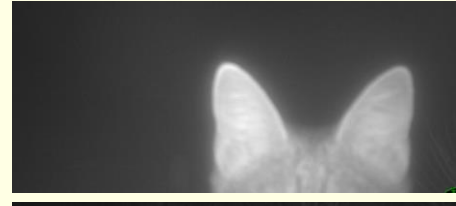


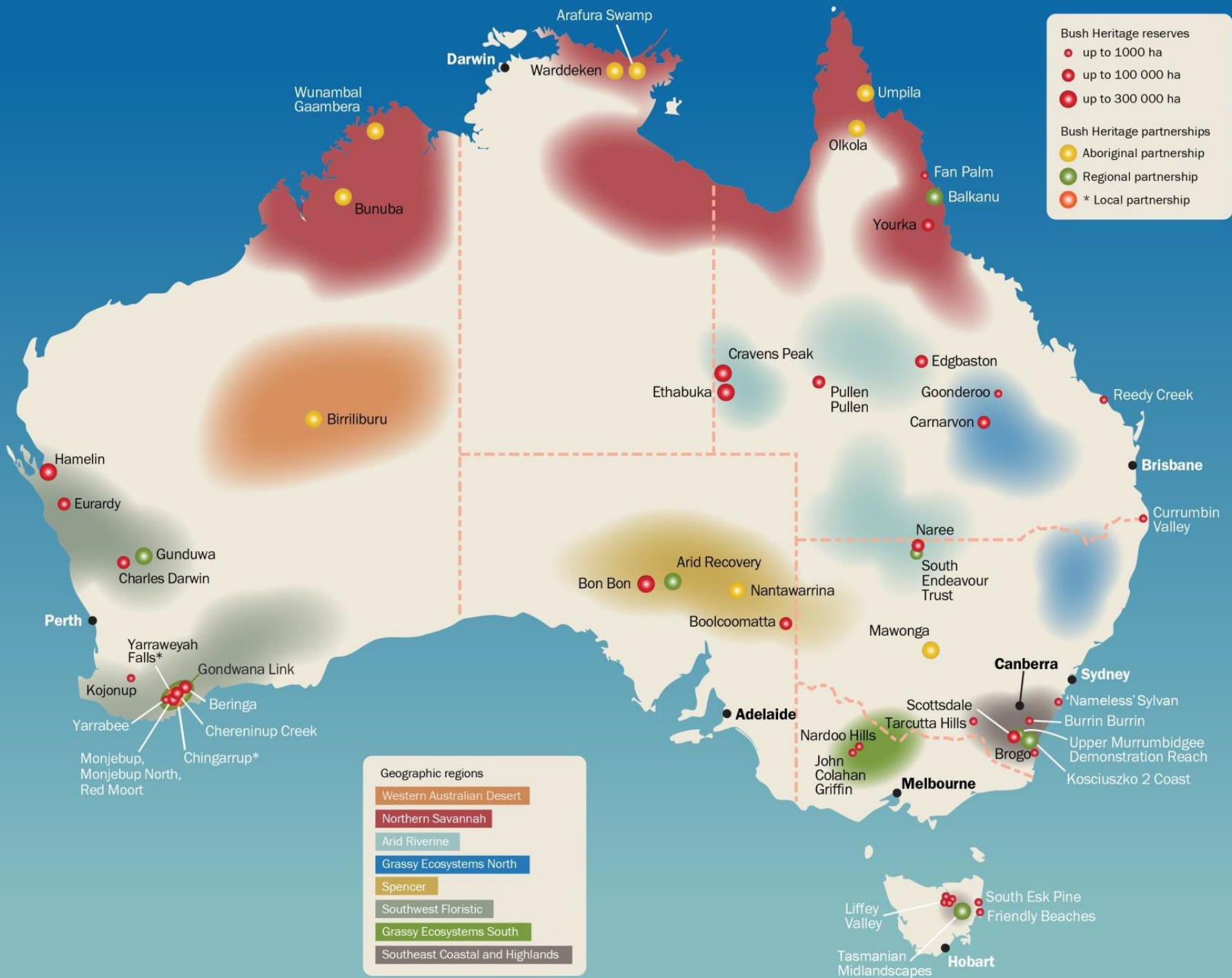
# Bush Heritage Australia: Tackling the threat of feral cats



