

Model code of practice for the humane control of foxes

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Introduction

The aim of this code of practice is to provide information and guidance to vertebrate pest managers responsible for the control of foxes. Control programs aim to reduce the negative impacts of foxes using the most humane, target specific, cost effective and efficacious techniques available.

This code of practice (COP) is adopted nationally. Jurisdictions can apply more stringent requirements as long as they retain the principles set out in these codes. The COP should only be used subject to the applicable legal requirements (including OH&S) operating in the relevant jurisdiction.

Background

There is an expectation that animal suffering associated with pest management be minimised. The most humane methods that will achieve the control program's aims must be used. Consideration of animal suffering should occur regardless of the status given to a particular pest species or the extent of the damage or impact created by that pest. While the ecological and economic rationales for the control of pests such as the fox are frequently documented, little attention has been paid to the development of an ethical framework in which these pests are controlled. An ethical approach to pest control includes the recognition of and attention to the welfare of all animals affected directly or indirectly by control programs. Ensuring such approaches are uniformly applied as management practices requires the development of agreed Standard Operating Procedures (SOPs) for pest animal control. These SOPs are written in a way that describes the procedures involved for each control technique as applied to each of the major pest animal species. While SOPs address animal welfare issues applicable to each technique, a Code of Practice (COP) is also required that bring together these procedures into a document which also specifies humane control strategies and their implementation. COP's encompass all aspects of controlling a pest animal species. This includes aspects of best practice principles, relevant biological information, guidance on choosing the most humane and appropriate control technique and how to most effectively implement management programs.

This code is based on current knowledge and experience in the area of fox control and will be revised as required to take into account advances in knowledge and development of new control techniques and strategies.

Definitions and Terms

Pest animal – native or introduced, wild or feral, non-human species of animal that is currently troublesome locally, or over a wide area, to one or more persons, either by being a health hazard, a general nuisance, or by destroying food, fibre, or natural resources (Koehler, 1964).

Welfare – an animals’ state as regards its attempts to cope with its environment (Broom, 1999). Welfare includes the extent of any difficulty in coping or any failure to cope; it is a characteristic of an individual at a particular time and can range from very good to very poor. Pain and suffering are important aspects of poor welfare, whereas good welfare is present when the nutritional, environmental, health, behavioural, and mental needs of animals are met. When welfare is good, suffering is absent (Littin et al., 2004).

Humane Vertebrate Pest Animal Control – the development and selection of feasible control programs and techniques that avoid or minimise pain, suffering and distress to target and non-target animals (RSPCA, 2004).

Best Practice Management – a structured and consistent approach to the management of vertebrate pests in an attempt to achieve enduring and cost-effective outcomes. ‘Best practice’ is defined as the best practice agreed at a particular time following consideration of scientific information and accumulated experience (Braysher, 1993).

Best practice pest management

From an animal welfare perspective, it is highly desirable that pest control programs affect a minimum number of individuals and that effort is sustained so that pest densities always remain at a low level. Over the last decade, the approach to managing pest animals has changed. Rather than focussing on killing as many pests as possible, it is now realised that like most other aspects of agriculture or nature conservation, pest management needs to be carefully planned and coordinated. Pest animal control is just one aspect of an integrated approach to the management of production and natural resource systems. Most pests are highly mobile and can readily replace those that are killed in control programs. Unless actions are well planned and coordinated across an area, individual control programs are unlikely to have a lasting effect. When planning pest management, there are some important steps that should be considered (after Braysher & Saunders, 2002).

1. What is the trigger to undertake pest animal management? Is there a community or political pressure for action on pests and an expectation that pest animals should be controlled? Pest control is unlikely to be effective unless there is strong local or political will to take action and commit the necessary resources.
2. Who is the key group to take responsibility for bringing together those individuals and groups that have a key interest in dealing with the pest issue?
3. What is the problem? In the past the pest was usually seen as the problem. Hence the solution was to kill as many pests as possible. We now know that the situation is more complex. First, determine what the problem is. For example, it may be predation of native fauna, reduced lambing percentage or complaints from neighbours or emotional stress from worrying about the next attack. Several factors impact on each of these problems and control of pests are often only part of the solution. The following questions then help define the problem:
 - Who has the problem?
 - Where is the problem?
 - How severe is the problem?
 - Will the problem change with time?
4. Identify and describe the area of concern. Sometimes it helps to remove agency and property boundaries so that the problem can be viewed without the tendency to point blame at individuals; groups or agencies. Property and agency boundaries can be added later once agreement is reached on the best approach.

