
| **Q2 2021-22** | 1835 | 1807 | 28 (1.5%) | 1601 | 27 (1.7%) | 22 (10 new in Q2) |
| **Q3 2021-22** | 1495 | 1474 | 19 (1.3%) | 1416 | 17 (1.2%) | 26 (4 new in Q2) |
| **YTD 2021-22** | **5359** | **5265** | **91 (1.7%)** | **4215** | **55 (1.3%)** | **26** |
| **Previous Year (summary)** | | | | | | |
| **Q1 2020–21** | 226 | 224 | 16 (1.0%) | | | |
| **Q2 2020-21** | 2695 | 2544 | 51 (1.9%) | | | |
| **Q3 2020-21** | 2314 | 2290 | 24 (1.0%) | | | |
| **TOTAL Q1-Q4 2020-21** | **6586** | **6495** | **91 (1.4%)** | **5057** | **69 (1.3%)** | **30** |

^Excludes samples found to have <15 ants, which are not suitable for analysis. Numbers tested include all samples tested and not just those collected in the quarter.

### Table 9. Progress of samples both collected and tested in each quarter 2021–22

| Sample collection period | No. samples collected | No. samples tested *^ | No. monogyne samples | No. polygyne samples |
|---|---|---|---|---|
| **Q1 2021–22** | **3324** | **339** | **339** | **0** |
| **Q2 2021-22** | **2390** | **113** | **107** | **6** |
| **Q3 2021-22** | **565** | **47** | **44** | **3** |
| **YTD 2021-22** | **6279** | **499** | **490** | **9** |

*Data is accurate up to the end of Q3 2021-22 (31 March 2022) for samples collected in the current financial year only. Note the ants tested in a quarter are typically not able to be tested in the same quarter due to the large number of samples being collected and the resulting sample backlog. ^Excludes samples found to have <15 ants, which are not suitable for analysis.

## 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 **Stakeholder mobilisation** above) and targets industries most likely to fire ants through compliance audits. Changes to fire ant biosecurity zones in June 2021 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 Plan 2021–22 Human Assisted Spread Mitigation* (compliance plan) was developed to ensure 25% of 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. Through various processes (field inspections, compliance inspections, paying for business data etc) the program captures businesses that work with fire ant carriers that operate within the fire ant biosecurity zones. Such businesses are landscaping services, hay producers, earthmovers, waste facilities, civil construction, builders and developers and quarries. To target the top 25% of these businesses (approximately 6792 businesses in the data base) equates to auditing approximately 1700 businesses annually, 424 audits a quarter which equates to an individual officer conducting approximately 70 audits a quarter, based on having a full complement of compliance officers employed (six). If the compliance team is down personnel, they aim to maintain 70 audits per officer.

The compliance team prioritised industries based on their level of risk of potential movement of fire ants, factors they consider are the time of year (some industries are seasonal like hay producers), their proximity to high density infestation, if an area has recently been included into the fire ant biosecurity zone and the location a business is to the biosecurity zone boundaries, are all considered. For the third quarter of 2021/22 hay producing businesses in the fire ant biosecurity Zone 1 were targeted due to hay for sale advertisements and the abundance of product in the area. Civil construction activity within the Logan and Gold Coast development zones was focused on during the period. Compliance officers also provided support to Operations, enforcing entry for treatment where consent to enter has previously been refused.

During Quarter 3, the compliance team had approximately two operational officers, as a result the target for the second quarter audits based on personnel was 109 audits. Compliance conducted 115 audits during this period, of note the audits in both hay producing areas took longer as considerable education of clients was needed, as well several investigations were required for noncompliance resulting in compliance action to a number of businesses. Based on the current staffing levels (33% capacity) the number of audits completed year to date 549 is 32% of the 1698 target.

**Table 10: High risk industry audits—numbers compliant versus non-compliant Quarter 3 2021–22**

| High risk industry | No. audits | No. non compliant | % non compliant | Outcome |
|---|---|---|---|---|
| Hay | 27 | 5 | 18% | Advisory Notices issued to hay producers and sellers for not storing hay in compliance with Section 71 of the Biosecurity Regulation 2016. Two Biosecurity Orders were issued for the hay where it was believed that hay movement may occur prior to becoming compliant. |
| Earthmoving | 25 | 1 | 4% | Advisory Notice issued for non-compliance with a BIP condition. |
| Civil construction and builders | 48 | 0 | 0 | |
| Potted Plant | 2 | 1 | 50% | Advisory Notice issued for not drenching potted plants not stored in compliance with Section 71 of the Biosecurity Regulation 2016. |
| Landscaping Supplier (Potted Plants) | 2 | 1 | 50% | Advisory Notice issued for not drenching potted plants not stored in compliance with Section 71 of the Biosecurity Regulation 2016. |

| High risk industry | No. audits | No. non compliant | % non compliant | Outcome |
|---|---|---|---|---|
| Quarry | 1 | 0 | 0 | |
| Turf | 10 | 4 | 40% | Three businesses transitioned to compliance immediately. An Advisory Notice was issued to a Turf Producer for incorrect treatment procedure. |
| **Total** | **115** | **12** | **10%** | **All Businesses are now compliant** |

Continuing to extensively engage and communicate with industry in addition to audits will be key to improving compliance levels. See Appendix 3 for the locations of compliance activities.

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

During 2020–21, the program confirmed 216 detections of importance, 73 of which were located within the program's previous eradication areas: Area 1 and the Western Boundary. This resulted in a decision to postpone treatment of Area 3. During 2021–22, the program's strategy is to focus on treatment of residual infestation in the previous Area 1, Area 2, Western Boundary areas and high-risk areas outside boundary areas. The objective being to destroy remnant infestations in the clearance areas (where eradication treatment has been completed in previous years); prevent further spread outside the operational area; and protecting previous eradication areas from re-infestation.