Vanessa Westcott

May 2018





# National efforts

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## 13 research projects:

- GPS collars
- Habitat partitioning
- Stomach contents
- Lure trials

## 55 monitoring programs:

- Sand pads
- Motion sensor cameras (23)
- Spotlighting
- Cat detector dogs

## 26 control programs:

- Shooting
- Felixer (grooming traps)
- Trapping
- Baiting



Felixer  
(grooming  
trap) trials,  
Qld



Cat  
detection  
dog, Qld



Sand pad  
monitoring,  
WA

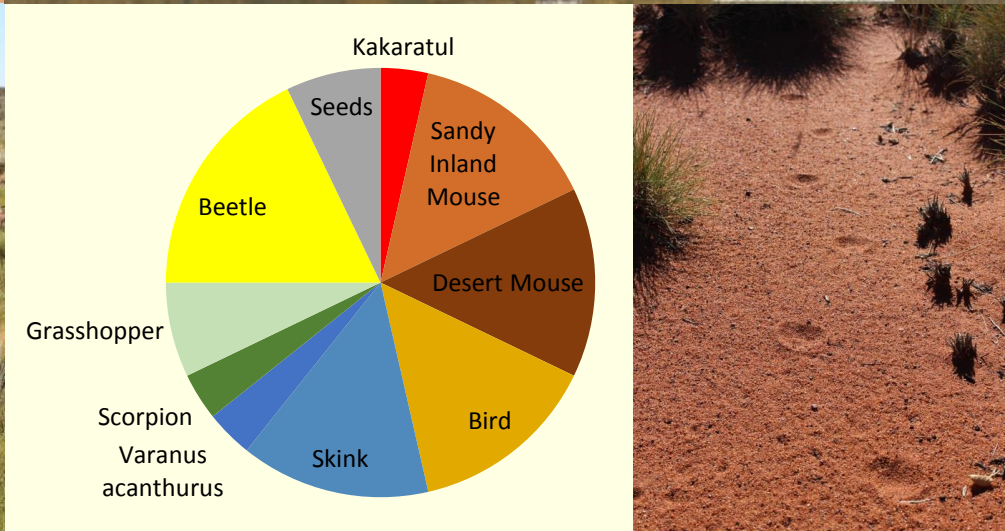


Birriliburu Indigenous Protected Area



