

Wild Dog Management Plan 2023-2027



Pest Management

P: 4932 9000

E: enquiries@rrc.qld.gov.au



Acknowledgements

This plan was developed by Rockhampton Regional Council in collaboration and consultation with experts from the following organisations:

- Department of Agriculture and Fisheries
- Biosecurity Queensland (Rockhampton)
- Department of Environment and Science
- Queensland Parks and Wildlife Service (Rockhampton)



Contents

Summary	4
Background	4
Purpose	5
Objectives and Outcomes	6
Integration	7
Stakeholders	7
Legislation	8
Principles of Pest Management	8
Control	9
Challenges for managing wild dogs	9
Intervention in rural areas	10
Intervention in peri-urban and urban areas	10
Strategy implementation review and performance reporting	10
Definitions	11
References	12
Appendix 1 - Action Plan	13
Appendix 2 – Overview of Control Methods	16
Appendix 3 - Hierarchy of Control in Peri-Urban and Urban Areas	19



Summary

Wild dogs have known significant impacts on a number of values of the residents living in the in the Rockhampton Region.

Landholders are legally obliged to control wild dogs where they occur on their land. Wild dog territories typically occur over numerous properties and are therefore difficult to effectively control individually. A coordinated approach to wild dog management is best practice and there is a community expectation that Council will facilitate this.

Under the *Biosecurity Act 2014*, local governments must have a biosecurity plan for invasive biosecurity matter in their local government area. Biosecurity matter includes dogs (*Canis lupus familiaris*) other than a domestic dog owned by a person and dingoes (*Canis lupus dingo*) located outside a protected area ie a National park. The difficulty of managing an adaptable, mobile animal has led to Council taking a nil tenure approach of working with a number of stakeholders on appropriate management solutions.

This plan integrates pest management principles, legal obligations, community expectations, scientific knowledge and animal welfare considerations to provide a framework for the control of wild dogs by landholders, Council and other key stakeholders.

This plan forms a subplan under the Council's Biosecurity Plan 2022-2026.

Background

Wild dogs include dingoes (*Canis lupus dingo*), hybrid dingoes (*Canis familiaris dingo*, *Canis lupus familiaris*) and domestic dogs (*Canis familiaris*) that have escaped or have been released into our Region.

As a result of significant impact wild dog have, they are now considered a priority pest animal. The National Wild Dog Action Plan has been developed and is being implemented throughout Australia.

Characteristics and distribution of wild dogs

Dingoes were first introduced to Australia some 4000 years ago and domestic dogs have been present since first European settlement in 1788 and their release into the environment has continued since.

Dingoes and other wild dogs are present in most environments and are widely distributed throughout the country.

Wild dogs are annual breeders with an average litter size of five pups. Wild dogs and hybrids may weigh up to 60 kilograms, most are less than 20 kilograms. Pure dingoes are distinct from similar-looking domestic dogs and hybrids as they breed once a year and have some different skull characteristics (Fleming 2001).

Wild dogs live in small groups or packs in territories where the home ranges of individuals can 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, 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 (Fleming 2001).

Dingoes and other wild dogs are present and distributed throughout the Rockhampton Region.



Impacts of wild dogs

Wild dogs have substantial impacts on the economy, environment and social amenity and human safety.

Economic Impacts

Queensland loses about \$89.3 million (Pest Smart) on average annually in terms of lost agricultural productivity.

Further economic losses are caused by the transmission of parasites such as hydatids and *Neospora caninum* which may result in the rejection of beef products and decreased herd fertility.

Environmental Impacts

Wild dogs are a threat to 14 endangered or vulnerable native mammals, reptiles and bird species listed under the EPBC Act.

Wild dogs control measures also have environmental impacts. Control measures may have a direct impact on non-target species and reduced wild dog density, which may result in an increase in other predators with overlapping diets.

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

Social amenity and human safety

Human and pet safety are the predominant issues that cause most angst to residents, especially in peri-urban areas. Human, amenity and environmental impacts are also of concern. The nature, frequency and intensity of interactions with people vary and appear to be dependent on a number of factors including age and sex of wild dogs, pack size and composition, time of year, natural food supplies and human reactions to wild dogs.

Wild dog/human interactions experienced in the Rockhampton Region includes wild dogs stealing and soliciting food and loitering in public areas. This can lead to the potential for outright attacks on humans. Some people fear wild dogs and the results of any potential altercation can lead them to change their activities to avoid contact with wild dogs.

Wild dog/animal interactions experienced includes attacks on pets and stock resulting in injury through to death.

Wild dog attacks on humans, stock and pets can cause significant psychological stress on livestock owners and the general public.

Wild dogs may also act as vectors of diseases for humans and pets.

Value of wild dogs

Wild dogs can have a number of positive social and environmental values. Wild dogs are the top predator and under particular conditions, they may limit the density and rate of population growth of other pest animals such as rabbits, goats, feral cats, pigs and foxes. This in turn may aid the survival of native species.

Dingoes have a significant role in the spiritual and cultural values and practices of indigenous Australians, and Rockhampton Regional Council recognises the importance of this to our local Region.

