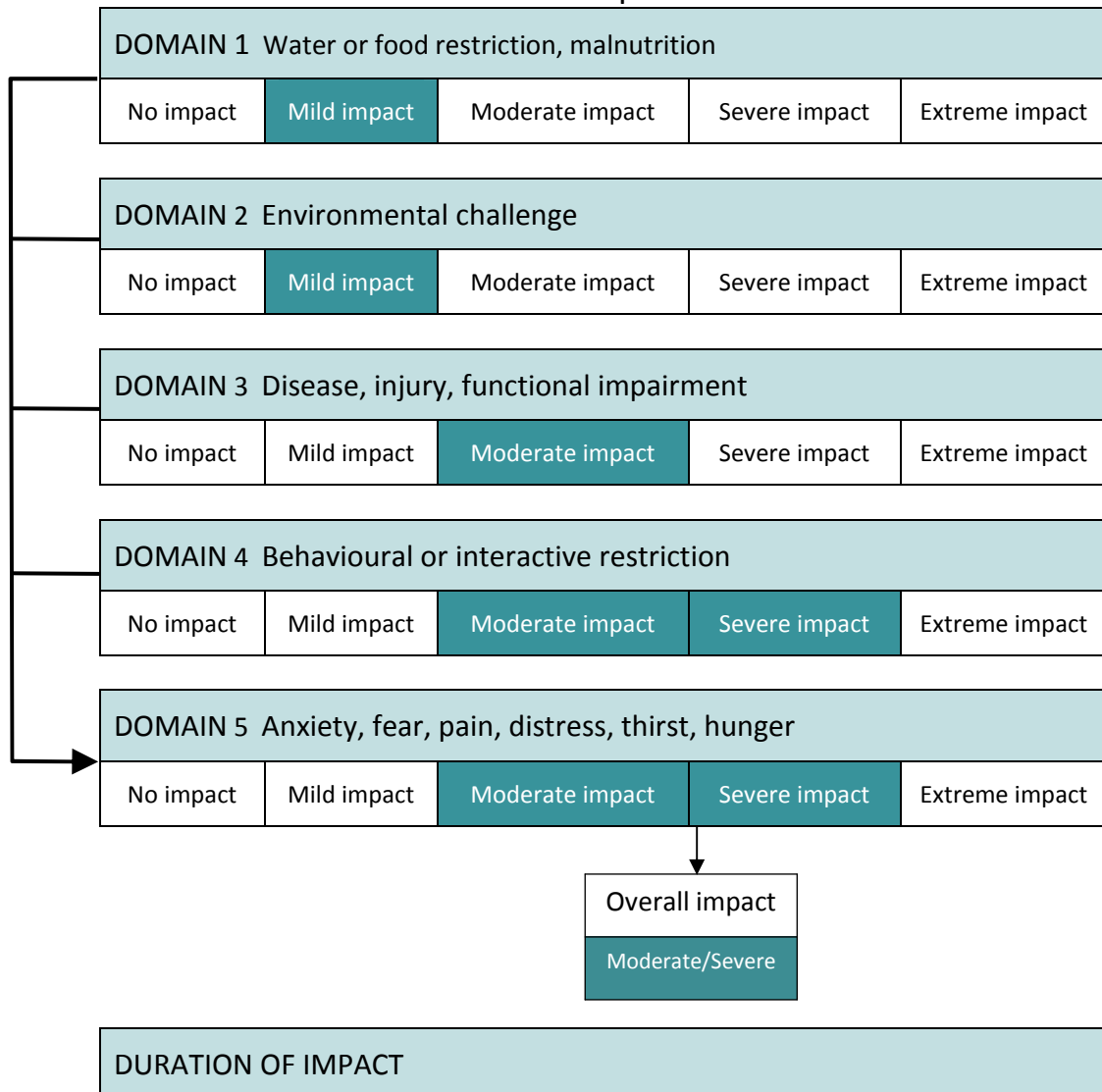


Control method: Trapping of rabbits with padded-jaw traps followed by killing

Assumptions:

- Best practice is followed in accordance with the standard operating procedure RAB008.
- This method is seldom used as it is not considered to be an effective control technique.
- Assumes that traps are checked every 24 hours. Best practice states that traps are set in the evening and checked in the morning – but if the trap is empty they will often be left set and checked the next morning.
- This assessment is very specific to the standard of traps considered. The recommended rabbit-specific trap is the Victor Soft-Catch (VSC) trap no. 1.
- The effect on dependent young is not taken into consideration with this assessment only the impact on the target animal. There is no practical way of addressing the problem of dependent young being left in burrows after the mother has been shot. In some areas rabbits can be breeding all year round (this is linked to the levels of protein available).

PART A: assessment of overall welfare impact



Immediate to seconds	Minutes	Hours	Days	Weeks
----------------------	---------	-------	------	-------

SCORE FOR PART A:	5-6
Summary of evidence:	
Domain 1	Trapped rabbits will be without food/water for a period up to 24 hours.
Domain 2	Assumes that traps are not set in bad weather and are placed in shaded areas.
Domain 3	The majority of injuries are likely to be minor skin lacerations but leg fractures also occur in approximately 5% of cases (pers. comm. David Croft).
Domain 4	<p>When held by the trap, rabbits could potentially be exposed to predators including raptors, foxes, wild dogs and feral cats. Prey species exhibit a physiological stress response in the presence of predators and this response is greater when the rabbit perceives the risk to be higher¹.</p> <p>Prey species are more likely to have higher levels of stress during restraint than predator species.</p> <p>Physiological studies in other species indicate that restraint by foot/leg-hold traps causes more stress than other capture techniques². In foxes, cortisol levels were highest in animals trapped in leg-hold traps compared with cage traps and untrapped animals^{3, 4}. There will also be periods of physical exertion from struggling against the trap especially during the first on 1-2 hours after capture⁵. Long entrapment periods could result in disruption of natural behaviour and motivational systems⁶.</p>
Domain 5	The combination of psychological stress (anxiety, fear, frustration) from being restrained, pain from any injuries and exertion from struggling against the trap will have a significant impact on overall welfare ² .

