

Wet Tropics Management Authority
Yellow Crazy Ant Eradication Program



Report card

2022–23



This program is jointly funded by the Australian and Queensland governments



Summary

Progress towards eradication continues

With \$24 million in funding as a joint investment confirmed in November 2022, the Australian and Queensland governments have shown foresight and commitment to the environment by supporting the Wet Tropics Management Authority's (the Authority) Yellow Crazy Ant Eradication Program. This continued funding of \$6 million a year for four years allows us to continue our progress towards eradicating yellow crazy ants from within and adjacent to the Wet Tropics World Heritage Area.

During this first year of the new funding agreement, the Authority completed 233 survey days covering 3,385.2ha (1,955.3ha inside treatment area boundaries and 1,429.9ha outside) comprising 1.04 million survey points.

One of this year's most decisive achievements was declaring eradication over two sites: 42ha at Mount Peter (TA11) and 6ha at Wrights Creek (TA23).

Three new infestations were detected at Blackwells Creek, Green Hill and in Goldsborough, with treatment starting quickly.

Seven sites were transitioned from broadscale treatment to surveys and spot treatment, increasing the total area under transition to 1,719.3ha. If a site is 'under transition', it has received all the required treatments, yellow crazy ant numbers are very low or no ants detected, and it is on track to being declared eradicated.

2,472.8 hectares of total treatment area

221.4 hectares of treatment area within the Wet Tropics World Heritage Area

751.1 hectares of treatment area in sugarcane

519.7 hectares of treatment area under broadscale treatment

1,719.3 hectares of treatment area under survey and spot treatment

1,284.8 hectares treated over three full rounds + one partial round (for completion in next financial year)



Treatment area

From July 2022 to June 2023, the total treatment area increased by 228ha due to the detection of three new infestations (Blackwells Creek, Green Hill and Goldsborough). One was found during extended surveys next to a known infestation, another was reported by a concerned landholder, and the third was detected by Biosecurity Queensland. This shows the vital role community reporting and partnerships play in detecting potential new infestations and the eradication process.

Two of the new sites extend into the Wet Tropics World Heritage Area, bringing the total infestation inside the Area to 221.4ha.

Treatment rounds during 2022–23 financial year

Treatment round	26	27	28	29
Aerial treatment	322.4ha	279.2ha	208.6ha	–
Ground treatment	101.6ha	128.9ha	126.4ha	63.6ha

Note: the ground treatment in round 29 began this financial year, with the remainder planned for the 2023–24 financial year.

Although the total treatment area has increased, the total area declared eradicated has also increased as has the area under transition (sites no longer under broadscale treatment, with little to no yellow crazy ants, that are close to being declared eradicated).

