

Feral cat management in complex management areas

A comparison of toxic baits for feral cat and fox control in southwest Western Australia: An Adaptive Management experiment testing the effectiveness of cat management in complex management areas.

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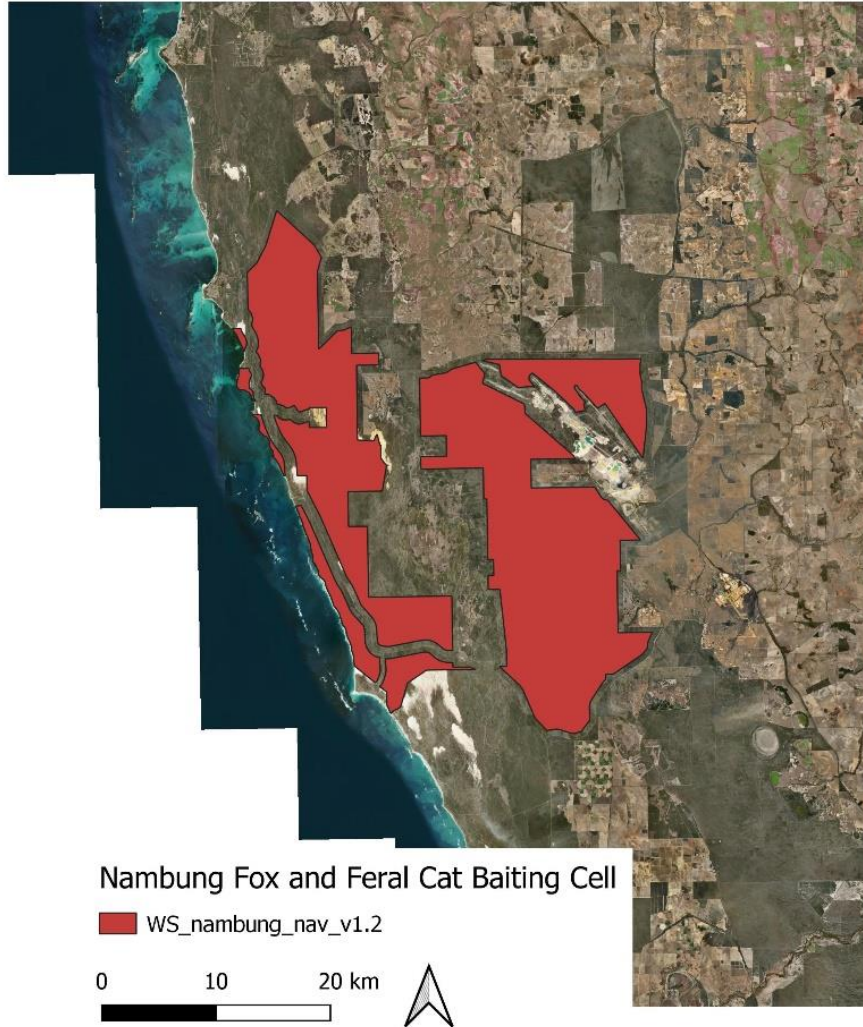


Background

- Feral cats and European red fox — damaging invasive species
- Extinction of 30 Australian mammals and threatened the existence of a further 125 mammal species
- Eradicat® toxic (1080) meat bait develop to target feral cats
- Effective in reducing cat activity in some environments (e.g. Algar et al 2010, 2011, Doherty and Algar 2015).
- Yet to be fully tested in wetter biomes
- We tested the efficacy of integrating Eradicat® and Probait (fox bait) at a complex site on the northern sandplains of Western Australia.