## Monitoring the efficacy of broadscale bait treatments in Area 2

In the 2020–21 treatment season, as the program prepared to move into a new eradication area (Area 2), a more intensive methodology for broadscale eradication treatments was developed as part of an adaptive management approach. Under this approach, four bait rounds were applied in a single treatment season (September 2020–June 2021) and, in some sections of Area 2, a fast-acting bait (Advion®) was included in the treatment sequence to investigate if this could further accelerate eradication.

Before applying these eradication treatments, extensive surveillance was undertaken to locate live fire ant nests so their responses to baiting could be monitored. The number of fire ant nests detected and included in a monitoring strategy to measure the efficacy of the three eradication treatment strategies in Area 2 was:

- 323 nests (northern section: treatment strategy = 4 x IGR treatment rounds)
- 66 nests (central section: treatment strategy = 3 x IGR treatment rounds + late Advion® treatment in round 4)
- 91 nests (southern section: treatment strategy = 3 x IGR treatment rounds + early Advion® treatment in round 2).

All monitoring nests have been visited on a four-week/monthly schedule since September 2020 and assessed for the level of fire ant activity. In conjunction with this monitoring of treatment efficacy, pitfall trapping at six-week intervals occurred to monitor the potential impacts of broadscale baiting on non-target ant species.

By the end of Q2, 100% of all 480 original monitoring nests across all sites appeared to be dead. No further activity has been detected during monthly monitoring through Q3. The one section of Area 2 that still had some surviving nests at the commencement of the 2021-22 treatment season and the end of Q1 (and had received 4 IGR treatments in 2020-21), in Q3 still had no active nests having received an additional two rounds of IGR bait in 2021-22 (Q1-Q2). These results indicate that when the standard prescribed treatments are applied (six consecutive rounds of IGR baits within two years) they are successful.

Monitoring is continuing at all sites and will include full-site surveillance in the upcoming winter to further evaluate the effectiveness of the treatment regimens applied in Area 2 from 2020-2022.

Apparent mortality of monitoring nests in Area 2 as of March 2022 (Summary):

- 100% (n=323) Northern section; 4 x IGR 2020-21 + 2 x IGR 2021-22
- 100% (n=66) Central section; 3 x IGR + toxicant in Round 4
- 100% (n=91) Southern section; 3 x IGR + toxicant in Round 2.

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

Because of the risk posed by detections of fire ants in Area 1, Area 2, and the Western Boundary, broadscale treatment is being undertaken during 2021-22. Detections will be monitored and if infestation persists, the areas will receive additional treatments during 2022-23. Under the proposed Clearance and Proof of Freedom Strategy, clearance zones must have two consecutive years of clearance surveillance without any observed living fire ants before they can be declared '*clear*'.

Clearance surveillance in these areas will be performed through a combination of ground and remote sensing surveillance (RSS).

- 15 detections were found in the Clearance Area this quarter: Calvert (1), Coleyville (1), Mount Mort (1), Mount Tarampa (1), Mount Walker (1), Mutdapilly (1), Obum (1), Peak Crossing (1), Plainland (5) and Washpool (2).
- Six of these are in areas that had confirmed infestation during 2020–21. As such they are included in the program's planned treatment areas for 2021–22 to receive three rounds of broadscale baiting with an IGR.
- All clearance detections in this quarter are planned to receive multiple rounds of broadscale baiting with an IGR during 2022-23.

**Table 11: Challenges and solutions to clearance activities Quarter 3 2021–22**

| Challenges | Solutions |
|---|---|
| Incorporating RSS into every aspect proof of freedom surveillance and treatment planning and strategy | • Analysis of RSS accuracy data, as well as costs.<br>• Building surveillance and detection simulations, as well as computer programs, to optimise expenditure on ground-based surveillance in the RSS package towards statistical evidence of freedom. |
| Timely validation of remote sensing predictions by field staff (i.e. needs to occur as close to imagery collection as possible) | • A major focus of the RSS project in planning for 2022 activities has been to ensure that predictions from RSS are obtained and sent for field validation as close to the date of imagery capture as possible.<br>• These solutions range from increased efficiencies in image collection, handling and processing, to ensuring there will be adequate staffing levels for ground-based RSS validation surveillance. |

## Clearance and Proof of Freedom Strategy

Final estimates from RSS in 2021 of its coverage, cost and accuracy will be critical in creating potential rules and procedures for transforming results from RSS into statistical evidence of freedom. Program scientists have been developing simulation programs to help in this analysis and the integration of RSS into standard clearance surveillance activities under the Clearance and Proof of Freedom Strategy.

In early Q3, an analysis of clearance surveillance results was undertaken to identify Clearance Zones (CZs) that met the necessary criteria for "clearance" declaration and progression into the next stage of the Clearance and Proof of Freedom Strategy. This analysis showed that, of all CZs in the A1/WB/A2:

- 2 x CZs in A1/WB could be declared '*clear*' based on surveillance results to date
- 74 x CZs are on track to be declared '*clear*' with an additional year of surveillance with no detections in their immediate neighbourhood
- 69 x CZs are still considered to be known infested, either by detections within the CZ itself or within 500m of their edges and will require at least two years' surveillance with no detections to be declared '*clear*'.

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

## Field trials to support APVMA permit changes by measuring the interception of fire ant bait by crops

Australian Pesticides and Veterinary Medicines Authority (APVMA) permits allowing the program to aerially apply IGR fire ant baits (distance and engage) require that crops can be treated but that treated produce must be washed following harvest. However, for many crop types this is frequently impractical or not standard agricultural practice. As such, these permits conditions have resulted in treatment gaps in parts of the eradication area and contributed to some persisting fire ant infestations. Given the low concentrations of the chemical active ingredients in both IGR baits and their low application rates, desktop studies by program scientists indicated it would be unlikely for scheduled MRLs (maximum residue levels) to be exceeded when crops were treated for fire ants.

