RioTinto

RTA Weipa Pty Ltd

Amrun Project Feral Animal Monitoring and Control Annual Report

August 2020

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1. Introduction

This report provides the survey methodology and monitoring data for the Amrun (formerly South of Embley Project) Project feral animal monitoring and control programs. The requirements to conduct monitoring for feral pigs, feral cats and feral dogs are described in the following Amrun Project Management Plans:

- Terrestrial Management Plan
  - Section 5.6 Feral Pig Control Program
  - Section 5.7 Control of Feral Cats and Dogs
- Operational Marine and Shipping Management Plan
  - Section 7.4 Lighting
- Feral Pig Management Offset Strategy
  - Section 6.2 Feral Pig Monitoring
  - Appendix D Section 3.Monitoring Techniques

This report on implementation of the monitoring programs is produced to align with the annual reporting requirements for survey methodology and data in accordance with Condition 57 of the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 approval EPBC 2010/5642. This annual report presents monitoring methodologies and observations as implemented between 12 May 2019 and 12 May 2020.

In accordance with EPBC 2010/5642 Condition 47, where applicable, the information from this and future annual reports will be used to inform future revisions of the Operations Marine and Shipping Management Plan.

2. Methods

2.1 Feral pigs

Feral pig management is a critical to protect the area from adverse impacts to marine turtles and more broadly, land disturbance. Feral pig eradication is completed via aerial and ground based shooting and pig baiting in accordance with the approved Feral Pig Management Offset Strategy.

Since its inception in 2016, the program has adaptively changed over time to optimise the approach to eradicating feral pigs. This is meeting the intended objective of decreasing marine turtle nest predation along the Amrun foreshore as the key threatening process of these protected species.

The initial scope of the program was to focus on boars resident along the coastal swamps and beaches. New data from CSIRO demonstrated feral pigs will move much greater distances to forage, especially on protein-rich food sources including turtle eggs. The program has ultimately been expanded to include most of the Amrun on-lease areas (ML7024), between the Embley and Ward rivers. The only areas excluded from the program are those in which infrastructure is present. This expanded culling area still focuses on the high-biodiversity coastal swamps of the Ward River, Norman Creek and Winda Winda Creek and Triluck Creek whilst not excluding moving groups of feral pigs outside of these areas. Feral pig control within and outside the management area has potential to reduce detrimental impacts associated with this feral animal.

As part of adaptive management, the feral pig management completed in 2019 exceeded compliance requirements outlined in the Feral Pig Offset Strategy (two aerial shoots instead of one, 28 ground based nights instead of 4) . Learnings from the previous campaigns were reviewed and the program was improved. The amended program was extended to include:

- Combined baiting and ground based shooting program which commenced in May 2019 and continued through to November. Bait stations were set at locations along the beach and the footage obtained was used to understand movements. The team would also patrol beaches on foot and in All Terrain Vehciles (ATV) to maximise the chances of finding pigs
- Two aerial shooting campaigns instead of one. An initial shoot in May 2019 to reduce pig numbers and a fsecond shoot in July/August just prior to peak nesting season
- 28 nights of ground based shooting instead of 4. This was spread out over seven months to continue to eliminate any pigs which were sighted within the beach control zones
- Nuisance feral dogs around infrastructure
- Feral cats whenever sighted.

2.2 Feral cats and dogs

Feral cat and dogs are required to be managed around the camp and mine infrastructure area, as the increase in scavenger opportunities may lead to an increased number of feral cats and dogs. This requires quarterly visual monitoring (spotlighting) and implementation of trapping program if feral animals are observed. As part of adaptive management, the 2019 program was expanded to provide a positive environmental impact. The feral animal control requires the following:

- Quarterly visual monitoring through spotlighting at the Mine Infrastructure Area, Camp and Hey River Terminal. Spotlighting commences approximately 30 minutes after sunset. The boundary of each site is monitored by either walking or driving at a maximum speed of 10km/h. The observer held the spotlight at eye level searching into the vegetation surrounding the site
- Attempted trapping or baiting of the animals sighted during spotlighting. The animals are naturally cautious and accordingly trapping is completed in a progressive manner to habituate the animals with the traps. Trapping is ongoing until one of the following is met:
  - The animal is captured or known to be deceased
  - There are no sighting of the target species for 15 days (trapping event is consists of three consecutive nights)
  - Potential impact to animal welfare (eg lactating mother, severe weather).