5. Trying to deal with the complexity of a very large area can be daunting so it often helps to break the area into smaller management units for planning. These smaller units may be determined by water bodies, mountain ranges, fences, vegetation that is unsuitable for a particular pest or other suitable boundaries that managers can work to. While it is best to work to boundaries that restrict the movement of pests, this may not be practicable and jurisdictional boundaries, for example, the border of a Landcare group, may have to be used in combination with physical boundaries. Once the management units are identified:
 - Identify as best you can, the pest animal distribution and abundance in each management unit.
 - Estimate as far as is practicable, the damage caused by the pest or pests to production and to conservation.
6. Gather and assess other relevant planning documents such as Catchment Management Plans, Recovery Plans for threatened species and Property Management Plans. Identify any key constraints that may prevent the plan being put into operation and identify all the key stakeholders.
7. Develop the most appropriate pest management plans for each of the management units.

Implementing effective and humane pest control programs requires a basic understanding of the ecology and biology of the targeted pest species and in some cases those species affected directly (non-targets) or indirectly (prey species) by a control program. It is also essential to understand the impact created by the pest i.e. what is the problem? Managers should take the time to make themselves aware of such information by reading the recommended texts at the end of this code of practice. A brief summary follows.

Fox facts

The red fox is widely distributed throughout the southern half of mainland Australia and can survive in habitats ranging from arid through to alpine as well as urban. The only limitations on distribution appear to be the presence of dingoes, at least in some areas, and the tropical climate of northern Australia. In non-urban areas it appears to be most abundant in fragmented habitats typically found in agricultural landscapes. These offer a wide variety of cover, natural food and den sites. Density estimates in Australia, although few, range from 0.2 adults per square kilometre in coastal forest up to 12 adults per square kilometre in urban populations (Saunders et al.1995)

Females reproduce only once a year. Gestation lasts 51–53 days with most cubs born during August and September. Mean litter size is four up to a maximum of about ten. Both sexes become sexually mature from ten months of age. Although social groups of one male and several vixens do exist, most foxes are thought to have only one mate. Males may also leave their normal territory temporarily in search of other mating opportunities.

Fox groups generally have well-defined home ranges with spatially stable borders. The size of a home range depends on the productivity of the environment e.g. 500 hectares in temperate agricultural areas to 30 hectares in urban areas. Foxes are mostly active from dusk to dawn and rarely travel more than ten kilometres per day within their home range. Dispersal is common, particularly in sub-adult males. It commences in late summer and continues through to the onset of breeding in winter. Exceptional dispersal distances of over 300 kilometres have been recorded with averages of between 2–40 kilometres.

Although predominantly carnivorous, the fox is an opportunistic predator and scavenger with no specialised food requirements. Diet studies conducted in Australia show sheep, rabbits and house mice to be the most common food items.

Fox impact

The fox has long been recognised as a serious threat to Australian native fauna. Native Australian fauna did not evolve with the fox and hence have few predation avoidance strategies; a problem further compounded by habitat fragmentation since European settlement. For example, foxes have been identified as a factor limiting the success of seven out of ten mainland reintroductions of native fauna. The best evidence of the primary role foxes play in population regulation of some native fauna comes from Western Australia. Fox control results not only in substantial increases in the population of some marsupials, but also wider habitat use once predation pressure had been removed. However, for some native species, other factors beside predation may be operating. For example, it has been shown that factors which affect food for mallee fowl chicks may also need to be addressed in addition to predation.

There is debate about the extent to which foxes are a useful biocontrol agent for rabbits and the need to manage foxes when rabbit populations are reduced in order to prevent increased fox predation on native fauna. Foxes undoubtedly exert some control over rabbits, but not when conditions are favourable for growth of rabbit populations. In areas where native wildlife is at significant risk from fox predation, fox management should be considered as part of rabbit control.