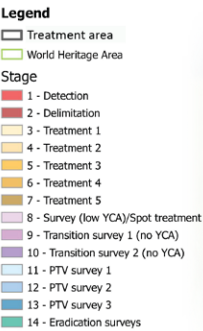
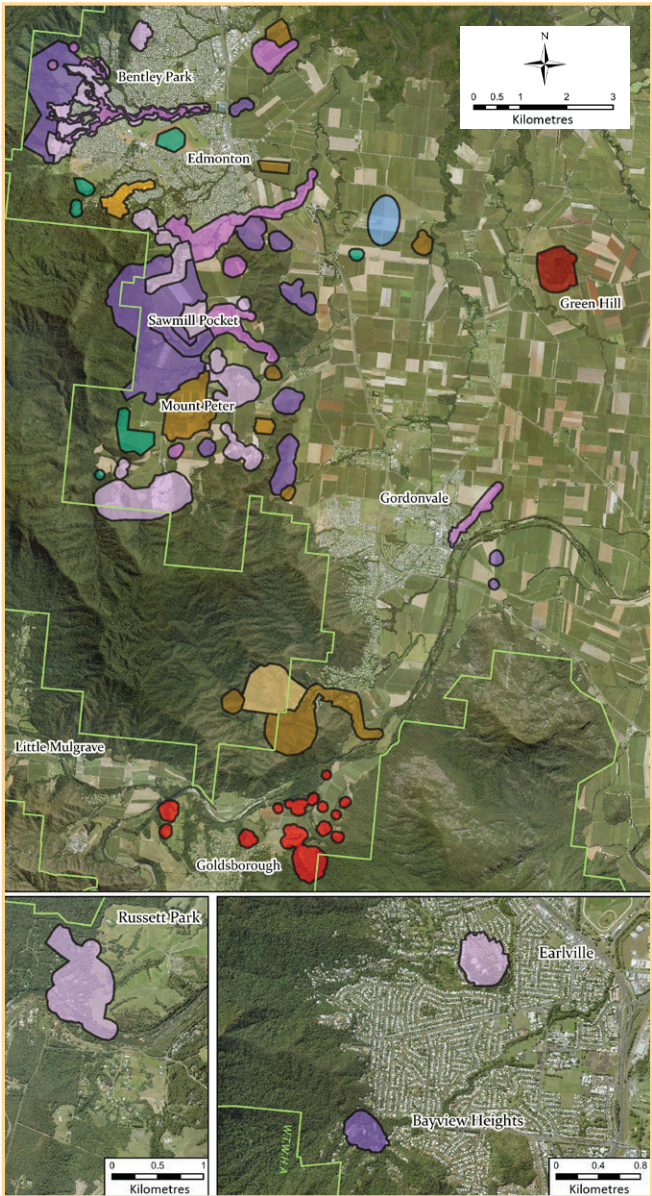
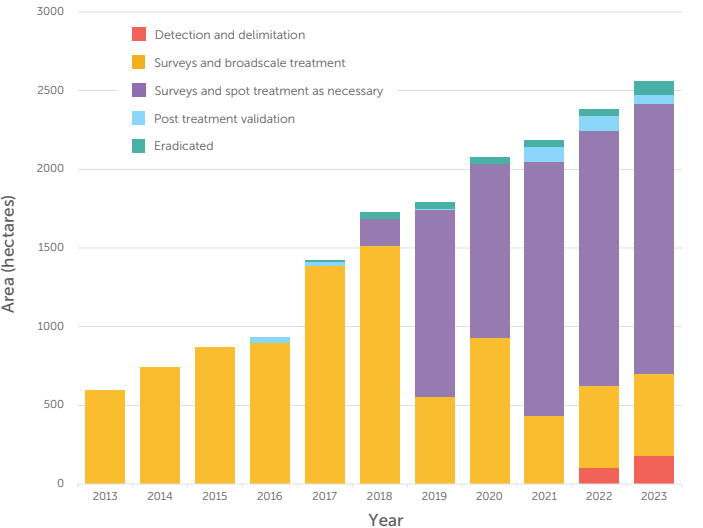
From detection to eradication

Detection to eradication includes 5 core phases divided into 14 stages from stage 1: detection, to stage 14: eradication.

Progress is reviewed every six weeks and decisions to move (or not) a site to another stage are made. The 14 stages are not a one-way process—at times, a treatment area might go backwards due to newly detected ants.

The graph at left shows the size and phases of the total treatment area over 10 years since 2013, while the map images show the stages of all treatment areas as at June 2023.

Phases of detection to eradication of the total treatment area from 2013 to June 2023



