

Wild dog management in Queensland – an Issues Paper

Invasive Plants and Animals, Biosecurity Queensland

Context

Wild dogs (feral dogs, dingos and hybrids) in Queensland are a problem because they kill and harass stock, causing considerable financial loss to the sheep and cattle industries. It is conservatively estimated that wild dogs cost Queensland \$33 million through lost production. Wild dogs also cause many other impacts such as predation on native species, spreading of disease, risks to human safety, attacks on pets and other livestock and 'dilution' of dingo genetics.

The *Land Protection (Pest and Stock Route Management) Act 2002* declares wild dogs as Class 2 pest animals. Under this Act it is the responsibility of landowners to take reasonable measures to control pest animals on their land.

The management of wild dogs in Queensland is directed and co-ordinated through the Queensland Wild Dog Strategy (the Strategy), and a Memorandum of Understanding (MoU) for the management of wild dogs inside the wild dog barrier and check fences.

The Strategy was developed in 2002 and the MoU in 2005.

On 23 July 2008, the Premier, the Honourable Anna Bligh MP, announced that the Queensland Government will review the Strategy and MoU to reflect current knowledge and experience with wild dog management in Queensland.

Since the commencement of the Strategy and the MoU, significant research has been undertaken that sheds new light onto the control and management of wild dogs. In addition, industry still has concerns regarding the effectiveness of existing control programs. It is therefore timely to review the Strategy and MoU so that as a state we build on our experiences from the past to ensure future management responses to wild dogs are efficient, effective and relevant.

The purpose of this Issues Paper is to stimulate discussion about what the objectives for wild dog management in Queensland should be, and the role of Biosecurity Queensland, industry and other stakeholders in achieving this. The Issues Paper outlines the key issues of relevance to future wild dog management in Queensland. The Issues Paper also asks questions that we would appreciate your input on, to assist us in the review of the Strategy and the MoU.

Peter Kenny
Project Reviewer (Wild Dog Management)

Background

What is a wild dog?

The term 'wild dog' refers collectively to purebred dingoes (*Canis lupus dingo*), dingo hybrids, and domestic dogs (*Canis l. familiaris*) that have escaped or been deliberately released. The dingo is a primitive canid related to wolves and coyote.

The wild dog is a Class 2 declared pest animal under the *Land Protection (Pest and Stock Route Management) Act 2002*. It is the responsibility of landowners to take reasonable measures to control wild dogs on their land.

The dingo is defined as both 'wildlife' and 'native wildlife' under the *Nature Conservation Act 1992 (Qld)*. This makes the dingo a natural resource within protected areas such as national parks. Outside protected areas, dingoes are not protected wildlife and can be controlled by landholders.

Wild dogs are found throughout Queensland. The distribution of purebred dingoes in relation to hybrids varies throughout the state. In far western areas, most dingoes sighted appear to be 'pure', with characteristic white points and broad head. Closer to settled areas a greater number of feral domestic dogs produce a generally hybrid population. It has been estimated that dingoes are 50% pure in south-east Queensland and 90–95% pure in south-west and central Queensland.

Q.1 Do you think landholders have a clear understanding that they are responsible for controlling wild dogs on their land?

The dingo – is it a resource or pest?

The dingo was not a part of the ancestral fauna of Australia. However, it is thought to have arrived in Australia 3,500-4,000 years ago and is considered to be native.

The dingo is the largest mammalian carnivore remaining in mainland Australia. Although a serious domestic stock predator it also fills an important ecological niche. Wild dogs, particularly dingoes, may, through predation and competition, protect the functioning of natural ecosystems by controlling other pest species such as rabbits, foxes, cats, feral pigs and feral goats.

Dingoes may also be tolerated in cattle grazing and cropping areas because of their potential to suppress kangaroo and wallaby numbers. This highlights the need for wild dog management to be specific to a region and often a local area. Biosecurity Queensland is investigating potential collaborative studies with the Environmental Protection Agency and universities to better quantify possible biodiversity and livestock production benefits of increasing wild dog numbers in rangeland areas.

