

RTA Weipa Pty Ltd

Amrun Project Feral Animal Monitoring Annual Report

August 2018

RioTinto



A report prepared in accordance with requirements of the Amrun Project EPBC Act Approval 2010/5642, Terrestrial Management Plan, Construction Marine and Shipping Management Plan and Feral Pig Management Offset Strategy.

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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 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; and
 - Section 5.7 Control of Feral Cats and Dogs;
- Construction Marine and Shipping Management Plan:
 - Section 8.6 Feral Pig Management Offset Strategy
- Feral Pig Management Offset Strategy:
 - Section 6.2 Feral Pig Monitoring; and
 - 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 second annual report presents monitoring methodologies and observations as implemented between 12 May 2017 and 12 May 2018.

In accordance with EPBC 2010/5642 Condition 47 the information from this annual report has been used to inform the Operations and Marine Shipping Management Plan which has been submitted to the Minister prior to the commencement of operations in accordance with EPBC 2010/5642 Condition 8ii. Operations have not yet commenced and the Operations and Marine Shipping Management Plan has not yet been approved. The information from this and future annual reports will also be used to inform future revisions of the Operations Marine and Shipping Management Plan.

2 METHODOLOGY

2.1. Aerial pig control program monitoring

Aerial pig control was to be implemented on the Northern, Thud – Norman, Amban, Southern Beach Sections, as well as the waterholes shown in Figure 1 of Appendix D of the Feral Pig Management Offset Strategy. Aerial shooting was restricted due to safety risks in close proximity to the active construction areas on the Boyd Bay, Boyd – Pera, Pera – Thud and northern part of the Thud – Norman beach sections. An initial overview flight was conducted the day before the

pig control program commenced to assess the level of pig activity and presence of water. During the aerial pig control program the number and location of pigs shot and high pig activity areas were recorded and mapped. The aerial pig control program was conducted from a Bell 'Jet Ranger' conducting a low level (tree top) and low speed strategy. Shooting was conducted across two sorties each day, morning and evening, to target high pig activity times around dusk and dawn. The team utilised GPS tracking software to monitor progress on target areas and plot successful engagement activities. The Program was conducted by professional trained marksmen with a high degree of professionalism in the delivery of humane and ethical program execution which links to its accurate reporting strategies.

Visual monitoring of the scavenger activity was completed by the LSMP team. Records of dogs, pigs or congregations of aerial predators were recorded.

2.2. Night-time ground based shooting

Night-time ground based shooting was to be conducted on beach sections where aerial shooting was unable to be conducted for safety reasons due to the close proximity of the construction activity (Boyd-Bay, Boyd – Pera and Pera – Thud Norman beach sections). Ground based shooting was conducted at beach sections known for previous pig and predation activity, from suitable vantage points for beach coverage.

The equipment selected for the night shooting included:

- Specifically equipped vehicle for night operations and safety
- Thermal Rifle Scopes
- Thermal Spotting Equipment
- Infrared Spotting and Scope Equipment
- Mobile Phone / Sat Phone / UHF Radio / VHF Radio and Personal Locator Beacon for Safety and Communication

The Program was conducted by professional trained marksmen with a high degree of professionalism in the delivery of humane and ethical program execution which links to its accurate reporting strategies.

Pigs shot during night time ground based shooting were transported off the beach to a selected bush area. A Reconyx camera was placed on each of these to monitor scavenger activity and carcass decomposition.

2.3. Feeding/baiting station pig control program monitoring

Due to the problems faced in the 2017 feral pig monitoring program minor changes were made as part of adaptive management to attempt to increase the success of the program. Pig bait trials

were commenced in May, improvements identified from the trials and the 2016 program were as follows:

- Pig bait stations must be easily accessible in all weather conditions and not limited by tidal access.
- Free feeder stations were removed, as no pigs were eating from these. Pig boxes were the preferred food source and resulted in quick uptake.
- Fermented grain was not considered a food source and was attractant to dogs.
- Use of molasses for an attractant. Various methods were trialled to entice the pigs with the molasses resulting in generally immediate consumption. Carasweet and blood and bone were removed as attractants.
- Pig-out baits were soaked in molasses to entice consumption.

At each feeding station a Reconyx Hyperfire Covert Camera Trap was deployed. Cameras were mounted on trees approximately 5m away from the feeding station using the camera straps and positioned with a good view of the feeding station. Animal activity was captured when the motion sensor was triggered using either daylight or infra-red at night.

The motion sensor was set to capture a minimum of 5 pictures in quick succession with a 5 minute break between images sets and a 'two second delay' between triggers. Field cameras recorded the date and time each time the sensor was triggered.

At each deployment location, the date, time, feed station #, GPS position of the feed station, distance of camera from feed station. Where possible, the following information was extracted from images.

