

Assessing the temporal and spatial scale of the impact of a novel feral cat control method on cat activity

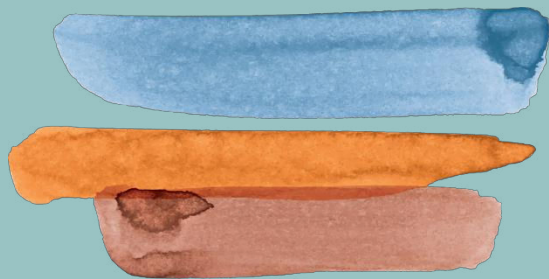
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Bush Heritage Australia



Acknowledgement of Country

We acknowledge the Traditional Owners of this unceded land. Both where we are meeting, the Whadjuk Noongar people, and where we work, the Malgana, Nanda, and Badimia peoples.

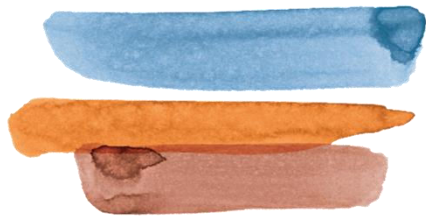
We pay respects to their Elders past, present and emerging, recognising that Traditional Owners throughout Australia have cared for this country sustainably for tens of thousands of years.



BUSH HERITAGE
AUSTRALIA

OUR VISION
HEALTHY COUNTRY, PROTECTED
FOREVER

OUR PURPOSE
TO RETURN THE BUSH TO GOOD
HEALTH



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Holistic approach to ecosystem restoration

- Work in connected landscapes
- Enhance ecosystem function
- Understand ecosystems and species we protect
- Grow populations of native species
- Reduce impacts of threats