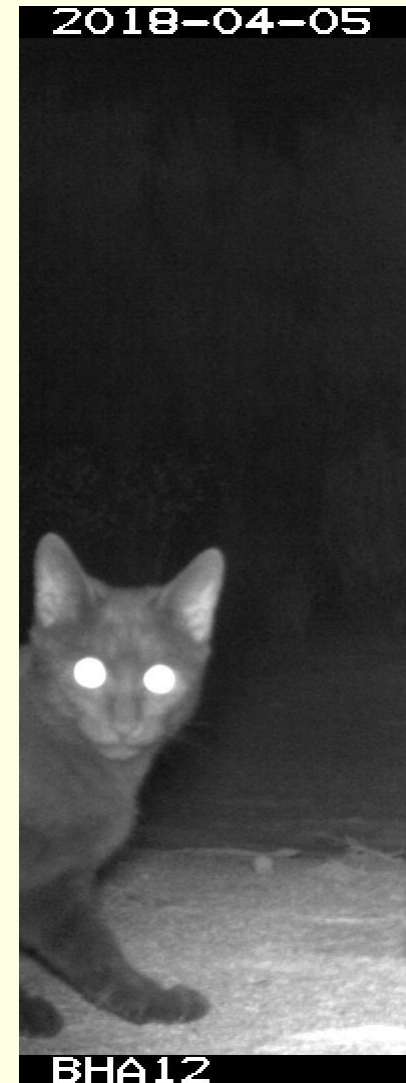
Mungarlu  
Ngurrarankatja  
Rirraunkaja

(Aboriginal Corporation) RNTBC

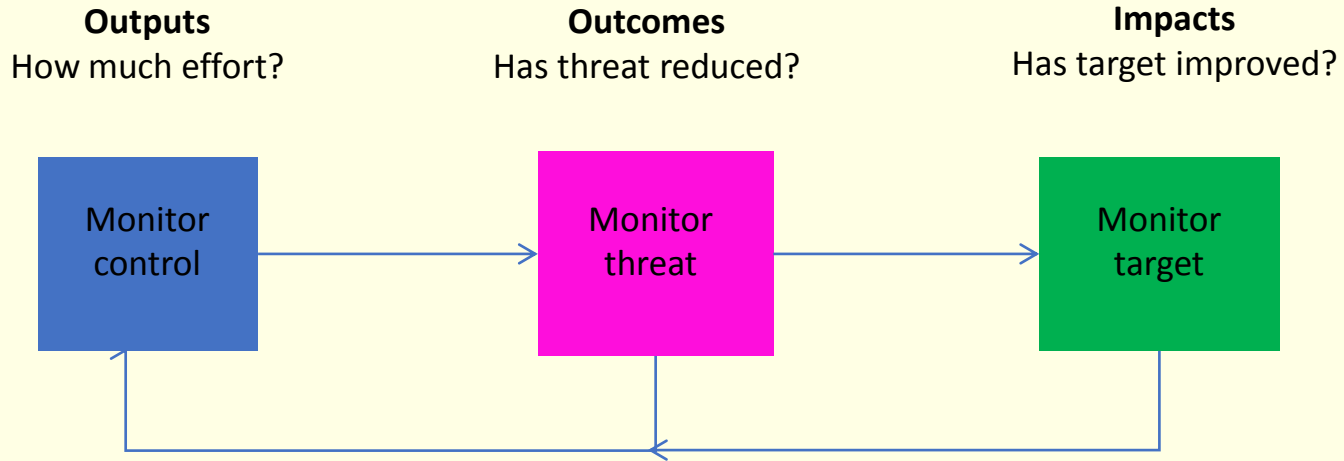


# Bush Heritage approach to feral cat programs

- Ethical
- Good science
- Targeted – space + time
- Landscape-scale solutions
- Protecting wild populations
- Building resilience + tolerance
- Benefits beyond our borders
- Long-term commitment
- Adaptive management



# Adaptive Management: Types of monitoring

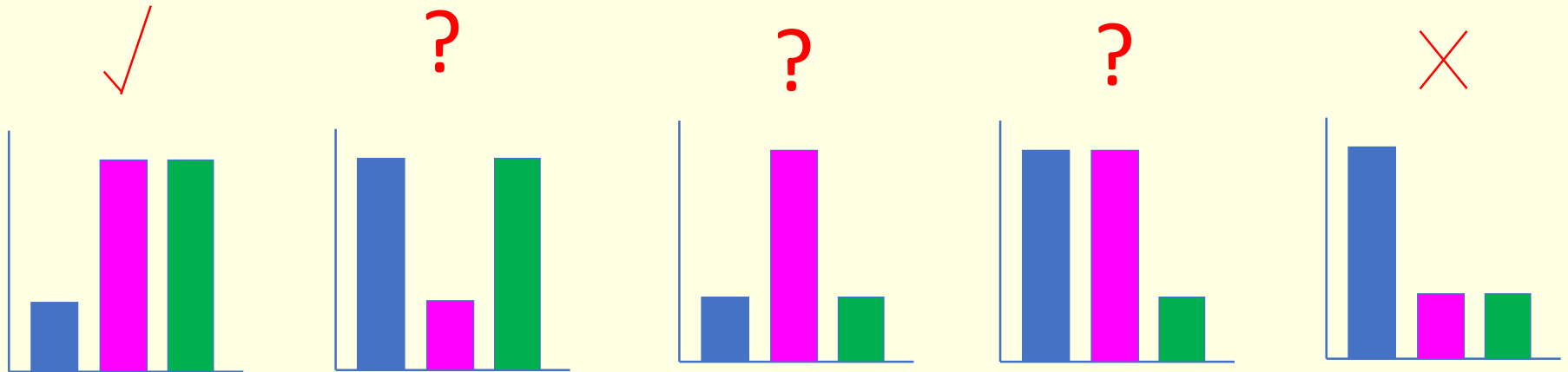
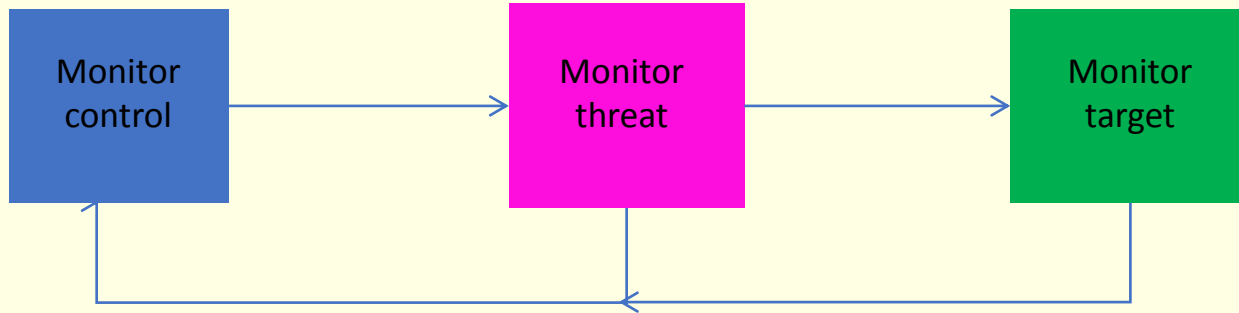


