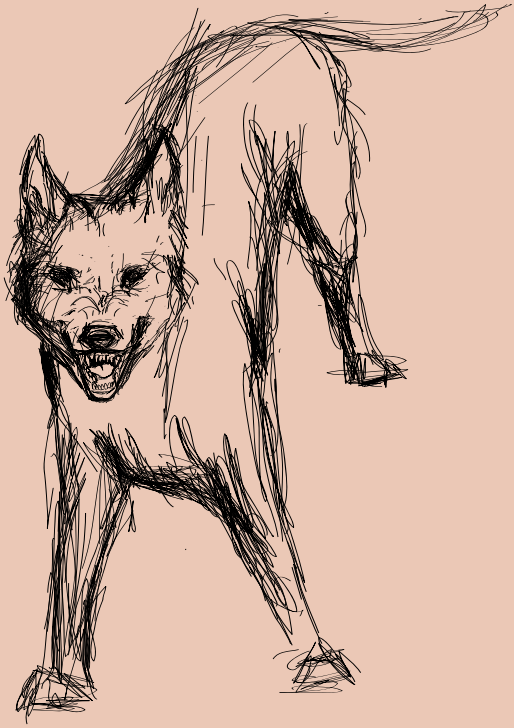
CENTRE FOR
INVASIVE SPECIES SOLUTIONS

GLOVEBOX GUIDE
FOR MANAGING
WILD DOGS



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NATIONAL WILD DOG ACTION PLAN

Contents

About this guide

This *Glovebox Guide for Managing Wild Dogs* is a general guide for Australian farmers, land managers and government staff. This guide uses the term 'wild dogs' to describe any wild-living members of the genus *Canis*, including pure dingoes, feral domestic dogs and crossbreds between the two.

Wild dogs cause significant economic, environmental and social impacts in many places. However, they are also an important part of most mainland environments.

The need to manage wild dogs has not diminished in the last 200 years. There might be new laws or different control tools and strategies, but the principles remain the same.

We recommend taking an adaptive and integrated approach to managing wild dogs and other pests, and where possible, working with others in the community or region.

This guide provides information on:

- impacts
- key facts about wild dog ecology and behaviour
- identifying wild dogs
- choosing control techniques.

This glovebox guide does not

cover all the details of wild dog management but is a great starting point.

For more information on managing wild dogs visit www.pestsmart.org.au.

Also consider participating in community wild dog management programs or enrolling in recognised vertebrate pest management courses.

Image by Richard Ali

LEARN–Impacts

Description

Wild dogs can cause significant economic, environmental and social impact. These impacts go far beyond the obvious injuries to and death of livestock and native animals.

Economic

Recent economic analysis calculated that wild dogs cost Australians as much as $111 million dollars (Cost of Pest Animals IN NSW and Australia 2013-14). Industry experts believe that when wider societal impacts are considered the cost is far greater. An example includes forced changes to enterprise mix and general decline of some farming businesses and local communities.

Physical health

As well as injuries to animals they attack, wild dogs also harbour and transmit diseases including distemper, hepatitis, hydatids, mange, Neospora caninum, parvovirus and sheep measles. Both Echinococcus granulosus (Hydatid tapeworms) and Neospora caninum can cause significant illness and death in livestock. These parasites can significantly impact animal health and cause economic loss (for example, causing abortions in cattle and offal being rejected at the abattoir). Hydatid worms can also be transmitted from dogs to people. In urban areas, wild dogs pose a health risk to humans and pets as they often use public parks and gardens.

Environmental

Wild dogs have been implicated in the decline of several small and medium-sized native animals in Australia. They are currently recognised as a known or potential risk to at least 14 nationally threatened mammals, reptiles and birds. (Refer to The Environment Protection and Biodiversity Conservation Act 1999.)

Wild dogs also transmit diseases and pathogens to native animals. Hydatids cause large cysts in the lungs of wallabies, drastically affecting lung function and further increasing their risk of predation. The impacts of wild dogs on native animals is exacerbated in the presence of other threatening processes such as vegetation clearing and habitat alteration.

Ongoing breeding between dingoes and wild dogs is a major threat to the existence of pure dingoes in Australia.

Reducing the number of sheep as a result of wild dogs can result in weed infestations. This has impacts on ecology and the economy.

Wild dogs have been a major cause of the decline in the sheep, wool and goat industries in Australia.