Purpose

The purpose of this plan is to set the overarching framework for the management of wild dogs in the Rockhampton Region. The plan will be supported by the subsequent development of underlying associated documents including action plans, work instructions and strategies.



Objectives and Outcomes

The actions for wild dog management in the Rockhampton Region will be delivered based on five desired outcomes and related objectives.

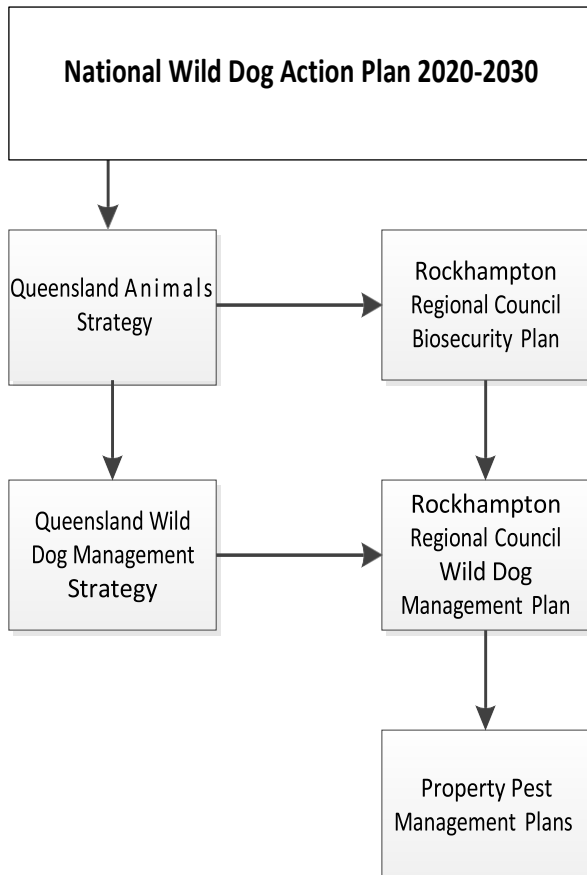
Objectives				
To achieve effective best practice control of wild dogs across all tenures.	To reduce wild dog impacts in rural areas through community action.	To reduce wild dog impacts in urban and peri-urban areas.	<p>To develop and implement a communication and education program to ensure landholders are aware of their responsibility in rural areas.</p> <p>To develop and implement a communication and education program to ensure stakeholders are aware of their responsibility and the need to control dogs and wild dogs in urban and peri-urban areas.</p>	To balance the conservation of dingoes with other management objectives, including the protection of rural enterprises and public safety.
Outcomes				
Wild dogs are managed within the Rockhampton Region.	Wild dog impacts in rural areas are reduced.	Wild dog impacts in urban and peri-urban areas are reduced.	The community is informed on wild dog management.	Conservation of dingo populations in the Rockhampton Region.

An action plan to achieve the priority objectives and desired outcomes is outlined in Appendix 1.



Integration

This management plan is designed to be consistent with plans from surrounding local government areas to ensure effective integration across all levels of government. This relationship is illustrated below.



Stakeholders

A number of stakeholders have interests in wild dog management in the Rockhampton Region. Effective engagement of all relevant parties is critical to the success of wild dog management programs. Stakeholders include:

- Queensland Dog Offensive Group
- Department of Agriculture and Fisheries
- Biosecurity Queensland
- Queensland Health
- Department of Environment and Science
- Local government
- Local wild dog committees
- Landholders/managers
- Industry groups
- NRM Groups.



Legislation

The dingo is defined as both 'wildlife' and 'native wildlife' under the *Nature Conservation Act 1992*, and is a natural resource within protected areas such as national parks. In identified protected areas, dingoes are a protected species.

Under the *Biosecurity Act 2014* wild dogs (*Canis lupus familiaris*) and dingoes (*Canis lupus dingoes*) are restricted invasive animals.

A wild dog must not be moved, kept (if a dingo) fed, given away, sold or released into the environment without a permit.

When a dingo is within a protected area (eg a national park) it is protected, however it is restricted matter outside the protected area.

The *Biosecurity Act 2014*, requires local governments to have a biosecurity plan in place to manage pest animal impacts in their local government area.

Under the *Medicines and Poisons (Poisons and Prohibited Substances) Regulation 2021*, the toxins fluoroacetic acid (1080) and strychnine are classified as Schedule 7 poisons.

Queensland Health can issue landholders with a permit for strychnine for their own land only.

Landholders can purchase low-risk fluoroacetic baits commercially (eg doggone) from licensed s7 poison retailers after approval as an approved person by Queensland Health.

Council officers may also hold a general approval to possess, use, supply and dispose of 1080 (other than low risk fluoroacetic baits) for the purposes of invasive animal control. Competencies are required to be met to gain this approval.

The management of wild dogs is also regulated by the:

- *Animal Care and Protection Act 2001*
- *Weapons Act 1990*
- *Work Health and Safety Act 2011*
- *Medicines and Poisons Act 2019*
- *Medicines and Poisons (Pest Management Activities) Regulation 2021*

Principles of Pest Management

The development and implementation of this plan is based on the management principles for weeds and pest animals being:

- Public awareness
- Commitment
- Consultation and partnership
- Planning
- Prevention and early intervention
- Best practice
- Improvement (research, monitoring, evaluation)

The principles are a common basis for management throughout Queensland. The consideration of all these principles is critical to the success of any management activity.