- Species identification (feral pigs and other animals);
- Number of each species;
- Age class of feral pigs; and
- Sex of feral pigs.

2.4. Feral cat 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.

Incidental observations from the LSMP program recorded a number of sightings of feral dogs around the camp during afternoons. Accordingly to meet the objectives of the plan where animals were observed repeatedly around infrastructure areas trapping programs were implemented.

During trial trapping in early 2017, concerns were raised about the euthanasiation of dingoes as it is the totem of some local traditional owners. Accordingly trapping was stopped until agreement was made on visually distinguishing a wild dog (half bred) from a pure bred dingo and traditional owners were comfortable with the program continuing.

2.4.1. Spotlight program monitoring

Visual monitoring, through spotlighting, is required to occur around the camp and mine infrastructure area on a quarterly basis.

Spotlighting was completed each quarter at the Mine Infrastructure Area, Hey River Terminal and Amrun Construction Camp. Spotlighting commenced approximately 30 minutes after sunset. The boundary of each site was 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. When an animal was sighted the team stopped and recorded the species and number of each species. Spotlighting for each area is completed a minimum of two nights to maximise number of animals sighted.

2.4.2. Feral cat and dog trapping program

After identification of dogs or cats through spotlighting a dog or cat trap is set up in the area. Traps were also set in an area after repeated incidental sightings. The animals are naturally cautious and accordingly trapping is completed in a slow manner to acclimatise the animals with the traps. Trapping is ongoing until one of the following is met:

- the animal is captured;
- there are no sighting of the target species for 15 days (trapping event is considered three consecutive nights); or
- potential impact to the animals welfare (eg lactating mother, severe weather).

At each trap a Reconyx Hyperfire camera were mounted across from the trap with a good view of the trap station. Animal activity was captured when the motion sensor was triggered using either daylight or infra-red at night and when the animal is entering freely and the vet is in town the trap is set to live status so the door will close. Live traps are checked first thing the next morning (0630) and captured animals are transported to Weipa vets for euthanasiation.

3 SURVEY RESULTS

3.1. Aerial pig control program monitoring

The initial overview flight identified was conducted the day before shooting with sightings of male boars and general pig 'mob' movements noted in various sections across the lease and target areas however generally focussed on the inland waterholes and creeks.

An assessment team consisting of the Amrun environmental specialists, aerial shooters, pilot and feral pig expert Dr. Jim Mitchell, determined that the program was to initially focus upon the beach frontage to confirm if any pigs were present and then implement an adaptive program of targeting the available inland water sources.

Feral pig cull locations reported by each of the four shooting days are presented in **Table 1** below with pig engagement locations shown in **Figure 1**. Shooting was conducted on the coastline with a number of pigs engaged at Boyd Point, the northern beach section and south of Thud Point however high pig activity areas were predominantly at inland water sources (GBR 2017):

- Inland waterholes on Triluck and Winda Winda Creeks (Northern Beach Sections);
- Inland waterholes on an unnamed tributary of Norman Creek (Boyd-Pera and Pera-Thud Beach Sections);
- a series of waterholes on Ina Creek (Southern Beach Section); and
- a small waterhole on an unnamed drainage line south of Ina Creek (Southern Beach Section).

Shooting was able to be conducted at the Boyd Bay and Boyd-Pera Beach Sections during a period when construction activities had ceased in the area.

Visual monitoring for scavenger activity did not result in any large numbers of pigs dogs or flocks of predators after completion of shooting.

Table 1 Pig cull location totals

		Morning Sortie	Afternoon Sortie	Totals
29 July	All Pigs	16	45	61
	Male Boars	11	31	42
30 July	All Pigs	68	36	104
	Male Boars	47	26	73
31 July	All Pigs	18	33	51
	Male Boars	13	22	35
1 August	All Pigs	19	33	52
	Male Boars	11	26	37
Total	All Pigs	121	147	268
	Male Boars	82	105	187



Figure 1 Overall tracks and engagement locations

3.2. Night-time ground based shooting monitoring

Night-time ground based shooting was conducted at three locations over four nights (5th August to 9th August 2017) and covered the Boyd Bay, Boyd – Pera, Pera – Thud beach sections. Two pigs were observed and engaged at the Boyd – Pera Beach section, one each night across two nights of shooting. No pigs were observed at the Boyd Bay or Pera – Thud beach sections.

Scavenger activity of the decomposing pigs included other pigs, dogs and avian predators (eagle). The most regular carcass visitors were a mob of pigs.