Dingoes have a significant role in the spiritual and cultural practices of some Australians (both indigenous and non-indigenous).

Q.2 Do you see any positive impacts of wild dogs for your property/industry/area?

Why is wild dog control important?

Wild dogs impose substantial costs across Queensland. They prey on livestock,

reduce livestock performance, and spread diseases. A conservative estimate of the total annual cost to rural Queensland of wild dog impacts is around \$33 million.¹

Losses to the sheep and cattle industry, due to predation, are approximately \$18.3 million.² 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 attack sheep, they often leave carcasses uneaten. Surplus killings, where more sheep are killed than needed for food, means that stock losses can be high even where wild dogs are at low densities.

Predation on calves is also a significant cost. In a large scale evaluation of wild dog predation on beef cattle in far north and south west Queensland, in excess of 30% loss of calves has been measured in some situations.

Non-fatal attacks on calves usually leave bites that lead to price discounts at the point of sale or processing. In Australian abattoirs, carcasses that are presented with any defect (in this case scar tissue) are downgraded, and the grazier/owner will receive a lower sale price. Wild dogs are also known to attack the genitals of adult cattle rendering them infertile.

Wild dogs are almost solely responsible for the spread of *Echinococcus hydatidosis* (hydatid), and are partly responsible for the spread of *Neospora caninum* in cattle.

Dogs are the primary host of hydatid, which is a serious parasitic disease caused by tapeworms. Domestic stock, native animals and humans can be infected as secondary hosts. Once ingested, hydatid eggs hatch inside the body causing the formation of gross cysts that usually develop in the liver or lungs. These cysts slowly enlarge causing pain and distress to the host.

Neospora caninum is a parasite of dogs and cattle. Although it does not infect humans, it can cause the abortion of cow fetuses and is a serious problem for the cattle industry. Losses to the cattle industry due to wild dog related diseases are \$9.4 million.

Wild dog control costs are approximately \$5.4 million. The Queensland State Government funds about 30% of total control costs³ with the rest borne by producers and ratepayers.

Another cost is restrictions on the livestock mix of farming enterprises. In many areas, the impact of wild dogs is so significant that it has been a major factor in forcing landholders to substitute sheep with cattle. Between June 1998 and June 2001, the sheep flock in Queensland fell from 11 million to 8.7 million head, a drop of more than 20%. The 2006 Australian Bureau of Statistics stock census reports the

1 Rural Management Partners, 2004: Economic assessment of the impact of dingoes/wild dogs in Queensland. Report prepared for the Department of Natural Resources, Mines and Energy.

2 Estimates by graziers of their stock losses may be understated. For example on remote cattle stations, calves taken at birth by wild dogs can 'disappear without trace' and the cause will ultimately be ascribed to infertility. Refer Rural Management Partners (2004).

3 The State Government's 'share' towards wild dog management includes contributing to the costs of maintaining the Wild Dog Barrier Fence, conducting research, providing a 1080 bait preparation, planning and coordination service, and undertaking wild dog control on state land. Refer Rural Management Partners (2004).

Queensland sheep flock is now only 4.4 million head. The declines are attributable to a variety of factors including poor wool prices, the effects of drought and the effects of wild dog predation. Sheep can survive in semi-desert environments whereas cattle only perform well in the 'good' years, which occur infrequently.

The above costs do not take into account costs inflicted by wild dogs in peri-urban areas⁴. In peri-urban areas wild dog impacts are more about the loss of amenity linked to personal safety and loss of pets and livestock. Increases in sightings of wild dogs in peri-urban situations can often be attributed to people feeding animals, with the result that the animals become less timid and are more readily observed by others. Free roaming domestic dogs may also supplement wild dog populations. Wild dog attacks on people and domestic animals in closely settled areas attract considerable media interest.

In closely settled rural areas the impact of wild dogs can also be significant on other industries such as fat lamb production, dairying, piggeries and horse breeding.

Despite the considerable investment in wild dog control across Queensland there is a wide perception that wild dog issues are getting worse and that all key stakeholders are not managing the problem within the current system.