Control

Control operations

The aim of control is to minimise the impacts of wild dogs across the Rockhampton Region.

Effective control requires an integrated, collaborative approach. A nil tenure approach, where a range of control methods are applied across all tenures by all stakeholders in a cooperative and coordinated manner can achieve this.

Ultimately though, it is the responsibility of landholders to determine and implement control measures on their individual land holdings.

Control methods

Control methods employed are based on an understanding of wild dog behaviour, social structure, habitats and food preferences. Control methods are also influenced by concerns for animal welfare and non-target impacts, public safety, occupational health and safety issues, and by the legislative and practical restrictions on applying some techniques.

Effective control requires an assessment of each individual situation and circumstances surrounding each problem. There is no single 'quick and easy' method that will solve all problems. Best results are achieved through a suite of complementary control methods.

An overview of the main methods for controlling wild dogs, along with their relative efficacy, cost-effectiveness, target specificity and humaneness acceptability is outlined in Appendix 2. Council considers these when determining control measures used.

Challenges for managing wild dogs

The predominant challenges for managing wild dogs in the Rockhampton Region include:

- Difficulties of control in peri-urban and urban areas
- Proximity of protected areas (national parks) to peri-urban and urban areas
- Mobility of wild dogs
- Changing land use and social demographics
- Absentee landholders
- Concerns over off-target impacts of control methods, particularly the use of 1080
- Animal welfare obligations to be acknowledged or accepted which may limit the use of some control methods
- Insufficient resources
- Difficulties in measuring the effectiveness of control methods
- Negative perceptions of methods used in coordinated control programs.



Intervention in rural areas

As wild dog home ranges may extend over several properties, broadscale baiting is the most effective and efficient means of controlling wild dogs in rural areas. Trapping and fencing are not considered feasible options, although can be adopted successfully when challenges for managing wild dogs have reduced the control methods available. Trapping can also prove effective when managing individual offending wild dogs or small packs of offending wild dogs. Rockhampton Regional Council supports this control method by supplying wild dog traps to loan out to the public free of charge.

Council offers rural landholders the opportunity to participate in 1080 baiting programs to control wild dogs on their properties in the Rockhampton Region. These are proactive programs to prevent the build-up of wild dog populations and associated impacts. Programs incorporate a number of neighbouring landholders baiting at the same time to ensure maximum results. Reactive programs may be run when stock losses are incurred in an area if wild dog activity is seen to approach high levels or when there are safety concerns.

Where 1080 baiting programs are unable to be undertaken due to legislative restrictions, Council provides landholders with information on alternative control methods.

Intervention in peri-urban and urban areas

Wild dog home ranges that are centred on areas of high human activity, such as townships, town refuse dumps, camping grounds, picnic areas and resorts, appear to be smaller in size but have relatively higher numbers of wild dogs per pack compared to wild dogs that rely on natural prey in bush areas (Corbett 1998).

Wild dog home ranges typically occur over numerous properties in peri-urban and urban areas and are therefore difficult to effectively control on a single property basis.

Wild dogs, including Dingoes are known to inhabit the outskirts of the City of Rockhampton particularly in the Frenchville Road and Norman Gardens areas, where residential land adjoins national park.

Certain situations require intervention where problem wild dogs are identified and removed in order to minimise risks to public health and safety. Council's hierarchy of control of wild dogs is outlined in Appendix 3.

Public awareness is important in urban and peri-urban areas where residents need to be informed on wild dog behaviour and that under current legislation feeding of wild dogs is prohibited.

Strategy implementation review and performance reporting

The operational actions will be assigned appropriate indicators so that performance against the outcomes can be regularly assessed.

Appropriate reporting frameworks will be put in place to ensure management can monitor performance and adjust operational effort according to circumstances.

The Plan will be reviewed after two years to ensure that it identifies and reflects changing priorities, operational capacity and the legislative framework and has been afforded adequate financial and staffing resources.



Definitions

Acceptable methods - control methods that are humane when used correctly.

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

Dingoes - native dogs of Asia, selectively bred by human beings from wolves. Present in Australia before domestic dogs. Pure dingoes are populations or individuals that have not hybridised with domestic dogs or hybrids.

Domestic dog - a dog that is owned by a person.

Feral dog - a dog other than a dingo, that is not owned by a person.

Humaneness - the overall impact that a control method has on an individual animal's welfare.

Hybrids - dogs resulting from crossbreeding of a dingo and a domestic dog, and the descendants of crossbred offspring.

Nil tenure - an approach where all tenures are at a 'landscape' (rather than 'property') level.

Nil tenure planning process - an approach where a range of control methods are applied across all tenures by all stakeholders at a 'landscape' (rather than 'property') level in a cooperative and coordinated manner. This approach focuses on mapping and information gathering from landholders to identify areas of wild dog habitat, movement corridors, historical and recent stock loss and current control. Replacing the boundaries on the map following the information collection process clearly identifies the responsibilities of each stakeholder with regard to wild dog management in the area.