Surveys and priorities

3,385.2 total hectares surveyed

1,040,000 points surveyed

157.2 hectares surveyed in the Wet Tropics World Heritage Area

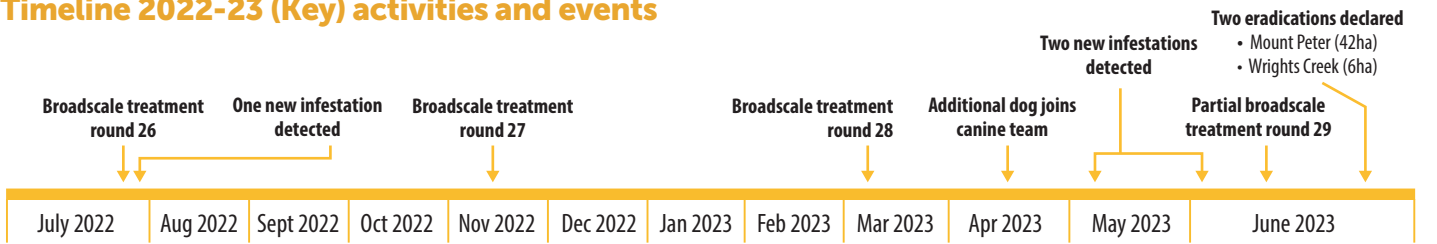
1,420.7 hectares surveyed in sugarcane

113 hectares surveyed by odour-detection dog including 163 residential properties

From July 2022 to June 2023, the Authority’s field teams and odour-detection dogs surveyed more than 3,385ha (including 1.04 million survey points) through sugarcane, rainforests, residential properties and bushland, as well as high-risk material sites (such as mulch and roadwork stockpiles), residential development works and construction areas.

Our priorities and activities changed over the season to ensure infestations were treated in the most effective way possible, as outlined in the timeline below.

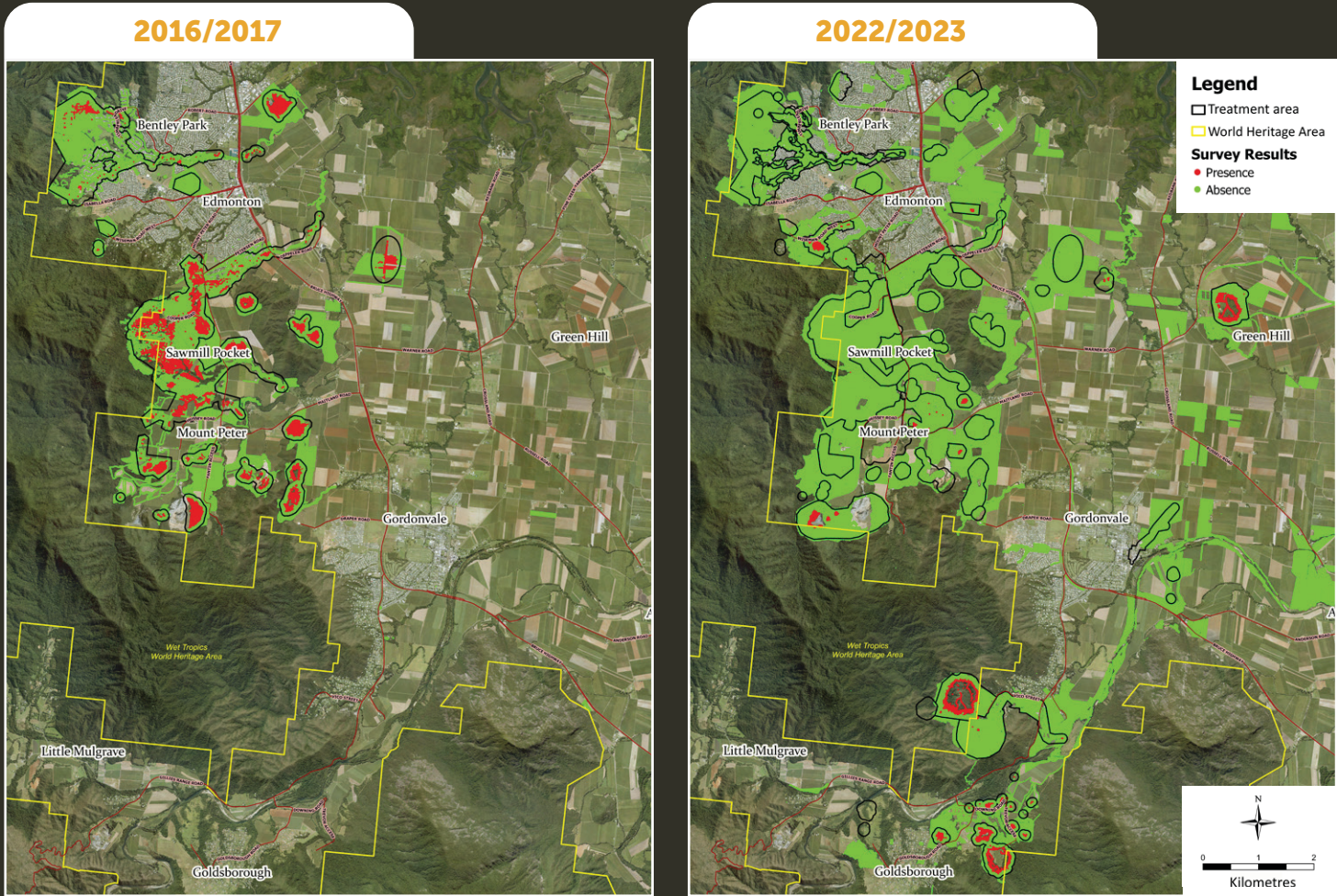
Timeline 2022-23 (Key) activities and events