# Adaptive Management: Types of monitoring

**Outputs**  
How much effort?

**Outcomes**  
Has threat reduced?

**Impacts**  
Has target improved?



# Outputs: Eradicat baiting

- ECU, Tim Doherty PhD project
- Baited v unbaited
- Bait preparation: sweating, insecticide
- Baiting weather: dry conditions
- Bait deployment: tracks, 1 per 100 m
- Measure:
  - km of track baited
  - days of staff time



**Baiting**

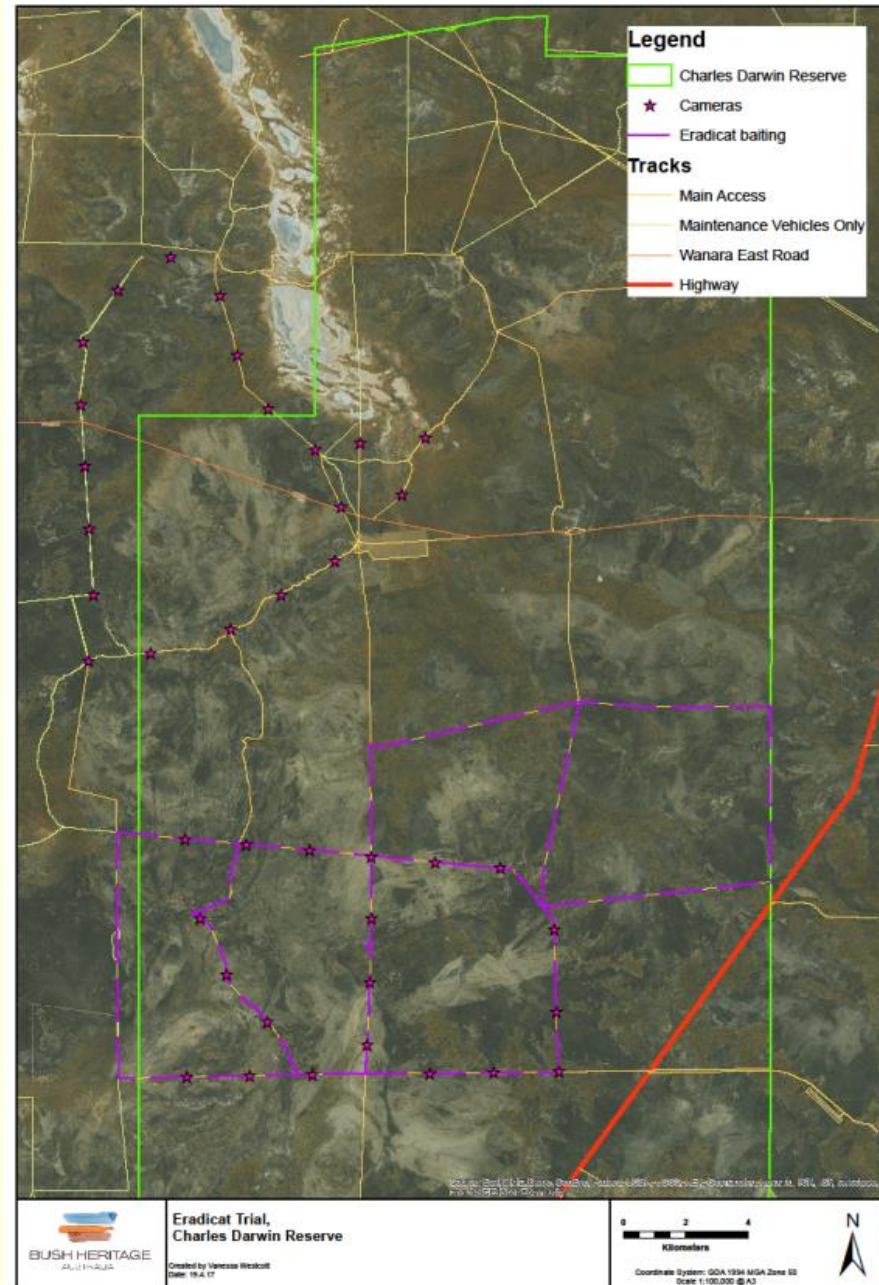
Year	Season
2013	Spring
2014	Autumn
2015	Autumn
2016	Autumn
2017	Autumn
2018	Autumn