The economic impact of foxes in Australia has been poorly studied but the principal losses almost certainly involve newborn lambs. Earlier studies on the causes of lamb loss generally dismiss predation as being insignificant on a state or national level. More recent evidence suggests that foxes may take from 10–30% of lambs in some areas. As well as affecting lamb production, foxes eat fruit and therefore can act as a vector for weeds. They also eat grapes and chew plastic irrigation equipment.

Recent studies have revealed that foxes carry hydatidosis, a zoonotic disease. Physical contact with foxes or their faeces may therefore pose a public health risk. The fox could also act as a carrier of rabies, should the disease accidentally be introduced into Australia. Rabies mostly affects members of the dog family, but can also be passed on to humans, livestock and native mammals.

Fox control strategies

Strategies used in agricultural protection have mostly been determined by the biology of the livestock being protected rather than the biology of the fox. As such, these techniques have been mostly employed on a reactionary or short-term basis, without due consideration for sustained reduction. Conservation management strategies focus on alleviating fox predation on wildlife species by culling foxes from an area using poisoned baits and exclusion fencing. By necessity, such control effort should be sustained. There are three essential requirements for a pest control technique – necessity, effectiveness and humaneness. The best strategy is to develop a plan which maximizes the effect of control operations and reduces the need to cull large numbers of animals on a regular basis.

Developing a fox management plan

This involves:

- *Defining management objectives.* Objectives are a statement of what is to be achieved, defined in terms of desired outcomes, usually conservation or economic benefits. Objectives should state what will be achieved (reduced impact) where, by when and by whom.
- *Selecting management options.* The management option is selected that will most effectively and efficiently meet the management objectives. The options include: eradication, containment, sustained management, targeted management, one-off action and taking no action.

- *Set the management strategy.* This defines the actions that will be undertaken: who will do what, when, how and where. It describes how the selected pest management options and techniques will be integrated and implemented to achieve the management objectives.
- *Monitoring the success of the program against the stated objectives.* Monitoring has two components, *operational monitoring* – what was done when and at what cost:- this determines the efficiency of the program, and *performance monitoring*:- were the objectives of the plan achieved and if not why not, that is the effectiveness of the program.

Choosing control techniques

Fox control techniques have the potential to cause animals to suffer. To minimise this suffering the most humane techniques that will achieve the control program's aims must be used. This will be the technique that causes the least amount of pain and suffering to the target animal with the least harm or risk to non-target animals, people and the environment. The technique should also be effective in the situation where it will be used (e.g. cage traps will have little effect in a rural setting). It is also important to remember that the humaneness of a technique is highly dependant on whether or not it is correctly employed. In selecting techniques it is therefore important to consider whether sufficient resources are available to fully implement that technique.

Cooperative control

Foxes are a highly mobile and invasive species. Apart from perhaps providing very short term protection or eliminating a particular rogue animal, isolated efforts at fox control will have minimal effect on fox populations or on the impact caused by foxes.

Attempting to control foxes on an individual property with out the support of neighbours rarely succeeds. Working with groups of neighbours more effectively controls foxes over larger areas limits re-invasion and is more cost effective due to the sharing of labour and equipment.

Fox control techniques

The most commonly used fox control techniques are lethal baiting, shooting, trapping, den fumigation, and exclusion fencing. Other measures such as the use of guard animals have been promoted in recent years but not yet fully evaluated in Australia (Saunders & McLeod, 2007). Fertility control through immunocontraception or by other chemical means is not currently a viable broadscale control option despite considerable research into their development.

The scale of problems involving fox predation, ranging in size from a small poultry shed to a large national park or agricultural region, can determine the most appropriate means of control or conversely the effectiveness of control in individual situations. For example, aerial baiting would be the most cost-effective strategy over large areas whereas the use of guard dogs would only be suitable on a property basis. Similarly, the use of fertility control would be of little benefit in protecting small-scale enterprises. Cost-effectiveness, humaneness and efficacy for each control technique are useful in deciding the most appropriate strategy. A brief evaluation of the humaneness of control techniques follows:

Humaneness of control techniques

Fertility Control

Fertility control is seen as a preferred method of broadscale fox control as it offers a potential humane and target specific alternative to lethal methods. However, no effective fertility control agents are currently available for broadscale use against foxes in Australia.