Up next: This survey season’s priorities were largely achieved by the end of June 2023, and the remaining surveys are scheduled for completion before the end of the survey season by September 2023.

Then and now

Yellow crazy ant surveys at the southern treatment areas



Research and monitoring

27 captive colonies maintained for odour production

3,764 odour-detection products made

The Authority's Science and Monitoring team's continued work included supporting James Cook University's (JCU) terrestrial invertebrate and ecological processes monitoring projects.

These projects collect biodiversity and ecological data to assess what effects, if any, there are on non-target species, the effects of yellow crazy ants on ecosystems, and the re-establishment of native species in previously infested areas.

Other activities included maintaining captive colonies, producing odour-detection dog training aids, persistent site spot treatments, site assessments, a trial to evaluate the use of an unmanned aerial vehicle (drone) for program baiting operations, and processing more than 900 ant samples.

Probability of absence modelling

'Probability of absence' is the likelihood that yellow crazy ants are absent, given how many surveys have been done and how well the habitat supports ant persistence. We use probability of absence values to visualise the confidence in absence spatially across a treatment area.

Our analysis of the 42ha site at Mount Peter gave us a probability between 90% and 95% of the absence of ants. This result supported the Authority's decision to declare eradication at this site in June 2023. We are continuing to develop probability of absence mapping and the Authority has adopted it as a useful tool.