# Outcome: Cat activity

- Monitoring:
  - Cameras: 1 month pre- and post-baiting
  - Lures: chicken wings
- Measure:
  - Cat (+fox) activity - motion sensor cameras
- Analysis:
  - BACI (Before, After, Control, Impact)



# Feral cat activity = high



2 nights

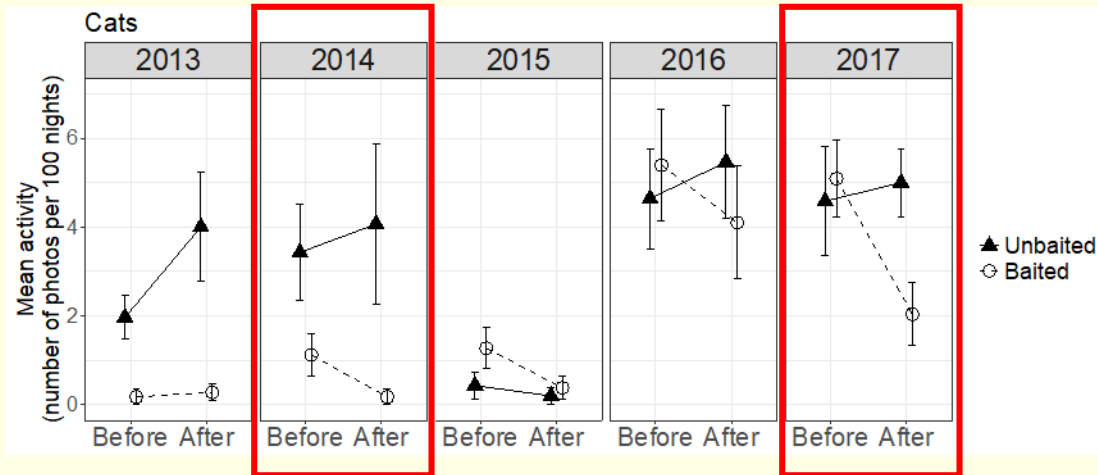
# Feral cat activity = high



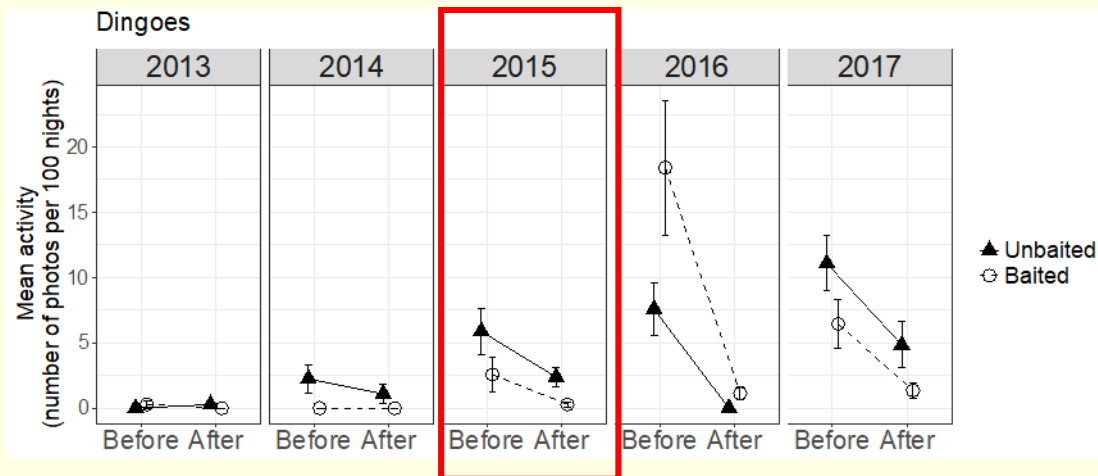