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

Peri-urban - landscape that combines urban and rural activities. These areas commonly contain a mixture of land usages including suburban pockets, rural residential lots and small-to-medium agricultural holdings.

Wild dog - all wild-living dogs (including dingoes, feral dogs and hybrids other than a domestic dog).



References

AgForce 2009, *Major economic costs associated with wild dogs in the Queensland grazing industry*, AgForce, Queensland.

Allen BL 2011, *Glovebox Guide for Managing Wild Dogs: PestSmart Toolkit publication*. Invasive Animals Cooperative Research Centre, Canberra, ACT.

Biosecurity Queensland 1998, *Dingoes in Queensland: distribution and ecology*, Department of Employment, Economic Development and Innovation, Queensland.

Biosecurity Queensland 2009, *A guide to safe and responsible use of sodium fluoroacetate in Queensland*, Department of Employment, Economic Development and Innovation, Queensland.

Corbett, L.K. 1988, Social dynamics of a captive dingo pack: population regulation by dominant female infanticide. *Ethology* 78:.

Fleming P, Ballard G, Meek P, Allen B, Gentle M, Mifsud G, *When wild dogs come to town: Management in peri-urban areas where dogs, police and people met*. Proceedings 2012, AIAM Annual Conference on Animal Management.

Fleming, P, Corbett, L, Harden, B and Thomson, P 2001, *Managing the impacts of dingoes and other wild dogs*, Bureau of Rural Sciences, Canberra.

Fleming PJS, Allen LR, Berghout, MJ, Meek PD, Pavlov PM, Stevens P, Strong K, Thompson JA and Thomson PC 1998, The performance of wild canid traps in Australia: efficiency, selectivity and trap related injuries, *Wildlife Research* 25.

Gentle M and Allen L 2012, *The nature and impact of peri-urban wild dogs*, Biosecurity Queensland. www.wsq.org.au.

Gong W, Sinden J, Braysher M and Jones R 2009, *The economic impacts of vertebrate pests in Australia*. Invasive Animals Cooperative Research Centre, Canberra, ACT.

Pest Smart 2021, Wild Dog - About Wild Dogs, <https://pestsmart.org.au/toolkits/wild-dogs/> Accessed April 2022

Queensland Government 2011, *Wild dog management strategy 2011-16*, Department of Employment, Economic Development and Innovation.

Rural Management Partners 2004, *Economic assessment of the impact of dingoes/wild dogs in Queensland*, Department of Natural Resources and Mines.

Sharp T and Saunders G 2012, Model code of practice for the humane control of wild dogs. Prepared by, NSW Department of Primary Industries, Orange, NSW.

Thompson L, Aslin H, Ecker S, Please P, Trestrail C 2013, *Social impacts of wild dogs – a review of literature*. Australian Wool Innovation Limited.



Appendix 1 - Action Plan

Desired outcome 1: Manage wild dogs within the Rockhampton Region		
Objective 1.1 - To achieve effective control of wild dogs across all tenures		
Key Actions	When	Success indicator
Participate in coordinated nil tenure planning processes	Ongoing	Participation undertaken
Implement agreed control methods as part of a nil tenure and integrated coordinated program.	Ongoing	Control methods implemented
Develop work instructions to support the Wild Dog Management Plan.	Ongoing	Identified work instructions developed
Follow best practice when managing wild dogs, giving consideration to animal welfare and non-target risks.	Ongoing	Best practice implemented
Incorporate wild dog management into other related planning and management programs.	Ongoing	Wild dog management incorporated in other related planning and management programs
Enforce compliance when landowners do not take reasonable steps to control wild dogs.	As appropriate	Enforcement process followed
Ensure Council staff responsible for conducting wild dog control activities are appropriately trained and licensed.	Ongoing	Staff are appropriately trained and licensed for the duties they undertake including the provision of 1080
Support field evaluation of new control practices.	As appropriate	Field evaluation undertaken
Contribute to research on the management of wild dogs.	As appropriate	Contribution to research undertaken
Build and maintain working partnerships between key stakeholders, to generate a holistic approach to wild dogs management including a sense of community ownership of the problem.	Ongoing	Partnerships built and maintained
To provide landholders with assistance in controlling wild dogs on their properties, including through the provision of traps	December 2024	Assistance programs investigated and provided where effective
To provide information on wild dog management activities within our region as requested by QDOG (Queensland Dog Offensive Group)	As requested	Relevant information provided as requested



Desired outcome 2: Reduce wild dog impacts in rural areas

Objective 2.1 - To reduce wild dog impacts in rural areas through community action

Key Actions (in addition to the actions in 1.1)	When	Success indicator
Facilitate the coordination of the Wild Dog Management Group.	Ongoing	Meetings facilitated
Implement local community-based programs for managing wild dog impacts and reducing wild dog numbers in areas where human and wild dog populations interface with nil tenure best practice.	2 per year	Programs provided
Facilitate 1080 baiting programs.	Ongoing	1080 baiting programs undertaken
Engage absentee landholders and non-participating landholders.	Ongoing	New landholders participate in 1080 baiting programs or use other control measures
Support mechanisms to landholders to undertake wild dog control.	Ongoing	Support provided
Ensure landholders using Council provided wild dog control services adhere to best practice.	As baiting occurs	Landholders adhere to best practice - no justified complaints
Investigate incentive programs including reintroducing Bounty Scalps	2024	Incentive programs investigated and Council decision made