Advice received from the APVMA in 2021 was that trial data would be required to support permit changes that were less restrictive in relation to the treatment of crops. Field trials were undertaken through Q1 and Q2 in two different crop types (brassicas and leafy vegetables) to assess how bait granules interacted with the crops when applied and measure any chemical residues. Data analysis of the results and the preparation of them into a submission to the APVMA continued through Q3, along with some additional residue testing of trial samples.

## Testing of alternative treatment products

Following a promising pilot trial conducted in Q2, further field evaluations of a newly registered fire ant treatment commenced in Q3. The product (DeadAnt, containing 0.25 g/kg fipronil) is an ant-sand treatment registered for non-specialist users (i.e., is not restricted to licensed Pest Management Technicians) and is likely most suitable for the cost-effective spot treatment of individual nests. It may also be able to provide longer-term residual control in small areas (such as residential yards). Because the product is sand grains coated with a persistent contact insecticide (fipronil), it is likely able to be applied under wetter conditions than standard fire ant baits and does not require ingestion to be effective. If its performance is satisfactory, it is expected to be useful for both the program and for self-treatment by the community. Evaluations are continuing.

## Collaborating for the development of eDNA surveillance tools

The use of eDNA (environmental DNA) analytical tools in monitoring and surveillance activities is being developed in consultation with James Cook University, the University of Canberra and the Department of Agriculture, Water and the Environment Biosecurity Innovations Team.
An analytical method is being developed for detecting the presence of target specific DNA from several invasive ant species, including fire ants, in soil and/or water samples taken from previously infested habitat, habitat vulnerable to invasion or water bodies adjacent to potentially infested farmland. Using samples previously provided to them by the program, our collaborators continued work through Q3 on proof-of-concept research for the real-world application of a fire ant specific eDNA assay. If successful, this technology may be a beneficial addition to existing surveillance methods and tools for fire ants.

## Triaging of samples for genetic testing

The number of genetics samples collected annually has dramatically increased over the last few years outstripping the current testing capacity, resulting in a backlog of samples. As testing capacity cannot be increased without additional resources, there has been a need to optimise sample collection and processing to reduce the backlog without impacting the quality of the results. Recent work by the program's genetics team showed that samples collected within 25m of a nest previously sampled within 12 months were able to be omitted without affecting the quality of genetic analysis. This triaging method has since been applied to the backlog samples at genetics. The next stage of project has is to integrate a set of rules dictating sample collection into the FORAGE system used by field staff, thus reducing the number of field samples taken. This work with the program's Systems and Intelligence unit has continued through Q3 with delivery anticipated later in 2022.

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

## Risk management

**Table 12: High risks to the program 2021–22**

| High Risk information | | | |
|---|---|---|---|
| **Type** | **Description** | **Controls** | **Treatment** |
| Strategic | *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.* | 1. Contingency planning will be undertaken to ensure appropriate targeted surveillance/treatment is undertaken following a significant climatic event.<br>2. Pre-planning including infestation assessment, genetic tracing, spatial analysis of spread. | Reprioritisation of planned suppression treatment to limit the risk of spread along water courses.<br>Flooding contingency fund.<br>Flood modelling and responsive planning. |
| Strategic | *The timing of national cost sharing funding does not align to the treatment strategy* | Establishment of collaborative funding agreements with states and territories and National Partnership Agreement with Commonwealth. Review of budget occurs regularly. | Approach QLD and Commonwealth Treasury to secure drawdown of additional funds required in the early years. Ensure funding partners have a full understanding of the success, activities, and concerns of the program. Regular reporting arrangements in place. Review statement. |
| Operational | *Risk to capability:* Information systems are ineffective at supporting increased scope of National Program and demand for timely and accurate performance data, which can arise from poor functionality or data integrity due to data entry, programming, configuration errors, viruses or incorrect business logic. | 1. Resources dedicated to developing the program's existing information systems to improve efficiency and accuracy of data entry and reporting.<br>2. Server performance monitoring. Ability to upgrade if required. | 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 to eradication:* 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. | The self-management program is divided into a number of sub-programs to better meet the needs of each target group; improvements to baiting options available to landowners and industry. | 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. |

## Meetings of importance

On 2 February 2022, the Steering Committee held an extraordinary meeting via teleconference to discuss the program's progress against recommendations made by the 2021 Strategic Review, focusing on the program's capacity to scale-up field and Remote Sensing Surveillance operations. Further discussion was held on the status of the funds requested to be brought forward into the 2022–23 financial year, with the response date for the associated Agriculture Senior Officials' Committee (AGSOC) paper extended until 28 February 2022.

On 17 February 2022, the Steering Committee held its 19th quarterly meeting via teleconference. The Steering Committee discussed updates to program areas, including the progress of planned surveillance and treatment; detections of importance; self-management projects; communication and engagement; and remote

sensing surveillance. Following recommendations raised in the 2021 Strategic Review, changes to the program's governance and a progress update on the Fire Ant Suppression Taskforce (FAST) were considered. Movement controls and interstate market access were also discussed, with the Steering Committee endorsing the proposal to prepare a paper to be presented to the National Biosecurity Committee (NBC) seeking agreement to harmonise fire ant movement controls.

On 4 March 2022, the Steering Committee held an extraordinary meeting via teleconference to discuss the national program's 2022–23 Work Plan and the FAST overview document. Further discussion was held on the potential effects of flooding in South East Queensland on the spread of fire ants, with the program advising that a risk assessment would be carried out to identify areas of concern to be targeted in the next surveillance season.

On 22 March 2022, the Risk Management Sub-Committee (RMSC) met via teleconference. Items discussed included the implementation of the 2021 Strategic Review recommendations; status of approved funding for the 2021–22 and 2022–23 financial years; program scale-up activities; sole supplier arrangements; and an update on FAST activities.

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

The program engages with the approved recruitment agencies to increase the number of field contractors for the treatment season (which typically begins at the start of September) due to the increased number of resources required to deliver the treatment plan as opposed to surveillance.