Social

Wild dogs can also have direct social impacts on individuals, families and rural communities as a result of economic losses and psychological impacts. Studies have shown that landholders dealing with ongoing wild dog attacks on their livestock exhibit emotional and psychological trauma similar to that of a returned Vietnam veteran (Ecker et al. 2016). Wild dogs also cause fear amongst residents as a result of attacks on domestic pets and concerns for personal wellbeing when they occur on public lands in peri urban and urban areas.

Animal welfare

Animal welfare is both a moral obligation and a legal requirement. Important animal welfare

considerations include how pest species are managed or controlled, as well as how injured

livestock are treated. The treatment of any animal should always be as humane as possible. This

is in line with animal welfare legislation and community expectations.

• Refer to Model Codes of Practice for the welfare of production animals and the most recent Animal Welfare Standards and Guidelines.

Image by Lee Allen

Key facts

What do they eat?

Wild dogs mainly eat meat. They will scavenge; eating vegetation, fruits, vegetables, eggs, rubbish and carrion. They will prey on a variety of mammal, bird and reptile species of all sizes but prefer small prey (less than 15 kg). They will go after mammals like rodents, rabbits and bandicoots first. They prey heavily on sheep, goats, calves and young cattle. They also injure far more animals than they kill. Wild dogs will eat larger species, for example kangaroos, when available.

Each day wild dogs eat about 20% of their body weight. They need up to 12% of their body weight in water/fluids each day in summer. They might not drink water for several days at a time.

Taxonomic names:
Canis familiaris (Jackson et al. 2017)

Common names:
Wild dog, dingo, feral dog

Image by Peter Fleming

When and how often do they breed?

Wild dogs are annual breeders. Females come into season during April and May with pups being born two months later. The average litter size is five pups but this can range from 1–11 pups.

The onset and extent of breeding varies significantly between regions, and is influenced by a range of factors including age, social status, seasonal conditions and genetic purity. Dogs may breed later in the year, depending on seasonal conditions, but this is uncommon.

Is there a particular time of year when wild dogs are more of a problem?

Wild dogs are more active leading into the breeding season in late autumn early winter. You will usually see more tracks, scratches, scats and hear more howling. They are less active in late winter and spring, when they are busy raising pups. Be warned: signs of wild dogs may disappear for several months when they are actually still there.

Biological and behavioural weaknesses

Wild dogs have few natural predators besides humans. However, pups can be vulnerable to birds of prey and other predators, such as foxes, cats, snakes or goannas.

It is possible to reduce numbers through restricting access to water.

Although wild dogs do not need to drink free water on a daily basis, the distribution of arid-zone populations is usually linked to the availability of water.

More facts and Frequently Asked Questions can be found on the PestSmart website.

Check the laws and guidance for your state or territory, including those that address the humane treatment of all animals.

We recommend following the six step pest animal adaptive management framework

PLAN

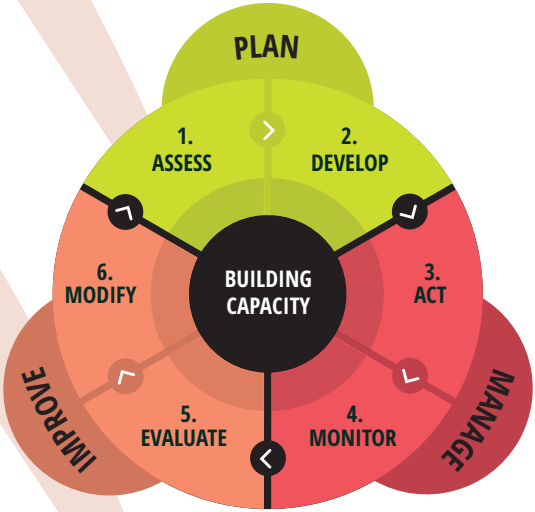
1. Assess and understand the problem
2. Develop a plan and set clear objectives

MANAGE

3. Choose control techniques and strategies and implement
4. Monitor the outcomes of your plan

IMPROVE

5. Evaluate the plan – did you meet your objectives?
6. Modify as required and repeat as necessary



Use [WildDogScan] to record and map wild dog sightings, damage and control activities. The data recorded is available to the community to help decide where to undertake control, and coordinate with neighbours.