Desired outcome 3: Reduce wild dog impacts in urban and peri-urban areas

Objective 3.1 - To reduce wild dog impacts in urban and peri-urban areas

Key Actions (in addition to the actions in 1.1)	When	Success indicator
Partner with Parks and Wildlife Services and Biosecurity Queensland in the management of wild dogs.	As appropriate	Queensland Parks and Wildlife Services and Biosecurity Queensland are partnered with
Implement agreed control methods on all lands as part of a nil tenure coordinated and integrated program.	Ongoing	Agreed control methods implemented
Support mechanisms to landholder to undertake wild dog control.	Ongoing	Support provided
Develop and implement targeted education tools for peri-urban and urban landholders.	2025	Tools developed and implemented
Increase community's awareness of methods to minimise wild dog encroachment and impacts on urban and peri-urban areas.	Ongoing	Information provided to residents bordering areas where wild dogs are known to inhabit



Desired outcome 4: The community is informed on wild dog management		
Objective 4.1 - Develop and implement a communication and education program to ensure that landholders are aware of their responsibility in rural areas		
Key Actions	When	Success indicator
Liaise with stakeholders to provide adequate promotion.	As appropriate	Liaison undertaken
Conduct field days and other education activities aimed at increasing the awareness of wild dog concerns and control methods.	Biennial	Field days and other education activities undertaken
Development of targeted education tools.	Ongoing	
Prepare media releases, and associated messaging for social media.	As appropriate	Media releases made
Objective 4.2 - Develop and implement a communication and education program to ensure residents are aware of the issues relating to wild dogs and the need to control wild dogs in urban and peri-urban areas		
Key Actions	When	Success indicator
Promote control of domestic dogs, including identification of all domestic dogs in peri-urban and urban areas in particular.	Ongoing	Control promoted
Undertake education programs aimed at increasing the awareness of domestic and wild dog concerns.	As required	Education activities undertaken
Undertake education programs to discourage feeding and habituating of wild dogs by raising community awareness of the legal status and dangers to human beings.	As required	Education activities undertaken
Prepare media releases and associated messaging for social media.	As appropriate	Media releases made



Appendix 2 – Overview of Control Methods

Lethal	Efficacy	Cost-Effectiveness	Target Specificity	Humaneness Acceptability	Comment
Ground Baiting with injected 1080 baits	Effective	Very cost effective	High	Conditionally acceptable	The most cost effective technique available. Poison baits are made from raw meat or offal, or manufactured baits are used. Council conducts twice annual baiting programs using these baits, whereby landholders can bait together on a nil tenure approach
Aerial Baiting with 1080	Effective	Very cost effective	High	Conditionally acceptable	Effective for broad scale control in remote and inaccessible areas to complement strategic ground baiting.
Use of Manufactured Baits eg Doggone	Effective	Very cost effective	High	Conditionally acceptable	Landholders will be required to hold the relevant competencies and have approval from QH to use these baits.
Canid Pest Injector	Effective	Very cost effective	High	Conditionally acceptable	Landholders can gain accreditation in using the device. Safer to use around working dogs because baits cannot be moved. Can only target a single animal at one time. Can be use with either cyanide, 1080 or PAPP
Strychnine Baiting	Effective	Cost effective	Moderate	Not acceptable	May be used in peri-urban or urban areas where other forms of control are not effective.
PAPP (Para-aminopropiohenone)	Effective	Cost effective	Moderate	Conditionally acceptable	An option in places where 1080 use is restricted. Antidote (methylene blue) available, can only be purchased and administered by a veterinarian, and administration needs to occur within 30 minutes (possibly earlier depending on the amount of toxin ingested). Manufactured baits containing PAPP are less attractive to many non-target species



Shooting	Not efficient for broad scale problem	Expensive	High	Acceptable	Used only in specific situations. Firearms may be used by land managers, professional wild dog controllers or hunting groups to shoot wild dogs in a safe and humane manner and operate in accordance with relevant laws and guidelines.
Shooting to euthanase trapped dogs	Effective	Cost effective	High	Acceptable	Most effective means of euthanasing wild dogs caught in trapping programs.

All control methods must be used in accordance with relevant laws, regulations and guidelines.