Q.3 Why is wild dog control important to you/your organisation?

Q.4 Do you believe the wild dog 'problem' is less or greater than in previous years?

⁴ 'Peri-urban areas' refer to the transitional zone between rural and urban areas. Structurally and functionally this area is neither urban nor rural but contains elements of both landscapes.

Current management of wild dogs

The management of wild dogs in Queensland is directed and coordinated through the Queensland Wild Dog Strategy, and a Memorandum of Understanding (MoU) for the control of wild dogs inside the wild dog barrier and check fences between state and local government and industry, through AgForce. The principal control techniques available for wild dogs include fencing, baiting and trapping.

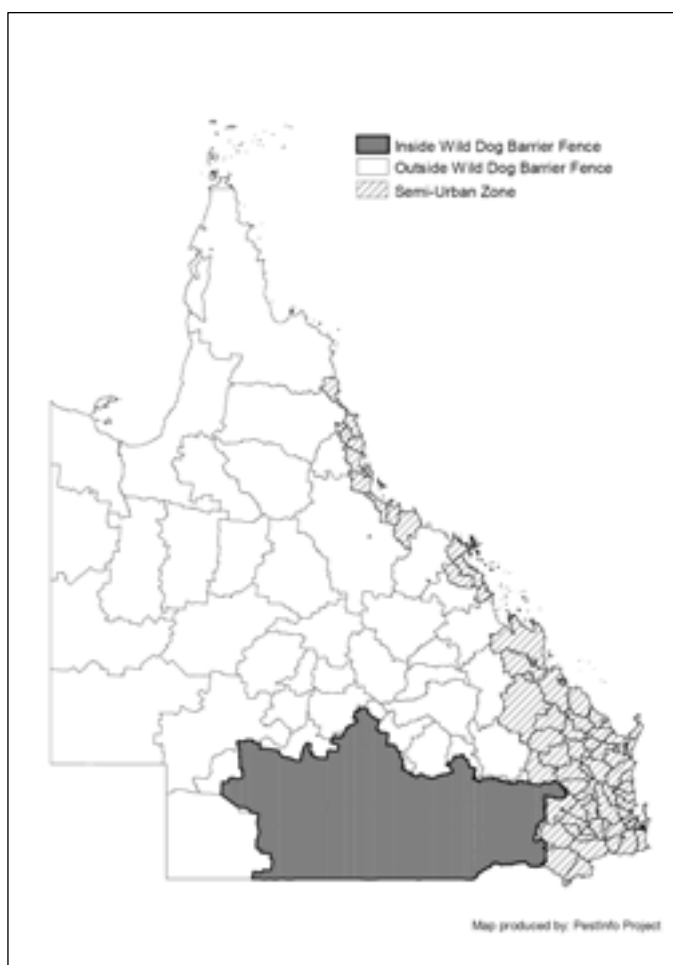
The Queensland Wild Dog Strategy

The Queensland Wild Dog Strategy (the Strategy) was developed from the results of a stakeholder workshop in Blackall in 1999, and following further consultation with stakeholders. The Strategy was released in 2002.

The Strategy sets a framework for decision-making and priority setting and coordinating the actions of all stakeholders with regards to wild dog management in Queensland. The Strategy also recognises the need to identify and manage dingo populations of conservation significance, and balance conservation with other management objectives including the protection of rural enterprises and public safety.

The Strategy has four desired outcomes:

- effective control of all wild dogs inside the Wild Dog Barrier Fence
- reduction of the detrimental impacts of wild dogs outside the Wild Dog Barrier Fence
- reduction of wild dog impacts in the coastal, semi-urban and rural residential management zone
- conservation of dingo populations.