FERALSCAN .ORG.AU

PLAN

1. Identifying wild dogs and their impacts

Detecting the presence of wild dogs and their impacts

It is common for wild dogs to be present but go unnoticed or unrecognised. No matter what colour a free-roaming dog is, if it is not your dog it should be considered a wild dog. There are several indicators that suggest that wild dogs might be present in an area.

Read through the indicators listed in the table, and follow the exercise outlined below.

Are wild dogs present in my area?

Using the indicators in the table, complete the following exercise:

1. Circle each of the indicators you have observed for your area.

2. Add up your scores separately for each category.

3. Locate your chances of wild dogs being present in the following table.

	Potential indicator of wild dog presence	Score
1	free-roaming dogs seen or heard	10
1	wild dog footprints found in places where working dogs have not been used (eg around water points, road junctions, along animal pads, under holes in fences, newly graded tracks)	10
1	wild dog scats/faeces and scratch marks found in similar places (scats should contain hair, bones, scales, feathers, or insects)	10
1	livestock kills and damage, including bite marks or torn ears	10
2	unexplained livestock losses or low marking/ branding/mustering percentages	8
2	unusually high percentages of cows not producing milk	8
2	the absence of young kangaroos and feral goats	7
2	kangaroos caught in fences when there has been no one present to disturb the mobs	7
3	sheep coming into water at a gallop and leaving in the same way (lead animal taking last animal back out before it has drunk)	5
3	changes in livestock or goat behaviour (eg stock no longer camping on the dam or grazing where they always have in the past)	5
3	sheep that won't work into the wind or visit good feed down one end of the paddock	5
4	kangaroos/livestock drowned in full dams	4
4	feral goat numbers lower than expected	4
4	crows following your working dogs	3
4	increased localised crow numbers	2
4	birds of prey consistently flying over rough, barren areas where you would not otherwise expect to find much food	2

A score of 10 or more in Category 1	You definitely have wild dogs
A score of 15 or more in Category 2	You probably have wild dogs
A score of 10 or more in Category 3	You might have wild dogs
A score of 10 or more in Category 4	You might have wild dogs
One score/indicator each from Category 2, 3, and 4	You probably have wild dogs

Telling tracks apart: Wild dog, fox, cat or quoll?

Tracks are a valuable tool to determining what animals have been in the area (see Figure 1). These are the strongest signs to look for:

- Shape and size: Dog prints are usually larger (greater than 6 cm) and rounder. Fox prints are smaller and more elongated while cat prints are small and very round.
- Pad placement: Dogs, pads are spread more evenly. In foxes the top two paw pads are forward and can be separated by a straight line as shown in Figure 1.
- Number of toes: The front foot of quolls shows all five toes. Wild dogs, foxes and cats only show four.
- Toe nails: Dog (and quoll) toe nails usually point out straight, fox nails point inwards, and cats have no toe nail marks.
- Back print overlap: Back foot prints usually partly overlap the front foot prints for dogs. In foxes they mostly overlap and in cats almost completely overlap.

Be warned:

When pups are active the average size of footprints will be smaller, making identification more difficult. For example, in late spring and early summer, some wild dog footprints (of pups) can be as small as foxes and it can be hard to tell them apart. By autumn and winter, all wild dog prints are usually much larger than foxes prints.

When wild dogs, foxes and cats walk, their front foot hits the ground first and their back foot print usually lands nearby (see Figure 2). The rear foot is smaller in size than the front foot and often leads people to think there are two dogs of different sizes.

Figure 1 – The relative size and shape of wild dog, fox, quoll and cat tracks (top row shows front foot and bottom row shows back foot).

More information

Barbara Triggs (2004). Tracks, Scats and Other Traces: A Field Guide to Australian Mammals.

Image by Ben Allen

Extent of the problem

If you suspect that you have wild dogs in your area, talk to your neighbours and your local pest animal control authority.

You will also need to define the extent of the problem. This is often the most difficult and time-consuming part of the management plan, but is critical for success. It must take into account all the socio-ecological components and current knowledge of livestock losses and wild dog activity.

You need to remember that reducing wild dog numbers might not actually reduce wild dog impacts, so control programs should only be considered successful when wild dog problems have ceased or been reduced to an acceptable level.