Exclusion fencing

The use of exclusion fencing is generally regarded as a humane, non-lethal alternative to lethal control methods. However, the high costs of establishing and maintaining fox-proof enclosures, limits their use to the management of threatened or endangered species. Although exclusion fencing acts as a barrier to foxes it can have negative effects on non-target species by altering dispersion and foraging patterns, and causing entanglement and electrocution. It can also create a significant hazard to wildlife in the event of a bushfire.

Guard animals

The use of guard animals to protect herd animals (e.g. sheep, goats, poultry) from external threats is also seen as a humane alternative or adjunct to conventional lethal fox control. Dogs, alpacas, llamas and donkeys can be used to repel predators, alert owners to disturbances in the flock and reduce reliance on less humane forms of control.

Alpacas, llamas and donkeys have advantages over guard dogs as they require minimal supervision and can be managed in a similar manner to the livestock being protected. Dogs, on the other hand, require training and supervision to ensure that they do not injure or kill stock and wildlife or wander onto other properties. Owners must provide dogs with adequate feed and water, as well as regular maintenance and monitoring to protect them from adverse environmental conditions, disease, injury and distress.

Lethal baiting

Lethal baiting is considered to be the most effective method of fox control currently available; however not all poisons are equally humane. Depending on the poison used, target animals can experience pain and suffering, sometimes for an extended period, before death. Non-target animals including native species, working dogs and livestock stock can also be exposed to poisons either directly by eating baits intended for pest animals (primary poisoning) or through the scavenging of tissues from a poisoned animal (secondary poisoning). Sodium fluoroacetate (1080) and strychnine are the poisons currently used for fox control in Australia.

1080

In carnivores, poisoning from 1080 is typified by severe central nervous system disturbance, convulsions, hyperexcitability, vocalising and ultimately respiratory failure. 1080 is more acceptable as a lethal control method than strychnine, although the humaneness of its actions is not yet fully understood. It is thought that during the initial onset of signs (e.g. manic running, yelping and shrieking, retching); the animal is likely to be conscious and capable of suffering. However, during the latter stages, when the animal shows signs of central nervous system disturbance including collapse, convulsions and tetanic spasms, suffering may not occur.

Strychnine

Strychnine baits are inhumane because the affected animals remain conscious and appear to suffer pain and anxiety from the onset of clinical signs through to death from asphyxia and exhaustion. It has been recommended by the National Consultative Committee on Animal Welfare that the sale and

use of strychnine be banned in Australia. The use of strychnine in fox baits is currently being phased out in all States and Territories.

Shooting

Shooting can be a humane method of destroying foxes when it is carried out by experienced, skilled and responsible shooters; the animal can be clearly seen and is within range; and the correct firearm, ammunition and shot placement is used.

Wounded foxes must be located and dispatched as quickly and humanely as possible.

If lactating vixens are shot, reasonable efforts should be made to find dependent cubs and kill them quickly and humanely.

Fumigation of fox dens

Carbon monoxide is a colourless, odourless gas that causes oxygen depletion leading to unconsciousness and death without pain or discernible discomfort. Fumigation of fox natal dens appears to be a humane method of fox destruction provided that high enough concentrations of CO to bring about a rapid death can be introduced into the den; that cubs are sufficiently grown (> 4 weeks old) to be fully susceptible to the effects of CO; and, that animals are not directly exposed to high temperatures during combustion of the cartridges.

Carbon monoxide is the only fumigant registered for foxes. Other fumigants, e.g. chloropicrin and phosphine, are not registered for use against foxes and must not be used for den fumigation. These fumigants, particularly chloropicrin, are not considered humane as the animals are likely to suffer for extended periods before death.

Trapping

All traps have the potential to cause injury and some degree of suffering and distress so should only be used when no practical alternative exists. Traps that contain an animal (e.g. cage or box traps) cause fewer injuries than traps that restrain an animal (e.g. leg-hold traps¹). Animals caught in a cage trap are not likely to experience significant injuries unless they make frantic attempts to escape. Importantly, non-target animals that are caught in cage traps can usually be released unharmed. Leg-hold traps on the other hand can cause serious injuries to both target and non-target animals such as swelling and lacerations to the foot from pressure of the trap jaws and dislocation of a limb if the animal struggles to escape. Foxes can also inflict injuries to their feet and legs by chewing on the captured limb, and to their teeth, lips and gums by chewing at the trap jaws. If leg-hold traps are used, they must have a rubber-like padding² on each jaw which cushions the initial impact and provides friction thus preventing the captured leg from sliding along or out of the jaws. Toothed³, steel-jaw traps must not be used as they cause significant injury, pain and distress. The use of toothed, steel-jaw traps is being phased out in all States and Territories.