Integrated management of introduced species

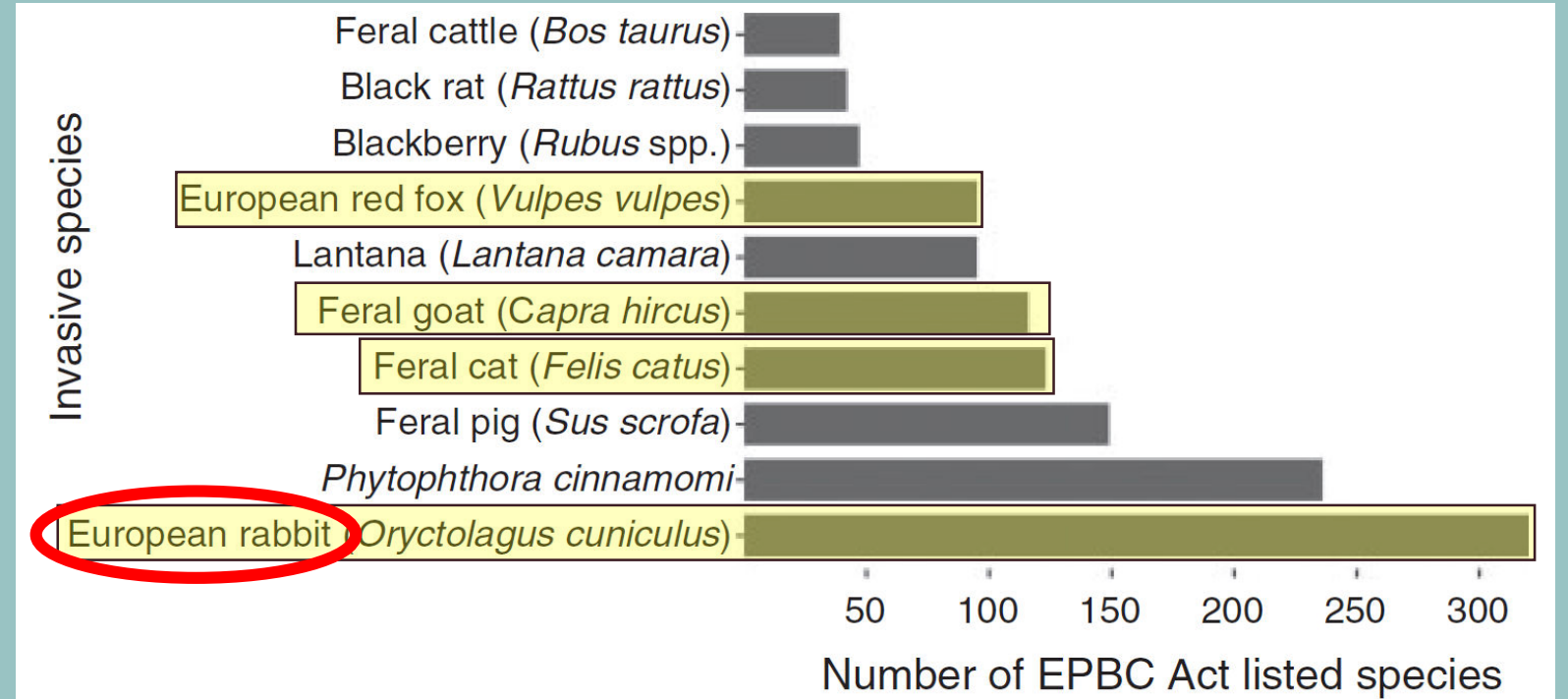