The Strategy sets out actions to achieve the desired outcomes, including stakeholder responsibilities. Key performance indicators for monitoring the successful implementation of the Strategy are also identified and include:

- increased level of resources allocated for wild dog management by landholders, local governments and State government
- establishment of three project coordinators, supported by reference panels
- effective control of wild dogs inside the Wild Dog Barrier Fence

- sheep and goats – reduced level of wild dog impacts and encroachment by wild dogs
- cattle – reduced level of livestock losses and damage
- reduced level of baiting inside the Wild Dog Barrier Fence
- increased number of landholders participating in coordinated control programs
- reduced number of complaints from graziers
- reduced economic impacts on livestock industries
- reduced number of complaints about management of dingoes
- reduced media interest
- size, number and purity of dingo populations identified
- public acceptance of wild dog control programs
- increased awareness of the benefits of 1080
- reduced number of pets and domestic animals lost
- safety – reduced numbers of attacks
- increased ability to distinguish dingoes from other wild dogs
- increased awareness of livestock industry viability
- increased acceptance of control techniques and commensurate welfare issues
- increased number of groups actively involved in local wild dog issues.

Q.5 What do you see have been the main achievements of the Strategy?

Q.6 What do you see have been the failings of the Strategy?

Q.7 Do you see a revised Queensland Wild Dog Strategy as being of benefit to you or your organisation?

Memorandum of Understanding

The Memorandum of Understanding (MoU) for the management of wild dogs inside the wild dog barrier and check fences was developed to help achieve the first desired outcome of the Strategy and to promote improved coordination of control programs for wild dogs inside the Wild Dog Barrier Fence.

Managing the competing interests of all stakeholders and ensuring ongoing meaningful involvement in wild dog management can be difficult. It requires open communication and an agreed understanding of respective roles and responsibilities.

The MoU formalises stakeholder responsibilities in relation to the management of wild dogs inside the wild dog barrier and check fences. It sets out the respective roles and responsibilities for the then Department of Natural Resources and Mines (now Biosecurity Queensland), local government, AgForce and the Environmental Protection Agency in relation to coordination, information, planning, promotion, training, state lands, research, compliance, resources/incentives and evaluation.

The MoU also includes an agreed process for local and regional coordination of wild dog control programs and outlines the process for the enforcement of landholder compliance with wild dog control responsibilities under the *Land Protection (Pest and Stock Route Management) Act 2002*.

Further information on the Wild Dog Barrier Fence is presented below.

Q.8 Do you see a revised MoU as being of benefit to you or your organisation?

Q.9 How do you think stakeholders can work better together to achieve wild dog control inside the Wild Dog Barrier Fence?

Wild Dog Barrier and Check Fences

The Wild Dog Barrier Fence (WDBF) was first proposed in the late 1940s to protect sheep from wild dog attacks and was completed in the late 1950s.

Originally the graziers were responsible for maintaining the fence, but with drought and changes in the wool market, the fence fell into disrepair.

In 1982, a \$3.6 million state government program started to rebuild and realign the WDBF to provide protection from wild dogs in central-southern Queensland. The current fence is the result of that program. The State Government continues to match local government contributions for the WDBF.

In addition to the main barrier fence, several check fences were reconstructed and renewed in the southern Darling Downs area. Today, the WDBF is administered by Biosecurity Queensland, Department of Primary Industries and Fisheries. It is about 2500 km long and protects 26.5 million ha of sheep and cattle grazing country in southern Queensland⁵. Wild dogs that are 'inside' the fence are controlled by coordinated 1080 baiting programs, trapping, shooting, fencing or livestock guard animals. Landholders may also use strychnine to prepare their own baits.

Although the WDBF is well maintained, the effects of wild dogs within the area protected are thought to be increasing. The wild dog population has expanded due to the reluctance of some landholders to control wild dogs inside the fence. A study found that the economic benefits of the fence would be seriously eroded unless wild dogs within the fenced areas are effectively controlled.⁶

Q.10 Is the WDBF effective for protecting grazing industries inside the WDBF?

Q.11 If not, what if any changes could be made to improve its operational effectiveness?

Coordinated baiting programs

Coordinated baiting programs using 1080 baits are the most economic, efficient, humane and effective method of controlling wild dogs, especially in inaccessible or extensive areas. Considerable research has been done on both bait preparation and baiting strategies to get the best results and minimise risks associated with non-target kills.