Developing your plan

As a general rule, you will need to consider the following aspects to develop your management plan:

- How you will work with ecology and behaviour
- How you will work with other people, for example your neighbours and local government
- What your objectives are and how you will judge success
- Which laws and policies apply to your situation
- Resources, including time and money.

This overarching plan will help you choose which control tools are most appropriate to your objectives and your situation and help you monitor and evaluate.

Image by Lee Allen

Working with ecology and behaviour

You can get better results from working with the ecology and behaviour of wild dogs in your area. Wild dogs follow a seasonal and cyclical pattern each year: breeding, whelping, dispersal and back to breeding.

Some rules-of-thumb are to run regionally coordinated programs in:

- Autumn: to target mature dogs before they have a chance to breed
- Spring: to target juvenile dogs as they disperse
- Summer: to target migrating dogs.

The best time to control wild dogs will depend on your local situation.

Working with people and organisations

Wild dog management strategies are most successful when people work together. Wild dogs do not respect tenure boundaries such as fences, borders or land uses. This means that results (and costs) for managing wild dogs in one area are likely to be affected by the actions or inaction of people in surrounding areas.

Working together ensures that all stakeholders have input and buy-in. Costs and effort can be shared; this typically means a little bit of work from a lot of people, rather than a lot of work from a few people.

Working across time and space

Reducing wild dog numbers is best achieved when management activities and direct controls are applied across broad areas at the same time, and repeated on a regular basis, leaving no gaps in space or time.

Image by NSW NPWS

Image by NSW DPI

Working with the law

Wild dog management is regulated and administered at the state and territory government level and is constrained by certain Commonwealth, state and territory legislation and policy. There are also various guidelines, codes of practice, and standard operating procedures. These may be implemented or driven at the local level.

Violation of laws related to wild dog management can attract serious penalties (for example fines and jail time) for individuals and agencies.

You need to check the latest national and state/territory laws, regulations and policies.

Laws relate to:

- legal and conservation status of specific populations of wild dogs and the protection status of pure-bred dingoes
- threatened species and conservation (most notably the Environment Protection and Biodiversity Conservation (EPBC) Act 1999)
- land tenure, for example the treatment of wild dogs may be different in national parks versus agricultural areas
- obligations of land owners where wild dogs occur, for example in some areas land owners need to control animals and prevent them causing problems elsewhere, whereas in other areas they are responsible for conserving them
- animal welfare (for both wild dogs and native, livestock and pet animals)
- control techniques, for example specific legislation dealing with the use of poisons, firearms, and traps
- keeping, sale, and movement of wild dogs
- use of animals in research and teaching, for example in some jurisdictions the systematic use of camera traps or attaching tracking collars to wild dogs may need permits.

Refer to your state/territory agency and the PestSmart website for the latest information about legislation, the Australian Pest Animal Strategy 2017–2027 and the National Wild Dog Action Plan.

Image by NSW DPI

MANAGE

Choosing the right management strategy or control tool

How you manage wild dogs will depend on a range of factors. If you need to reduce wild dog numbers directly, you can use lethal control tools or a combination of non-lethal and lethal tools.

The most effective approach usually involves using a range of tools (an 'integrated' approach) not one.

The table on page 18 explains some of the basic advantages, disadvantages and use cases for the common control tools.

Note that some control tools might not be allowed or useful in certain areas. Each tool varies in its effectiveness, depending on a range of factors specific to the local situation. The use of many control tools is also subject to various laws and regulations and Standard Operating Procedures. Wild dog control officers are familiar with these and are able to advise people on what is and is not permitted in your local area.

Description of common tools

Toxicants/poisons in bait form

Sodium fluoroacetate (or '1080') is the most common toxin used in baits to control wild dogs. It is an 'older generation' toxicant. 1080 poison baits can be made from pieces of animal meat (such as kangaroo, cattle or horse meat) cut to about the size of a tennis ball or larger. Average and minimum weights vary between states so check the size you require. Stable and accurately dosed manufactured baits (such as DOGGONE® (1080) and DOGABAIT® (PAPP) or De-K9® (1080)) can also be bought from approved suppliers. PAPP is only available in manufactured baits. Strychnine is no longer permitted for use in poison baits in any jurisdiction.