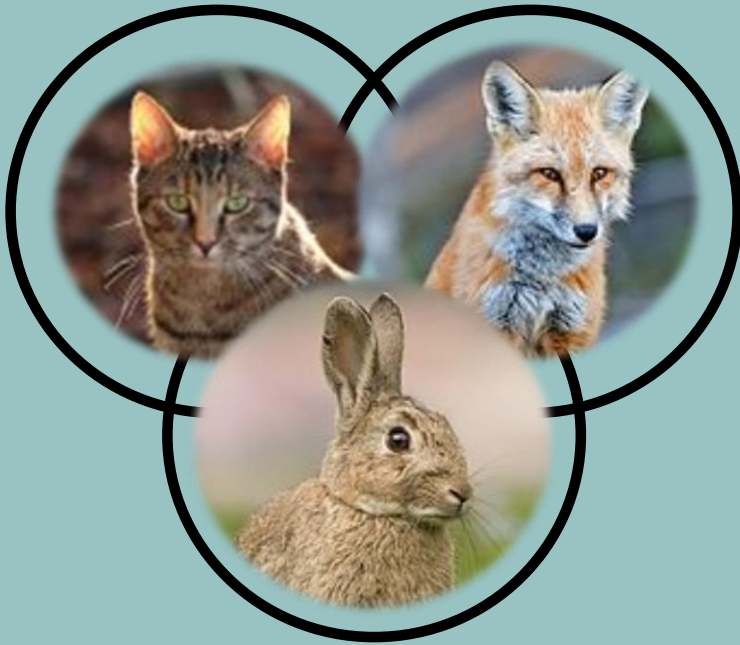
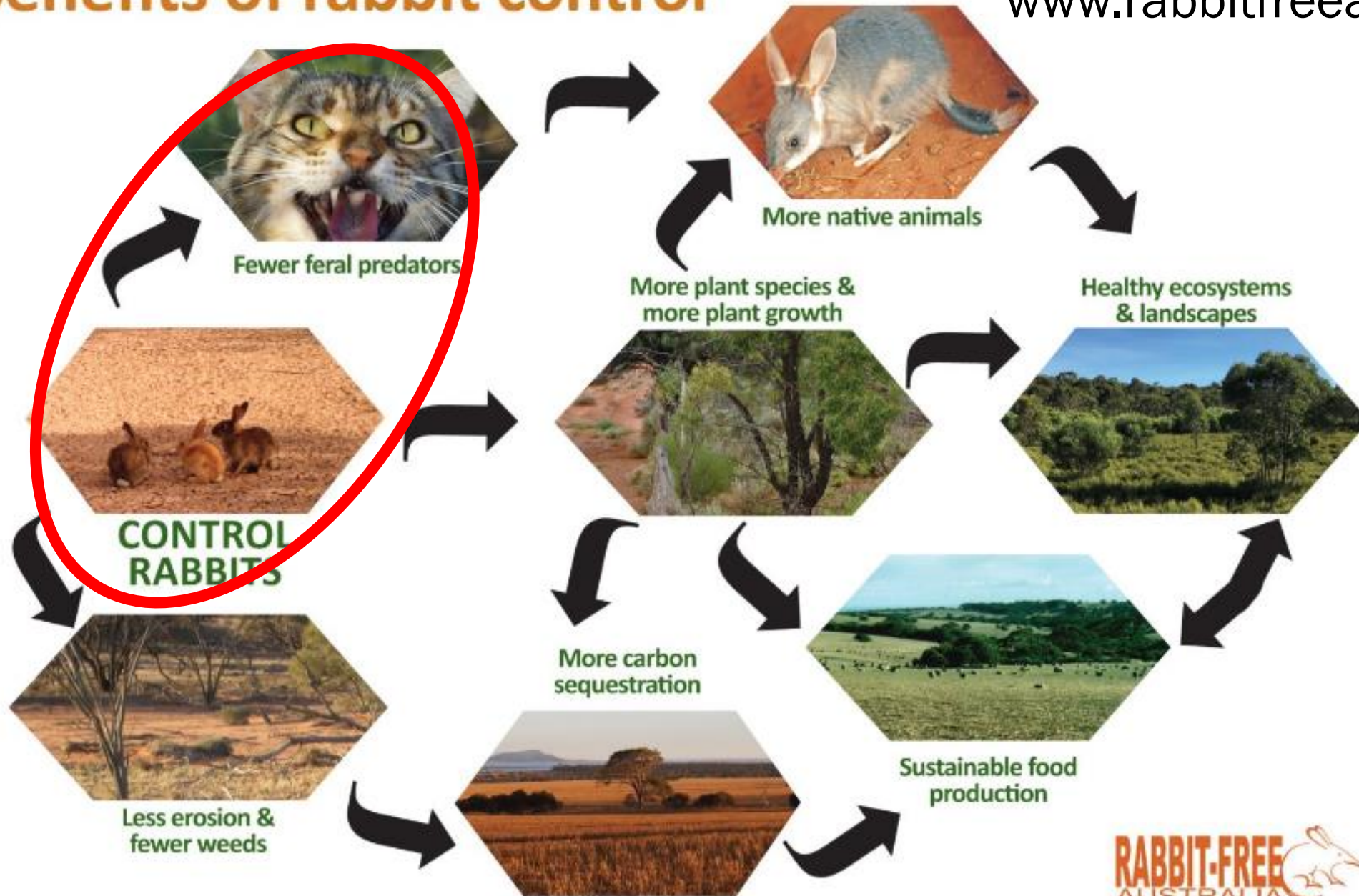


