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Improved fauna recovery in the Pilbara – Assessing the uptake of feral cat baits by northern quolls, and their associated survivorship

Animal Science

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Context

The northern quoll (*Dasyurus hallucatus*) is one of seven terrestrial mammal species that has declined in the Pilbara over the last 100 years. Predation by feral cats is regarded as one of the most significant threatening processes for this Vulnerable listed species. The recent development of the *Eradicat* bait provides an opportunity to control feral cats at a landscape scale in the Pilbara. However knowledge of the diet and laboratory trials suggest that northern quolls may be at some risk from ingestion of toxic feral cat baits. This risk needs to be examined in a field situation where alternative prey items for quolls may reduce the risk from toxic bait ingestion. This project is funded from a Rio Tinto *EPBC Act* offset condition.

Aims

- To assess the field uptake of *Eradicat* feral cat baits by northern quolls and impact on survivorship in the Pilbara.
- To develop an effective cat control strategy that will benefit the northern quoll and other threatened species in the Pilbara.

Progress

- Radio collars were attached to 21 northern quolls at Yarraloola to enable tracking and determination of fate through a trial *Eradicat* baiting. As a control, 20 individuals were also collared at Red Hill.
- *Eradicat* feral cat baiting of a 20,000 ha area at Yarraloola was undertaken in July 2015.
- Tracking of all animals was carried out prior to baiting through to the last collar removal in October 2015. During this time there were five predation events at Yarraloola and seven at Red Hill with the majority of these attributable to feral cats.
- Of the radiocollared quolls, there were no deaths as a result of *Eradicat*bait injestion.
- There was no evidence of any reproductive impacts from *Eradicat* baits on the monitored female northern quolls (number of pouch young were higher at Yarraloola than at Red Hill).
- Details on movement patterns of the radio collared animals at both Yarraloola and Red Hill were collated showing significant variation between the sexes.
- 12 trapping sites were established at both Yarraloola and Red Hill to provide baseline monitoring data. Captures from these sites were assessed to determine if this number of sites would provide sufficient power to detect population change. Subsequently to review by the biometrician the number of monitoring sites will be increased to 18.
- Monthly progress reports were submitted to Rio Tinto throughout the field program.
- Final reports on the bait uptake and the monitoring trials were submitted to Rio Tinto at the end of 2015, and used in an application to use *Eradicat* baits over >100,000 ha in 2016.

Management implications

- As no detrimental impacts to northern quolls were observed from this trial, an operational cat baiting campaign over a much larger area of Yarraloola (>100,000ha) will be undertaken in July 2016, subject to approval by the Australian Pesticides and Veterinary Medicines Authority (APVMA) .
- Positive results from this trial have broader implications for feral cat management in areas where northern quolls are known to occur.
- A sound trapping methodology for monitoring northern quoll numbers in areas of relatively low abundance has been developed.

Future directions

- Subject to satisfactory progress in 2016, implement large scale *Eradicat* feral cat baiting trials over Yarraloola on an annual basis until at least 2019.
- Use remote camera traps in a before-after-control-impact design to monitor the effect of *Eradicat*baiting on feral cats at Yarraloola.
- Continue monitoring northern quolls using established trapping sites at both Yarraloola and Red Hill to detect changes in populations size as a response to on-ground management actions.
- Investigate the use of genetic tools to supplement trap based monitoring data.
- Pursue registration of *Eradicat* feral cat baits for operational use in areas where northern quolls are present.