



Murdoch
UNIVERSITY

2017 RESEARCH FINDINGS

in the School of

**VETERINARY & LIFE
SCIENCES**

BULLETIN

4.09

Sustainable
Harvests



Adult male wild dog moving past a remote sensing camera.

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Reducing wild dog impacts on livestock production industries

Wild dogs are a huge problem for Australian livestock producers, costing farmers an estimated \$50 million annually in livestock losses and for their control. Here we describe outcomes of a recent project that has examined aspects of wild dog control in WA.

Who controls wild canids?

Almost all (96%) the 195 landholders who responded to our nation-wide online survey indicated that they had experienced negative impacts from wild dogs and/or foxes. The majority (83%) of respondents had livestock (cattle 63% of responses; sheep 57%; goats 18%; pigs 4%) and loss of livestock was identified as a major consideration for landholders participating in control measures, principally via

BELOW: Murdoch University, Department of Primary Industries and Regional Development and Meekatharra Recognised Biosecurity Group staff and members at a 'rack day' were thousands of dried meat baits are made.



shooting and baiting. 'Doggers' and dog-proof fencing were also considered effective management options. 89% of respondents believe that more action needs to be taken to manage wild canids, but identify time and financial constraints as well as a lack of coordinated community action and incentives as major hurdles to participation. Importantly, landscape-scale control requires coordination and a feedback of information to engage participants.

Can we protect working dogs?

57% of our survey respondents had working dog(s), and 28% had lost 1–6 (2.1 ± 1.4) working dogs to baits. 15% of respondents indicated that they had stopped baiting to protect their working dogs from accidental poisoning. We have been trialling the use of an aversion device to train working dogs to avoid taking baits. The self-training device has now been trialled on 27 dogs that are used in



ABOVE: Wild dogs, less than one year old, sniffing where a dried meat bait once was.

conservation estate for feral pig control, confirming their bait-aversion responses up to a year from the initial training session.

Do wild dogs cross the State Barrier Fence at highway grids?

There has been substantial investment in upgrading and extending the 1,170 km-long State Barrier Fence. Essentially, it divides the wheatbelt from the pastoral zone in WA, and plays an important role in minimising the impact of invasive species, such as wild dogs, on agricultural industries. We monitored movement of wild dogs through road gaps in the fence at three main highways, where cattle grids aim to reduce animal movements. We recorded only five incidents of wild dogs using the grids over 18 months monitoring. Pre- and one year post-cattle grid removal monitoring on the Great Northern Highway grid indicated that no wild dog passed through the fence post-grid removal (roadside fencing has been installed).



Two predators. Wedge-tailed eagle and a young wild dog at a natural water point in the southern rangelands of Western Australia.

RIGHT: D10, adult male wild dog, father of at least six puppies in 2016, investigated 11 monitored dried meat baits before being caught in a wild dog trap.



How effective is baiting wild dogs?

The proposed Murchison Region Vermin Cell, at 7.5 million hectares, is larger than Tasmania. This bold initiative represents the concerted efforts of pastoralists to restore their properties to a state where they can again run small livestock. One of the most common forms of wild dog control for reducing impacts on livestock production outcomes is the use of toxic baits. Over almost two years, we have been monitoring bait-take at two properties, to identify whether baiting alone can be used to effectively control wild dog numbers within the Cell. There have been a number of studies in the past that have recorded bait-take by wild dogs, but camera trap technology now allows us to monitor when baits are taken and identify the individuals taking baits.

The timing of baiting is important

Baits only last a few days on the ground over summer, with 21 % of bait-take attributed to goannas. Only 6% of baits were left on the ground. By contrast, baits laid in winter remain on the ground for an average of 60 days (29% of baits were left on the ground). Baits exposed to rainfall, however, are only toxic for a few weeks, and longer exposure to the elements increases the risk of exposing the target population to sub-lethal poisoning and the development of learned bait-avoidance.

Bait presentation could also make a difference to bait-take

Even where wild dogs come across baits (325 known occasions were wild dogs walked past baits), they interacted with, but did not consume, baits. Despite monitoring the fate of 530 baits, we only had four instances where a wild dog took a bait

Is it all in the name: 'Dingo' or 'Wild dog'?

Dogs first arrived on the Australian continent approximately 3,500–5,000 years ago. The common name 'dingo' is usually reserved for the descendants of these naturalised dogs, especially those that are golden or tan in colour. However, dingoes readily hybridise with domestic dogs that were introduced with European arrival around 200 years ago. The term 'wild dog' is often used as a broader term to include 'pure' dingoes, free-living domestic dogs, and their hybrids (who can also have a tan coat). Variation in common names leads to confusion in dealing with high profile public issues associated with these animals. For example, wildlife management practitioners may consider the effects of 'dingoes' to be positive but the effects of 'wild dogs' to be negative,

without recognising that the two common names refer to overlapping categories of free-living dogs.

There is even ambiguity in the scientific nomenclature, with many synonyms used for free-living dogs. There is a reasonable amount of disagreement regarding species (vs. sub-species) status of the dingo, coupled with problems associated with the nomenclatural rules around issuing sub-specific status to domesticated animals¹. The first dogs to arrive in Australia must have been brought through human agency, and would therefore have been 'domesticated' when they arrived, which suggests *Canis familiaris* is an appropriate epithet, even for 'dingoes'¹.

monitored by camera (three out of four were in winter/early spring when non-target species are less active). Alternating between bait types could serve to increase their attractiveness to dogs.

Conclusions and recommendations

Control of wild dogs requires multiple approaches to increase efficacy and reduce the likelihood of dogs learning to avoid baits. Understanding the behaviour of these animals can serve to improve our efforts, reducing risk and increasing productivity for pastoralists.

Acknowledgements

This is part of the Boosting Biosecurity Defences project, supported by Royalties

for Regions and the Department of Primary Industries and Regional Development

Main Roads Western Australia supported the State Barrier Fence monitoring. ■

More information

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Reference

1 Jackson and Groves (2015). *Taxonomy of Australian mammals*. Clayton South, Victoria, CSIRO Publishing.

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