Strategic baiting requires professional assistance and cooperation from all landholders in the affected area. Both state and local government officers are available to provide 'professional assistance'. However, the issue of universal landholder cooperation is more problematic (and is discussed in further detail below).

⁵ The WDBF protects approximately two-thirds of sheep and wool enterprises in Queensland. Refer Queensland Wild Dog Strategy (2002).

⁶ EconSearch, 2000: Economic assessment of the Wild Dog Barrier Fence. A study completed for the Department of Natural Resources.

Regardless of the merits of baiting, it is not the universal solution to dog problems. Some of the worst problems reported by graziers were caused by individual dogs that were wary of baits and operating close to the homestead. These so-called problem dogs have to be shot or trapped.⁷

Q.12 How can current baiting techniques and other control methodologies be improved?

⁷ Leading Sheep (Southern Inland Region), 2006: St George Wild Dog Forum – Final Report. An unpublished report on the Saint George Workshop held on 29th November 2006.

What are some key issues for effective management?

Ownership of the problem

State and local governments, together with industry support, commit significant resources to tackling the wild dog issue; including:

- maintaining the WDBF
- conducting research into management techniques
- providing free 1080 bait preparation service
- subsidising the cost of meat for coordinated baiting programs
- subsidising the cost of aircraft for coordinated baiting programs
- coordinating seasonal baiting programs
- providing significant bounty payments for wild dog scalps.⁸

More importantly, some landholders invest considerable time and resources of their own to controlling wild dogs on their property.

Notwithstanding the above, the level of commitment and the priority given to wild dog management will vary significantly between and within stakeholder groups. There is a need to review government, community and industry priorities and responsibilities for wild dog management and establish an appropriate balance between public and private investment in wild dog control that reflects the impact on each sector.

At the property level, there is also a need for **all** landholders to support wild dog management where they are a beneficiary of that control, or where they may be exacerbating or contributing to the problem.

Experience shows that where landholders benefit financially from the control of wild dogs they are more likely to participate and undertake effective control. Difficulties arise where some landholders perceive that they do not benefit from the control. Some landholders believe they suffer financial loss as a result of wild dog control through loss of working dogs to poisoning, refusal of contract musters to work on baited properties and increased numbers of other pests including native species. Timing of coordinated baiting programs rarely suits all landholders in relation to property management activities. Many landholders, including some within the WDBF, opt out of control and thereby exacerbate or contribute to an already serious wild dog problem. In such cases, control undertaken on adjacent properties is compromised and the efficiency of the control much reduced.

Of note, following control, the principal source of recolonising wild dog populations is likely to come from immigration (from unbaited properties), not from increased birth rate of remaining wild dogs.

Q.13 What can be done to achieve greater acceptance of responsibility for wild dog management?

Q.14 What can be done to achieve greater participation by all landholders in wild dog management?

⁸ In 2002/03 it was estimated that local governments contributed almost \$50,000 in bounties as part of their wild dog management, with bounties ranging from \$10 to \$100 a scalp. Refer to Rural Management Partners (2004).

Changing land uses

Across Queensland, land use patterns are changing. Over the last decade there has been a significant decline in the number of sheep and wool properties. This decline has significant implications in relation to wild dog management.

Effective wild dog management relies on active participation. Sheep graziers are aware of the impacts of wild dogs and usually implement control.

In contrast, there is a perception that wild dog control is not as important in cattle-grazing areas. In mixed sheep and cattle areas, the effort devoted to control programs may differ significantly from one property to the next. Cattle producers often accept or live with a certain level of wild dog impact and usually still remain viable. Sheep producers cannot usually remain viable under continued pressure from wild dogs.

Studies show that there is a need to convince some cattle producers that wild dog control is necessary for the continued viability of their sheep producing neighbours, and encourage their participation in control programs. Many cattle producers are not fully aware of the losses they suffer from disease spread by wild dogs. A Wild Dog Forum held in St George in 2006 highlighted the need for more communication and education programs that identify the economic losses to all landholders and break down the barriers to participation.⁹

Q.15 How significant is wild dog management for the long term viability of the Queensland sheep industry?