**Table 13: Staff numbers 2021–22**

| Position | Q1 | Q2 | Q3 |
|---|---|---|---|
| Permanent | 90 | 79 | 79 |
| Temporary | 39 | 33 | 32 |
| Contractor—office | 29 | 29 | 27 |
| Contractor—field | 247 | 230 | 246 |
| **Total** | **405** | **371** | **384** |

### Workplace health and safety

The program received 54 incidents related to workplace health and safety during this quarter compared to 19 in the previous quarter. The higher number of incidents this quarter compared to the last is due to the significant rain fall experienced during this period. Field work was conducted on properties that were still recovering from rain fall and terrain has been rougher due to overgrown vegetation hence hidden dangers. Once these areas dry, we will most likely see a decrease in incidents numbers. The majority of our incidents are basic slips, trips and falls resulting in sprained ankles.

Workplace health and safety representatives maintain a focus across the program to heighten awareness and identify workable solutions for all identified risks.

**Table 14: Workplace health and safety incidents 2021–22**

| Category | Q1 | Q2 | Jan | Feb | Mar | Q3 |
|---|---|---|---|---|---|---|
| Hazards | 19 | 7 | 14 | 5 | 10 | 29 |
| Near miss | 6 | 0 | 2 | 3 | 1 | 6 |
| Property damage | 11 | 12 | 6 | 6 | 7 | 19 |
| **Totals** | **36** | **19** | 22 | 14 | 17 | 54 |

# 10. Finance

The 2021–22 initial budget build for the program was $33.3 million above the program fiscal limit. Queensland requested from all cost share partners necessary funding to be brought forward from future years. Queensland has received letters to date indicating agreement from Northern Territory ($221K), Tasmania ($246K), Victoria ($4.51M), NSW ($5.78M), WA ($2.34M) and the Commonwealth ($18.38M). This brings program to have total budget of $64.9M comes from the agreed funding including additional bring forwards approved by cost share partners and an additional $31K from gains on sale of old asset. The program will review treatment and other activities to ensure the spending is within agreed fiscal limit.

**Expenditure to budget**

As of 31 March 2022, the program was underspent by $7.56M. All program areas are operating below the YTD budget. The overall variance includes material underspends in Operations $4.32M, Self-Management Treatment $770K, Remote Sensing Surveillance $732K, Information Services $449K, Community Engagement $311K, Science $285K and Business Support $260K. The underspend in Operations is mainly due to wet weather which has resulted in treatment 44 675 Ha behind the planned target (bait ($2.3M), field contractor expense ($737K), employee related expense ($302K), office contractors ($256K), external motor vehicle hire ($146K) and aircraft hire ($570K)). The aircraft hire underspend includes the impact of a price increase from September 2021. The underspend in Self- Management Treatment relates largely to baiting ($437K), contractor expense ($134K), timing issue on self-treatment campaigns expense (waiting for Corporate Communication to bill) ($142K) and the impact of a vacant position ($65K). The underspend in Remote Sensing includes real savings of Aircraft Hire expense ($205K) and field staff expense ($34K), delay in payment for Remote Sensing contract ($365K Optional component $266K expected to be paid in May and $98.5K final payment for RS Contract is in negotiation via contract extension), and savings from the unused Gate Review budget ($75K). An underspend in Information Services relates largely to timing on IT discretionary expenses for system development ($449K). Further major underspend is a timing issue for a planned Financial Audit expense ($150K). The financial audit is planned 2022 with Terms of Reference was approved by the National Steering Committee at its February 2022 meeting and procurement planning has commenced. An underspend in Science is mainly related to vacant positions ($168K) and timing issue on Drone research Project expense which may spend within this year ($50K) and unused bait research budget ($25K). Underspend in Business Support mainly related to timing of payment and savings on property related expense due to some of Repair & Maintenance works is still not done or billed ($91K), savings in training and timing issue on PPE expense due to DAF Corporate has not disbursed the PPE expense for RIFA order ($76K).