Image by Peter Fleming

Image by Lee Allen

Toxicants/poisons in Canid Pest Ejectors

A Canid Pest Ejector is a small cylindrical device consisting of a spring-loaded piston housed inside a stake and then hammered into the soil leaving only a 'bait head' exposed on the surface. The bait head contains a replaceable capsule of poison (1080 or PAPP) and when an animal puts its mouth over the bait head and pulls it, the poison is ejected into the mouth in a quick spurt. Ejectors are like a permanent one-shot bait station but the bait can't be shifted, making it safer to use around working dogs.

Trapping

Leghold traps may be used to capture live animals for later euthanasia, usually by shooting. A range of different trap types are available, but not all trap types are permitted for use in each jurisdiction. The most humane and efficient traps are called 'soft-catch' traps, including Jakes, Victors, or Bridgers. Each has slightly different design features for use in various situations. Professional wild dog trappers are also available to contract in many areas. Steel jaw leg-hold traps (toothed and/or without padding) are prohibited across Australia.

Shooting

Firearms may be used by landholders, professional wild dog controllers, or hunting groups to shoot wild dogs. Shooters must operate in a safe and humane manner, in accordance with the relevant laws and guidelines.

Fencing

Fencing is perhaps the best method of excluding wild dogs from an area, but may require a lot of maintenance. Netting or electric fencing can both be effective barriers, but you will need to eradicate dogs from inside fenced areas.

Image: Victorian government Dept Environment, land water and Parks

Image by Heather Miller

Guard animals

A variety of guard animals are used all around the world to protect livestock from predators. In Australia, guardian dogs (such as maremmas), llamas and alpacas, or donkeys are sometimes used. Success varies and evidence is limited. Using guard animals is designed to prevent livestock attacks, but they might not exclude wild dogs from a given area.

Aversion techniques

Aversion methods include flashing lights, sounding alarms or objects flapping in the wind, such as coloured flags. Limited information is available on how effective they are.

Image by Greg Mifsud

Image by Richard Ali

Image by Lee Allen

Control tool	Advantages	Disadvantages	Common uses
1080 baiting	• can be applied on a broad scale by vehicle, plane or helicopter • can be flexible with bait type, using manufactured products or meat from various animals • is relatively cheap • requires relatively little time	• has restricted use in peri-urban areas • is dangerous to pet dogs and some other non-target animals • results in a relatively slow death to poisoned animals	• most commonly used to protect livestock across broad areas in less-populated regions • small-scale campaigns can sometimes be run in peri-urban areas, but they usually need a high level of preparation
PAPP baiting	• an antidote is available to and administered by vets which offers a chance of treating dogs that have accidentally been poisoned by PAPP • potential use around peri-urban areas (or in areas where the risk of unintentional poisoning of working and companion dogs is increased) because of the availability of an antidote • provides a relatively quick and humane death • manufactured bait types containing PAPP are less attractive to many non-target species • feral cats may also take PAPP baits	• no concentrate is available • can only be applied by ground placement as it is not approved for aerial baiting at this time • presents risks to some non-target species • the antidote can only be administered by a vet • because PAPP works quickly, the antidote is not guaranteed to be effective • PAPP baits are subject to same access, use restrictions as 1080 baits.	• approved for Fox control (FOXECUTE baits) and for wild dog control (DOGABAIT)
Trapping	• can be selective and target specific • can be done in peri-urban and other areas where poison baiting is not suitable • can confirm the control of specific individual animals • enables a relatively quick and humane death • is relatively cheap	• has limited broadscale application • requires a high level of technical ability and local knowledge • captured animals may be distressed for some time • requires relatively high time inputs	• commonly used in areas with high risks to people, working dogs and other non-target species • is used to capture specific individuals • often used where poison baiting is less effective, for example, in or around lambing paddocks
Canid Pest Ejectors	• is highly target specific • can be used with either cyanide, 1080, or PAPP • is relatively cheap • requires relatively little time	• limited to on-ground application • requires a moderate level of technical ability and local knowledge	• used to provide 24/7/365 control • used for point-specific application of poison