Fig. 3. The 10 invasive species listed as impacting the greatest number of EPBC Act-listed threatened taxa ($n = 1533$). From Kearney et al 2019

Benefits of rabbit control

www.rabbitfreeaustralia.org.au



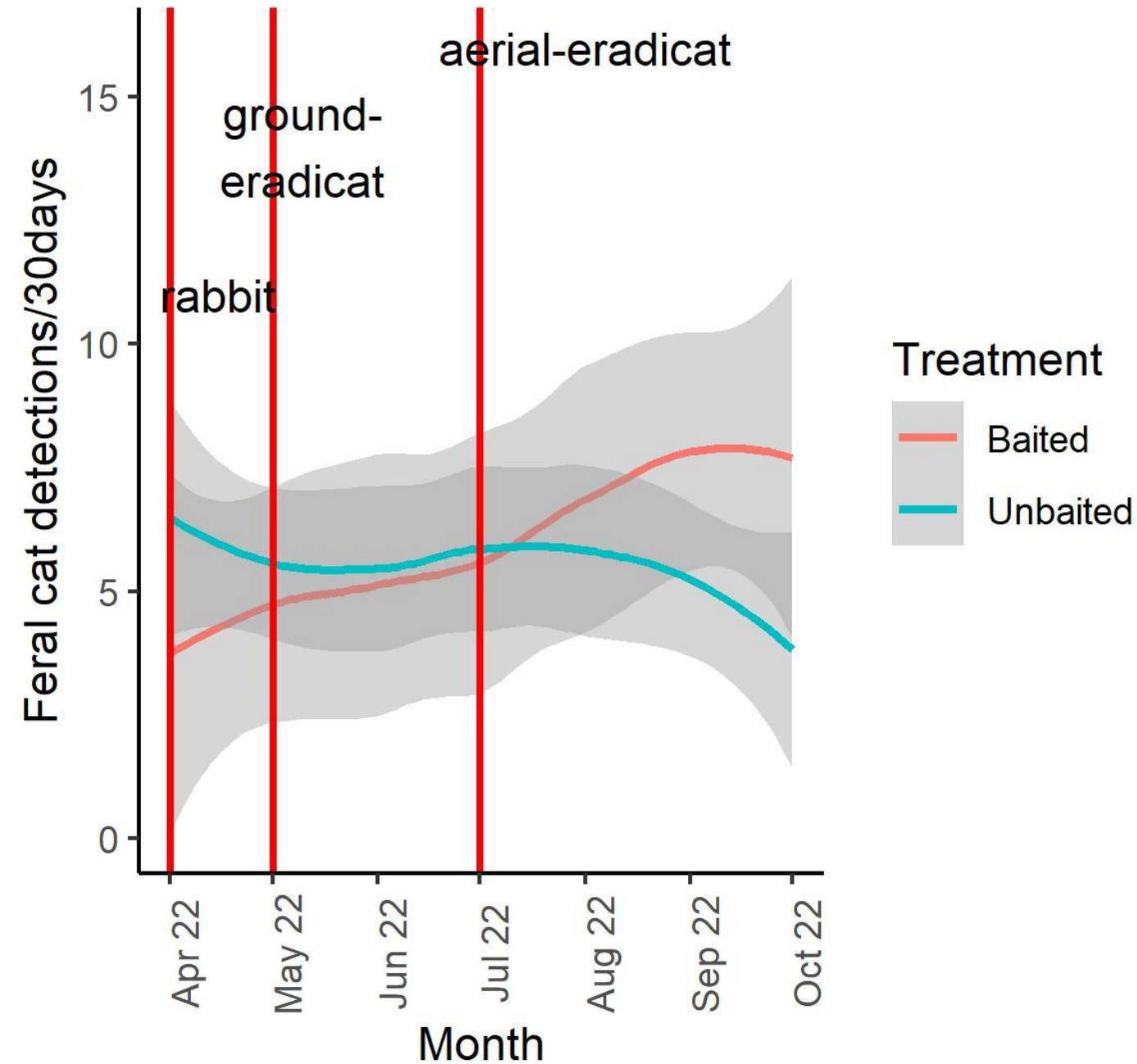


Toolkit to manage impacts of feral cats

Aim: To support thriving populations of native fauna

	Pros	Cons
Effective rabbit control	<ul style="list-style-type: none">• Support native fauna population growth by reducing rabbit impact on native vegetation that provides food & shelter• Reduce resources for cat breeding• Improve bait uptake by cats	<ul style="list-style-type: none">• Potential non-target impacts• Potentially labour intensive
Trapping & Shooting	<ul style="list-style-type: none">• Low non-target impacts (not all trap types)	<ul style="list-style-type: none">• Labour intensive• Low success with wary individuals
Lethal baiting	<ul style="list-style-type: none">• Landscape-scale	<ul style="list-style-type: none">• Non-target impacts• Low success with good hunters / abundant prey
Felixer grooming trap	<ul style="list-style-type: none">• Low non-target impacts	<ul style="list-style-type: none">• Costly• Local scale impacts
((Gene drive for rabbits & house mice?	<ul style="list-style-type: none">• <i>Low non-target impacts?</i>• <i>Biodiversity & agricultural benefits</i>	<ul style="list-style-type: none">• <i>Not yet developed, may not be feasible</i>))

Aerial eradicat at Eurardy Jul 2022



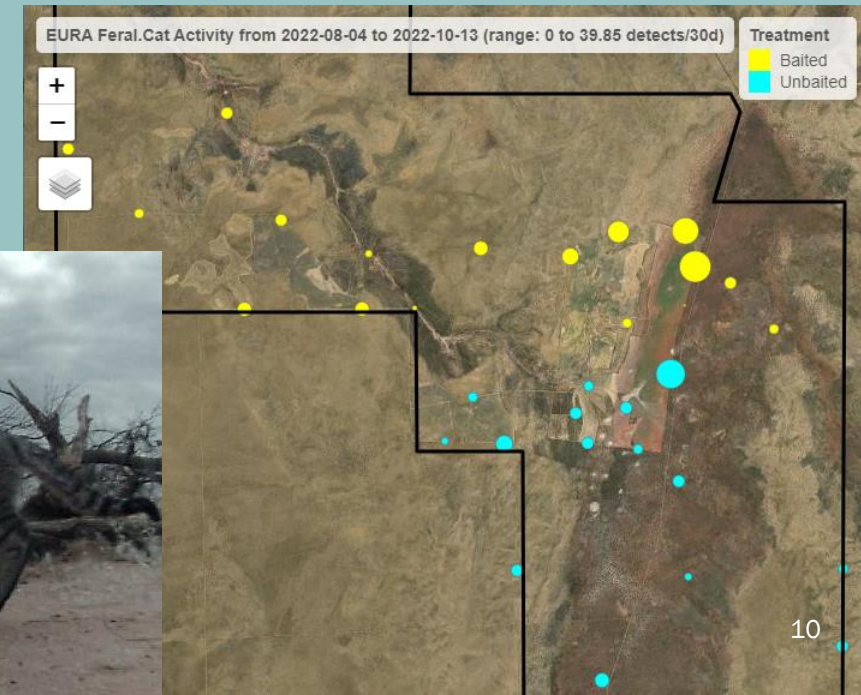
Aerial eradicat baiting trial

Eurardy Reserve, July 2022

- No reduction in cat activity
- (higher cat activity in **baited** area?)