Q.16 Do you think cattle producers are adequately aware of the wild dog problem?

Q.17 Do you think cattle producers should shoulder the cost of wild dog control to protect their neighbours?

Improving coordination, promoting participation

Research confirms that coordinated wild dog control is critical for delivering effective wild dog control (refer Appendix I). However, frequently control is *ad hoc* or piecemeal because of some landholders refusing to bait. Where uncoordinated or a patchwork mosaic of baited and unbaited areas occurs, the breeding and dispersal of wild dogs from unbaited areas to baited properties will nullify the benefits of control very quickly.

Landholders will cooperate with neighbours when they sense it is in their own best interests. Generally there are no problems with sheep producers participating in coordinated control programs. However, some cattle producers remain unconvinced of the benefits of coordinated control measures and/or have fear of poisoning working dogs. Others may not believe they have the resources to undertake control programs, which can be labour intensive and costly. Others believe that wild dog control costs their enterprise money through increased numbers of other pests including native species.

Sheep producers are particularly vulnerable where they are bordered by cattle producers or state forests or national parks who do not bait or by urban/semi-urban

⁹ Leading Sheep (Southern Inland Region), 2006: St George Wild Dog Forum – Final Report. An unpublished report on the Saint George Workshop held on 29th November 2006.

areas where wild dogs are attracted by abundant food and there are constraints on control options.

There is a need to make greater use of regulatory provisions to address landholders contributing to or exacerbating wild dog problems. Over the three year term of the MoU, there has been no enforcement action undertaken by local governments against recalcitrant landholders refusing to control wild dogs on their land as required by the *Land Protection (Pest and Stock Route Management) Act 2002*.

The formation of local advisory committees made up of landholders, local government, and other interested parties is another way of better coordinating and increasing participation in baiting programs.

Q.18 How can we improve participation in coordinated wild dog control?

Q.19 Should enforcement action be taken against landholders with wild dogs?

Constraints to use of traditional wild dog control options

Broad-scale 1080 baiting is the most widely used and cost effective form of wild dog control. Baits can be laid quickly in large numbers by hand, from vehicles and from aircraft. Naive dogs are easy to poison, but poisoning the older more experienced dogs requires more careful thought and planning.

1080 is only available from authorised persons and restrictions apply in relation to where it can be used. Arrangements need to be made in advance for the provision of a 1080 bait preparation service. No 'over-the-counter' product is available for landholders to purchase and use for wild dog control at their discretion.

Over the last ten to twenty years, there have been changes in how we think about wild dog management. Community expectations and demands in terms of animal welfare standards, non-target impacts, and the acceptability of control methods (not just 1080), have increased overtime.

Many graziers choose not to bait because of their opposition to the use of 1080.¹⁰ In a questionnaire survey of 48 graziers not participating in baiting programs in southwest Queensland, 82% of respondents said they no longer used bait because of the hazard to working dogs and 50% of these graziers said they would bait if an effective antidote was available.¹¹

Strychnine is attracting significant attention from animal welfare organisations. Currently landholders can apply for and be issued a permit from Queensland Health to obtain, possess and use strychnine for pest animal control. However, under draft national codes of practice for the humane control of vertebrate pests, the use of strychnine for wild dog control is assessed as an unacceptable practice and is likely to be phased out in the future.

Leg hold traps and trapping techniques are also facing increasing opposition from animal welfare organisations. Various foothold traps from the US and Canada are seen as more humane and effective trapping options.

¹⁰ 1080 is particularly toxic to dogs and they fear the poisoning of their working dogs. Of note, there is no known antidote to 1080.

¹¹ Department of Primary Industries and Fisheries, 2008: Wild dog research in Queensland 2002-2008. Unpublished report prepared by Lee Allen, Robert Wicks Pest Animal Research Centre, 15 September 2008. Refer Appendix I of this Paper.