Since implementation of the program, the following findings have been noted:

- More animals are sighted and recorded through incidental sightings by the Land and Sea Management Programme (LSMP) team then at targeted spotlighting. Repeated visuals of an animal during daylight provides the best chance of trapping animals.
- The ground based shooters are having the highest engagement with feral cats. The thermal equipment utilised provides the highest chance of sighting these animals.
- Cat trapping is ineffective, no animal has returned to investigate the trap or bait.
- Crows are impacting the dog trapping method, having learnt to obtain the food without setting off the trap.
- No animals have been sighted at Hey River Terminal (HRT) since completion of construction.

Using adaptive management, the following additional management methods were trialled in 2019 and have proven to be effective management measure, this includes:

- Trapping or ground based shooting is implemented for repeated incidental sightings outside of spotlighting events.
- Introduction of feral cats and nuisance feral dogs around infrastructure as targets for the ground based shooting program. This provides the following benefits:
  - Increased spotlighting and thermal monitoring events to maximise chance of identifying feral animals. This resulted in an additional 28 nights of effort in 2019.
  - Ability to quickly eliminate feral cats in which no progress was made in previous years (0 captures). Seven cats were eliminated in 2019.
- Use of ground based shooting where possible to eliminate animals sighted during spotlighting surveys.

3. Results and discussion

3.1 Feral pigs

The 2019 feral pig campaign was successful with the total number of feral pigs culled, has increasing by ~85% when compared to the 2016 commencement point (Table 1). This increase is due to the greater area and number of shoots completed in 2019 along with progressive learning and adaptive management throughout the programs implementation period. No estimate on pig population has been attempted as this is exceptionally difficult to do with accuracy and changes in the control program do not allow comparisons between years. The effectiveness of the control program is monitored through the turtle predation rates by pigs which is the key threatening process

Table 1: Comparison of feral pig annual cull totals since 2016.

Year	Total Aerial	Pig baiting and ground based shooting
2016	121	1
2017	268	6
2018	300	11
2019	824	31

A summary of program results and times are provided in Table 2 and Figure 1.

Table 2: Summary of aerial and ground based shooting results for 2019

Event	Dates	Animals culled
Aerial Shoot 1	29 – 31 May	406 pigs
Ground Shooting Campaign	1 – 4 June	6 pigs all mature boars
Ground Shooting Campaign	26 – 29 July	2 pig mature boars
Aerial Shoot 2	30 July – 1 August	418 pigs
Ground Shooting Campaign	2 -3 August	Nil pigs
Ground Shooting Campaign	20-24 August	5 pigs all mature boars
Ground Shooting Campaign	11 – 14 September	1 boar actively predating nest
Ground Shooting Campaign	17 – 21 September	11 pigs (7 large boars)

Ground Shooting Campaign	15 – 19 October	1 pig
Ground Shooting Campaign	23 – 25 October	1 pig
Ground Shooting Campaign	14 – 15 November	4 pigs
Total		Aerial - 824 pigs Ground – 31 pigs