2 nights



6 nights



2016		2017	
Pre-baiting	Post-baiting	Pre-baiting	Post-baiting
62.5%	60%	70%	65%



**Activity of cats and dingoes before and after baiting in the baited (south) and unbaited (north) areas, Charles Darwin Reserve.**



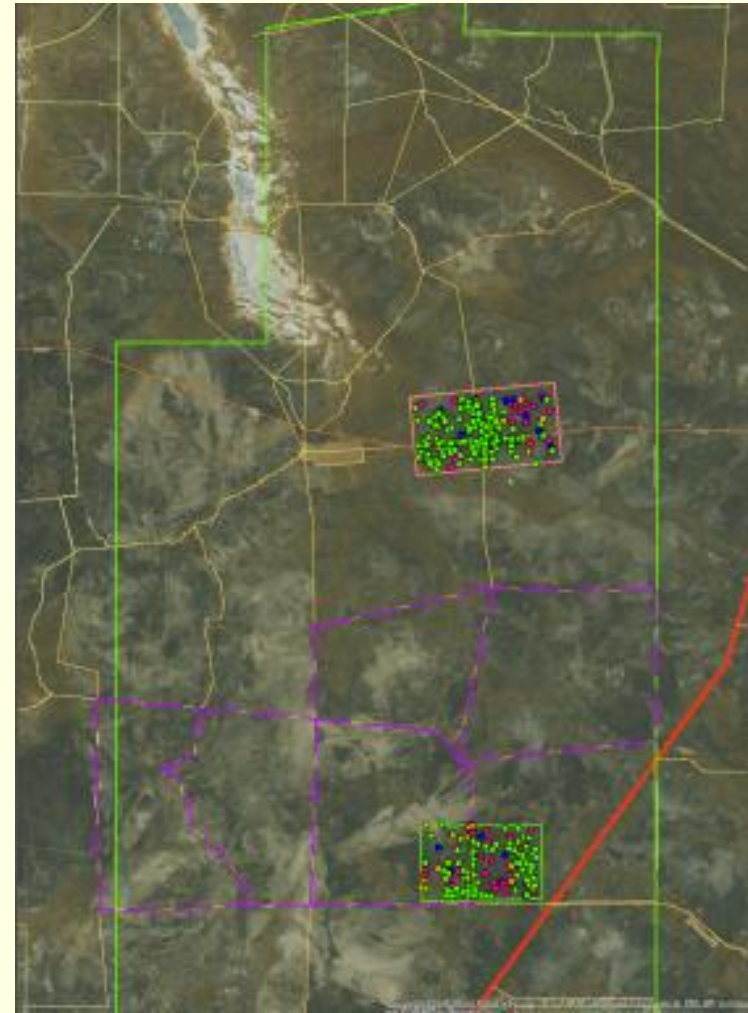
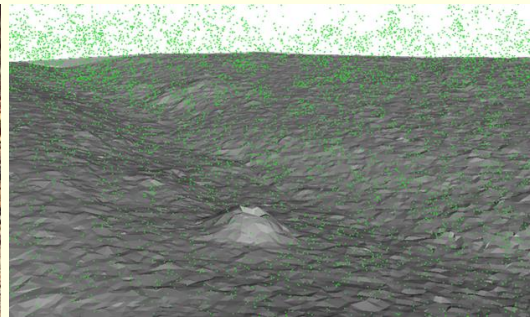
# Impacts: Native fauna activity