Non-Lethal	Efficacy	Cost-Effectiveness	Target Specificity	Humaneness Acceptability	Comment
Exclusion fencing	Effective in suitable areas	Expensive	Can be effective in specific situations	Acceptable	Requires high levels of maintenance. Netting or electric fencing can both be effective barriers. In many cases, exclusion fencing is the best method for small holding in peri-urban areas. Need to eradicate dogs from inside the fenced areas.
Guardian dogs	Effective in suitable areas if appropriately trained	Expensive to purchase Expected moderate to high effectiveness	Variable. Guardian dogs may chase non target animals eg. wildlife and other stock	Acceptable	Guardian dogs (eg. maremmas), are used with varying degrees of success. Adequate training of guardian dogs is required to achieve optimum success. Cost effectiveness in different enterprise systems has not been adequately quantified. There needs to be thorough consideration of the welfare and management of guardian animals, such as breeding potential, risk of escape and seeding of new feral populations, biosecurity risks, transport stress (when animals are being imported from distant locations), and capacity for adaptation to new environments.
Guardian animals	Not measured	Not measured	Variable	Acceptable	Llamas, alpacas and donkeys are used in Australia, with anecdotal reports of some degree of success. Alpacas have been killed by wild dogs and no economic assessments have been undertaken. There needs to be thorough consideration of the welfare and management of guardian animals, such as breeding potential, risk of escape and seeding of new feral populations, biosecurity risks, transport stress (when animals are being imported from distant locations), and capacity for adaptation to new environments.
Aversion Techniques	Not known	Relatively cheap	Not known. Possible short term solution, until such time as wild dogs become used to such techniques	(Likely) acceptable	Suggested aversion methods include flashing lights, sounding alarms, objects flapping in the wind and chemicals. These have not been tested, but are unlikely to be effective at the scale required in Australian livestock enterprises.

All control methods must be used in accordance with relevant laws, regulations and guidelines.