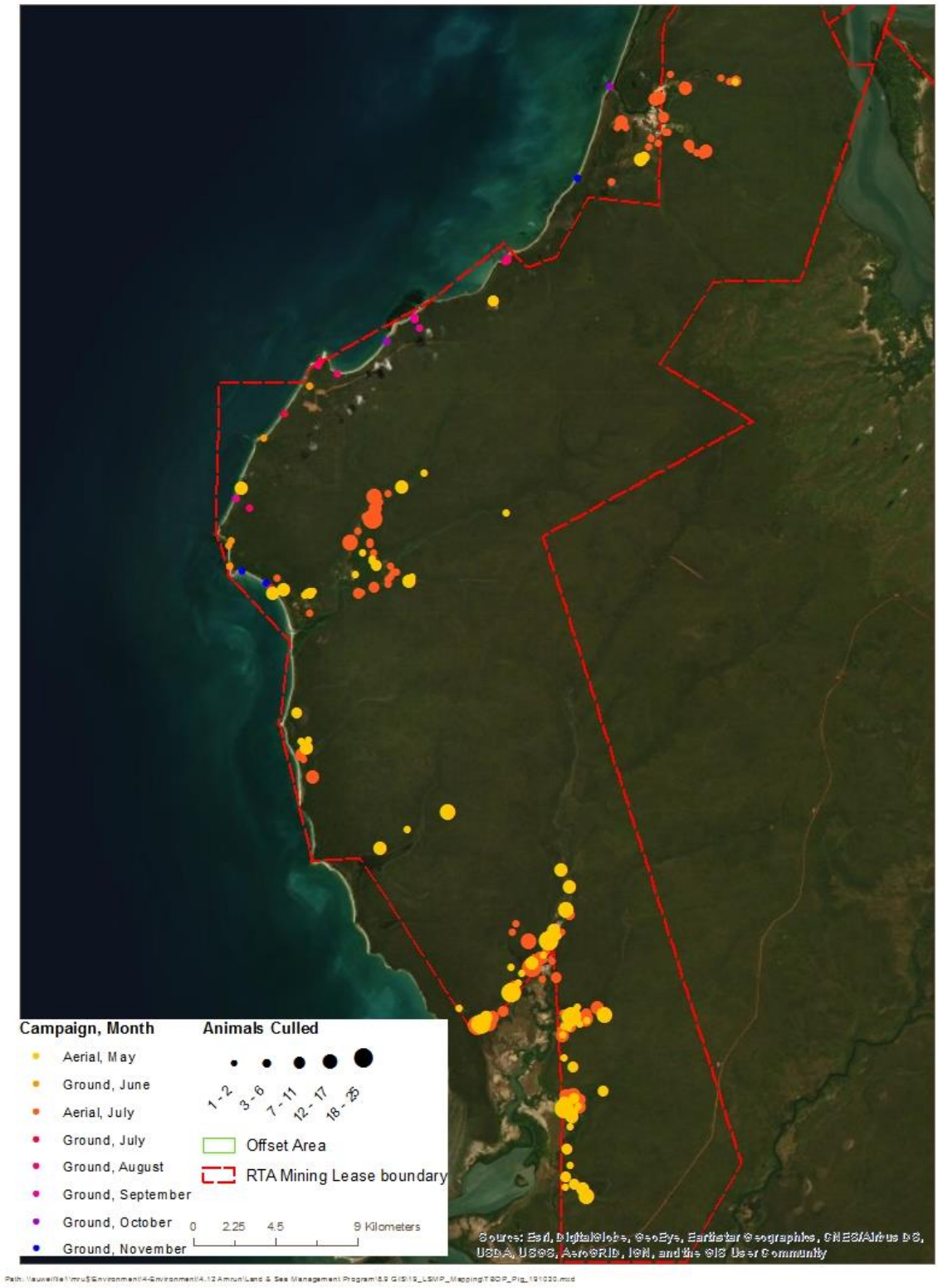

Figure 1 2019 feral pig engagement locations during control activities

Toxic baiting was not needed to be utilised as the shooters were able to eliminate problem pigs. The benefit of combining baiting and ground shooting as follows:

- Takes over 4 weeks to get the animal eating at the station, if it eats at all.
- Animal often avoids the PIGGOUT baits.
- The animal often ingests insufficient amounts and survives the attempt.

- Quick death for the animal and confirmed kill at location.

As per request of traditional owners pig carcasses are then burnt during ground based operations to prevent decay

3.2 Feral cat and dogs

A summary of the feral animal management activities are summarised in Table 3 and Figure 2. A total of 8 cats and 5 dogs were eradicated in 2019.

Table 3: Summary of feral cat and dog management activities

Effort	Month	Detection method	Animals	Engagement Location	Comment
Planned	November 2018	Quarterly spotlighting	No sightings recorded	Nil	No animals sighted accordingly no traps were deployed
Additional	January 2019	Repeated incidental sighting. Trapping campaign implemented	Domestic Dog	MIA	Trap was initiated and animal captured. Animal was taken to Weipa vets. The animal was reunited with owner
Planned	February – March	Quarterly spotlighting	Feral dog (3 sighting of same animal)	Camp	The same animal was sighted on 3 occasions and during targeted spotlighting. According trapping was initiated (detailed in row below).
Planned	Feb - April	Trapping	Feral dog	Camp	Trap was set for Feb through to April with no capture. Trap was being set off by crows. Animal was sighted on occasion but disappeared.
Additional	June	Ground based shooting	No animals sighted	Nil	No animals sighted
Planned	June – July	Quarterly spotlighting	1 feral cat 1 feral dog and cat	MIA Camp	Both cats were successfully targeted as part of shooting program (see row below) No sighting of dog during shooting campaign, trapping was also initiated
Planned	26 – 29 July	Ground based shooting	Feral cat Feral cat	MIA Camp	2 x cats
Planned	June – July	Trapping	Feral dog	Camp	Trapping was initiated, dog was not sighted on camera or at trap. No incidental sightings.
Additional	2 -3 August	Ground based shooting	Feral cat	Thud Point and Offset Area access track	1 cat