Weapons regulations restrict the use of firearms for wild dog control, particularly in closely settled rural areas and semi-urban areas.

Others may oppose 1080 due to concerns regarding the poisoning of other non-target animals. While there is no such thing as zero risk (there will continue to be incidents involving wild dogs), systems and best management practices have been designed to address community expectations.

Research has also been useful in quantifying the risks of 1080 baiting and for baiting methodologies. As previously noted, there has been considerable research into improving the effectiveness of 1080 control. Key findings from recent research include changing the timing and method of baiting, e.g. instead of baiting between autumn and spring, baiting programs may be more effective if they commence in late spring and continue through to late autumn with baits being 'trickled' out weekly.

Research has also documented some of the non-target benefits of 1080 baiting. For example, for many years the decline of spotted-tailed quolls in Queensland has been attributed to the broad-scale use of 1080. However, there is now information that 1080 baiting is not a threatening process to quolls and indeed quoll populations are likely to benefit from a reduction in competition and predation by wild dogs and foxes (resulting from baiting).

Q.20 What do you believe are the major constraints (if any) on the use of 1080 to control wild dogs?

Q.21 What do you believe are the major constraints (if any) on the use of other methods to control wild dogs?

Finding new and more acceptable control methods

There is a limited range of alternative management tools to 1080. The only currently registered alternative pesticide available for wild dog control is strychnine. However, it is under close scrutiny for animal welfare reasons.

Trapping and shooting are more suited to localised or 'mopping up' control actions. However, in peri-urban areas, restrictions on shooting and the application of pesticides will limit the tools available to undertake control. Netting dog fences provide an effective barrier to dispersal or reinfestation; however, there has been a decline in netting fences as farm labour and material costs have increased and the sheep industry has declined. Dog proof netting fences are expensive to erect and must be well maintained to remain effective.

Considerable research effort has gone into the development of alternative management tools. For examples, in association with the Invasive Animal CRC, Biosecurity Queensland is collaborating in the development of PAPP, a new toxin to control wild dogs, foxes and feral cats. This potential new toxin causes rapid death, is humane and, unlike 1080, has an effective antidote. Other control methods like cyanide ejectors and lethal trap devices are also being developed to further increase the range of control options available to landholders.

The use of guardian animals (guard dogs, alpacas, llamas or donkeys) to protect hard animals from wild dogs is seen by researchers as having great potential for graziers. Guardian animals are raised with and bond to a flock or herd. Guardian

animals then effectively become part of the herd and will aggressively defend the mob or herd and repel wild dogs and other predators.

Proper management of the guard animals, particularly guard dogs, is another issue. 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 livestock and wildlife or wander onto other properties.

Q.22 What alternative management tools do you envisage for controlling wild dogs in five-ten years time?

Future challenges

In summary, significant challenges face all stakeholders in minimising the impacts of wild dogs in Queensland, including:

- achieving greater acceptance of responsibility for wild dog management
- establishing a balance between public and private investment in wild dog management that reflects the impact on each sector
- establishing market and social incentives to support wild dog control
- achieving greater awareness of the problem,
- improving coordination, planning and participation in wild dog control,
- finding new and more acceptable control practices, while maintaining current control tools
- achieving increased knowledge of wild dog distribution, ecology and impacts,
- undertaking research to provide information to better support decision-making (at state, local and property levels)
- greater use of regulatory provisions where landholders are not controlling wild dogs
- dealing with the perception of an animal as a resource versus that of a pest
- using current resources more efficiently and effectively
- understanding the role of wild dogs as the top order predator in rangeland management.

This Issues Paper is a starting point for stakeholders to contribute to the review of the Strategy and MoU. We would like to hear your views on wild dog management in Queensland. To make sure that we do you can take part in one of the forums to be held across the Queensland State or send a personal response to frank.keenan@dpi.qld.gov.au.

Q.23 The above are key challenges identified in this Issues Paper; are there others that you would suggest?