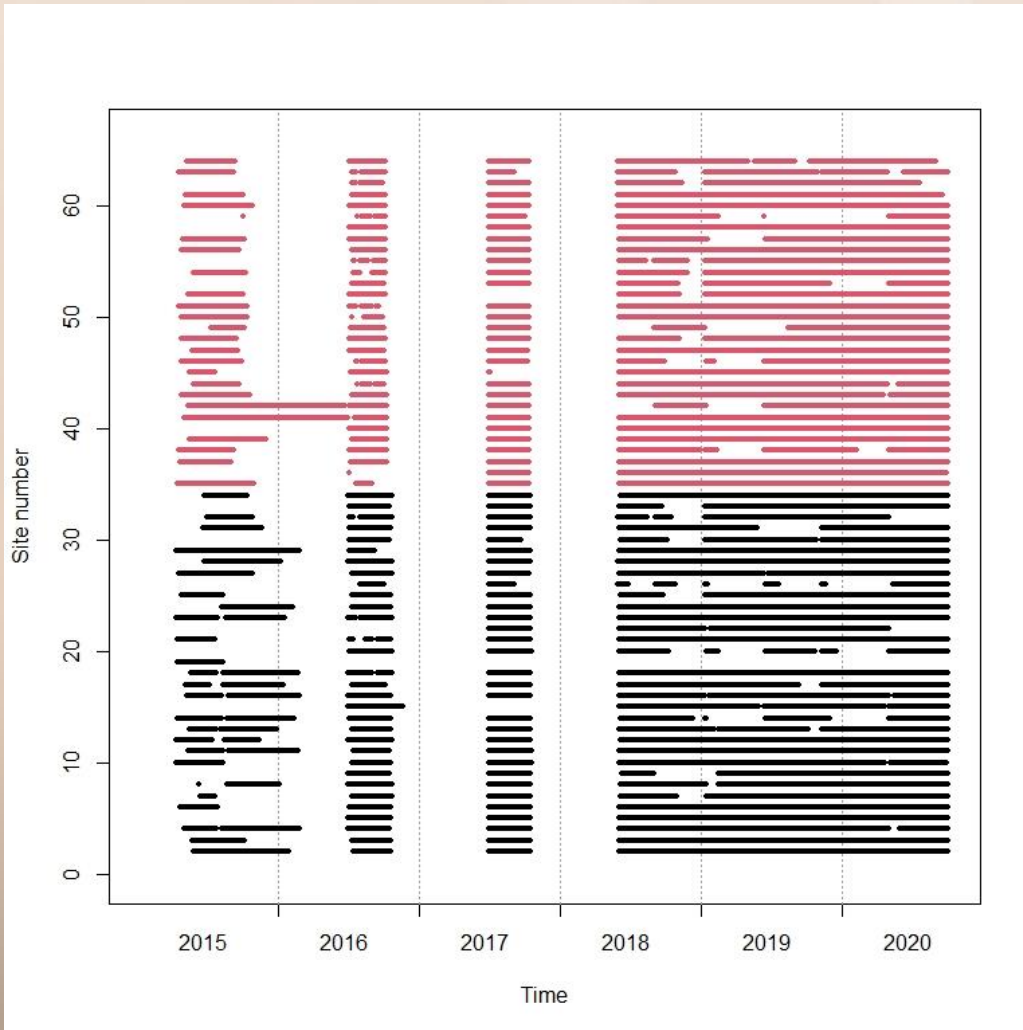


Study area



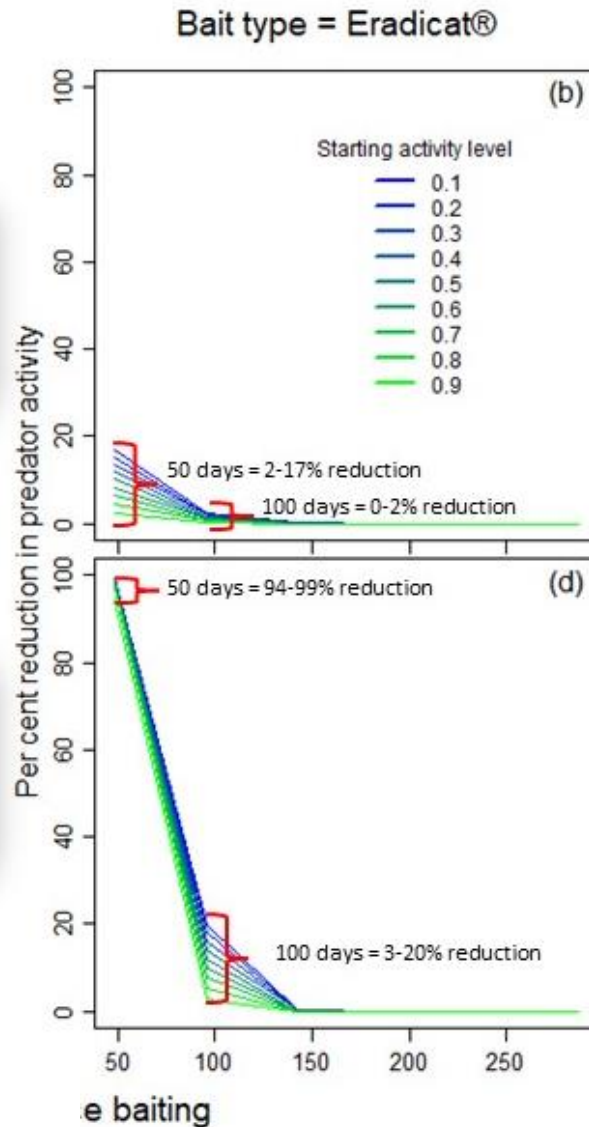
- Nambung National Park and Southern Beekeepers Reserve
- Complex boundary
- Highly modified landscape
- Fox baited twice per annum 2014-2016
- Between 2016 and 2018, a single Eradicat bait/ annum was added to the existing fox baiting prescription
- 700 km²
- All baiting ceased in 2018