Effort	Month	Detection method	Animals	Engagement Location	Comment
Additional	20-24 August	Ground based shooting	Feral cat	Thud Point and Offset Area access track	3 cats
Planned	September – October	Quarterly spotlighting	Feral cat	Camp	Targeted as part of shooting (row below), signs of cat in area remain, targeted again in November shooting event
Additional	17 – 21 September	Ground based shooting	Feral cat Feral dog	Thud Point and Offset Area access track MIA	1 cat 1 dog
Additional	15 – 19 October	Ground based shooting	Feral cat Feral dogs	Thud Point and Offset Area Access track Camp	1 cat 3 dogs
Additional	November	Ground Shooting Campaign	1 Feral cat 4 feral dogs	Thud Point and Offset Area access track Camp	No animals sighted
Planned	March 2020	Quarterly spotlighting	1 feral cat 1 feral dog	MIA	Trap set
Planned	March 2020	Trapping	Feral cat Feral Dog	MIA	No animals captured
Total animals euthanized					8 cats, 5 dogs

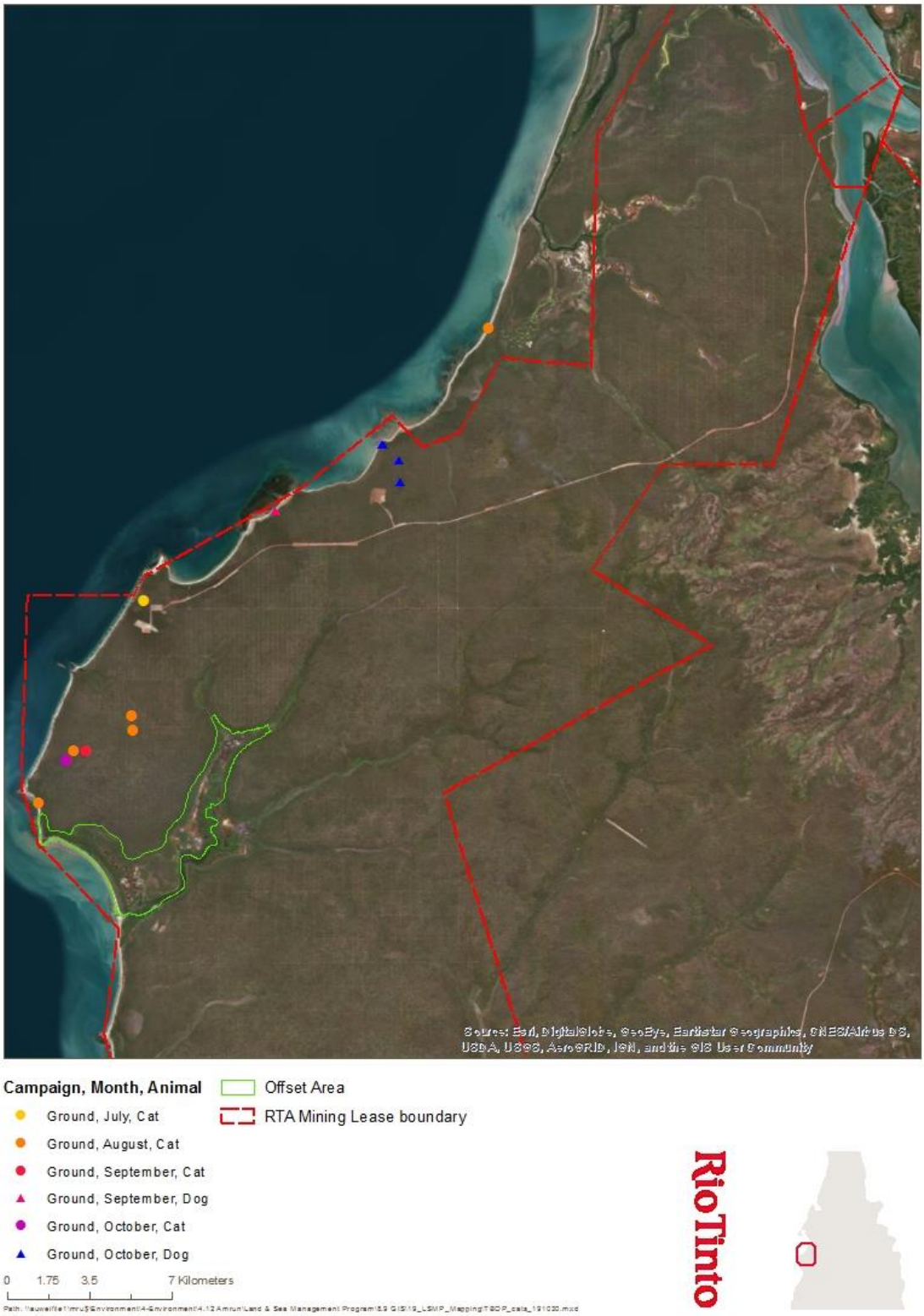

Figure 2 2019 feral cat and dog engagement locations