Improving welfare outcomes for predators using Lethal Trap Devices

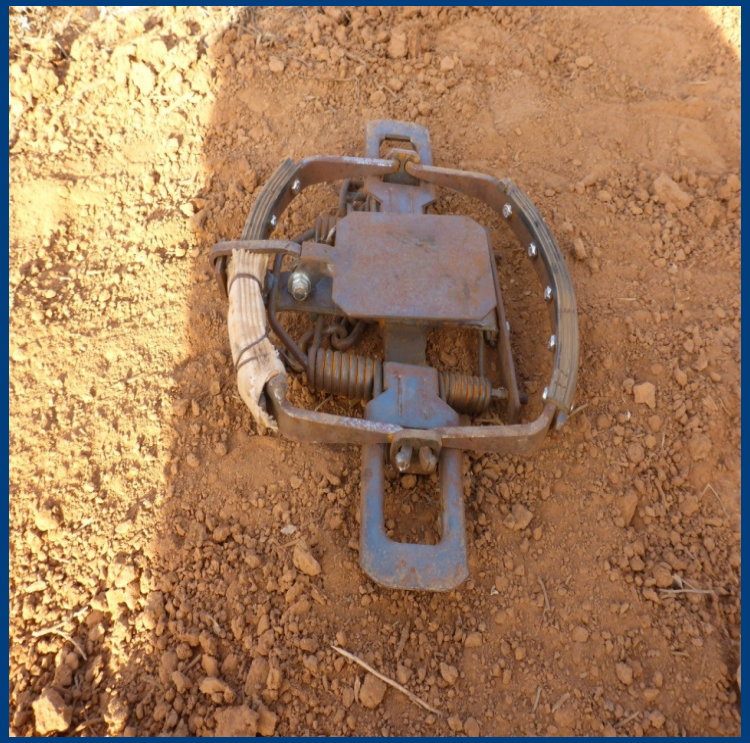
Paul Meek, Paul Aylett, Guy Ballard, Heath Milne, Simon Humphrys,
Jason Wishart, Stuart Brown and Peter Fleming

Lethal Trap Device

- The development of a trap device that can deliver a toxin upon point of capture
- Objective is to improve animal welfare outcomes in trapping activities
  - Reducing time in traps
  - Minimise pain and suffering

Strychnine Use

- Foot-hold traps are used widely across Australia
- Strychnine use is variable
- Strychnine Phase-out
- What is the alternative?
  - Can we use 1080?
  - Can we use Cyanide?
  - Can we use PAPP?



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Early LTD Trials 2004-12

The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK

Animal Welfare 2004, 13: 393-399
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Evaluation of the tranquilliser trap device (TTD) for improving the humaneness of dingo trapping

CA Marks*†‡, L Allen§, F Gigliotti‡, F Busana‡, T Gonzalez§, M Lindeman‡ and PM Fisher#

† Vertebrate Pest Research Department, Victorian Institute of Animal Science, PO Box 48 Frankston, Victoria 3199, Australia
‡ Animal Welfare Centre, Department of Natural Resources and Environment, Sneydes Road, Werribee, Victoria 3030, Australia
§ Robert Wicks Pest Animal Research Centre, Milmerran Road, via Inglewood, Queensland, Australia
* Contact for correspondence: Nocturnal Wildlife Research Pty Ltd, PO Box 2126, Wattletree Road Post Office, East Malvern 3145, Australia; camarks@attglobal.net
# Requests for reprints: Vertebrate Pest Research Department, Victorian Institute of Animal Science, PO Box 48 Frankston, Victoria 3199, Australia: vertebrate.pests@dpi.vic.gov.au

Abstract

*Predation of sheep and cattle by the dingo (*Canis lupus dingo*) is implicated in significant stock losses throughout much of mainland Australia. Leg-hold traps are commonly used for dingo control and ways are sought to improve the humaneness of these devices. We evaluated the performance of the tranquilliser trap device (TTD) attached to Victor Soft-Catch® traps for their ability to deliver a*

