

Ecology of Dingoes from a mine site in the Cooper Basin, South Australia



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CENTRE FOR
INVASIVE SPECIES SOLUTIONS



Australian Government
Department of Agriculture
and Water Resources

Cooper Basin Mine Site

- Overabundance of dogs
- Human-animal issues
- Mange
- Environmental responsibility to control numbers
- Poor baiting programs
- Existing research interests



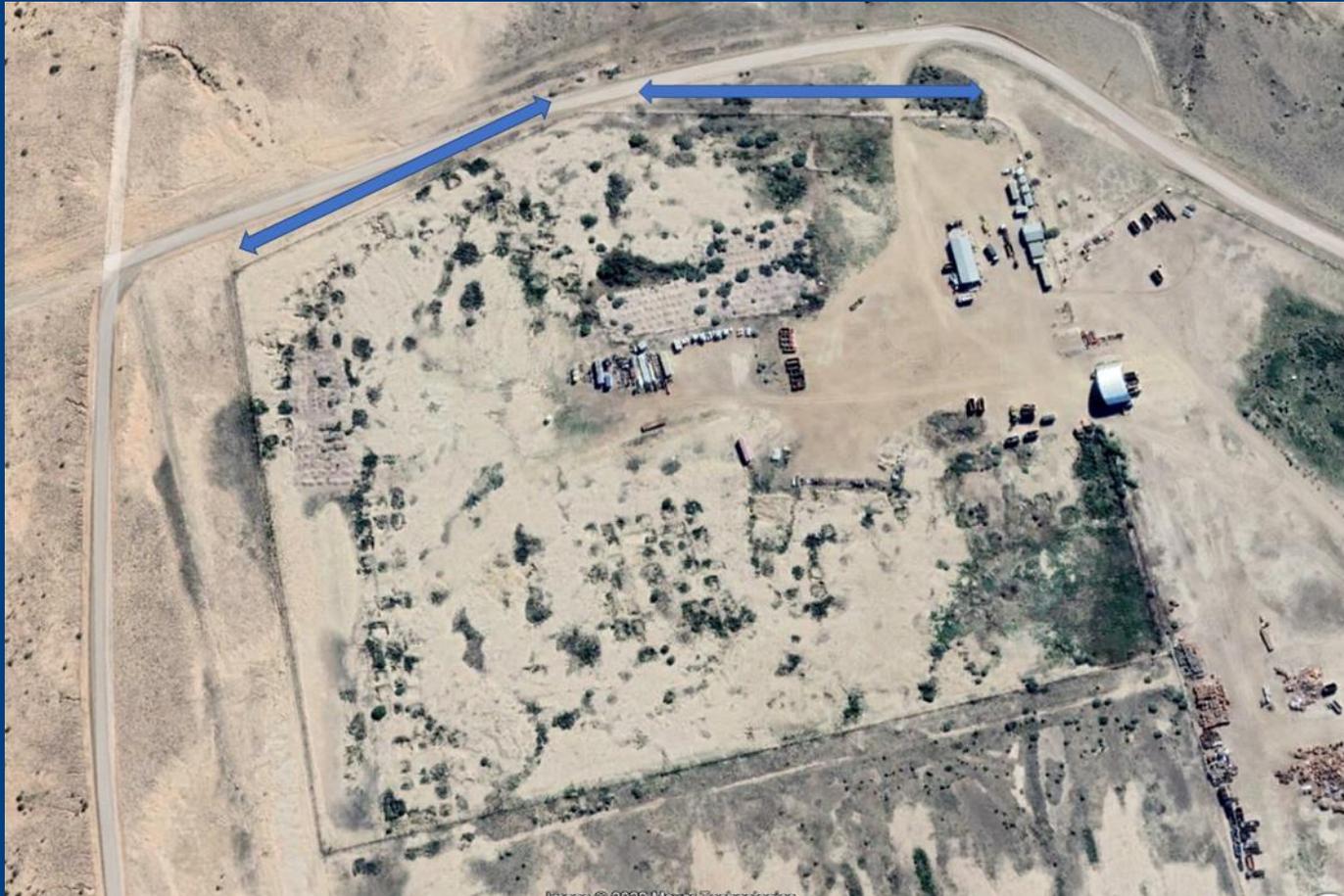
Project Objectives

- Gain an understanding of how dingoes use the mine site landscape
- Calculate activity area/home range so we can define the planning area scale
- Monitor activity at the waste management facility
- Evaluate anthropogenic food and resource benefits for dingoes
- Help overcome the management issues of too many dingoes