**Table 15: Expenditure to budget as of 31 March 2021**

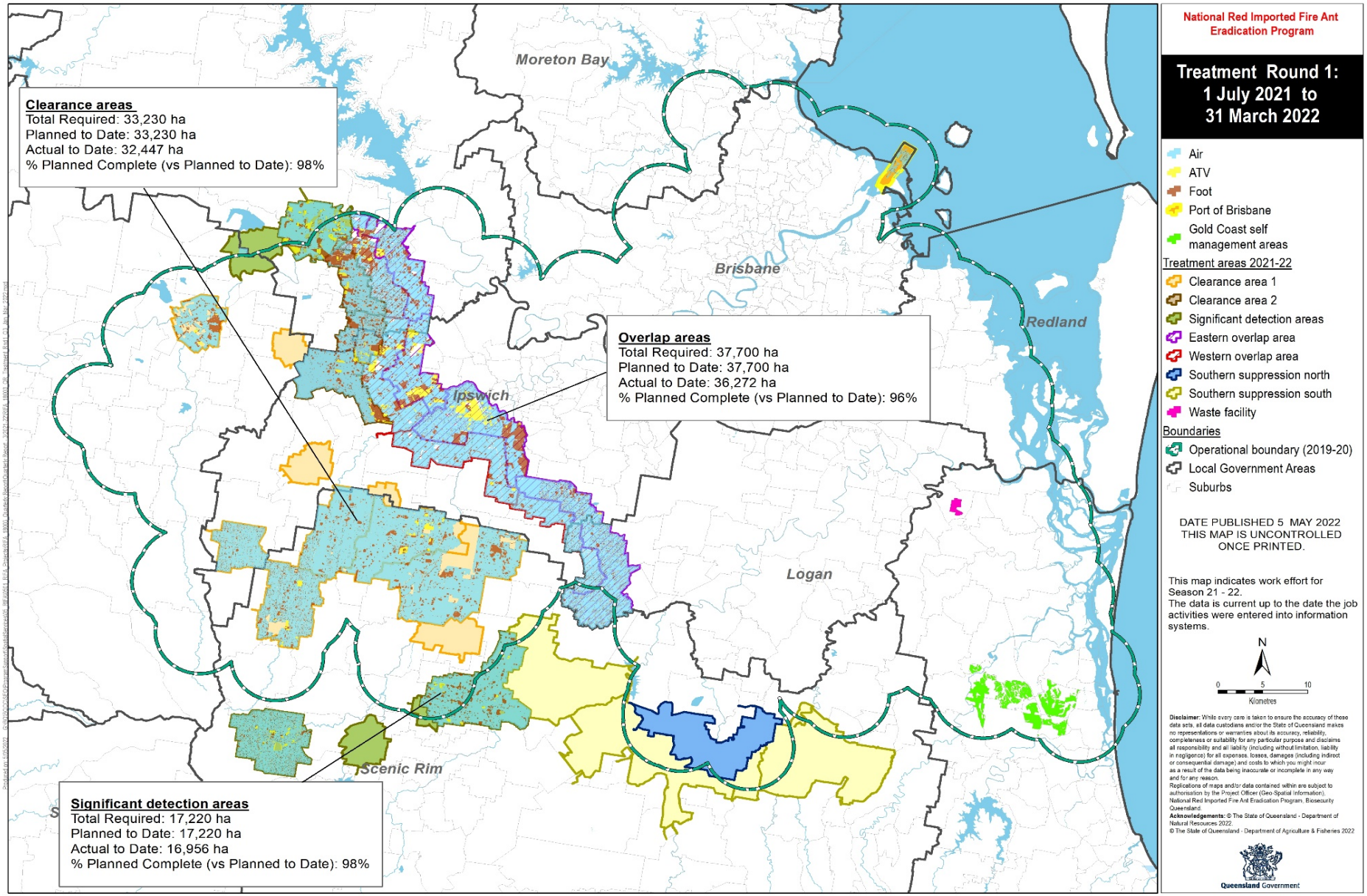
| Program Area | Requested Budget* | Current Budget | YTD Budget | YTD Actual | Variance | Note |
|---|---|---|---|---|---|---|
| Program logistics and business support | 4 138 114 | 4 138 114 | 3 095 722 | 2 835 391 | 260 331 | 1 |
| Remote Sensing Surveillance (R&D) | 3 842 267 | 3 842 267 | 3 829 698 | 3 097 374 | 732 324 | 2 |
| Systems and technology innovation | 2 756 251 | 2 756 251 | 2 064 603 | 1 615 262 | 449 341 | 3 |
| Community and stakeholder engagement | 3 417 242 | 2 431 988 | 1 860 458 | 1 549 654 | 310 804 | 4 |
| Science services and eradication assessment | 2 963 197 | 2 963 197 | 2 213 103 | 1 927 817 | 285 285 | 5 |
| Planning and quality assurance | 2 786 626 | 2 786 626 | 2 068 573 | 1 947 757 | 120 816 | 6 |
| Operations | 43 069 151 | 43 069 151 | 34 104 124 | 29 775 688 | 4 328 436 | 7 |
| Directorate | 1 462 522 | 1 462 522 | 1 169 596 | 1 071 746 | 97 849 | 8 |
| Self-management | 515 603 | 1 500 857 | 1 171 526 | 400 778 | 770 748 | 9 |
| Strategic policy and performance | 928 130 | 928 130 | 700 647 | 500 067 | 200 579 | 10 |
| SEQ program balance | 820 898 | - 3 328 703 | 820 898 | 820 898 | 0 | 11 |
| **Total** | **66 700 001** | **62 550 400** | **53 098 947** | **45 542 433** | **7 556 514** | |

* 2021–22 Budget as approved by the Programs National Steering Committee at its August 2021 Meeting.