3.3. Feeding/baiting station pig control program monitoring

The 2017 feral pig baiting commenced with trial baiting in May 2017. Trial bait stations were set at easily accessible locations to test a variety of bait sources to determine an attractant for the pigs of the area. Trial results identified:

- Fermented grain was not necessary as an attractant;
- Molasses was the preferred attractant but could not be mixed in to the grain and must be placed in a well in the middle of the grain;
- Pig-out baits were only eaten if they were soaked in molasses prior to placement;
- Dry grain was not seen as a food source on its own, accordingly free feeders were not established; and
- Pig would return to the stations regularly and move between different bait stations.

No analysis of information other than food preference was recorded during the trials

The 2017 program was initiated from 1 August to 17 December 2017. A closure of country which encompassed all bait stations and accessible coastline occurred from 20 September to 17 October due to the passing of a local elder. The program was split into three stages as outlined below:

- 01 August – 20 September – stage 1, 7 stations, live baiting between 14-17 September;
- 20 September to 17 October – country closed due to passing of local elder
- 21 October – 06 November – Stage 2, 7 stations, live baiting between 03-06 November, 7 stations
- 07 November – 17 December – stage 3, no live baiting as rain impacted stations, 4 stations

A total of 18 bait stations were set during the program with these focussed on the Boyd to Norman Creek section of the site for accessibility issues. Throughout the baiting program a total of 8 pigs were killed. This assessment is based on footage of pigs eating the baits and not-returning to any bait stations.

Observations from the cameras feeding stations established during the feeding and baiting station program are presented in **Table 2** to **Table 4** below. A pig visitation rate (pigs/night) is provided in order to provide a monitoring index for long term comparisons each year.

Table 2 Feed/baiting station camera observations 01 August – 20 September 2018

	Beach Section	Coordinates	Period established/ maintained	1080 Poison used	Kills	Number of pigs photographed	Visitation rate	Other animals	Comments
Bait station camera 1	Boyd – Pera	0568128 8571847	01/08 – 20/09	14-17 September – baits not eaten	0	3 boars	1.5	Dogs	1 pig seen on a regular basis
Bait station camera 2	Pera Head	0565471 8568082	01/08 – 20/09	14 – 17 – 3 baits eaten	1	3 boars, 1 female 4 piglets	1.4	Dogs, birds	2 pigs seen on a regular basis, 1 boar killed
Bait station camera 3	Boyd - Pera	0566206 8568751	01/08 – 20/09	14 – 17 – 0 baits eaten	0	3 boars, 1 female 4 piglets	1.5	Dogs, birds	Same family at Bait station 2
Bait station camera 4	Pera – Thud	0563764 8562531	01/08 – 20/09	14-20 – 0 baits eaten	0	3 boars	1.5	Dogs, birds	0 kills
Bait station camera 5	Pera – Thud	0563558 8562817	01/08 – 20/09	14 – 20 – 1 baits eaten	1	3 boars	1.5	Dogs, birds	Black boar with torn ear
Bait station camera 6	Thud – Norman	0564244 8560922	01/08 – 20/09	14 – 20 – 1 baits eaten	1	2 boars	1.3	Dogs, birds	Black and white boar
Bait station camera 7	Thud - Norman	0565197 8560713	01/08 – 20/09	14 – 20 – 4 baits eaten	1	2 boars	1.3	Dogs, birds	1 boar all baits eaten by same pig
Total Kills					4				

Table 3 Feed/baiting station camera observations 21 October – 08 November

	Beach Section	Coordinates	Period established/ maintained	1080 Poison used	Kills	Number of pigs photographed	Visitation rate	Other animals	Comments
Bait station camera 8	Boyd – Pera	0568128 8571847	21/10 – 08/11	28/10 – 08/11 baits not eaten	0	2 large boars, 2 females, 4 piglets	1.3	Dogs , birds	Family visiting, avoiding poison baits
Bait station camera 9	Pera Head	0565471 8568082	21/10 – 08/11	28/10 – 08/11 baits not eaten	0	2 boars, 1 female 4 piglets	1.2	Dogs , birds	2 pigs seen on a regular basis
Bait station camera 10	Boyd - Pera	0566206 8568751	21/10 – 08/11	28/10 – 08/11 – 1 bait eaten	1	2 boars, 1 female 4 piglets	1.2	Dogs , birds	1 dead pig found at bait station.
Bait station camera 11	Pera – Thud	0563764 8562531	21/10 – 08/11	3/11-8/11 – 4 eaten	1	2 boars	1	Dogs , birds	
Bait station camera 12	Pera – Thud	0563558 8562817	21/10 – 08/11	3/11-8/11 – 0 bait eaten	0	1 boar	0.3	Birds	Irregular visitation
Bait station camera 13	Thud – Norman	0564244 8560922	21/10 – 08/11	Not live	0	1 boar	0.3	Birds	Irregular visitation
Bait station camera 14	Thud - Norman	0565197 8560713	21/10 – 08/11	3/11-8/11 – 4 eaten	2	3 boars	1.2	Dogs , birds	2 boars on 2 consecutive days
Total Kills					4				