Habitat



Waste Management Facility



Methods – Capture & Handling

- Victor #3
- Ketch pole
- Processing board
- Hirudoid crème
- Morphology measurements
- Ear tag and DNA
- Collar fitting



That's me
setting a trap

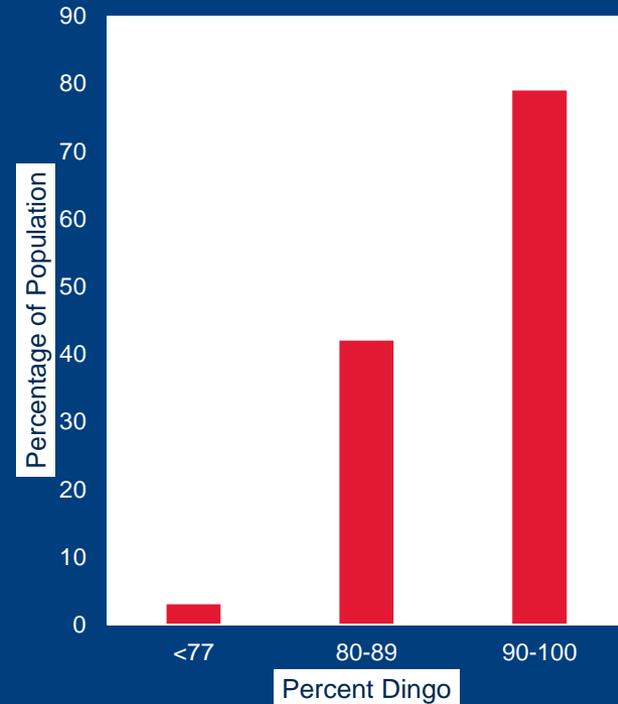


That's the dog I'm
trapping

Dingo Population 2015-20

Table 1. Coat morphology of Cooper Basin dingoes trapped between 2015-20.

Coat Colour	Number	Percentage
White	7	4%
Brindle	11	6%
Black/Black and Tan	19	10%
Ginger	144	80%
Total	181	



GPS Collaring

- 27 LOTEK collars
- Time Release Drop-offs
- Portal upload – real time



Safety



Happy Days !!



Methods - Camera Trapping

- 90 camera traps set around the mine site
- Camera trap placed on rubbish tip pit



Results – Home Range/Activity Area

- MCP 95%
- UD 95%
- Range 7 - 2526 Km²

Table 2. GPS tracking statistics and activity area analysis of 27 dingoes in the Cooper Basin, Strzelecki Desert, South Australia.

Name	Sex	Number of Fixes	Number of Days Collared	Minimum Convex Polygon 95% (Km2)	Utilisation Distribution 95% (Km2)	Brownian Bridge Kernel 95% (Km2)
Desert Dingoes						
Julie	Female	16607	252	800.0	588.9	335.3
Holly	Female	17047	253	740.8	807.3	124.4
Dozer	Male	17364	340	2400.2	2526.1	1078.0
Sunny	Male	16666	131	1830.6	1250.6	525.3
Jamo	Male	18101	171	1470.6	902.4	500.5
Sarge	Male	18580	280	801.9	741.1	489.7
RikMan	Male	18845	338	703.1	677.5	403.4
Yuley	Male	8909	29	510.6	1014.5	NA
Peripatetic Dingoes						
CeeCee	Male	17373	341	485.7	211.9	238.1
Durian	Male	17448	341	359.8	166.4	249.0
Clearasil	Male	9984	225	339.5	313.6	259.1
Hurricane	Male	17423	340	271.4	258.5	234.3
Shauno	Male	17331	341	232.0	123.3	229.2
Leonardo	Male	17075	246	115.6	74.2	267.8
Tip Dingoes						
Mooka	Female	16536	131	230.5	212.1	86.7
Demelza	Female	10237	167	90.1	50.5	71.3
Mabel	Female	16561	133	64.5	61.0	39.4
Shadow	Female	16460	125	58.2	34.2	20.4
Heather	Female	17275	347	17.4	11.5	16.3
Bernie	Male	18376	229	94.9	58.5	82.5
MickTaylor	Male	16558	106	66.4	31.4	21.9
Ibrahim	Male	5029	18	62.6	99.6	17.8
Wesley	Male	9975	154	31.1	16.7	19.5
Hun	Male	16955	218	21.8	13.4	16.4
Obsidian	Male	3536	13	19.3	15.0	7.0
Capybara	Male	16433	133	16.3	18.1	25.0
Schwob	Male	16305	130	9.0	7.4	NA

