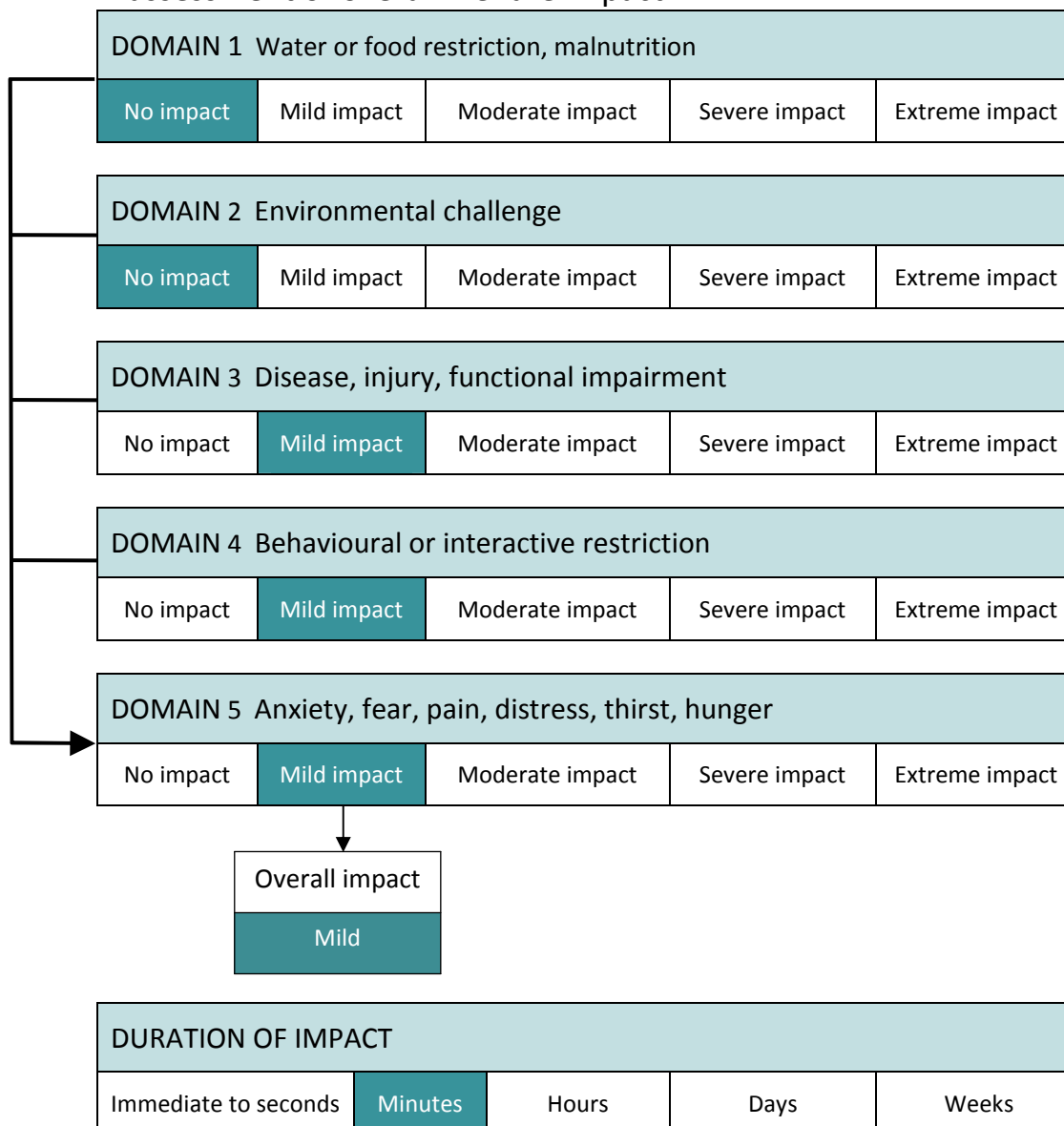


## Control method: Ground shooting of feral goats

Assumptions:	<ul style="list-style-type: none"> <li>▪ Best practice is followed in accordance with the standard operating procedure GOA001.</li> <li>▪ The shooter is competent and will make accurate decisions about whether the shot can be successfully placed.</li> <li>▪ The impacts were considered on the group of goats being targeted – the first animal would be naïve but the impact would increase with each subsequent animal.</li> <li>▪ Shooting is conducted in daylight hours.</li> <li>▪ Assumes any dependent kids are dealt with according to the SOP.</li> </ul>
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### PART A: assessment of overall welfare impact



<b>SCORE FOR PART A:</b>	<b>3</b>
Summary of evidence:	
Domain 1	No impact in this domain.
Domain 2	No impact in this domain.
Domain 3	There may be mild impact due to the probability of injuries occurring. Goats were considered to be less flighty than other species (e.g. horses, deer) so this unlikely to be a cause of increased injury.
Domain 4	<p>The SOP allows the use of dogs to flush out goats, but this tends to be herding dogs (sheepdogs) that are unlikely to come into physical contact with the goats. Not considered to increase behavioural restriction.</p> <p>The SOP requires that shooters seek out dependent kids. Kids are not always easy to find – approximately half of mothers tend to stay in the vicinity of the newborn kid, while others leave them alone to forage (stayers and leavers)<sup>1</sup>. Lactating females tend to be found away from the mob. If kids are bigger, they will be with the mother.</p>
Domain 5	<p>Taking out one member of social group will affect social structure. The impact will vary according to which individual is shot. Wounding or injury results in distress calls which will also affect others in group.</p> <p>Although the aim of control programs is to take out all animals in a group, it is more likely that only part of the group would be shot. This means that some animals will be left behind out of their usual social structure. There will then be a likely period of distress until the individual finds another group to associate with<sup>2</sup>.</p>

