

© 2015 Universities Federation for Animal Welfare
 The Old School, Brewhouse Hill, Wheathampstead,
 Hertfordshire AL4 8AN, UK
www.ufaw.org.uk

Animal Welfare 2015, 24: 307-317
 ISSN 0962-7286
 doi: 10.7120/09627286.24.3.307

A simple quantitative method for assessing animal welfare outcomes in terrestrial wildlife shooting: the European rabbit as a case study

JO Hampton^{*†‡}, DM Forsyth[§], DI Mackenzie[#] and IG Stuart[¶]

[†] Murdoch University, 90 South Street, Murdoch, WA 6150, Australia

[‡] Ecotone Wildlife Veterinary Services, PO Box 1126, Canberra, ACT 2601, Australia

[§] Department of Zoology, The University of Melbourne, VIC 3010, Australia

[#] Proteus Wildlife Research Consultants, PO Box 5193, Dunedin, New Zealand

[¶] Kingfisher Research, 177 Progress Road, Eltham, VIC 3095, Australia

* Contact for correspondence and requests for reprints: j.hampton@ecotonewildlife.com

Abstract

Shooting is widely used to reduce the abundances of terrestrial wildlife populations, but there is concern about the animal welfare outcomes ('humaneness') of these programmes. Management agencies require methods for assessing the animal welfare outcomes of terrestrial wildlife shooting programmes. We identified four key issues in previous studies assessing the animal welfare outcomes of shooting programmes: (i) biased sampling strategies; (ii) no direct ante mortem observations; (iii) absence of quantifiable parameters for benchmarking; and (iv) no evaluation of explanatory variables that may cause adverse welfare outcomes. We used methods that address these issues to assess the welfare outcomes of a European rabbit (*Oryctolagus cuniculus*) shooting programme in south-eastern Australia. An independent observer collected ante mortem (distance, timing and outcome of each shot fired) and post mortem (locations of bullet wounds) data. The ante mortem data were used to estimate three critical animal welfare parameters: apparent time to death (ATTD); instantaneous death rate (IDR); and wounding rate (WR). The post mortem data were used to evaluate the location of bullet wounds relative to the Australian national standard operating procedure (SOP). For rabbits, the mean IDR was 0.60, ATTD was 12 s and WR was 0.12. A large proportion of rabbits (0.75) were shot in the cranium or thorax, as required by the SOP. Logistic regression indicated that the proportion of rabbits wounded and missed increased with shooting distance. Hence, reducing shooting distances would increase the humaneness of European rabbit shooting programmes. Our approach enables the animal welfare outcomes of terrestrial shooting programmes to be independently quantified.

Keywords: animal welfare, European rabbit, hunting, instantaneous death rate, time to death, wounding rate