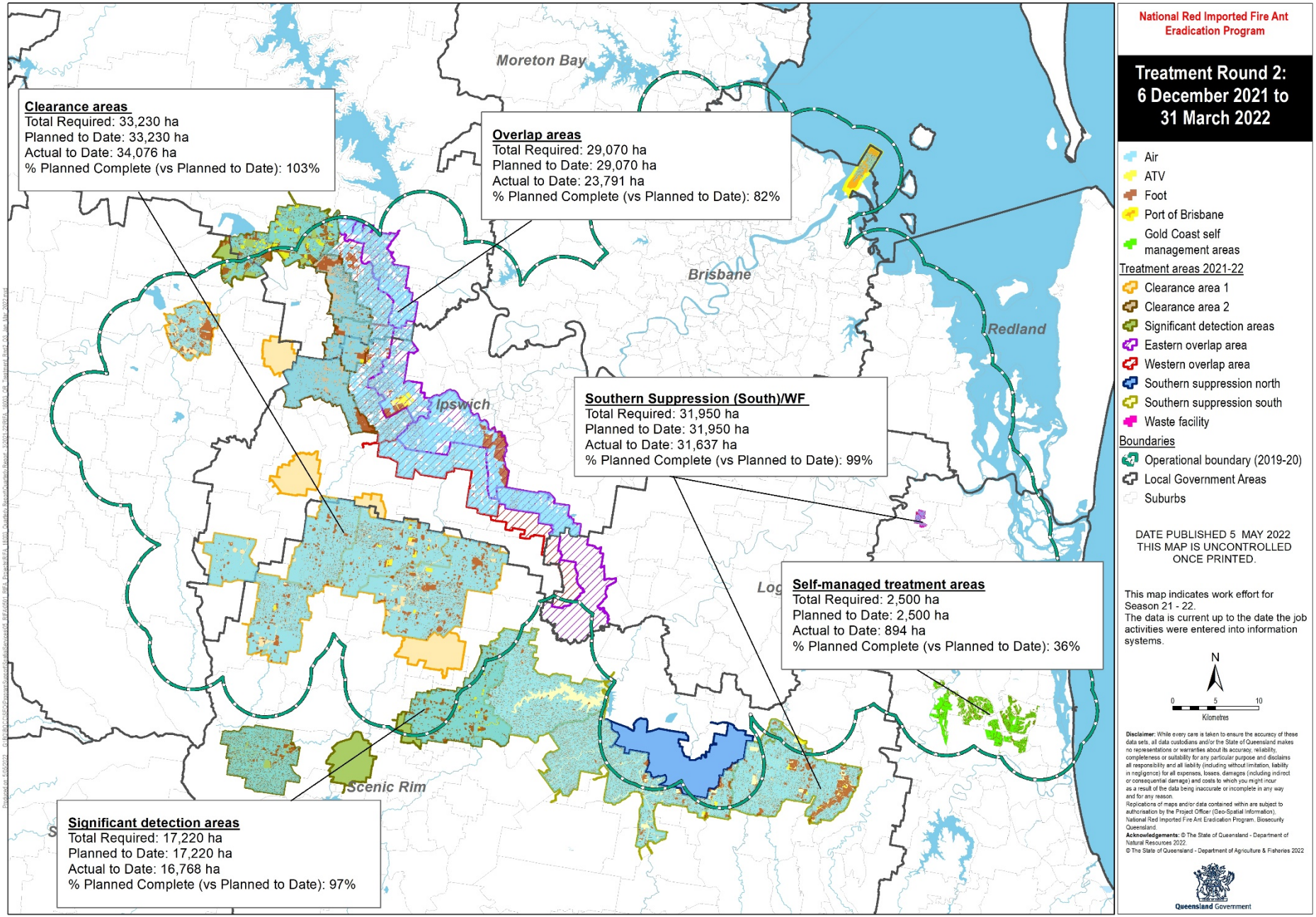
1. Favourable variance mainly due to underspend and timing issue across property facilities and building expenses ($91K), underspend in office contractor expense $66K, training expense ($42K), PPE Expense ($34k) and offset by overspent in employee expense due to unbudgeted Business Service Manager position and savings from unfilled WHS Officer position ($29K).
2. Variance mainly due to underspend on Aircraft Hire ($205K) and timing issue on Remote Sensing Contract payment for main contract and additional component (modelling) ($365K), Remote sensing Field staff expense ($34K), unused Data storage expense ($29K) and unspent Gate Review budget $75K and vacant position in Remote Sensing Surveillance ($36K). The underspend offset by unbudgeted contractor expense ($30K) and overspend in UPG software subscription ($13K)
3. Favourable variance is due to timing issue on in ITP Discretionary Services expense (Shortage of System Developer cause inability to spend) ($640k) and contractor expenses savings ($33K), offset by a higher than budgeted charge for FAMs within October till March ($191K) and overspend in employee expenses ($43K)
4. The favourable variance is mainly due to contractor savings ($82K) from unfilled vacant position, savings in employee expense due to vacant positions ($59K) and will be offset by employee expense transfer from BQ ($32K), Timing issue on following expense of campaign cost ($116K) and KPI Research survey ($43K), unspent SEQ Awareness marketing project expense ($23K), signage expense ($15K) and cancellation of Hackathon event ($14K). This underspend is offset by Design and production (including binding and printing) cost $50K and timing issue on website redevelopment expense ($13K).
5. Favourable variance due to timing issue Bait Research project ($25K) and Drone Research Project($50K), underspend on lab consumables $16K, Motor vehicle related expense ($17K), timing related issues on depreciation expense caused by delay on Genetic Analyser capitalisation ($ 26K) and savings from Salary expense due to vacant positions across Sciences ($168K). The underspend is offset by unbudgeted lab equipment purchase ($12K).
6. Favourable variance is mainly a $108K underspend in contractor expenses due to less contractors engaged; $28K in ESRI; GIS; SISP annual licence subscription; further $11K underspend across various operating activities such as repairs & maintenance, office supplies, computer purchases. The underspend is partially offset by $26K overspend in employee expenses due to an agency contractor is temporarily appointed to the program.
7. The favourable variance ($4.3M) consists of underspend in bait expense ($2.3M) due to saving strategy to reduce aerial baiting to 1.8 Kg/ha. Other factor is also due to target treatment is not met due to wet weather (44,675Ha under target). This contributes to underspend of field contractor expense ($737K) and aircraft hire ($570K). Other underspends are savings in employee expense ($301K) due to vacant positions across operation which some position is replaced by contractors, $146K savings in MV related expense, Office contractor expense ($256K) and unused budget on new odour detection dog purchase $30K. The underspend is partially offset by overspend is due to internal charges for RSS field staff is less than budgeted ($34K).
8. Favourable variance mainly due to timing of budgeted financial audit ($150k) underspend on travel, accommodation and catering cost for RSMC and SAG chair ($33K). This underspend is offset by employee related expense as vacant positions due to rec leave taken is fully backfilled and due to backpay for SO level in July ($47K), unbudgeted payment for contractor expense (Senior Management change Officer) $56K and HR case review consultant payment ($8K).
9. Variance mainly due to contractor expense $134K, timing issue on campaign expense charges from corporate communication($142K) and underspent on self-management bait due to cancelation of treatment plan for some areas ($437K). This underspent is partially offset by unbudgeted expense on bait postage ($27K)
10. Favourable variance mainly due to underspend in contractor expense ($60K) resulting from unfilled Principal Policy Officer (AO7) and Policy Officer (AO4) contractor positions. Savings in employee expense due to vacant position of Manager policy and Senior Policy Officer ($70K), training expenses ($19K) and a saving on Professional (Technical) consultancy ($50K).
11. No Material Variance. No Funds held. SEQ Program Balance is to recognise the actual program overspend in the 2020–21 financial year to be met from the 2021–22 program budget as agreed by the National Steering Committee and balancing line for budget fiscal limit of NRIFAEP – SEQ program.