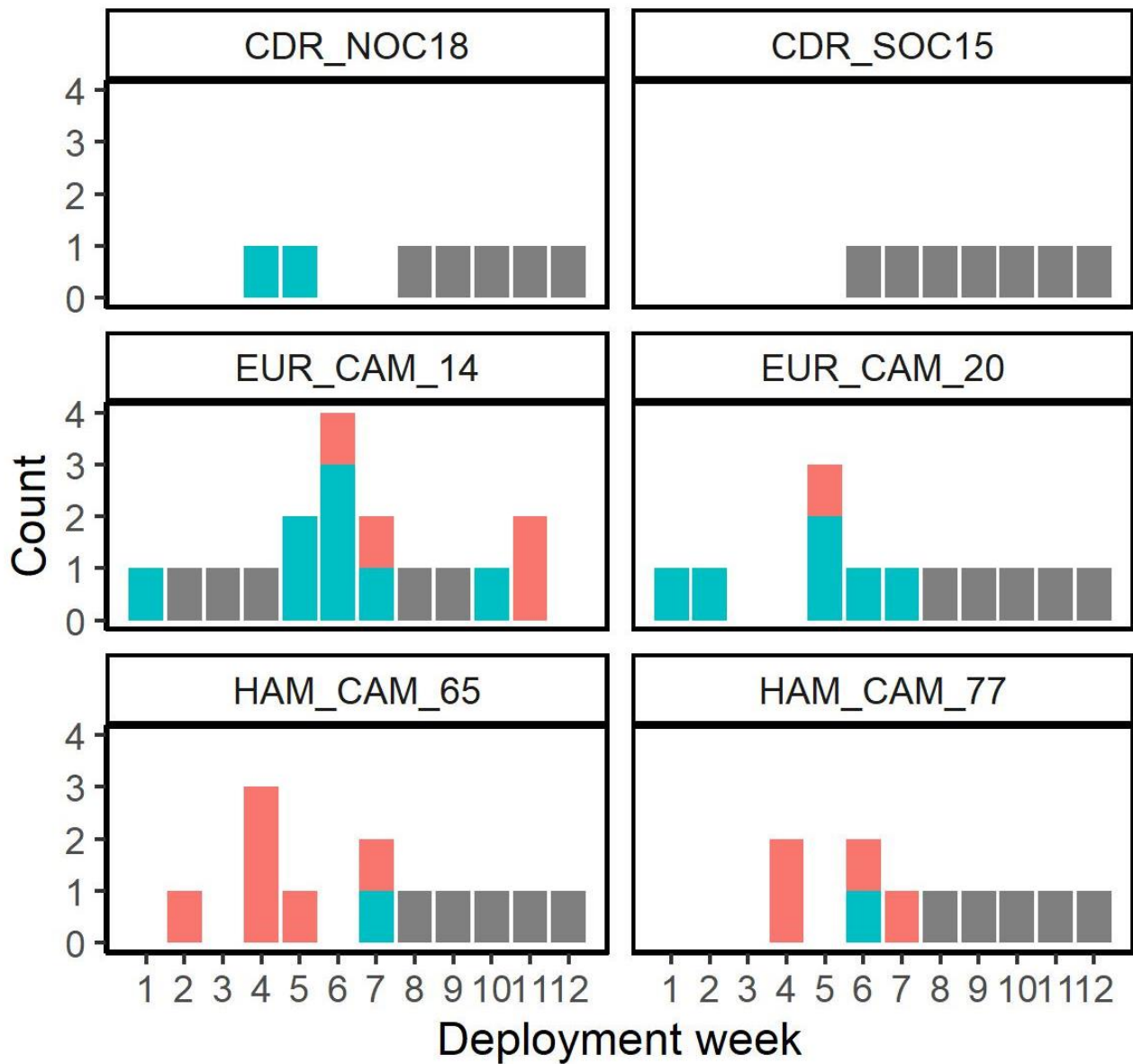
Felixer Grooming Trap

- Costly, but less labour intensive than traditional trapping and shooting
- More target-specific than traditional baiting
- Twelve months to complete rigorous risk assessment and permit process
- Hotspots of feral cat activity identified by network of monitoring cameras
- Monitoring cameras to assess Before-After impact



How many feral cats were recognised as targets - photo trials?

15 (45% of 33 detections)

