Progress Report SP 2015-016

Improved fauna recovery in the Pilbara – benefitting the endangered northern quoll through broad-scale feral cat baiting.

Animal Science

Project Core Team

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Project Team	granted
Program Leader	granted
Directorate	required

Improved fauna recovery in the Pilbara – benefitting the endangered northern quoll through broad-scale feral cat baiting.

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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 a key threat to this endangered species. The development of the *Eradicat®* feral cat bait has provided the opportunity to control this invasive predator at a landscape scale in the southwest of Western Australia but questions remain as to the potential risks of broad-scale feral cat baiting programs on northern quolls and other native carnivores in the Pilbara. A trial baiting program undertaken on the Yarraloola pastoral lease in 2015 demonstrated that the *Eradicat®* bait presents no detectable risk to northern quolls. Based on this evidence, annual winter baiting of feral 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

- Assess the effectiveness of broad-scale aerial baiting program using *Eradicat®* to target feral cats 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 pastoral lease.
- Monitor the potential indirect benefits of reduced feral cat numbers for northern quolls by investigating changes to the ecological niche of northern quolls (dietary and habitat shifts) in the treatment site (cat baited) compared with the reference site.

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 2018, to monitor changes in feral cat occupancy.
- A strong recovery in the cat population was detected.
- Aerial baiting using *Eradicat®* baits was undertaken over 141,594 ha on Yarraloola in July 2018.
- Cat detection rates declined from 1.7 (pre-bait) to 0.6 (post-bait) cats per 100 camera trap nights.
- Northern quoll populations were monitored at 18 trapping sites at both Yarraloola and Red Hill in September 2018. Capture rates of both male and female quolls continued to be higher in the cat-baited cell.
- GPS Radio-telemetry data were collected from 16 cats, providing considerable insight into their movement behaviour and habitat use.
- Increased detections of quolls on camera trap arrays used for cat monitoring indicate an ongoing expansion of their habitat occupancy in response to cat control on Yarraloola. The presence of high value rodent prey has also continued to increase in the diet of quolls from inside the bail cell. Both observations are consistent with the mesopredator release hypothesis.

Management implications

- There is no evidence that *Eradicat®* baiting has any harmful impact to northern quolls. The evidence suggests that quolls benefit both directly and indirectly from landscape level control of feral cats and that using aerial baiting is possible in other parts of the Pilbara where quolls co-occur with cats.

Future directions

- Publication of the project outcomes, including annual report.

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