

Protecting livestock while conserving ecosystem function: non-lethal management of wild predators

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Summary

Predation of livestock is a major cause of human-wildlife conflict throughout the world, and causes large financial losses for livestock producers. In Australia a range of predators kill livestock, with wild dogs having the most significant impact. Historically, lethal methods have predominantly been used to control predators in Australia, but their use has some major disadvantages. In this chapter we describe non-lethal methods to control predation, and we evaluate their effectiveness and applicability in Australian livestock industries. Fencing and livestock guardian animals are most suitable for non-lethal livestock protection in Australia, and livestock guardian dogs in particular can be cost-effective in a wide range of situations.

Introduction

Wild predators and domestic animals do not mix well. Killing of livestock by wild predators is a major source of conflict between humans and wildlife throughout the world (Treves and Karanth 2003; Thirgood *et al.* 2005). Predation can cause

large financial losses for livestock producers, and predators of domestic animals can also attack and kill the people who tend those animals (Saberwal *et al.* 1994; Treves and Naughton-Treves 1999; Kruuk 2002). In Australia predators cause substantial financial losses to the livestock industry (McLeod 2004; see Chapter 6). The country-wide impact of predators is hard to estimate, but in Victoria alone the financial impact of wild dogs on the livestock industry is valued at approximately A\$13 million annually (Lightfoot 2011). Wild dogs (including dingoes *Canis dingo*, feral dogs *C. l. familiaris*, and hybrids between them) are the most significant predators, because they prey on practically all livestock species over the entire continent. As a result there is a long history in Australia of lethal control of wild dogs, by trapping, shooting and poisoning (Fleming *et al.* 2001). Lethal control is also extensively used on other species of predators – for example, red foxes are controlled to reduce predation on sheep, goats and poultry, and historically lethal control of eagles and Tasmanian devils has been undertaken by sheep graziers – but in this chapter we focus mainly on wild dogs.