- Monitoring in baited + unbaited areas:
  - Malleefowl mounds – annual
  - Pitfall trapping – annual
- Measures:
  - Malleefowl mound activity
  - Small mammal + reptile richness and activity
- Analysis:
  - Change through time, comparison between baited and unbaited



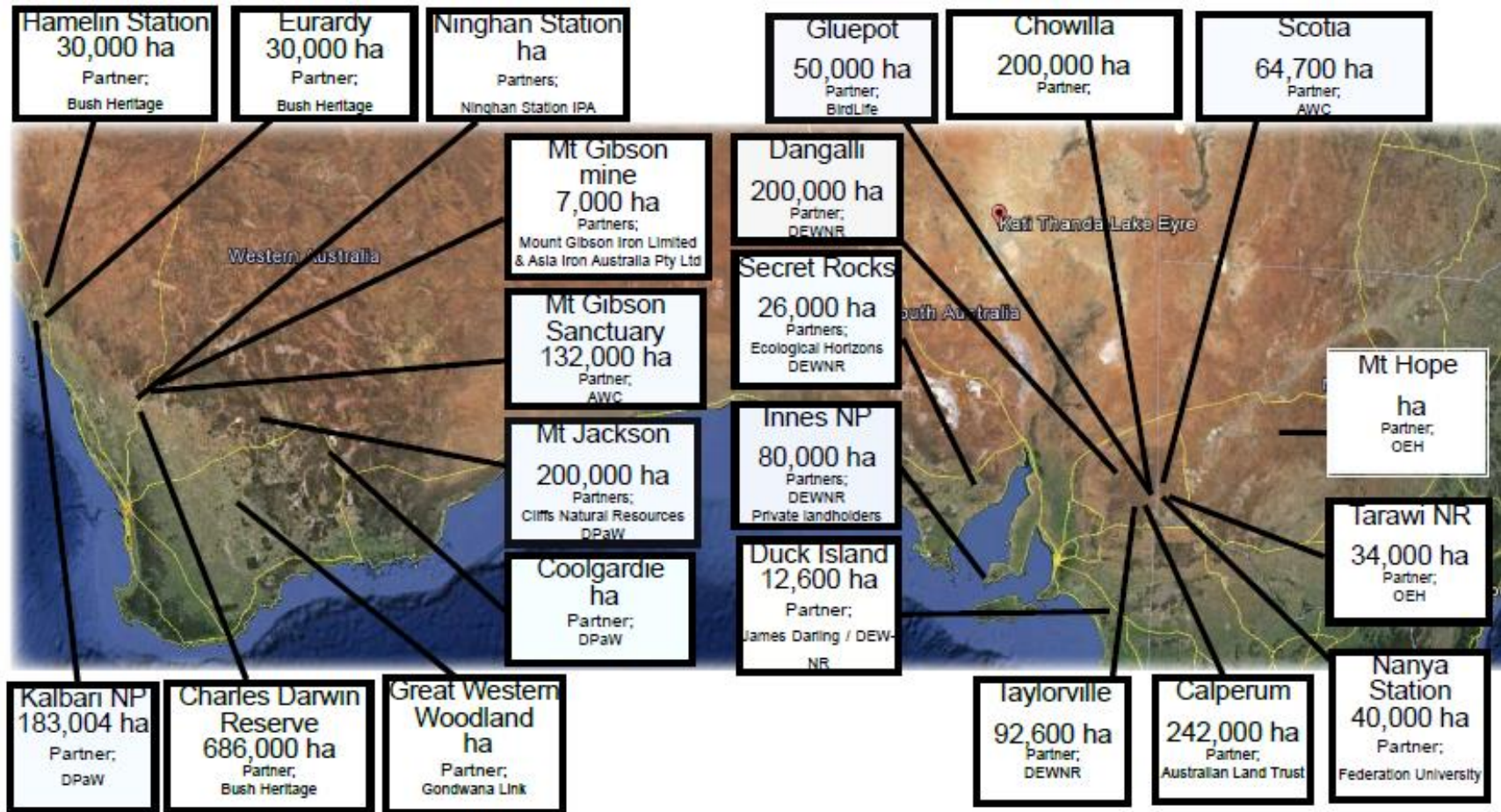
# Malleefowl monitoring

- LiDAR = Light Detection and Ranging, a remote sensing method that uses light (pulsed laser) to measure ranges (variable distances) to the Earth
- Found 80 new mounds to monitor each year



Source: Anditi

# National Adaptive Management Malleefowl Project



NATIONAL  
**Malleefowl**  
RECOVERY TEAM



National Environmental Science Programme



THE UNIVERSITY OF  
MELBOURNE



# Adaptive management

## OUTPUTS

Baiting