Treadle snares are a humane alternative to the toothed, steel-jawed trap but they can be difficult to set, are bulky to carry and may miss more target animals. The Collarum® is a relatively new device that throws a loop over the animals head after it has pulled on a trigger. This spring-powered neck snare has been shown to be target specific and produce only low injury scores. The Ecotrap®

¹ *Leg-hold* refers to a trap with two hinged jaws held open by a trigger mechanism that when stepped on, closes the jaws, by spring action, around the foot or leg, thus catching and restraining the animal.

² *Padding* is used to refer to traps that have a non-abrasive surface and durable cushioning material firmly fixed to the jaws i.e. commercially manufactured traps and after market modifications.

³ *Toothed* includes any jaws that are not smooth i.e. have metal teeth, serrations or spikes.

comprises a flexible metal frame and netting which collapses over the animal when it is triggered entangling it within the soft net. This trap also reportedly causes fewer injuries to the trapped animal compared to leg-hold devices.

As well as injuries, trapped animals can suffer from exposure, thirst, starvation, shock, capture myopathy and predation; therefore traps should be placed in a suitable area protected from extremes of weather and must be inspected at least once daily. Traps should not be set where there is a risk of entanglement with fences or thick vegetation as this can also cause injury to the fox. Trapped animals should be approached carefully and quietly to minimise panic, further stress and risk of injury. Foxes must be destroyed as quickly and humanely as possible with a single rifle shot to the brain. If lactating vixens are caught in a trap, efforts should be made to find dependent cubs and kill them quickly and humanely. Non-target animals that are caught but not severely injured should be released at the trap site. If they are injured, but may respond to veterinary treatment, such treatment should be sought. Severely injured non-target animals must be destroyed quickly and humanely.

Table 1: Humaneness, Efficacy, Cost-effectiveness and Target Specificity of Fox Control Methods

Control technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Fertility control	Conditionally acceptable	Unknown	Unknown	Depends on agent used	No products currently registered.
Exclusion fencing	Acceptable	Limited	Expensive	Can be in certain situations	Useful for protection of threatened wildlife species and other valuable animals. Expensive, therefore impractical for broad scale application.
Guard animals (e.g. dogs, alpacas, llamas, donkeys)	Acceptable	Unknown	Unknown	Guard dogs may chase or attack non-target animals e.g. native wildlife, pet dogs, livestock	Likely to be only effective for small to medium enterprises. At the moment, evidence on broad scale effectiveness remains anecdotal.
Ground baiting with 1080	Conditionally acceptable	Effective	Cost-effective	Potential risk of poisoning non-target animals. Strategic ground baiting uses fewer baits than aerial baiting programs. Uneaten baits can be collected and destroyed.	Currently the most cost-effective technique available. 1080 ingestion can also kill non-target animals including native species, cats, dogs and livestock. 1080 is toxic to humans; operators need to take precautions to safeguard against exposure.

Control technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Aerial baiting with 1080	Conditionally acceptable	Effective	Cost-effective	Potential risk of poisoning non-target animals as uneaten baits cannot be collected. Regionally specific techniques can be applied to minimise this risk.	Effective for broad scale control in remote areas. 1080 ingestion can also kill non-target animals including native species, cats, dogs and livestock. 1080 is toxic to humans; operators need to take precautions to safeguard against exposure.
Strychnine baiting	Not acceptable			Potential risk of poisoning non-target animals	Inhumane and should not be used. Alternatives are available
Ground shooting	Acceptable	Not effective	Not cost-effective	Target specific	Labour intensive, only suitable for smaller scale operations.
Den fumigation with carbon monoxide	Conditionally acceptable	Not effective	Not cost-effective	Target specific if den is monitored for non-target use prior to fumigation	Useful for localised fox problems where baiting and shooting is not an option, not effective for broad scale control. Carbon monoxide is toxic to humans; operators need to take precautions to safeguard against exposure.
Cage traps	Acceptable	Not effective	Not cost-effective	May catch non-target animals but they can usually be released unharmed	Useful only in urban areas for problem animals.
Eco-traps®	Acceptable	Not effective	Not cost-effective	May catch non-target animals but they can usually be released unharmed	May be useful in urban areas for problem animals, where baiting is inappropriate or where live-capture is required for research purposes.

