

# Model code of practice for the humane control of wild dogs

Prepared by Trudy Sharp and Glen Saunders

DOG COP – revised 03 September 2012

---

## Introduction

The aim of this code of practice is to provide information and recommendations to vertebrate pest managers responsible for the control of wild dogs. Control programs aim to reduce the negative impacts of wild dogs 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 wild dog 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. COPs 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 wild dog 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 is 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 sheep losses, calf predation, 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. This information is extracted from the publication *Managing the Impacts of Dingoes and Other Wild Dogs* by Fleming et al. (2001).

## Wild dog facts

The wild dog population comprises two subspecies of canid, dingoes (recommended nomenclature, *Canis lupus dingo*) and feral dogs (recommended nomenclature, *C. l. familiaris*) and hybrids of the two. Dingoes were first introduced to Australia some 4000 years ago and domestic dogs have been present since first European settlement in 1788. Dingoes and other wild dogs are widely distributed throughout the country and are present in most environments. However, dingoes and other wild dogs have been removed from much of the agricultural zone over the past 200 years and hybridisation between the subspecies over that time has resulted in a lesser proportion of pure dingoes, especially in south-eastern Australia.

The average adult dingo in Australia weighs 15 kilograms and, although feral dogs and hybrids may weigh up to 70 kilograms, most are less than 20 kilograms. Pure dingoes are distinct from similar-looking domestic dogs and hybrids because they breed once a year and have some different skull characteristics. The present distribution of dingoes and other wild dogs covers most of the mainland, except for the sheep and cereal growing areas of south-eastern Australia. Wild dogs live in small groups or packs in territories where the home ranges of individuals vary between 10 and 300 square kilometres. Packs are usually stable but under certain conditions some wild dogs, usually young males, disperse.

Although wild dogs eat a diverse range of foods, from insects to buffalo, they focus on medium and large vertebrates. Hunting group size and hunting strategies differ according to prey type to maximise hunting success. Larger groups of wild dogs are more successful when hunting large kangaroos and cattle and solitary animals are more successful when hunting rabbits and small macropods.

Female dingoes become sexually mature by two years and have only one oestrus period each year, although some do not breed in droughts. Female feral dogs of a similar size to dingoes have the potential to have two litters each year but this is rarely achieved because of the high nutritional demands of raising young. Litters average five pups and are usually whelped during winter.

## Wild dog impact

Wild dogs prey on livestock and predation on sheep and cattle can threaten the economic viability of properties in some areas. Sheep are the most commonly attacked livestock, followed by cattle and goats.

Some individual wild dogs cause far more damage than others do although many will attack or harass sheep, sometimes maiming without killing. Wild dogs sometimes chase sheep without attacking them. Even when wild dogs kill sheep, they often leave carcasses uneaten. Wild dogs that frequently kill or maim sheep often eat other prey, indicating that predation of livestock may be independent of the abundance of other prey. Surplus killing, where more sheep are killed than are needed for food, means that stock losses can be high even when wild dogs are at low densities.

Wild dogs are implicated in the spread of diseases such as hydatids, a risk to human health and the cause of losses of production associated with hydatidosis in cattle and sheep. They also provide a reservoir for heartworm infection and other dog diseases such as parvovirus and may be implicated in the transmission of *Neosporum caninum*. Wild dogs pose the greatest potential risk of maintaining and spreading dog rabies if it were to be introduced to Australia.

Wild dogs may also have a positive environmental impact, they have been in Australia long enough to become a functional part of the mammalian predator–prey relationships and fulfil an important role in the functioning of natural ecosystems.

## Wild dog control strategies

Opinions vary as to the pest status of dingoes and other wild dogs. People in the agricultural sector often view wild dogs as a pest to be removed from the environment. In contrast, Aboriginal peoples, urban people and conservationists often view dingoes as native wildlife that should be conserved. Management strategies that do not address or acknowledge broad community attitudes are susceptible to disruption or interference. By adopting a strategic approach, predation by wild dogs should be minimised while the conservation of the dingo proportion of the wild dog population will be enhanced.

