

# The Dingo as a management tool on a beef cattle enterprise in western Queensland

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## ABSTRACT

The advantages of maintaining Dingoes as a management tool on a beef cattle enterprise in western Queensland are discussed. As elsewhere Dingoes reduce kangaroo and feral pig populations and eradicate feral goats. This is of significant economic importance to our family business. As a cattle producer interested in sustainability nationally, I am concerned that the current research and public debate fail to discuss the economic and environmental benefits of maintaining Dingo populations.

**Key words:** dingoes, wild dogs, cats, foxes, goats, guard dogs, kangaroos, lethal control, pigs

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## Background

I am a third generation grazer on our family property, Noonbah Station, in western Queensland. This paper sets out our approach to Dingoes as an integral and positive part of our cattle operation. From the view of a producer interested in sustainability I also discuss and critique the current research and both sides of the current public debate on the role of Dingoes. These views are based on my observations as a grazer, and my experience as an ecologist and zoologist. I have closely studied the Noonbah landscape and its wildlife since my boyhood in the 1970s, and have compared those observations with the research literature on the ecological and economic impacts of Dingoes.

Noonbah Station is fairly typical of many Outback cattle stations. It lies 130 km south-west of Longreach in western Queensland. The station is 52,000 hectares in size. Its lands include extensive treed and grassland floodplains on black soils of the Thomson River and Vergemont Creek (major tributaries of Cooper's Creek), and Mulga, Gidyea and other shrublands and low woodlands on red-earths and laterites. The station is part of the vast Lake Eyre Basin catchment which covers 17% of Australia. As elsewhere in the district, virtually no clearing of native vegetation has occurred on Noonbah, and there are few weed species, so our cattle feed almost entirely on native grasses, herbs and shrubs. The climate is semi-arid, with a nominal average of 300 mm of rain annually. However, annual rainfall varies enormously, and the productivity of the ecosystems, and therefore the amount of feed for stock, is very much a boom-bust scenario.

We run a beef cattle operation, selling into a range of markets. Our stocking levels on the station vary greatly, from close to zero to 3,000 depending on rainfall and stock prices. For much of its history, Noonbah was largely run with sheep for wool production, but changing terms of trade and a preference for managing cattle meant we converted to solely cattle in 2001.

## Dingoes and kangaroos at Noonbah

Dingoes are now an integral part of our operation because of the immediate production outcomes and the short and long term environmental and sustainability benefits. There has been progressive conversion from sheep to cattle on many properties in our region over the last 25 years. This has meant overall less killing of Dingoes in the district. When my wife and I took over sole ownership of the property in 2001 we ceased persecution of Dingoes. We now appear to have a small stable population of probably three families of Dingoes. From our observations this has had major positive benefits for the landscape.

Prior to 2001, Dingoes were essentially eradicated from the property during my lifetime. By the 1990s, kangaroos—Eastern Greys, Reds and Euros were abundant. Any attempt to rest paddocks by removing stock simply created grazing opportunities for the abundant kangaroos, with consequent loss of feed for cattle, consistent over-grazing, and declining environmental conditions. Feral pigs were abundant along the river channels. I recall seeing at times up to 300 pigs running away when I appeared at a waterhole. In addition, there was a small mob of feral

goats—descendants from escaped milking goats. There were around 20–30 in the 1990s which were breeding. I regularly saw foxes and cats and their tracks at this time.

With the presence of a stable Dingo population here the kangaroo populations are now consistently low, regardless of seasonal conditions. Feral pigs are still present, but the population is much reduced. A hunting friend, working with dogs, could previously shoot 30–40 pigs a day at Noonbah. He would keep going until the dogs gave up exhausted from the number of chases. He now averages just one pig a day when hunting. The feral goats from the previous feral flock have been eradicated. In addition, around 15 years ago, significant numbers of goats escaped into the district from a nearby property that had been stocked with goats. These quickly disappeared from the landscape. I have not seen a fox since approximately 2009 and I rarely see their tracks. Cats are still present, but appear to be at lower densities in recent years.

Our observations fit with the experience of other cattle producers such as David Pollock at Wooleen Station in Western Australia, which has somewhat similar floodplain and Mulga country to ours (Pollock 2019).

We spend zero time and resources seeking to control our Dingo population. The financial outcomes we obtain I believe are much better than cattle producers who spend considerable time and resources seeking to persecute Dingoes. The environmental outcomes I think are outstanding - the reduced number of kangaroos and pigs, and the eradication of goats allow us to control total grazing pressure much more. I would emphasise that sheep or goat producers (as we were previously) have a completely different situation as Dingoes and small livestock cannot co-exist on a property unless there is some measure in place to protect stock at the paddock and flock scale - such as predator-proof fencing or guardian animals.