Control technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Padded-jaw traps	Conditionally acceptable	Not effective	Not cost-effective	Risk of catching non-target animals but they can usually be released unharmed. Some species may experience severe injuries.	May be useful for problem animals but are inefficient for general control. Effectiveness depends on skill of operator
Treadle snares	Conditionally acceptable	Not effective	Not cost-effective	Risk of catching non-target animals but they can usually be released unharmed. Some species may experience severe injuries.	May be useful for problem animals but are inefficient for general control. Difficult to set.
Collarum® neck restraints	Conditionally acceptable	Not effective	Not cost-effective	More selective than other devices. The baited top and capture mechanism is relatively species-specific, and the mechanics of the device make capture of other species unlikely.	May be useful in urban areas for problem animals. Can be difficult to set.
Toothed, steel-jaw traps	Not acceptable	Not effective	Not cost-effective	Risk of catching and causing severe injury and distress to non-target animals	Inhumane and must not be used. Alternatives are available

*Acceptable methods are those that are humane when used correctly.

*Conditionally acceptable methods are those that, by the nature of the technique, may not be consistently humane. There may be a period of poor welfare before death.

*Methods that are not acceptable are considered to be inhumane. The welfare of the animal is very poor before death, often for a prolonged period.

Standard operating procedures

For regional variations on control techniques refer to local legislation and regulations. For additional examples refer to the Humane Pest Animal Control Standard Operating Procedures (SOPs).

SOPs are currently available for the following fox control methods on the feral.org web site:
<http://www.feral.org.au/animal-welfare/>

- Ground baiting of foxes with 1080 (FOX001)
- Aerial baiting of foxes with 1080 (FOX002)
- Ground shooting of foxes (FOX003)
- Fumigation of fox dens using carbon monoxide (FOX004)
- Trapping of foxes using padded-jaw traps (FOX005)
- Trapping of foxes using cage traps (FOX006)

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Legislation

All those involved in pest animal control should familiarise themselves with relevant aspects of the appropriate federal and state or territory legislation. The table below gives examples of some of the relevant legislation. This list is by no means exhaustive and is current at September 2012.

Commonwealth	<i>Agricultural and Veterinary Chemicals Code Act 1994</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ACT	<i>Pest Plants and Animals Act 2005</i> <i>Medicines, Poisons and Therapeutic Goods Act 2008</i> <i>Animal Welfare Act 1992</i> <i>Nature Conservation Act 1980</i> <i>Animal Diseases Act 2005</i> <i>Prohibited Weapons Act 1996</i> <i>Firearms Act 1996</i> <i>Environment Protection Act 1997</i>
New South Wales	<i>Prevention of Cruelty to Animals Act 1979</i> <i>Pesticides Act 1999</i> <i>Rural Lands Protection Act 1998</i> <i>National Parks and Wildlife Act 1974</i> <i>Threatened Species Conservation Act 1995</i> <i>Wild Dog Destruction Act 1921</i> <i>Game and Feral Animal Control Act 2002</i> <i>Deer Act 2006</i> <i>Non-Indigenous Animals Act 1987</i> <i>Exhibited Animals Protection Act 1986</i>
Northern Territory	<i>Animal Welfare Act</i> <i>Territory Parks and Wildlife Conservation Act</i> <i>Poisons and Dangerous Drugs Act</i>
Queensland	<i>Animal Care and Protection Act 2001</i> <i>Health (Drugs and Poisons) Regulation 1996</i> <i>Land Protection (Pest and Stock Route Management) Act 2002</i> <i>Nature Conservation Act 1992</i>
South Australia	<i>Animal Welfare Act 1985</i> <i>Natural Resources Management Act 2004</i> <i>Controlled Substances Act 1984</i> <i>National Parks and Wildlife Act 1972</i> <i>Dog Fence Act 1946</i> <i>Fisheries Management Act 2007</i>
Tasmania	<i>Animal Welfare Act 1993</i> <i>Vermin Control Act 2000</i> <i>Poisons Act 1971</i> <i>Agricultural And Veterinary Chemical (Control of Use) Act 1995</i> <i>Nature Conservation Act 2002</i> <i>Police Offences Act 1935</i> <i>Cat Management Act 2009</i>
Victoria	<i>Prevention of Cruelty to Animals Act 1986</i> <i>Catchment and Land Protection Act 1994</i> <i>Agriculture and Veterinary Chemicals (Control of Use) Act 1992</i> <i>Drugs, Poisons and Controlled Substances Act 1981</i> <i>Wildlife Act 1975</i>