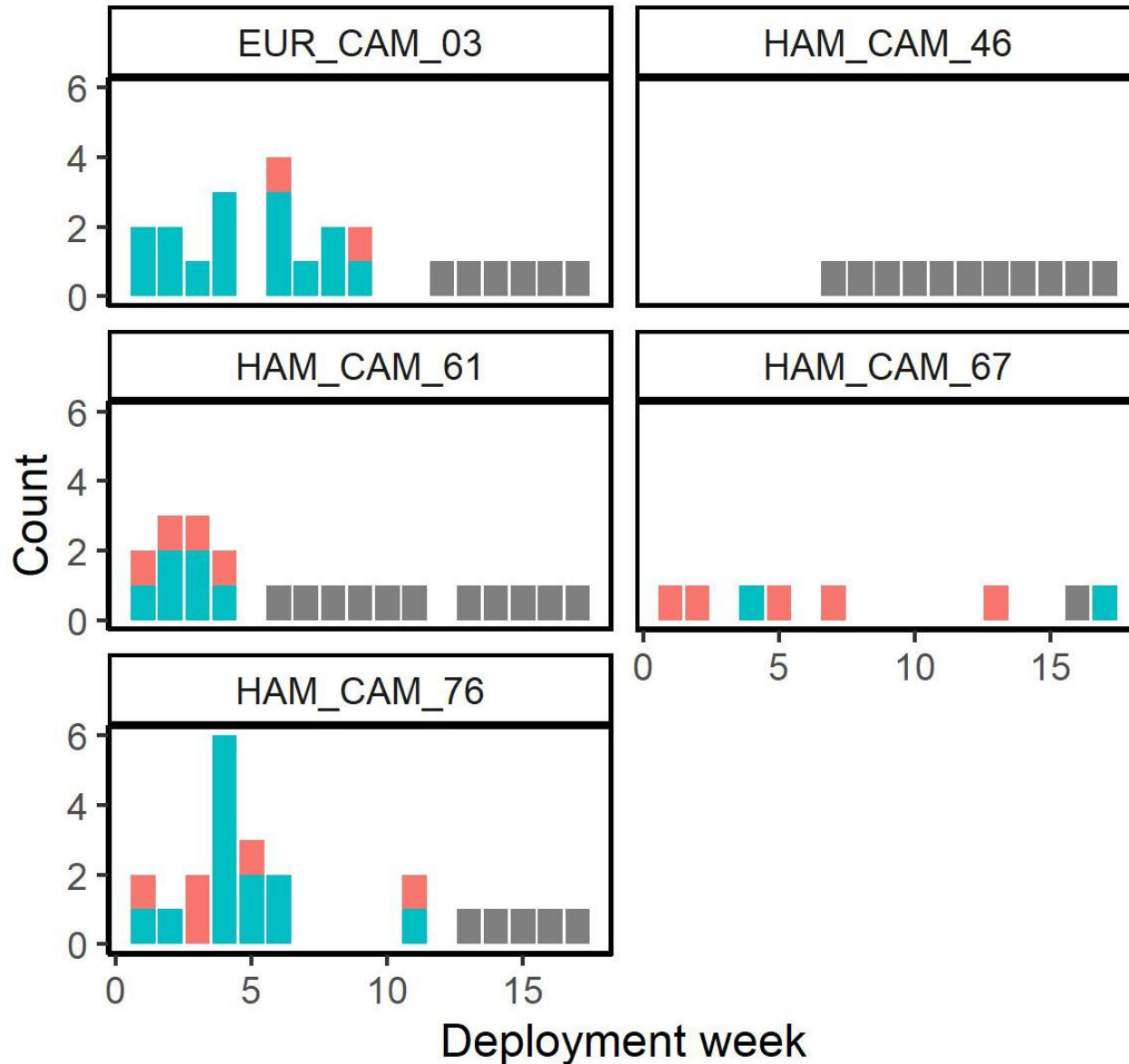


Target
■ yes
■ no
■ NA



How many feral cats were recognised as targets - live?

16 (31% of 52 detections)



What 'non-target' impacts?