Results – Dog type

- Three dog groupings based on visitation to the WMF and home range size
 - Tip dogs
 - Peripatetic dogs
 - Desert dogs

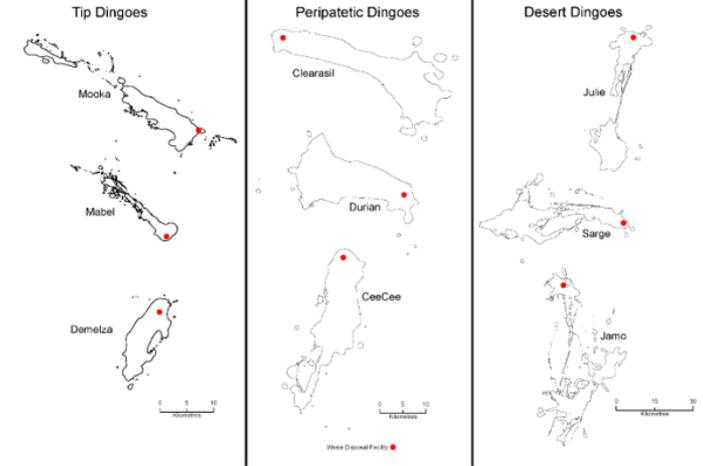


Figure 2. Activity areas of representatives of three dingo groups (tip, peripatetic and desert dingoes) using Brownian Bridge 95% analysis to calculate activity areas in the Cooper Basin. Red dots represent the mine WMF.

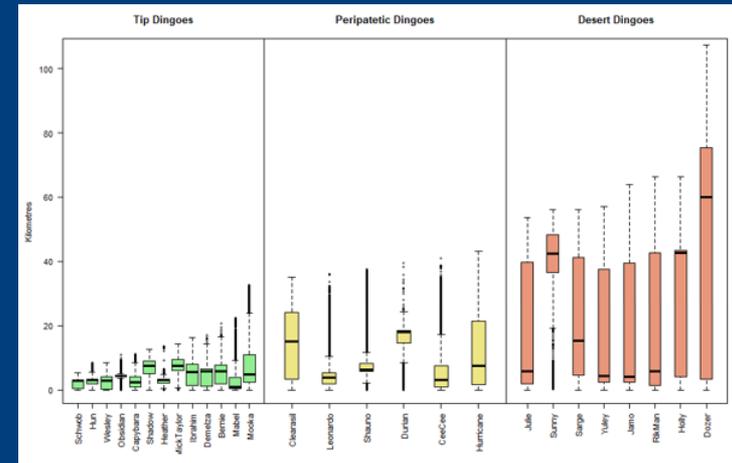
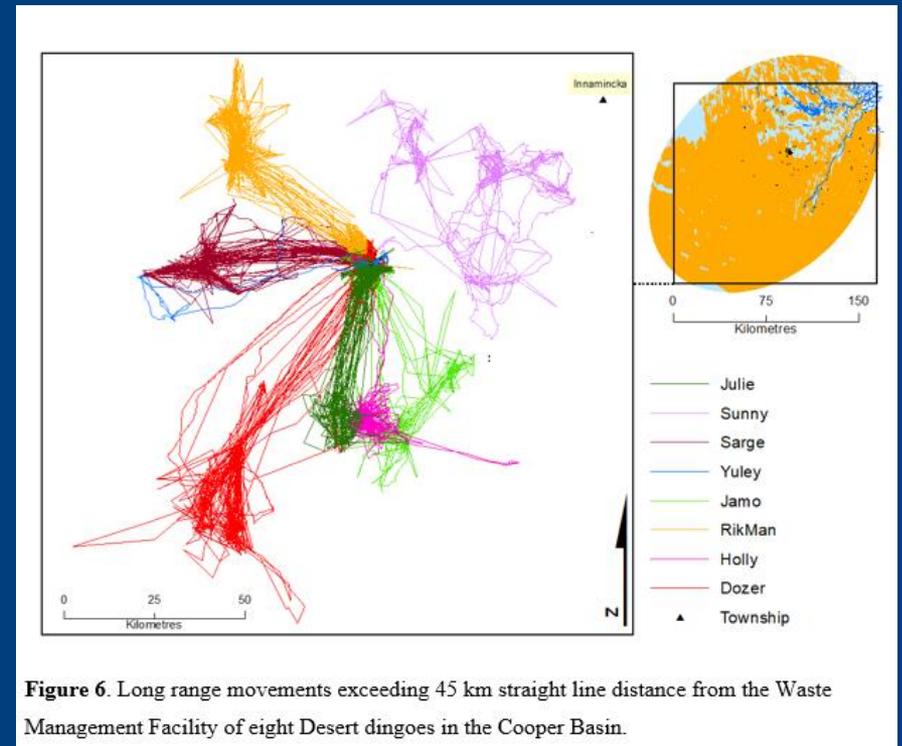