Bait density?  
Once a year only?  
Non-target uptake?

## OUTCOMES

Camera monitoring of cat activity



Cameras for 1 month  
before + after enough?

## IMPACTS

Monitoring of native fauna



Enough pitfall trap nights  
per season?

2018-04-13 2:25:46 AM M 1/3 11°C



BHA033



2018-04-30 2:37:27 AM M 2/3 11°C



BHA002



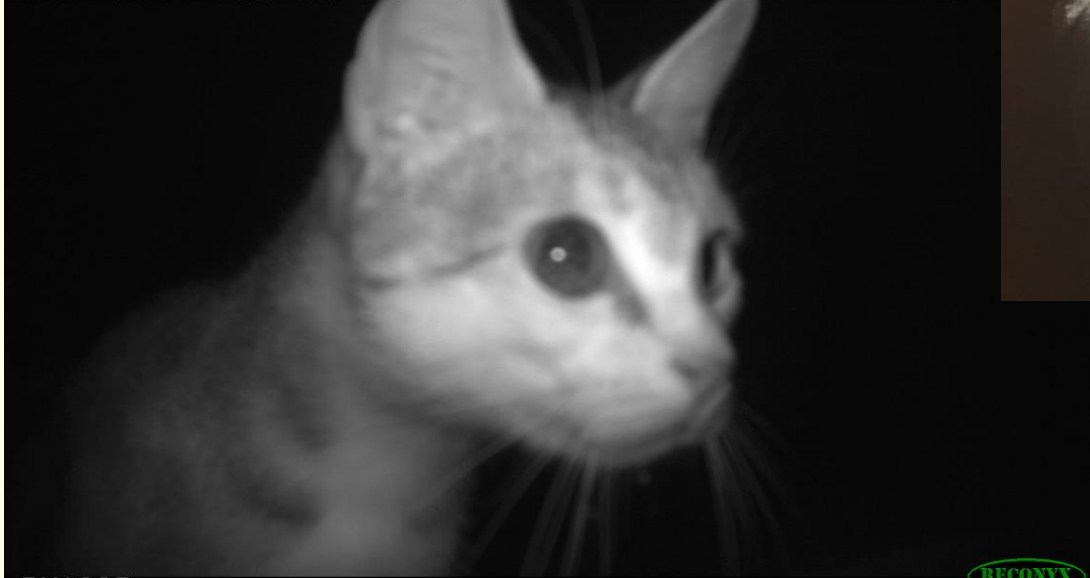
2018-04-13 2:25:46 AM M 1/3 11°C



BHA033

RECONYX

2018-04-30 2:37:27 AM M 2/3



BHA002

RECONYX









# Thank you



Eurardy Reserve

Photos taken by Ben Parkhurst



**BUSH HERITAGE**  
AUSTRALIA





# Pitfall trapping

Treatment	No. of pitfall sites	Year of spring survey					
		2012	2013	2014	2015	2016	2017
Baited	7	x	x		x	x	x
Unbaited	7	x	x		x	x	x