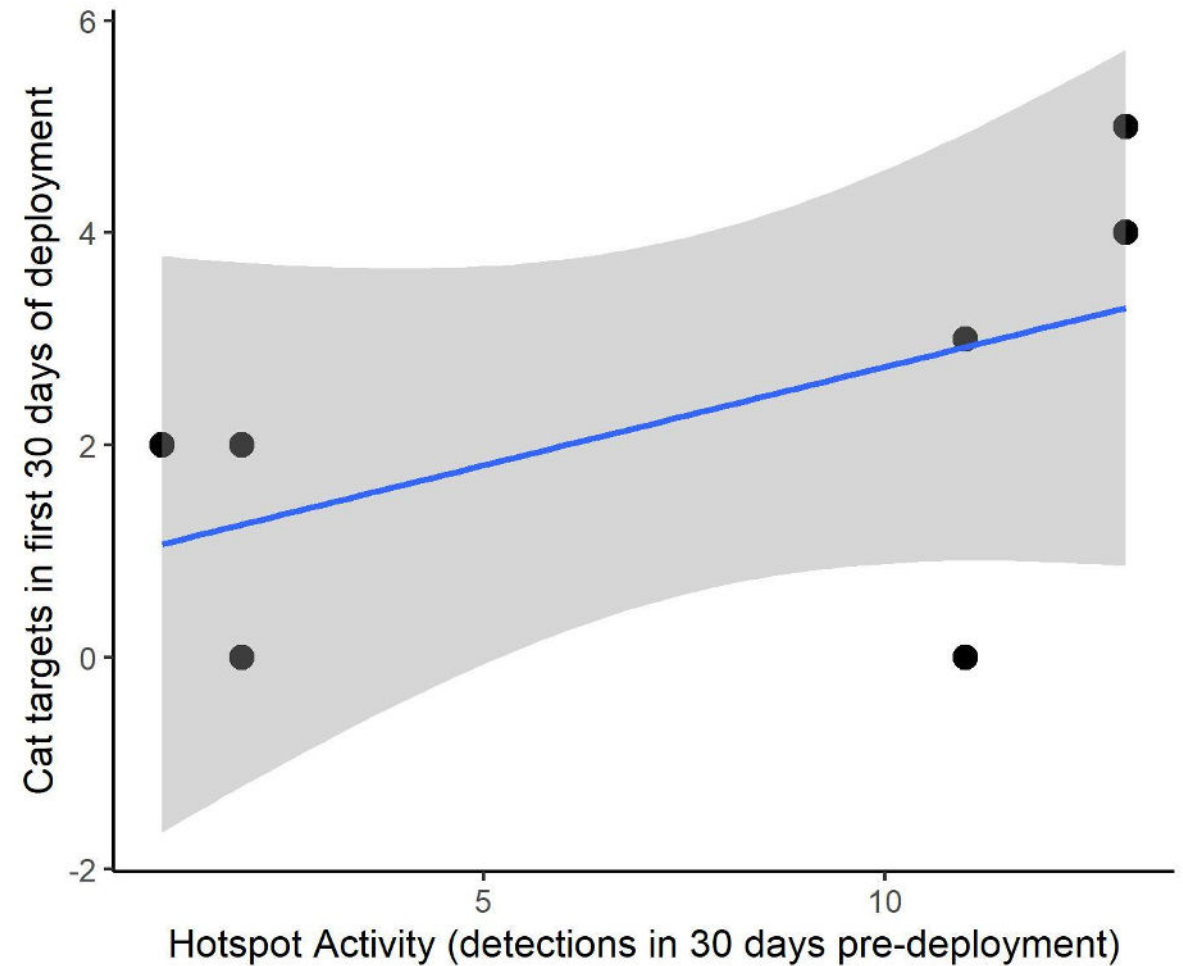
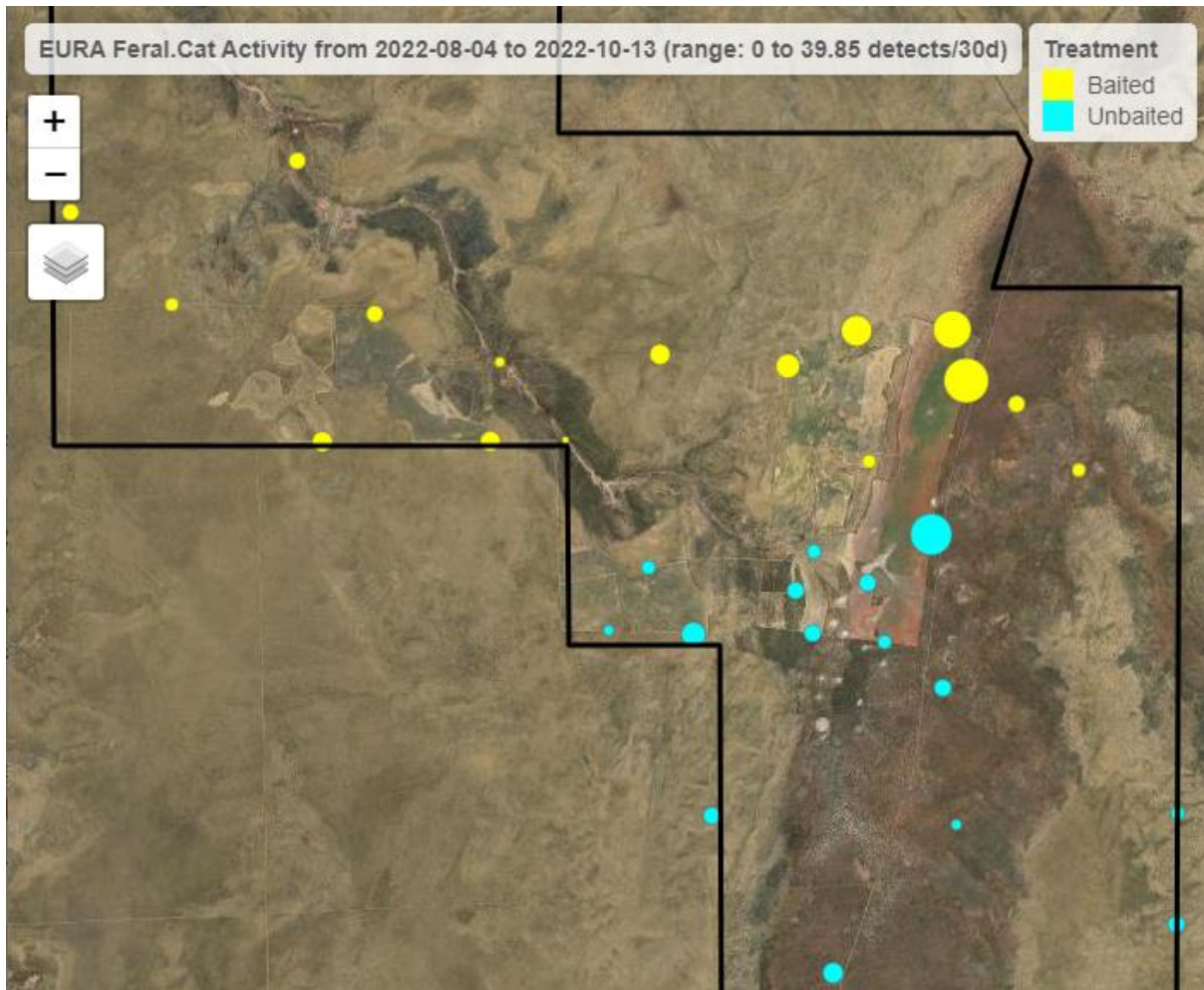
Species consistent with previous studies:

- 1 Fox (12.5% of 8 detections) sensitive to 1080
- 5 Dingo (29% of 17 detections) sensitive to 1080
- 1 Malleefowl (25% of 4 detections) resistant to 1080

