

Detection dogs and their role in feral cat management



Dr Scott Thompson
Dr Graham Thompson

What is a conservation detection dog?

- Specifically trained dog that can detect a target odour(s)
(e.g. Dazzy does cat, fox, Northern Quoll and Bilby)
- Highly driven work ethic
- Work off lead and without muzzle
- Have undertaken snake and bait aversion training
- Passively indicate on target odour
- Detection dogs must –
 - Not interact with other wildlife;
 - Reliably avoid snakes and baits;
 - Have a demonstrated level of accuracy and reliability;
 - Be reward driven;
 - Have a strong and sustained drive to work (many breeds don't have this);
 - The dogs life is focussed on finding the target scent(s)
- Large body of supporting literature
 - e.g. 19 times more effective than humans and 153% more accurate in find koala scats (Cristescu et al. 2015)



Reference: Cristescu, et al. (2015) *Scientific Reports*, 5, 8349

Search strategies

- Discovering (large area)
 - Figure 8 search pattern in front of the handler (but always under control)
- Specific area
 - Directional control to cover a specific area



How good is a detection dog in finding a cryptic scat of a threatened species?

- Method
 - 25*25m areas (old horse agistment)
 - Double blind experiment
 - Cryptic scats (i.e. Bilby scats in leaf litter)
 - 1 or 2 scat piles, 48 repeats
 - Human and dog searches (max 10mins)











Results

- 48 trials
- 70 scats laid
- Human observer found 4 scats (5.7%)
- Detection dog found 69 scats (98.5%)
- First scat found in a mean of 75 sec
- Second scat found in a mean of 208 sec



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Cat management

- Not a silver bullet - another tool
- Where effective:
 - Cat presence in an area (e.g. scat or animal searches)
 - Retreat locations
 - Following and finding cats for subsequent removal (e.g. shooting)
 - Waste management facilities where food sources are unlimited
 - Finding cats at very low densities (i.e. fenced conservation areas)
 - Sites that are difficult to trap/shoot and challenging terrain



Dog handling is a team effort

- **Handlers:**

- need to understand a dogs behaviour and capabilities
- need to understand target odour characteristics
- must be able to differentiate the scat/animal from a non-target scat/animal

- must have addressed:

- public liability and associated issues
- OHS issues and insurances



Not just any dog!

- Match the right dog to the performance task (Jamieson et al. 2017)
 - e.g. herding, hunting, tracking, protection, detection (plants and animals)
- A dogs' olfactory acuity means that they have been used to detect a wide variety of cryptic and concealed items such as narcotics, explosives and wildlife, however, there is a wide variation in performance

Wildlife detection

- Breed suitability and behavioural traits
- Individual dog's suitability and temperament – selectively bred for purpose
- Generic traits:
 - High olfactory ability (e.g. N^o nasal cavity sensory neurons)
 - High play motivation – high drive often to the point of obsession
 - High level of cooperativeness with their handler (i.e. bonding)
 - Boldness and focus;
 - Obedient yet independent off-leash
 - High athleticism (i.e. speed, endurance and agile)

Reference: Jamieson (2017) Applied Animal Behaviour Science, 195, 1-7

Thanks and Questions

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Contact information:

Dr Scott Thompson

scott@terrestrialecosystems.com mob: 0407 385 239



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