# 11. Appendices

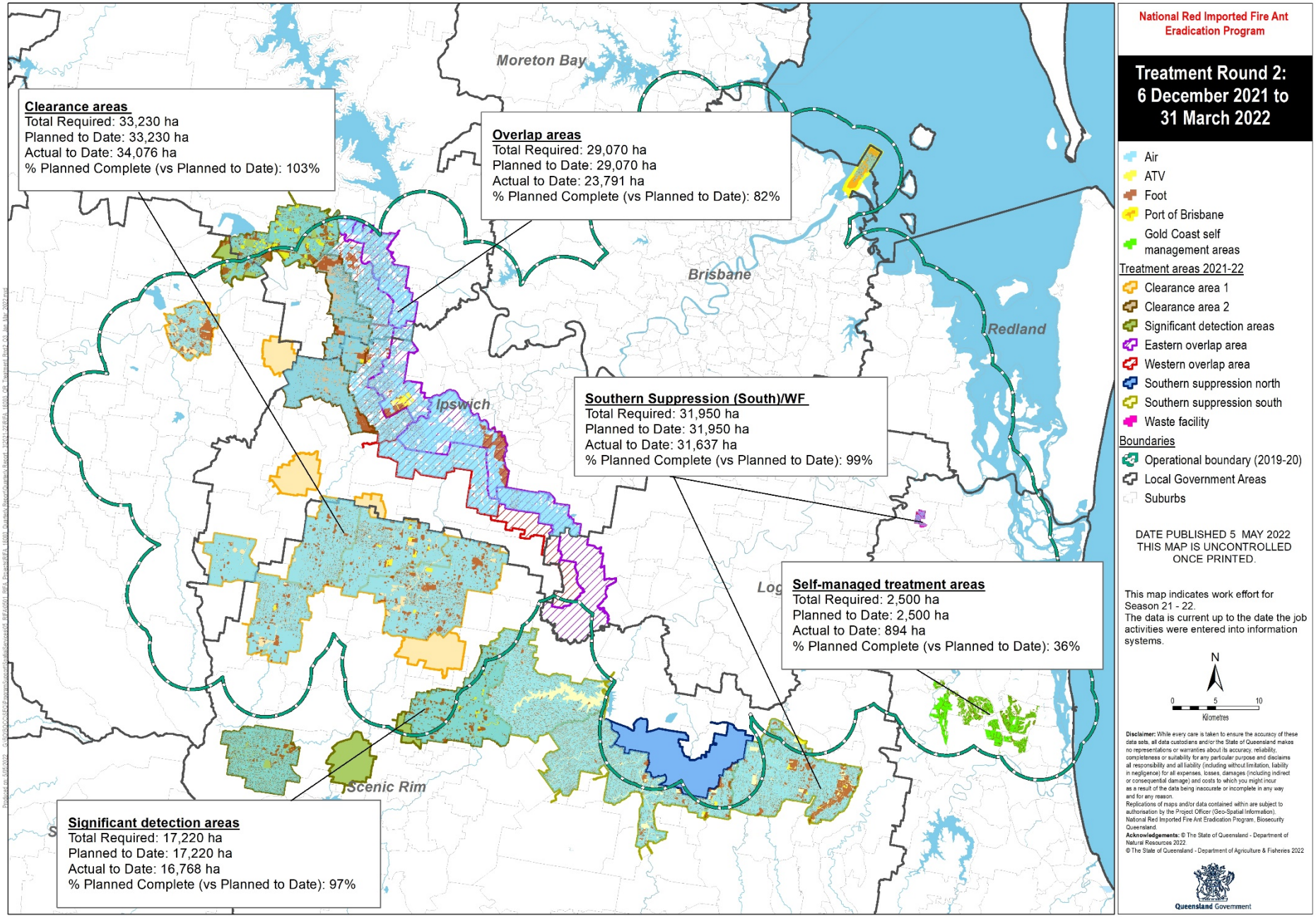
## Appendix 1A—Planned treatment progress as of 31 March 2022 (Round 1)



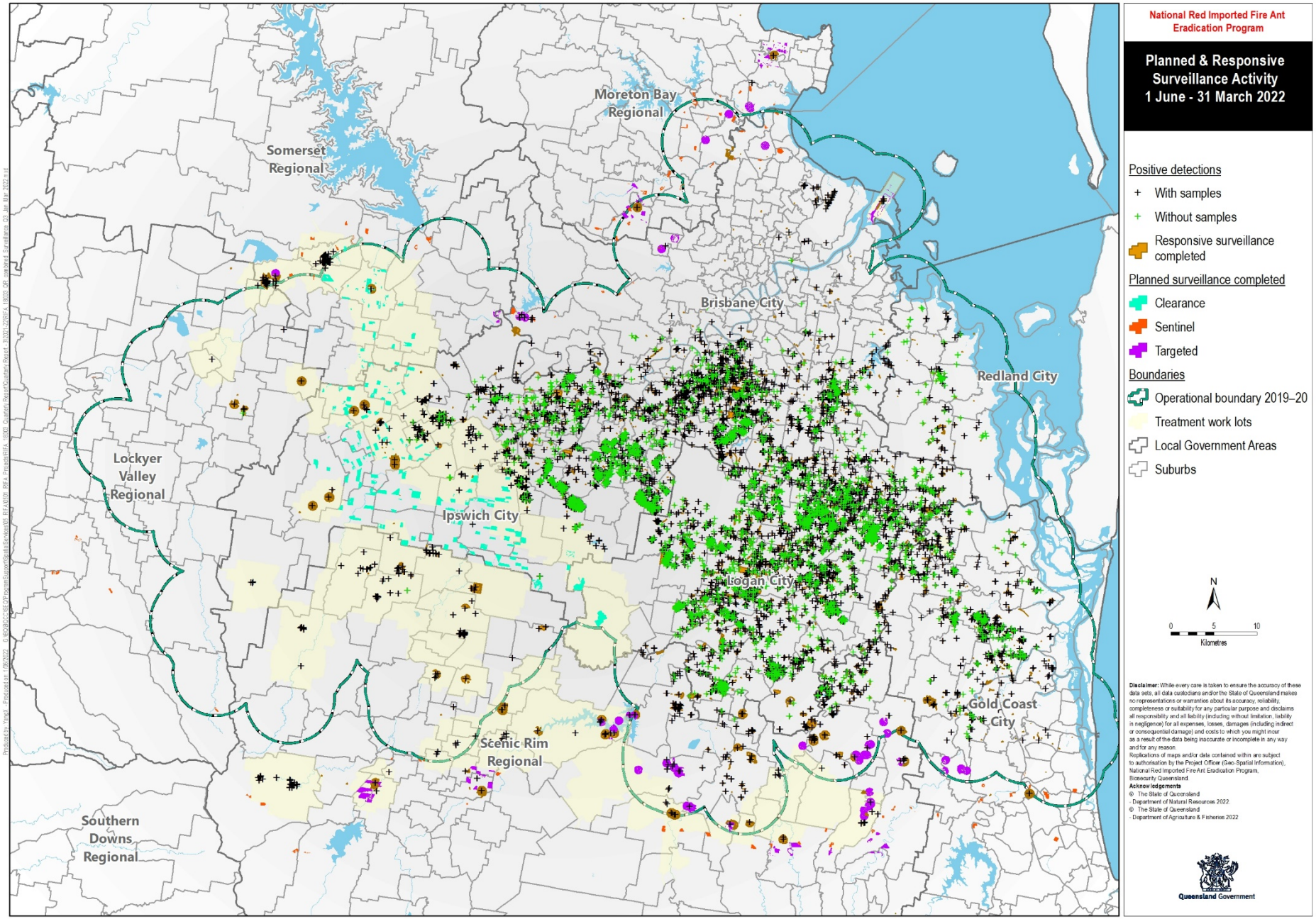
## Appendix 1B—Planned treatment progress as of 31 March 2022 (Round 2)