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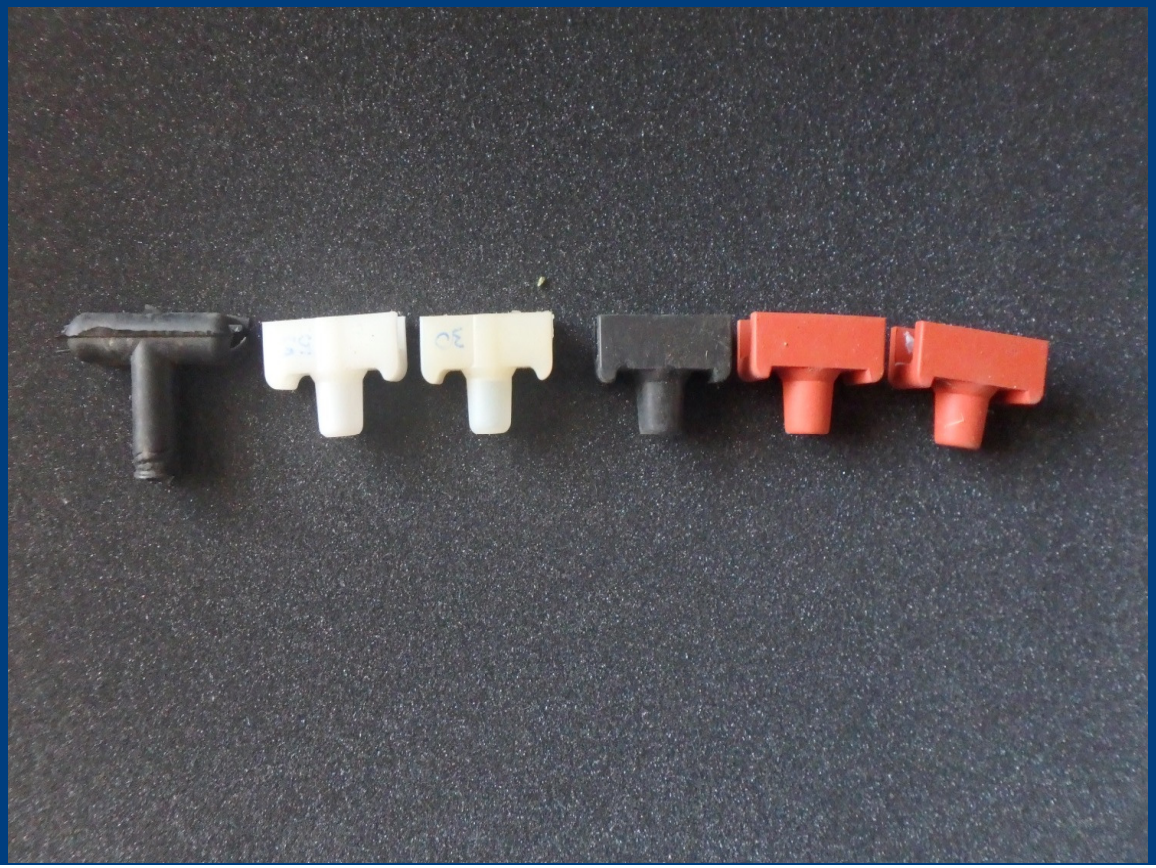
Bite-me Trials 2012-18



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Effect on Jaw Speed

- Does fitting an LTD effect jaw speed ?
- High speed sports medicine video camera
- Two trap models
  - Larger = Bridger
  - Smaller = Victor #3

Results:Jaw Speed Tests

- Victor no LTD = .02 sec
- Victor LTD = .02 sec
- Bridger no LTD = .03 sec
- Bridger LTD = .03 sec
- No significant difference
- So fitting LTD's does not effect closure speed

Strzelecki Desert Toxic trials

- Waste facility
- High abundance/density
- Doomed surplus population
- High capture probability

Range of trap types tested

- Victor Soft Catch #3
- Bridger #5
- Jake
- New Lanes
- MB50

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Trap Attachment

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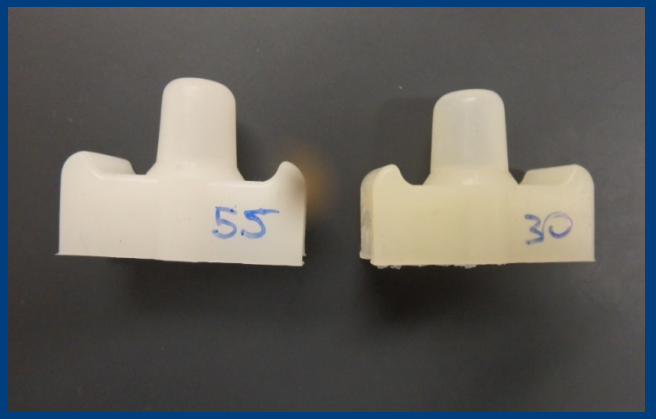
Results of Two Early Field Trials

Period	Animals Captured	Mortality %	Time to Death (Mean min.)	Time to Death (Range min.)
Oct 2015	29	35	83	45 - 110
March 2016	32	33	52	34-68

Back to the Lab

- Increased PAPP concentration
- Change matrix
- Tougher silicon
- Tougher cable ties



PAPP Cloths

- As a back-up method
- Simulate strychnine method
- Tested 2017-18

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Final Bite-me Trial Results

- Trapped 56 dogs with Bite-me and PAPP cloth
- Mean value = 85% efficacy
  - 84% elastomer Bite-me
  - 87% PAPP cloth
- 3 dogs were compromised by water and cloth wrapping
- Valuable technical findings
  - Water
  - whelping

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Efficacy of Bite-me

- 99% of 119 wild dogs removed most, if not all of the LTD's from trap jaws
- Regardless of the toxin the mode of delivery is effective

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Trap-time-to-death

- We measured the time from capture to mortality using camera traps
- Time is consistent with previous studies

Table 4. Trap-to-death time by gender and two modes of PAPP delivery. Data were only available for a subset of the population because camera trapping did not always record the start and finish times.

Mode	Sex	Sample	Range (min)	Mean (Min)	SD
LTD	F	14	30-146	59	33
LTD	M	13	32-185	79	44
PAPP-cloth	F	6	24-78	56	20
PAPP-cloth	M	6	50-187	100	54

(Meek et al submitted)

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The Final Hurdle: APVMA Approval

- First stability trials 2018
  - Elastomer LTD failed
  - PAPP Paste passed
- New elastomer developed 2018
  - Elastomer testing
  - NEWS FLASH: stability trials failed 1st test

Nothing replaces trap checking every 24 hrs

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