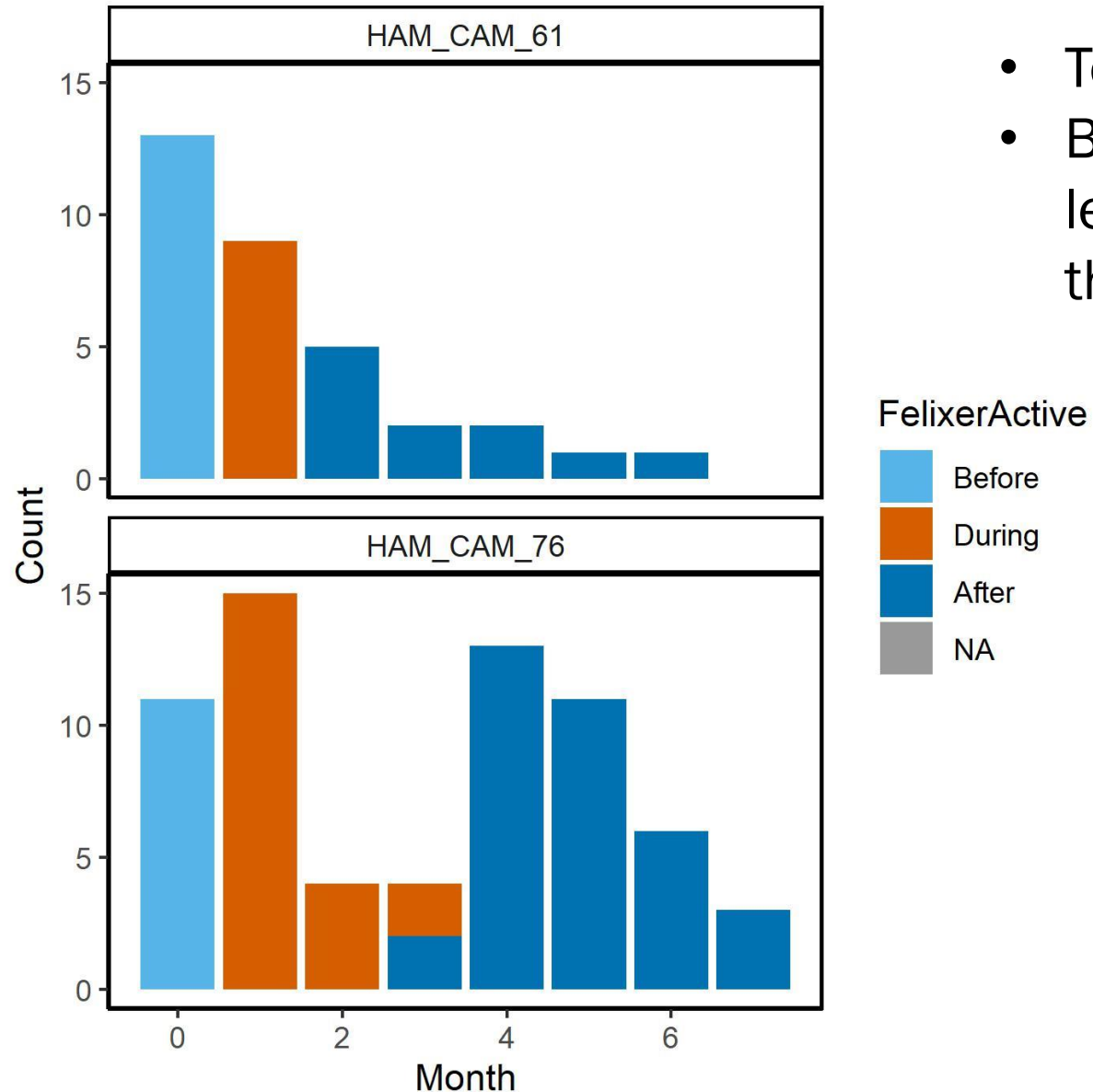


Is targeting 'hotspots' of feral cat activity worthwhile?

Too early to tell...



Do Felixer deployments reduce feral cat activity?



- Too early to tell
- Before-After comparison suggests at least some sites rebound immediately the deployment ends

Next steps

- How often does cat activity rebound as soon as the deployment ends?
 - Before-After comparisons for more deployments
- What is the spatial extent of the impacts?
 - Test for impacts at adjacent monitoring cameras
- Is impact of management detectable in context of natural seasonal changes?
 - Compare Before-After changes at sites with and without Felixers (full Before-After Control-Impact (BACI) experimental design, replicated in multiple deployments)

Acknowledgements

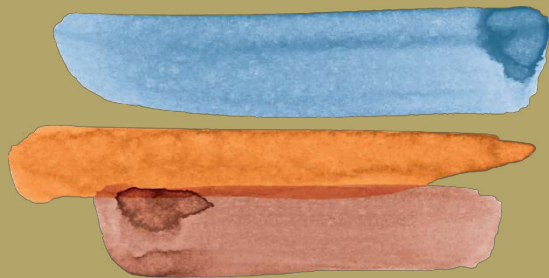
Bush Heritage donors and volunteers

Bush Heritage staff

NACC funding

DBCA aerial eradication baiting

Atlas of Living Australia & Australian Museum: Digivol & volunteer citizen scientists



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Thank you!



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