Current management strategies focus on the objective of minimising the impact of wild dog predation on livestock, not just on killing wild dogs. Aerial baiting with 1080 baits forms a major part of most management programs and is primarily targeted at limited zones adjacent to livestock grazing areas. Large coordinated campaigns have generally been adopted, being more efficient and effective than small localised efforts. Bounty payments have not been successful in reducing predation by wild dogs and are subject to abuse. 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 wild dog 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

Wild dog 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 pastoral 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

Wild dogs have large home ranges and often traverse boundaries between lands managed by different stakeholders. To be effective at reducing predation losses, the treatment of single properties or small areas should be avoided as it creates “dispersal sinks” in a mosaic of baited and non-baited properties (Allen & Gonzalez, 1998). These sinks can attract young dogs and can actually increase predation of stock. Action by groups, including government agencies, is therefore an essential element of planning and implementation. By pooling resources, wild dog control groups and boards have been better able to manage wild dog problems. Management programs should also be flexible enough to account for the different objectives of stakeholders.

## Wild dog control techniques

The most commonly used wild dog control techniques are lethal baiting, shooting, trapping 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. A number of techniques that aim to improve the humaneness of trapping and baiting have also been proposed or are currently being investigated. These include:

- The use of M-44 ejectors as a more target specific method of delivering poison;
- Tranquiliser trap devices (TTD) to deliver sedative/anxiolytic drugs that reduce distress;

- The use of analgesic, sedative or anxiety reducing drugs combined with 1080 in baits;
- A trap alert system for monitoring leg-hold traps; and
- Lethal trap devices.

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

### **Exclusion fencing**

The use of exclusion fencing is generally regarded as a humane, non-lethal alternative to lethal control methods. Well-designed netting and electric barrier fences are expensive to erect and maintain but can be effective in excluding wild dogs from livestock grazing areas. Although exclusion fencing acts as a barrier to wild dogs 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 wild dog 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 wild dog 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 wild dog control in Australia.

#### *1080*

In carnivores, poisoning from 1080 is typified by severe central nervous system dysfunction, convulsions, hyperexcitability, vocalising and ultimately respiratory failure. Although the humaneness of 1080 is not yet fully understood, it is thought that during the initial onset of signs (e.g. manic running, vocalising, retching); the animal is likely to be conscious and capable of suffering distress and possibly pain. However, during the latter stages, when the animal shows signs of central nervous system dysfunction including collapse, convulsions and tetanic spasms, suffering may not occur.

#### *Strychnine*

Strychnine is considered 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. Typical signs of poisoning include restlessness, nervousness, apprehension and stiffness

with muscular twitching that progress to severe tetanic seizures. Violent muscular spasms extend the limbs and curve the neck upwards and backwards; the jaws fix and the eyes protrude. Respiration may stop momentarily during seizures. Although it is relatively quick acting (death usually occurs around 1–2 hours after ingestion), strychnine is less humane in its action than 1080. 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 wild dog *baits* is being phased out in all States and Territories however it is still used on the jaws of leg-hold traps to expedite the death of trapped dogs in some areas.

### **Shooting**

Shooting can be a humane method of destroying wild dogs 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 dogs must be located and dispatched as quickly and humanely as possible.

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

### **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 traps<sup>1</sup>). 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. Wild dogs 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, the jaws must have a rubber-like padding (or be laminated)<sup>2</sup> which reduces the initial impact and provides friction thus preventing the captured leg from sliding along or out of the jaws.

Toothed<sup>3</sup>, 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-jaw 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® 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

---

<sup>1</sup> *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, this catching and restraining the animal.

<sup>2</sup> *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. In some States it is acceptable to use *laminated* jaws (instead of padded) whereby a metal strip is welded above or below the jaws to increase thickness (by 6 to 10mm) and therefore increase the surface area of the jaw on the animal's limb.

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

of weather and must be inspected at least once daily or otherwise as authorised by the relevant jurisdictional vertebrate pest authority. 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 dog. Trapped animals should be approached carefully and quietly to minimise panic, further stress and risk of injury. Wild dogs must be destroyed as quickly and humanely as possible with a single rifle shot to the brain. If lactating females are caught in a trap, efforts should be made to find dependent pups 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.