Figure 5. Boxplot of the three classifications of dingoes in a Cooper Basin mine site and the distances (km) between the Waste Management Facility and each of their fixes as a measure of their activity range and use of the surrounding landscape.

Results - Movement

- Some long forays
- Some rarely use the tip
- Others reliant on anthropogenic food resources



Results – Tip Use Patterns

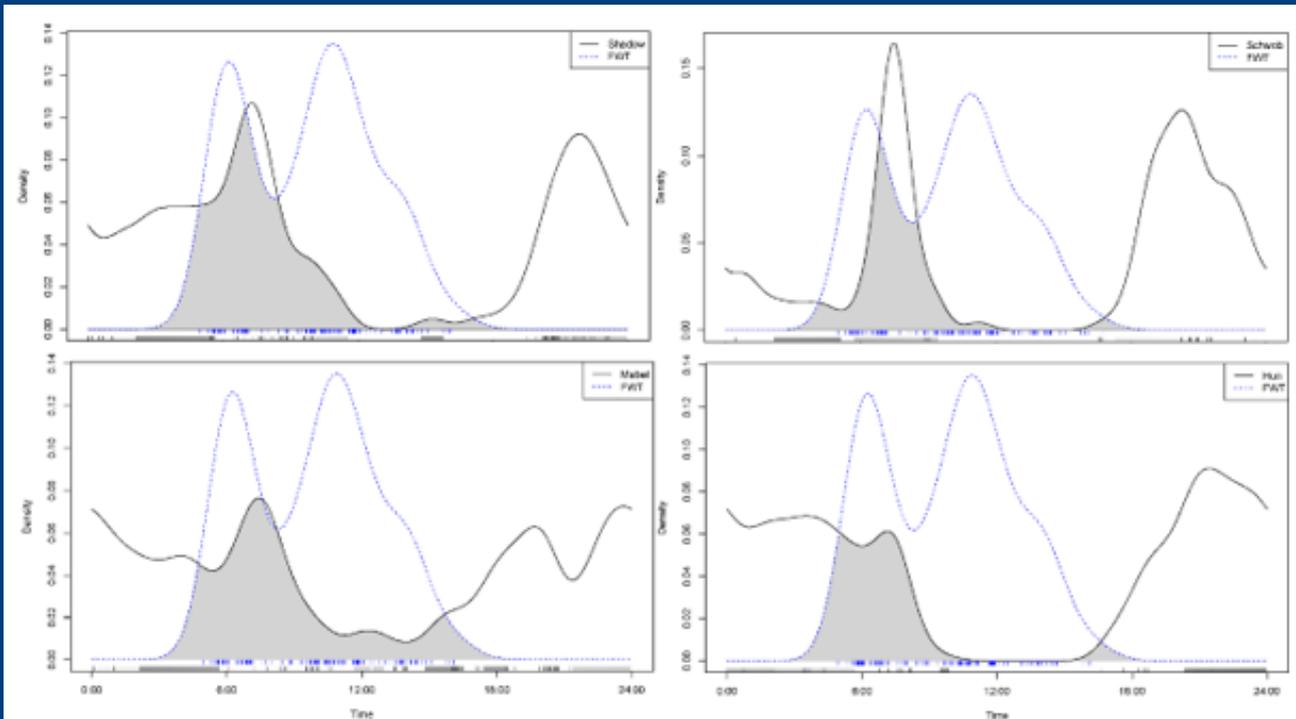


Figure 8. Temporal activity of four tip dingoes showing a strong relationship with their fixes within 150m of the food pit when the food truck unloaded mess hall food in the morning.



Where is the trap ?