PART B: assessment of mode of death – cervical dislocation

Time to insensibility (minus any lag time)				
Immediate to seconds	Minutes	Hours	Days	Weeks
Level of suffering (after application of the method that causes death but before insensibility)				
No suffering	Mild suffering	Moderate suffering	Severe suffering	Extreme suffering

PART B: assessment of mode of death – stunning followed by cervical dislocation

Time to insensibility (minus any lag time)				
Immediate to seconds	Minutes	Hours	Days	Weeks
Level of suffering (after application of the method that causes death but before insensibility)				
No suffering	Mild suffering	Moderate suffering	Severe suffering	Extreme suffering

SCORE FOR PART B:	Cervical dislocation - C
Summary of evidence:	
Duration –	This method does not have a concussive effect and therefore insensibility may not be immediate ^{7,8} . Data from chickens suggests that electrical activity in the brain can persist for 13 seconds following cervical dislocation ⁷ .
Suffering –	<p>This method involves physical handling so rabbits will suffer from fear and distress.</p> <p>Cervical dislocation alone can be used on young rabbits less than 1kg. In animals >1kg, prior stunning (or sedation) must be used.</p> <p>There is likely to be a short period of suffering prior to loss of consciousness. A study in turkeys found that reflexes persisted for 43 seconds in broilers killed by cervical dislocation⁸. During this time the birds were gasping due to hypoxia and were likely to be distressed before death.</p> <p>To ensure that loss of consciousness is induced as quickly as possible this technique requires mastering of technical skills by the operator. Dislocation must be cervical and not lower in the vertebral column. It is essential to check that the neck is broken at the end of the procedure by palpation of the vertebrae. If adequate separation is not observed, a backup method, such as stunning should be used immediately⁹.</p>

SCORE FOR PART B:	Stunning followed by cervical dislocation - C
Summary of evidence:	
Duration –	When properly performed, loss of consciousness is rapid ¹⁰ .
Suffering –	<p>Stunning by a blow to the head can be a humane method of euthanasia for small rabbits, when a single sharp blow delivered to the central skull bones with sufficient force produces immediate depression of the central nervous system and destruction of brain tissue^{11,10}.</p> <p>The skill and confidence of the operator has a significant effect on welfare. If not performed correctly there will be varying degrees of consciousness with concomitant pain¹¹.</p> <p>This method involves brief handling so rabbits will suffer from some fear and distress.</p>

Summary

CONTROL METHOD:	5-6C
OVERALL HUMANENESS SCORE:	

Comments

Although most trap-related injuries occur during the first one to two hours of capture, the degree of injury and stress sustained during restraint increases as the time held increases; therefore trap inspection periods should be at least once per day to conform to a minimum accepted standard.

Note that an Australian trap standard is urgently required that includes specifications for trap size and jaw spread, trap weight, closure speed, impact force, clamping force, jaw offset distances, padding material (type, thickness) and pan tension¹².

Bibliography

1. Monclús, R., Palomares, F., Tablado, Z., Martínez-Fontúrbel, A. & Palme, R. (2009). Testing the threat-sensitive predator avoidance hypothesis: physiological responses and predator pressure in wild rabbits. *Oecologia* **158**, 615-623
2. Iossa, G., Soulsbury, C.D. & Harris, S. (2007). Mammal trapping: a review of animal welfare standards of killing and restraining traps. *Animal Welfare* **16**, 335-352
3. Kreeger, T.J., White, P.J., Seal, U.S. & Tester, J.R. (1990). Pathological responses of red foxes to foothold traps. *Journal of Wildlife Management* **54**, 147-160
4. White, P.J., Kreeger, T.J., Seal, U.S. & Tester, J.R. (1991). Pathological responses of red foxes to capture in box traps. *Journal of Wildlife Management* **55**, 75-80
5. Marks, C.A. et al. (2004). Evaluation of the tranquilliser trap device (TTD) for improving the humaneness of dingo trapping. *Animal Welfare* **13**, 393-399
6. Schutz, K.E. et al. (2006). Behavioural and physiological responses of trap-induced stress in European badgers. *Journal of Wildlife Management* **70**, 884-891
7. Gregory, N.G. & Wotton, S.B. (1990). Comparison of neck dislocation and percussion of the head on visual evoked responses in the chicken's brain. *Veterinary Record* **126**, 570-572
8. Erasmus, M.A., Lawlis, P., Duncan, I.J.H. & Widowski, T.M. (2010). Using time to insensibility and estimated time of death to evaluate a nonpenetrating captive bolt, cervical dislocation, and blunt trauma for on-farm killing of turkeys. *Poultry Science* **89**, 1345-1354
9. Canadian Council on Animal Care (2010). *CCAC guidelines on: euthanasia of animals used in science*. at <<http://www.ccac.ca/Documents/Standards/Guidelines/Euthanasia.pdf>>
10. American Veterinary Medical Association (2001). 2000 Report of the AVMA Panel on Euthanasia. *Journal of the American Veterinary Medical Association* **218**, 669-696
11. Close, B. et al. (1996). Recommendations for euthanasia of experimental animals: Part 1. DGXI of the European Commission. *Laboratory Animals* **30**, 293-316
12. Nocturnal Wildlife Research Pty Ltd (2008). *Review: Welfare outcomes of leg-hold trap use in Victoria*.