Control tool	Advantages	Disadvantages	Common uses
shooting	• is selective and target specific • can be done in areas where poison baiting is not suitable • can confirm the control of specific individual animals • enables a relatively quick and humane death • is relatively cheap	• has limited broadscale application • requires a high level of technical ability and local knowledge • requires relatively high time inputs	• commonly used together with trapping programs • is used to target specific individuals
fencing	• is capable of completely excluding wild dogs from an area • removes the need for additional livestock fencing • probably involves relatively little ongoing time inputs once constructed in some places	• is relatively expensive to construct and maintain in a dog-proof condition • limits movements of other wildlife • does not remove wild dogs already present in the exclusion zone	• most frequently used in local areas to protect high-value assets, such as livestock studs and threatened wildlife reserves
guard animals	• can provide ongoing control of wild dog impacts • does not require the killing of wild dogs • has limited non-target impact	• often requires significant investment in time and training • is relatively expensive • has limited broadscale use	• most frequently used in restricted areas to protect high-value livestock
aversion techniques	• does not require the killing of wild dogs • has limited non-target impacts • is relatively cheap • requires relatively little time	• typically provides only very short-term control • has limited broadscale use	• most frequently used in association with fencing

IMPROVE

When evaluating your plan at the end of the year/season, consider the following questions:

- how well did the plan work
- what features worked and why
- what features didn't work and why not
- did I save money or spend more than I planned
- could I spend money better next time
- what could I change to make the plan work better next time?

You can now modify your management plan if required. Repeat the process until you are satisfied your planning process is the best it can be. You will likely need to adapt the plan each year as the situation changes on your property and in surrounding areas.

To get help evaluating your plan contact your local biosecurity officer or land management authority.

For further information on wild dog control resources, information and references visit Pestsmart.org.au/toolkits/wild-dogs

Monitor your activities and evaluate your plan. If you didn't achieve your objectives find out why

Wild dog. Image by Leo Berzins

More on wild dog ecology

Pathways of spread

While some people think that dingoes are native to Australia this is not the case. Dingoes were introduced to northern Australia from south-east Asia about 3,500 years ago. Dingoes spread across the mainland in about 500 years, possibly assisted by Aboriginal and Torres Strait Islander people. The dingo, Canis familiaris (Jackson et al 2017), interbred with domestic dog breeds that were brought to Australia with European settlers.

Wild dogs were once locally eradicated from many parts of south-eastern and south-western Australia (inside wild dog barrier fences), where they had been intensely controlled after European settlement. Wild dogs are now present in these areas in low numbers and are becoming more common.

Image by Lee Allen

What is the lifecycle of a wild dog?

Pups are born after a gestation period of 61–69 days. Milk production lasts less than two months and pups are weaned gradually. Females usually breed from two years of age, and males reach sexual maturity from one year of age. Wild dogs can live up to about 13 years in the wild (up to 20 years in captivity), although it is unusual for animals to live longer than five to six years. Most don't survive beyond four years. Dispersal of young wild dogs begins in late summer and continues through to the onset of breeding in autumn.

Wild dogs have been recorded dispersing over 550 km in less than one month, however this is not normal with most moving shorter distances to occupy nearby vacant territory. Larger-than average males typically disperse further and more often.

6. Policy and legislation

Legal status and management

On 7 June 2017 the National Biosecurity Committee endorsed the Australian Pest Animal Strategy 2017–2027. As highlighted in this nationally agreed strategy, wild dogs cause significant national economic impacts and substantial damage to livestock producers, particularly sheep and goat producers, through predation and disease transfer. Wild dogs are conservatively estimated to now cost Australia's agricultural sector up to $89 million per year, not to mention the considerable negative environmental and social impacts. As a result of these significant impacts, wild dogs are considered a priority pest animal. A five year National Wild Dog Action Plan was developed through the former Vertebrate Pests Committee (now the Environment and Invasives Committee) with all jurisdictions and industry endorsing the plan in May 2014. The National Wild Dog Action Plan, currently being implemented throughout Australia, provides all levels of government, industry and landholders with direction for the national management of wild dogs to minimise their impacts on agricultural biodiversity, the environment and social assets.

Wild dog management is regulated and administered at the state and territory government level and is constrained by certain Commonwealth, state and territory legislation and policy, with various guidelines, codes of practice, and standard operating procedures applying. Legislation and policy often vary between jurisdictions at local and state levels, with overriding federal laws also affecting wild dog management. There are also other more generic Acts that function across jurisdictions. Violation of laws related to wild dog management can attract serious penalties (eg fines and jail time) for individuals and agencies.

In general, the following types of regulations should be considered before beginning any wild dog management activity.