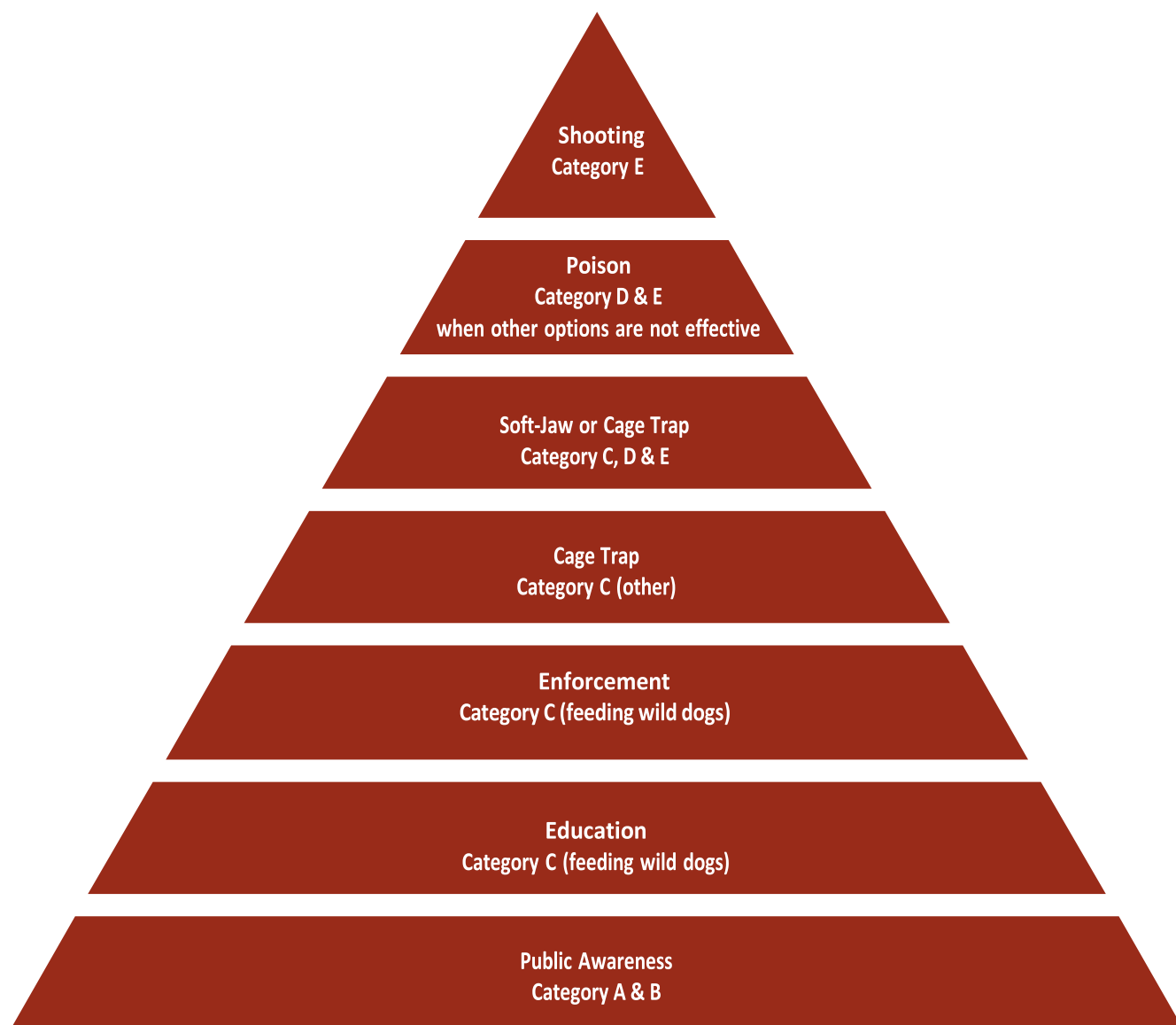


Traps and Snares	Efficacy	Cost-Effectiveness	Target Specificity	Humaneness Acceptability	Comment
Cage Trap	Ineffective	High initial cost for purchase of unit, with low ongoing cost	Moderate	Acceptable	Primarily used in urban areas where other control techniques are not suitable.
Padded/soft and laminated foot hold traps Laminated Jaw Traps	Effective	High initial cost for purchase of unit, with low ongoing cost.	Moderate	Conditionally acceptable	There are a wide variety of commercial traps on the market. Used for capture for later euthanasia, usually by shooting. Can be done in peri-urban areas and other areas where poison baiting is not suitable. Has limited broadscale application.
steel jaw leg-traps (toothed and/or without padding)				Not acceptable	These are inhumane and should not be used.
Collarum Neck Restraints	Can be effective in specific situations	Expensive	High	Conditionally acceptable	May be useful in urban areas for problem animals. Inefficient as a general control measure and requires significant training to use effectively.
Treadle Snares	Can be effective in specific situations	Expensive	Moderate	Conditionally acceptable	May be useful in urban areas for problem animals. Inefficient as a general control measure and requires significant training to use effectively.

All control methods must be used in accordance with relevant laws, regulations and guidelines.



Appendix 3 - Hierarchy of Control in Peri-Urban and Urban Areas



Category	Threat to life and property	Attributes	Management action
Category A H0-H1** - Avoidance or wary	Nil	<ul style="list-style-type: none"> ▪ Finds the presence of humans threatening ▪ Difficult to observe ▪ Wild, 'natural' behaviour ▪ Avoids people areas within home ranges 	Complete feral scan tracking website Public Awareness
Category B H2- H3 Habituated	Nil	<ul style="list-style-type: none"> ▪ Non-aggressive ▪ Not wary of humans* ▪ Moving through common areas to humans * ▪ Curious* 	Monitor activity and behaviour Complete feral scan tracking website Public Awareness
Category C H2-H3 Nuisance Passive behaviour or activity towards humans	Harassment Nuisance	<ul style="list-style-type: none"> ▪ Loitering around residences and public sites* ▪ Stealing food and property* ▪ Soliciting food* ▪ Being fed or encouraged ▪ Following closely* ▪ Harassing pets/livestock ▪ Interference with wild dogs 	Monitor activity and behaviour Complete feral scan tracking website Educate people not to feed wild dogs Public notification through relevant media Enforcement if people feeding wild dogs Control using cage traps in relevant locations



Category D H3-H4 Threatening Intentional activity, behaviour or action towards humans.	Major harassment/confrontation High risk of injury with potential to move rapidly to Category E.	<ul style="list-style-type: none"> ▪ Growling/snarling* ▪ Dominant/submissive ▪ Testing* ▪ Stalking* ▪ Circling* ▪ Dominant toward humans ▪ Incorporate humans into pack behaviour* ▪ Humans regarded as competitors for resources* ▪ Bailing up/ambushing (walking alone or unsupervised)* ▪ Hunting tactics (with intent to test response)* ▪ Lunging (no attempt to test response) ▪ Attacking pets/livestock 	Intense monitoring and documentation of behaviour. Signage erected 'High Risk wild dog in area'. Public notification through relevant media Control using cage traps or soft jaw traps Complete feral scan tracking website
Category E H4 - High Risk/Dangerous	Threat/immediate danger to person/s	<ul style="list-style-type: none"> ▪ Nipping* ▪ Biting* ▪ Attacking* ▪ Causing injury ▪ Hunting tactics: fast approach/pack action all dependent upon severity and intensity* ▪ Bailing up/ambushing* ▪ Lunging* 	Intense monitoring and documentation of behaviour. Signage erected 'High Risk wild dog in area'. Public notification through relevant media Control using cage traps, soft jaw traps or poison (1080 or Strychnine) or shooting (as appropriate) Complete feral scan tracking website

* refer to glossary of terms for further definition. ** refer habituation classifications.



Glossary of Terms

Category B

Not wary of humans – will undertake normal activities and not be influenced by the presence or number of humans. Interaction between humans and animal is uncommon (will result in animal retreating/moving away quickly).

Moving through common areas to humans – Wild dog moving through suburb or day-use areas, usually looking for food or moving through territory.

Non-aggressive – activity can be associated with humans, may be in close proximity to and show an interest in humans, but no aggressive behaviour.

Curious – is inquisitive, actively watching the actions of people from within 50 metres. Will move away after a couple of minutes or when approached. *Distinguish from 'loitering at recognised visitor sites'.*

Loitering around residences and public sites (no humans present) – spending extended periods of time within suburb or day use areas, usually looking for food, will not be deterred away from site easily when approached, or returns within a short period of time (<5 minutes).