Table 4 Feed/baiting station camera observations 09 November – 20 December

	Beach Section	Coordinates	Period established/ maintained	1080 Poison used	Kills	Number of pigs photographed	Visitation rate	Other animals	Comments
Bait station camera 15	Boyd – Pera	0568128 8571847	09/11 – 21/11	Nil	0	2 large boars, 2 females, 4 piglets	0.5	Dogs, birds	Family visiting, avoiding poison baits, bait station discontinued
Bait station camera 16	Pera Head	0565471 8568082	09/11 – 18/12	Nil	0	1 boar, 2 female, 3 piglets	0.6	Dogs	2 pigs seen on a regular basis
Bait station camera 17	Boyd - Pera	0566206 8568751	09/11 – 21/11	Nil	0	1 boar, 2 female, 3 piglets	5.2	Dogs, birds	Pigs avoiding piggout bait
Bait station camera 18	Thud – Norman	0565761 8560363	09/11 -	Nil		2 large boars, 2 females, 4 piglets	2.0	Bird	Pigs avoiding piggout baits
Total Kills					0				

3.4. Feral cat and dog program

3.4.1. Feral cat and dog program spotlighting

Feral cat and dog observations from the quarterly spotlighting monitoring during the reporting periods are reported in **Table 5** below. A low level of feral cat and dog activity was recorded in the reporting period.

An increase in dogs were sighted in the 2018 reporting period. Accordingly cages were set around the camp to capture the animals (see **Section 3.3.2**).

Table 5 Feral cat and dog spotlighting observations¹

Survey Event	Mine Infrastructure Area	Amrun construction camp	Hey River Terminal
August 2017	No sightings recorded	1 dog	No sightings recorded
November 2017	No sightings recorded	No sightings recorded	No sightings recorded
February 2018	No sightings recorded	3 dogs, 5 pigs and 1 cow	No sightings recorded

3.4.2. Feral cat and dog trapping program

A summary of the trapping efforts for the 2017 reporting period is summarised in **Table 6** below. Trapping events for the year resulted in the capture and euthanasia of two dogs. The trapping program included the following trap set ups:

- MIA - Incidental observations of feral cats were recorded around the MIA fuel farm during November 2018. A trapping program was initiated between the 05 December 2017 and 5 January 2018. No cats were sighted on the footage during this period and trapping was stopped.
- CAMP001 – ongoing trapping effort has been completed at this station since July 2017. During this reporting period one dog was captured at this station on 7 November 2017, the animal was transported in good condition to Weipa vet for euthanasia. A dog was close to capture in April however the cage was removed due to an incoming cyclone. Trapping was recommenced in May. On re-establishment two further dogs were ready for capture at the end of the reporting period and two cages were set up at this location to attempt simultaneous capture².

¹ The May 2018 monitoring event fell outside of the reporting period (after May 12) and will be reported in the 2019 report

² Both dogs were captured on separate days outside the reporting period and will be presented in the 2019 annual report

- CAMP002 – ongoing trapping effort at this location was completed since November 2017 to April 2018. During the reporting period one dog was captured at this location on 5 December 2017, the animal was transported in good condition to Weipa vet for euthanasia. A dog was close to capture in April however the cage was removed due to an incoming cyclone. This location was not reset after the cyclone as multiple animals were sighted at CAMP001.

Table 6 Feral cat and dog trapping observations

Month	Dogs		Cats		Notes
	Traps	Captures	Traps	Captures	
May 2017	0	Nil	0		
June 2017	1		0	Nil	Testing of trapping methods
July 2017	1	Nil	0	Nil	No live traps as animals not committed
August 2017	1	Nil	0	Nil	No live traps as females lactating
September 2017	1	Nil	0	Nil	No live traps as females lactating
October 2017	1	Nil	0	Nil	No lactating females sighted trapping recommenced
November 2017	2	Nil	0	Nil	Dog captured
December 2017	2	1	1	Nil	Dog captured, no cat sighted on camera
January 2018	0	1	1	Nil	Cat trap, no cats sighted on camera
February 2018	2	Nil	0	Nil	
March 2018	2	Nil	0	Nil	
April 2018	2	Nil	0	Nil	Traps removed when dogs entering near capture due to cyclone
May 2018	1	Nil	0	Nil	
Total		2			

4 REFERENCES

GBR (2018). *Feral Pig Control Program September 2017*. A report prepared for RTA Weipa Pty Ltd by GBR Helicopters Pty Ltd.

APPENDIX A FERAL PIG CONTROL AREAS

