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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 a suite of 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 development of the *Eradicat®* bait has provided the opportunity to control feral cats at a landscape scale in the southwest of Western Australia but questions remain as to the potential risks of broadscale cat baiting programs on northern quolls and other native carnivores in the Pilbara. The trial baiting program undertaken on the Yarraloola pastoral lease in 2015 demonstrated that the *Eradicat®* bait presents a low risk to northern quolls. Based on this evidence, annual winter baiting of cats with *Eradicat®* over 145 000 ha of Yarraloola will occur from 2016 to 2019. Monitoring programs will measure its success in reducing cat numbers and the response by northern quolls.

Aims

- Conduct a broad-scale aerial baiting program using Eradicat® to target feral cats on Yarraloola.
- Assess the effectiveness of broad-scale aerial cat baiting to reduce feral cat populations on Yarraloola.
- Assess the potential benefits of broad-scale cat baiting on northern quoll populations by comparing their abundance and demographics over time within the baited Yarraloola site with the neighbouring unbaited reference site on Red Hill.

Progress

- Sixty camera trap sites were deployed on both Yarraloola (baited) and Red Hill (reference site) for 25 nights, both before and after baiting in July 2017, to monitor changes in feral cat occupancy.
- Aerial baiting using *Eradicat®*baits was undertaken over 144 638 ha on Yarraloola in July 2017.
- Cat detections following the baiting were extremely low (0.4 cats per 100 camera trap nights).
- Northern quoll populations were monitored at 18 trapping sites at both Yarraloola and Red Hill in September 2017. Capture rates of quolls on both properties were higher due to the improved seasonal conditions. Capture rates of both male and female quolls were higher on Yarraloola in 2017 but the difference with those on Red Hill were not significant.
- There was no evidence that baiting has an adverse impact on quoll populations.
- To gain independent verification of the efficacy of baiting, 13 cats were captured and collared on Yarraloola prior to baiting in April 2018.

Management implications

- The lack of impact of *Eradicat®* on northern quolls in the Pilbara suggests that landscape control of feral cats using aerial baiting is possible in other parts of the Pilbara where quolls co-occur with cats.

Future directions

- The broadscale *Eradicat®* feral cat baiting program will continue over Yarraloola on an annual basis until at least 2019 with continued use of camera traps in a before-after-control-impact (BACI) design to monitor the effect of *Eradicat®* baiting on feral cats at Yarraloola.
- Continue monitoring of northern quolls using established trapping sites at both Yarraloola and Red Hill to detect changes in population size as a response to on-ground management actions.

- Pursue registration of *Eradicat®* feral cat baits for operational use in areas where northern quolls are present.