Category C – Passive behaviour or activity of wild dog towards humans

Loitering at recognised visitor sites (people nearby) – spending extended periods of time within suburb or day use areas, usually looking for food, will not be deterred away from site easily when approached, or returns within a short period of time (<5 minutes). Usually associated with 'Wild dog activity associated with human presence'(see below). *Distinguish from 'Curious' and 'Wild dog activity associated with human presence.'*

Stealing food or property – takes food or property. No deterring as area unattended or failed to be aware of animal's presence. When/if confronted animal will move away (may come back). *'Distinguish from Damaging Property'*

Soliciting food – makes appeal for food by persistently raising nose to sniff, not moving away any great distance. This can include sitting and watching intently nearby (<30m) while people are eating or preparing food. May steal food.

Being fed or encouraged – obtaining food from a person or people directly or indirectly such as food scraps or scraps thrown or used to influence wild dog behaviour, deliberate food drops, local 'feeders'). *'Distinguish from Stealing food or property'*

Following closely – actively following a person, change direction to continue to follow. Follow for >30 seconds and follow within <30/50 metres. Will stop or move away if confronted, becomes disinterested after a short period of time. *Distinguish from 'stalking'.*

Interference with wild dogs – Describes unauthorised adverse human behaviour towards wild dogs eg vehicles deliberately swerving towards wild dogs with the alleged intent to run them over, CTO operators circling and/or hindering wild dog movement/natural behaviour



Category D – Intentional activity, behaviour or actions towards humans

Growling/Snarling – if confronted/approached animal will usually face a person from a short distance (<10 metres) in a dominating manner. Animal will growl and snarl as a warning not to interfere with it *‘Can be associated with dominant submissive testing’*.

Dominate/submissive testing – often described as playful behaviour, prominent amongst younger animals. Animal/s will approach close to humans (<5 metres) and may jump around and yap and nip in an excited manner. Aggression from the animal may escalate if people respond inappropriately such as running away. *‘Can include growling, snarling and stalking’*.

Stalking – similar to following closely except can be <5 metres and will continue to follow despite efforts to deter. Occurs for >30 seconds. Efforts of wild dog solely focused on person being followed with no sign of becoming disinterested. *Distinguish from ‘following closely’ and ‘ambushing’*.

Circling – A single/numerous animals circle a person from <20 metres but no attempt is made to stop the progress of the human or bite. Are showing a definite interest in person but can be deterred especially if more than one person is present. *‘Distinguish from Stalking and Bailing up and Ambushing.’*

Dominant towards humans – Animal shows no fear of people and is not easily deterred when confronted or approached. Includes confronting people for food, snatching food from a person’s hand, herding people or stopping them from walking in a particular direction. *May lead to aggression such as snarling, bailing up, nipping and biting.*

Incorporate humans into pack behaviour – can involve changing original behaviour to approaching humans from >50 m (sometimes at speed) to investigate human activity. Following behaviour is dependant on human response. *‘Can be associated with dominant/submissive testing and dominance towards humans’*.

Humans regarded as competitors for resources – will aggressively defend food and other pack animals when confronted.

Bailing up/ambushing (walking alone or unsupervised) – similar to *stalking* and *circling* except animal made attempt to stop the progress of a human. *Distinguish from ‘Stalking and Circling’*.

Hunting tactics (with intent to test a response) – May make a fast approach from a distance (>50 metres) to test a prey response from humans. Behaviour appears to be more prominent towards children and women. *Distinguish from code E,*

Lunging (no attempt to test response) – jumping with concerted effort towards person, can also include animal coming quickly from behind at a person’s heels. No obvious attempts made to nip or bite the person.



Category E – Escalated intentional activity, behaviour or actions towards humans

Nipping – includes mouthing of any description, regardless of whether penetration of the skin or bruising has occurred.

Biting - penetration of skin or bruising has occurred.

Attack - numerous bites have occurred and animal persists despite efforts to deter.

Causing injury – First aid or hospitalisation required

Hunting tactics (intent to contact) – usually involves more than one animal. May make a fast approach from a distance (>50 metres) to test a prey response from humans and followed on by circling (within 5m radius), multiple attempts to bite (normally from behind) and may involve other behaviour such as *Lunging, Ambushing and Bailing up*. Behaviour appears to be more prominent towards children and women. Can include more than one wild dog and they are not easily deterred. *Distinguish from 'Circling and Stalking'*.

Bailing up/ambushing (intent to attack) - similar to *stalking* and *circling* except animal made attempt to stop the progress of a human. Continues with behaviour despite concerted effort to deter or move away. *Distinguish from 'Stalking and Circling'*.

Lunging (attempting to nip or bite) – jumping with concerted effort towards person, can also include animal coming quickly from behind at a person's heels and attempts to nip or bite.

Habituation Code	Description
H0	Very wary towards humans and not likely to be seen. Mainly a remote area dweller.
H1	Displays wariness towards humans. Will approach human-use areas when humans not present.
H2	Displays curious behaviour towards humans. May display some Code C behaviour and will loiter.
H3	Regular to dominant presence in or around residential, visitor and human-use areas. Code C and/or D behaviour. May display nuisance behaviour. Approaches and loiters around human (fishers, residents etc).
H4	Dominant presence through residential and human-use areas. Displays code D and/or E behaviour.
Unknown	Wild dog has no known history.

Habituation definition - an animal that displays familiarisation towards humans or human-use areas. Not an indication of aggressive or dominant behaviour towards humans.

041218