Unless otherwise authorised by the relevant vertebrate pest authority, where leg-hold traps cannot be checked at least once daily a lethal toxin must be applied to the jaws of the trap or a lethal trap device must be used. Use of the lethal toxin or lethal trap device is to bring about a relatively quick death of trapped animals. This is preferable to the dog suffering a prolonged death from exposure, dehydration and/or stress. New lethal trap devices using humane toxins are currently being developed for use in all states and territories.

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

Control Technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Exclusion fencing	Acceptable	Effective in suitable areas	Expensive	Can be in certain situations	Well designed and maintained netting and electric barrier fences can be useful in excluding dogs from sheep-grazing areas. Expensive, therefore impractical for large 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.
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 (e.g. bait type and size, distance between baits, timing of baiting).	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.

Control Technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Strychnine baiting	Not acceptable			Potential risk of poisoning non-target animals. Strychnine is highly persistent in baits and poisoned carcasses.	Inhumane and should not be used. Alternatives are available.
Ground shooting	Acceptable	Not effective	Expensive	Target specific	Labour intensive, not appropriate for reducing populations over extensive areas. Often an opportunistic method of control.
Cage traps	Acceptable	Not effective	Expensive	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	Expensive	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.
Padded-jaw traps	Conditionally acceptable	Can be effective in certain situations	Expensive	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. Easier to use than treadle snares.

Control Technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Laminated-jaw traps	Conditionally acceptable	Can be effective in certain situations	Expensive	Risk of catching non-target animals although the effect on non-target animals is yet to be studied.	May be useful for problem animals but are inefficient for general control. Some studies have shown a reduction in the incidence of trap-related injury compared to non-laminated devices. Need to check acceptability in State/Territory legislation before use.
Treadle snares	Conditionally acceptable	Can be effective in certain situations	Expensive	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. Can be difficult to set and are bulky to carry.
Collarum® neck restraints	Conditionally acceptable	Can be effective in certain situations	Expensive	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			Risk of catching and causing severe injury and distress to non-target animals	<b>Inhumane and should not be used. Alternatives are available.</b>

\* 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 wild dog control methods on the feral.org web site:  
<http://www.feral.org.au/animal-welfare/>

- Trapping of wild dogs using padded-jaw traps (DOG001)
- Trapping of wild dogs using cage traps (DOG002)
- Ground shooting of wild dogs (DOG003)
- Ground baiting of wild dogs with 1080 (DOG004)
- Aerial baiting of wild dogs with 1080 (DOG005)

DRAFT

## 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.

<b>Commonwealth</b>	<i>Agricultural and Veterinary Chemicals Code Act 1994</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>
<b>ACT</b>	<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>
<b>New South Wales</b>	<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>
<b>Northern Territory</b>	<i>Animal Welfare Act</i> <i>Territory Parks and Wildlife Conservation Act</i> <i>Poisons and Dangerous Drugs Act</i>
<b>Queensland</b>	<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>
<b>South Australia</b>	<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>
<b>Tasmania</b>	<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>

<b>Victoria</b>	<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>
<b>Western Australia</b>	<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>
<b>Other relevant legislation</b>	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](http://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

- Allen, L., and Gonzalez, T. (1998) Baiting reduces dingo numbers, changes age structures yet often increases calf losses. Proceedings of 11th Australian Vertebrate Pest Conference. Bunbury, Western Australia. pp 421–428.
- 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.
- Fleming, P.J.S., Allen, L.R., Berghout, M.J., Meek, P.D., Pavlov, P.M., Stevens, P., Strong, K., Thompson, J.A. and Thomson, P.C. (1998). The performance of wild-canid traps in Australia: efficiency, selectivity and trap-related injuries. *Wildlife Research*, 25: 327–338.
- Fleming, P., Corbett, L. Harden, R. and Thomson, P. (2001). Managing the impacts of dingoes and other wild dogs. Bureau of Rural Sciences, Canberra.
- Jenkins, D. (2003). Guard animals for livestock protection: Existing and potential use in Australia. Vertebrate Pest Research Unit, NSW Agriculture, Orange.
- 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>
- 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.
- Shivik, J. A, Martin, D. J., Pipas, M. J., Turnan, J. and DeLiberto, T. J. (2005). Initial comparison: jaws, cables, and cage-traps to capture coyotes. *Wildlife Society Bulletin*, 33, 1375-1383.