Laws relating to animal welfare

There are laws in every state and territory that address the need to treat all animals humanely, whether they are considered pests or not. People managing wild dogs are obligated to use control methods that minimise any potential pain, fear or distress. These obligations encompass a wide range of activities from the capture and relocation of animals, through to poisoning, shooting or trapping. Codes of practice, standard operating procedures, and best-practice guidelines for the management of wild dogs have been developed, are publicy available on www.pestsmart.org.au, and should be followed in order to prevent cruelty to animals during control operations.

Laws relating to land tenure

The legal status of wild dogs varies with different land tenures. In many cases, wild dogs are a 'protected species' in national parks and conservation reserves, while they are considered 'declared pests' in many livestock production areas. Listing wild dogs as protected or declared places certain restrictions and obligations on those intending to manage wild dogs in a given area. Certain management activities are not legally permissible on all tenures. Permission to access various land tenures should also be considered.

Laws relating to the conservation status of specific wild dog populations

Laws can sometimes vary between specific populations or types of wild dog.

Laws relating to the use of animals for research and teaching

Not all wild dog management activities require the destruction of animals, and alternative legislation governs the use of animals for researching and teaching purposes. Some wild dog management activities might be considered 'research and teaching activities' in some jurisdictions, such as the systematic use of camera traps or attaching tracking collars to wild dogs. If this is the case, various additional permits and approvals may be required

The EPBC Act also lists the key threatening processes (KTP) known to affect threatened species. Predation by wild dogs has not been recognised as a KTP in national legislation but is recognised as such in New South Wales.

Important to the management of wild dogs, new wild dog control programs might need to be reviewed under the EPBC Act before they are put in place, to assess the program's risk to threatened species in the area. For example, if wild dog control is to begin in a national park where control has not previously been done, the proposal must be assessed before it can start. Checking with the relevant authorities should first be done to avoid doing the wrong thing.

Laws relating to the keeping, sale, and movement of wild dogs

Because wild dogs may be considered protected or declared, native or introduced, or a risk to livestock or not, laws differ between jurisdictions with respect to the keeping, sale and movement of wild dogs. Different states and territories might or might not allow the keeping of wild dogs as pets. A permit might be required to do so, and although permitted in one area, wild dogs might not be transportable to another state or tenure. Wild dogs may be seized and euthanised if they are being kept illegally.

Wild dog predation is known or expected to be a risk to the threatened species:

Species type	Common name	Scientific name	Adult weight (kg)
mammal	marsupial moles	*Notorycetes typhlops, N. caurinus*	0.07
mammal	smoky mouse	*Pseudomys fumeus*	0.09
bird	black-breasted button-quail	*Turnix melanogaster*	0.1
mammal	golden bandicoot	*Isoodon auratus*	0.7
mammal	northern quoll	*Dasyurus hallucatus*	1.2
mammal	greater bilby	*Macrotis lagotis*	2.5
mammal	long-footed potoroo	*Potorous longipes*	2.5
bird	malleefowl	*Leipoa ocellata*	2.5
mammal	bridled nailtail wallaby	*Onychogalea fraenata*	8.0
mammal	Proserpine rock-wallaby	*Petrogale persephone*	8.8
mammal	koala	*Phascolarctos cinereus*	12
mammal	northern hairy-nosed wombat	*Lasiorhinus krefftii*	31
bird	southern cassowary	*Casuarius casuarius johnsonii*	60

Legal obligations on owners of land where wild dogs occur

The responsibility to manage wild dogs rests largely with the owners or managers of the land where wild dogs occur. This presents challenges in places where wild dogs roam between multiple properties, and these are usually sorted out through community wild dog management plans. In places where wild dogs are considered pests, landowners have a responsibility to control wild dogs on their land and prevent them from causing problems on neighbouring lands. On lands where wild dog conservation measures are applied, managers have a responsibility to ensure that wild dogs are not leaving those lands or causing problems in adjacent areas.

These obligations apply to private, leased and crown lands. There are likely to be penalties for people and agencies that do not abide by the rules.

EPBC Act considerations

The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* oversees the management of vulnerable and endangered native species, populations and ecological communities. The *EPBC Act* lists all the native species currently at risk from a variety of factors. Wild dog predation is known or expected to be a risk to the threatened species listed in the table on this page.

- EPBC Act requirements, see: http://www.environment.gov.au/epbc/do-you-need-approval

7. Notes

7. Notes