	<i>Flora and Fauna Guarantee Act 1988</i> <i>National Parks Act 1975</i>
Western Australia	<i>Biosecurity and Agriculture Management Act 2007</i> <i>Animal Welfare Act 2002</i> <i>Agriculture and Related Resources Protection Act 1976</i> <i>Wildlife Conservation Act 1950</i>
Other relevant legislation	Firearms Acts Occupational Health and Safety Acts Dangerous Goods or Substances Acts Dog Acts Civil Aviation Acts

Note: copies of the above legislation and relevant regulations may be obtained from federal, state and territory publishing services.

Further information

Contact the relevant federal, state or territory government agency from the following list of websites:

Australian Department of Sustainability, Environment, Water, Population and Communities

<http://www.environment.gov.au/>

Australian Department of Agriculture, Fisheries and Forestry

<http://www.daff.gov.au>

ACT Territory and Municipal Services Directorate

<http://www.tams.act.gov.au/live/environment>

NSW Department of Primary Industries

www.industry.nsw.gov.au

NT Department of Natural Resources, Environment, the Arts and Sport

<http://www.nt.gov.au/nreta/parks/>

Qld Department of Agriculture, Fisheries and Forestry

<http://www.daff.qld.gov.au/>

SA Biosecurity SA, Department of Primary Industries and Regions

<http://www.pir.sa.gov.au/biosecuritysa>

Tas Department of Primary Industries, Parks, Water and Environment

<http://www.dpiw.tas.gov.au/>

Vic Department of Primary Industries

<http://new.dpi.vic.gov.au/>

WA Department of Agriculture and Food

<http://www.agric.wa.gov.au>

Also refer to:

Invasive Animals Cooperative Research Centre <http://www.invasiveanimals.com/index.php>

and <http://www.feral.org.au>

References

- Braysher, M. (1993). *Managing Vertebrate Pests: Principals and Strategies*. Bureau of Resource Sciences, Canberra.
- Braysher, M. and Saunders, G. (2002). Best practice pest animal management. *NSW Department of Agriculture Advisory Note DAI 279*
- Broom, D.M. (1999). The welfare of vertebrate pests in relation to their management. In: Cowand DP & Feare CJ (eds.). *Advances in vertebrate pest management*. Filander Verlag, Fürth. pp 309–329.
- Jenkins, D. (2003). Guard animals for livestock protection: Existing and potential use in Australia. Vertebrate Pest Research Unit, NSW Agriculture, Orange.
- RSPCA (2004). A national approach towards humane vertebrate pest control. Discussion paper arising from the proceedings of an RSPCA Australia/AWC/VPC joint workshop, August 4–5, Melbourne. RSPCA Australia, Canberra.
- Koehler, J. W. (1964). Opening remarks. Proceedings of the 2nd Vertebrate Pest Control Conference. March 4 and 5, 1964, Anaheim, California.
- Litten, K. E., Mellor, D. J., Warburton, B., and Eason, C. T (2004). Animal welfare and ethical issues relevant to the humane control of vertebrate pests. *New Zealand Veterinary Journal*. 52, 1–10.
- NCCAW (2004). The Australian Animal Welfare Strategy. National Consultative Committee on Animal Welfare, Primary Industries Ministerial Council. Document available electronically from the Australian Government Department of Agriculture, Fisheries and Forestry website: <http://www.affa.gov.au/content/output.cfm?ObjectID=3C9C4ACE-B85B-465C-9C508C771F08C87E>
- Saunders, G., Coman, B., Kinnear, J. and Braysher, M. (1995). *Managing vertebrate pests: foxes*. Bureau of Resource Sciences, Canberra.
- Saunders, G. and McLeod, L. (2007). *Fox management strategies in Australia*. Bureau of Rural Sciences, Canberra.