## PART B: assessment of mode of death – head shot

Time to insensibility (minus any lag time)				
Very rapid	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 – chest shot

Time to insensibility (minus any lag time)				
Very rapid	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

<b>SCORE FOR PART B:</b>	<b>Head shot - A</b> <b>Chest shot - D</b>
Summary of evidence:	

**Duration –**

With chest shots, time to insensibility can range from seconds to a few minutes. The time to loss of consciousness and the time to death will depend on which tissues are damaged and, in particular, on the rate of blood loss and hence the rate of induction of cerebral hypoxaemia<sup>3</sup>. Loss of consciousness and death is likely to be quick when animals have been shot in the heart. 'Hydrostatic shock' (see below) may also contribute to rapid incapacitation and potentially rapid loss of consciousness with shots to the chest; however this effect seems to be variable and doesn't occur in all instances.

With head shots, a properly placed shot will result in immediate insensibility<sup>4,5,6</sup>. Note that 'frontal' head shots are not suitable for adult goats since the brain is located well back in the skull.

**Suffering –**

Animals that are chest shot and still conscious are likely to have a short period of suffering, though the extent of suffering will vary depending on which tissues are damaged and the rate of blood loss. During haemorrhage there is likely to be tachypnoea and hyperventilation, which, when severe, would indicate that there is a sense of breathlessness before the loss of consciousness<sup>3</sup>. Severe haemorrhage in humans is also associated with anxiety and confusion<sup>7</sup>.

If chest shot animals are rendered insensible by the mechanism of 'hydrostatic shock' and they do not regain consciousness prior to death they are unlikely to suffer.

When animals are rendered insensible immediately with a well-placed head shot that causes adequate destruction of brain tissue there should be no suffering<sup>4</sup>.

## Summary

<b>CONTROL METHOD:</b>	<b>Ground shooting of feral goats</b>
<b>OVERALL HUMANENESS SCORE:</b>	<b>Head shot – 3A Chest shot – 3D</b>