Methods



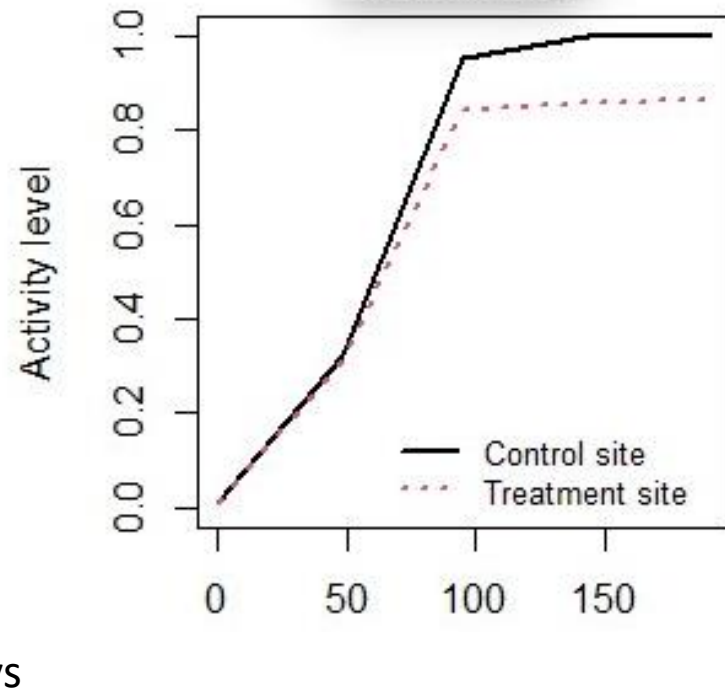
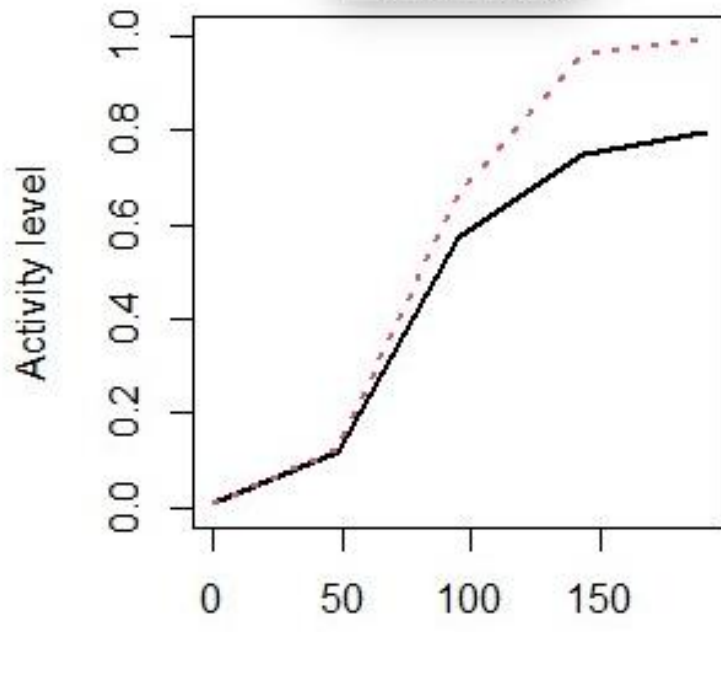
- Adaptive management experiment
- Contrast in the data to improve resolution
- Developed novel spatiotemporal dynamic occupancy model
- “What is the effect of baiting on predator activity and how does this effect attenuate with time since the bait deployment?”
- Inclusion of baiting attenuation allowed us to identify the length of time baiting was effective.
- Camera monitoring (BACI)

Modelled bait impacts



- Cat activity reduced by < 20% (50 days after baiting)
- 100 days post baiting this impact was negligible
- Foxes 94 – 99% reduction, 50 days post baiting
- 100 days later this effect was reduced to 20%
- The impact was dependent upon the starting activity levels
- At sites with high starting activity (ca. 0.9) — the reduction in activity was predicted to be less
- Extremely large confidence intervals for models involving feral cats, this reflects the rarity of detecting cats on camera

Recovery rate/ bait attenuation



Conclusions

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