Appendix I

Wild Dog Research in Queensland 2002-08

Robert Wicks Pest Animal Research Centre, Biosecurity Queensland

Background

This paper summarises major research projects concerning wild dog management and the key findings. Key research findings will contribute to the review of the Queensland Wild Dog Management Strategy and the Memorandum of Understanding for the control of wild dogs recently announced by the Premier.

Major research projects and key findings

Evaluation of large-scale baiting programs in central west Queensland

- Despite 100 tonnes of meat bait and over 20,000 manufactured baits being distributed to properties in Tambo, Blackall and Barcaldine Shires over three years, there was no reduction in dog activity relative to adjacent properties that did not control wild dogs.
- In a questionnaire survey of 48 graziers not participating in baiting programs in southwest Queensland, 82% of respondents said they no longer used poison bait because of the hazard to working dogs and 50% of these graziers said they would bait if an effective antidote was available.
- While wild dog activity declines rapidly after baiting, researchers found there was a resurgence in wild dog activity over summer that 'swamped' the benefits of baiting.
- On average wild dog activity was 80% higher after baiting programs conducted in March/April and 200% higher after baiting programs conducted in October/November.
- Breeding and dispersal of wild dogs located in unbaited areas is the probable cause of increased dog activity over summer and why baiting benefits are short lived.

Dispersal and seasonal movements study using satellite-collared wild dogs

- While most wild dogs occupy discrete territories, 25% of all males collared dispersed more than 100 km from their capture location. Several males travelled as much as 600 km from their property of origin.
- These long distance dispersers were all yearling males that were, at capture, several kilograms heavier than those that did not disperse.
- Part of the rapid decline in wild dog activity observed after the autumn mating season (April/May) does not appear to reflect dog abundance.
 - Wild dogs appear to actively avoid roads and areas of human activity during winter and spring when they are whelping and rearing pups.
 - Females generally appear to avoid walking roads during any season; yet visit and recognise roads as boundaries of territories.

- Over 50% of wild dogs trapped in State Forests and National Parks (i.e. forested areas where wild dogs are largely un-controlled) that were monitored for more than two months either:
 - included adjacent cultivation or pastures in their territories,
 - expanded their territory to include adjacent areas when these areas were baited, or
 - dispersed and settled on properties that had recently been baited or onto properties that produced sheep.
- Netting dog fences were found to be barriers to dispersal; some collared dogs travelling tens of kilometres beside these fences when dispersing.

Conclusions and recommendations

- The post-baiting increase in wild dog activity between October and April is almost certainly due to the recent independence and immigration of juveniles into baited areas.
- The chronic wild dog problem throughout Queensland in recent years is almost certainly due to their dispersal from uncontrolled areas facilitated by fewer netting fences, reduced participation in baiting programs, declining use of traps and fewer experienced people on properties to undertake wild dog control.
- Instead of conventional annual or semi-annual coordinated baiting programs between autumn and spring, research suggests baiting programs could be more effective if they commence in late spring and continue through to late autumn with baits being 'trickled' out weekly.
- This proposed change however, while not necessarily requiring more poison bait, will pose an increased hazard to working dogs as bait will be out longer.

Future collaborative projects

- Researchers will commence an evaluation of the proposed changes to baiting regimes in 2008-09.
- In association with the Invasive Animal CRC, Biosecurity Queensland is collaborating in the development of PAPP, a new toxin to control wild dogs, foxes and feral cats. This new toxin causes rapid death, is humane and, unlike the currently used 1080 poison, has an effective antidote.
- Nationally, there is interest in exploring possible biodiversity benefits of increasing wild dog numbers in areas of the rangelands to reduce fox and feral cat numbers. Biosecurity Queensland is investigating potential collaborative studies with the Environmental Protection Agency and universities to evaluate this relationship recognising the potential consequences on livestock production.
- Researchers propose to investigate the use of guard animals (guard dogs, alpacas, llamas or donkeys) to combat the dispersal of wild dogs onto properties grazed by sheep and goats.
- Other control methods like cyanide ejectors and Lethal Trap Devices are being developed to further increase the range of control options available to producers.

Dr Lee Allen, Senior Zoologist (15 Sept 2008)