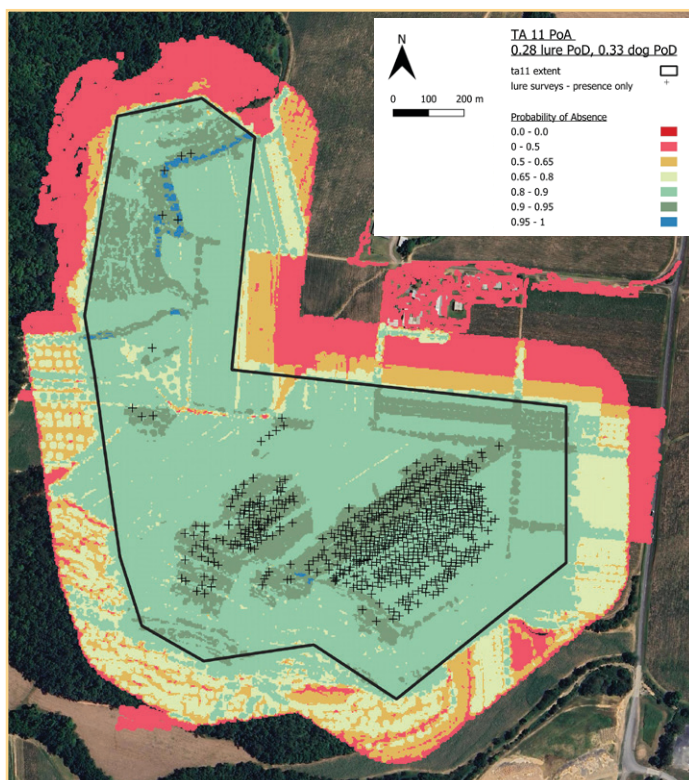


Image: James Cook University

Genetic analysis

The team continued to collaborate with JCU to use genetics and bioinformatics (which links technical information with biological data) to investigate the relatedness of local yellow crazy ant infestations. Using the latest DNA sequencing technology, this project will potentially improve the team's ability to trace infestations and uncover links with other incursions, helping us track down infestations at their source and stop their spread.

eDNA

The team worked closely with JCU on their project: Applying environmental DNA methods for yellow crazy ant detection. Funded through the Department of Agriculture, Forestry and Fisheries, this exciting project is still in progress but early results are promising.

Environmental DNA (eDNA) is DNA shed into the environment by living organisms. Through eDNA technology, teams could potentially confirm the presence of yellow crazy ants in a catchment without having to find a single ant.

Techniques could potentially be applied not just to water, but in soil and sediment from sugarcane paddocks, vastly expanding the Authority's survey capabilities.

Unmanned aerial vehicle (drone) trial update

The Authority continued drone trials for distributing its primary treatment product, AntOff. The trials have yielded positive results, demonstrating drones are an accurate and cost-effective way to distribute granular bait. The Authority aims to deploy drones for bait distribution as soon as possible.



Industry and community engagement

Acknowledging the vital role industry and the broader community play in detecting potential new infestations and eradicating them, the Authority continued to deliver highly effective toolbox talks and shopping centre displays. We also conducted targeted letterbox drops to provide updates to residents at six treatment areas.

Other community engagement activities included participating in popular local events such as Cairns Ecofiesta, Carnival on Collins, Rotary Field Days, NAIDOC Day in the Park, Cairns Canine Festival and Cairns Botanic Gardens plant sales.

Media releases, interviews and social media continued to raise awareness and spread our messages far and wide, from local newsletters to national publications. Outdoor advertising on buses and banners boosted our local reach, evidenced by 274 reports of suspect ants coming from the public.

We raised awareness of yellow crazy ants and highlighted potential career paths for students through regular presentations and activities at local schools. We also continued to support the Gifted Global Green program, providing information packs for 56 students and 16 teachers in the Cairns district.

1,344 visitors engaged at community events

360 people visiting shopping centre displays

496 residences visited during door knocking and letterbox drops

75 attendees at industry toolbox talks

274 responses made to community reports of suspected yellow crazy ants



Partnerships

The Authority thanks the Australian and Queensland governments for their funding support, and the following organisations for their efforts and collaboration to help eradicate yellow crazy ants from the Wet Tropics:

Abriculture | Animal Control Technologies Australia | AWX | Biosecurity Queensland | Cairns and Far North Environment Centre | Cairns Regional Council | Canegrowers | Cassowary Coast Regional Council | Cook Shire Council | Credible Canines | CSIRO | Djabugay Bulmba Rangers | Douglas Shire Council | Dulabed and Malanbarra Yidinji Aboriginal Corporation | FNQ Regional Organisation of Councils | Fortress Developments | Gimuy Walubara Yidinji Elders Aboriginal Corporation | Heliservices Queensland | Hinchinbrook Shire Council | Intelliteq | Invasive Species Council | James Cook University | Kenfrost Homes | Kuranda Envirocare | MacKillop Catholic College | Mareeba Shire Council | MSF Sugar | NQ Land Management Services | Pembroke Graphics | Pioneer North Queensland | Queensland Parks and Wildlife Service and Partnerships | Shonart | Tablelands Regional Council | Tourism Tropical North Queensland | Townsville City Council | Yellow Crazy Ant Community Taskforce | Yellow Crazy Ant Reference Group | Zappala Raw Materials



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