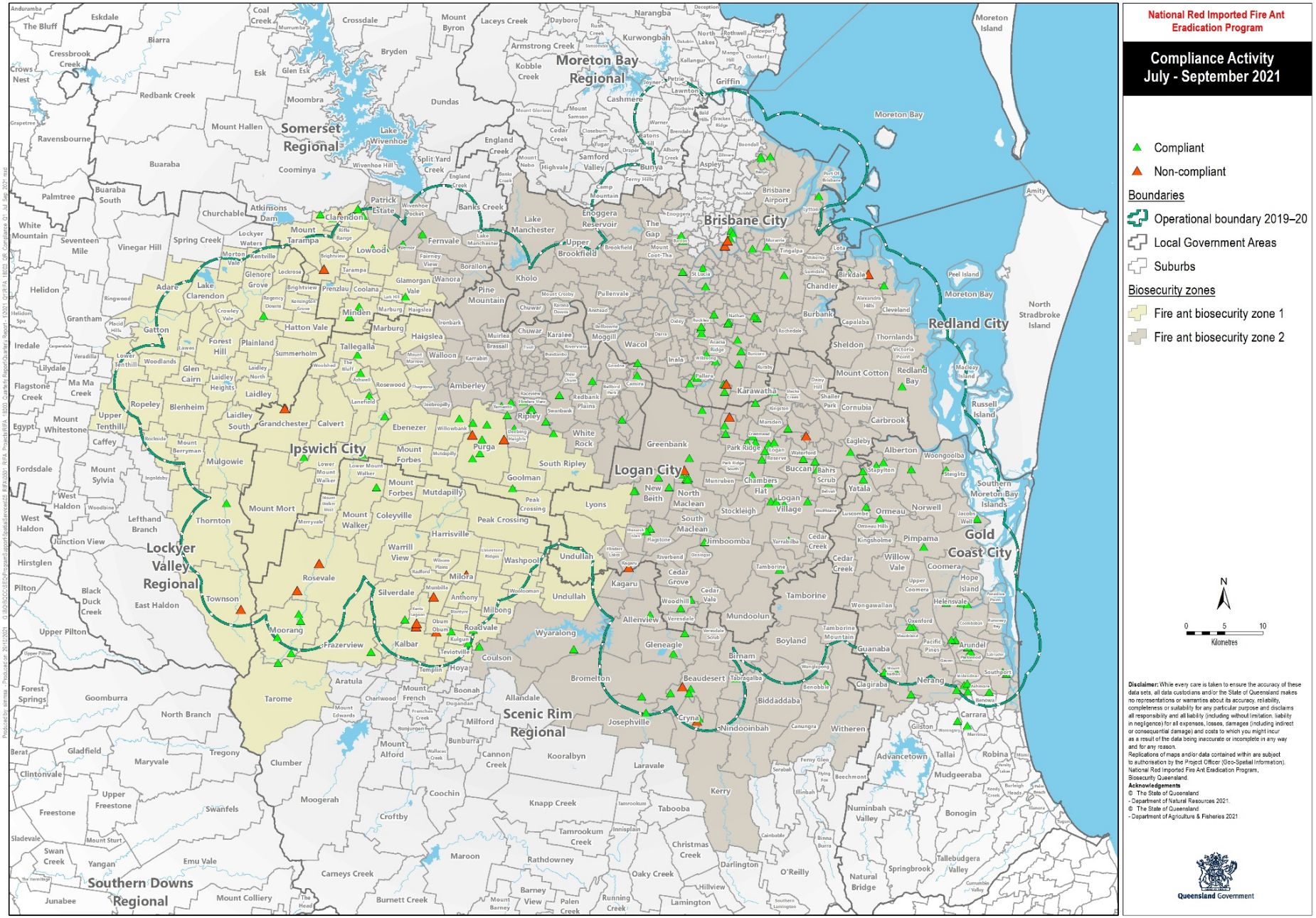
## Appendix 1C—Planned treatment progress as of 31 March 2022 (Round 3)



## Appendix 2—Responsive and planned surveillance progress as of 31 March 2022



## Appendix 3—Compliance activity in Quarter 3 2021–22



## Appendix 4—Detections of importance in Quarter 3 2021–22