My experience is that the Dingo numbers were very low originally during my lifetime, from the 1960s to the 1990s, due to targeted trapping, shooting and baiting by strychnine. This has now been replaced by large-scale, ground and aerial baiting with 1080 poison at a landscape scale. My observation is that this practice has broken down pack structures— leading to more groups of adolescent dingoes which may be more prone to attacking stock. On Noonbah, we only have stable families of Dingoes, all of which appear visually to be pure-breed Dingoes.

My experience, and those of many other cattle producers (like David Pollock) is that stable Dingo packs rarely or never attack our older cattle. This is unsurprising. Dingoes are not 60 kg Wolves, they weigh around 25 kg. Attacking adult cattle is quite dangerous for such a small canid. Calf losses may occur (on some properties it does not occur) but this needs to be balanced against the large economic gains in reducing kangaroo numbers, and in some landscapes, eradicating feral goats and reducing

kangaroos, which would otherwise be present. In addition, my experience, and those of some other graziers, is that calf losses are particularly reduced if stable Dingo families are established, rather than single animals or groups of animals without a constrained family structure.

## Dingoes or Wild Dogs?

As a cattle producer with an interest in sustainability nationally, I am highly concerned about the relatively recent, deliberate and misleading marketing spin of calling Dingoes and Dingo hybrids ‘Wild Dogs’ (Kreplins *et al.* 2019). From a number of discussions off the record with people in the pest industry I believe that this has been deliberately introduced into the vernacular to attempt to make the public more comfortable with the killing of Dingoes throughout large areas of Australia. It feeds a persistent fallacy that I regularly encounter amongst the general public that, in eastern Australia, the ‘only pure Dingoes left are on Fraser Island’. The latest research in south-east Australia shows that even in highly settled areas only a tiny proportion of these animals are actually feral dogs from completely non-Dingo stock. The animals in the landscape are either pure Dingo or largely Dingo in their ancestry (Cairns *et al.* 2019). I know of no records of any self-sustaining, totally wild populations of any purely domestic dogs in Australia. This is despite 200 plus years of abundant opportunities for this to occur. On the available evidence it would appear that domestic dogs may interbreed with wild Dingoes, but they do not survive and breed in the wild themselves.

My observation of all animals at our place is that they look like Dingoes, sound like Dingoes and act like Dingoes—because they are Dingoes. Aside from temporarily lost hunting dogs, I have never seen on our property a canid that looks, sounds or acts like anything but a pure Dingo. My observations at Noonbah indicate that when Dingoes form stable family groups, they are resistant to invasion and inter-breeding from actual feral dogs— that is domestic dog breeds gone feral (Parr *et al.* 2016).

My experience and view is that when family groups are mostly or partly killed by lethal controls, then there are individual Dingoes wandering around the landscape looking for mates without the control of a structured family group. After 40 years of indiscriminate, systematic and extensive aerial and ground baiting, there are now more hybrid animals coming into the population, and more extensive damage to stock, with inexperienced animals attacking cattle.

## Current debate not highlighting proven impact on herbivores

I find the current polarised debate about the economic and environmental costs and benefits of Dingoes largely misses the point of the issue for cattle producers from both

the current 'Dingoes should be protected' and the 'Dingo should be persecuted' perspectives.

Researchers from the 'Dingo persecution' side of the camp are largely funded for their research by the sheep and goat industry (Kreplins *et al.* 2019). As I note above, obviously smaller stock–sheep and goats–cannot co-exist at the paddock scale with Dingoes (or any form of hunting canid). Active protection measures are required, either through targeted persecution of individual Dingoes or feral dogs, by protective fencing, or by providing guard animals.

However, I find that research and advocacy institutions promoting persecution, such as Meat and Livestock Australia and the Centre for Invasive Species Solutions routinely lump together the impacts of Dingoes on small stock with the impacts on cattle, as if they are equally at risk. They also usually ignore or obscure the economic and environmental benefits from having this top-order predator in the landscape.

To give one significant example. In their paper 'A Road Map to Dingo Conservation, Allen *et al.* (2017), state as a 'Fact' - 'There is no consensus on the ecological roles of dingoes (of any description) or the ecological consequences of lethal dingo control, and evidence for both is equivocal and/or debated.'

In my opinion, this is incorrect as the significant ecological impacts of Dingoes on some medium-sized herbivores, especially kangaroos and feral goats, has been widely observed and well documented.

To briefly detail these impacts, firstly on kangaroos. In semi-arid areas in southern pastoral areas it has been well established that Dingoes control over-abundant kangaroo populations (e.g. Caughley *et al.* 1980; Newsome *et al.* 2001; Pople *et al.* 2000; Letnic *et al.* 2012). This is most easily seen along a road crossing any Dingo fence - abundant live (and road-killed) Red, Eastern Grey or Western Grey Kangaroos on the side of the fence where Dingoes have been removed. Sparse populations on the other. In addition, in many parts of Dingo-free landscapes in temperate areas there are now consistent, and in many cases increasing, problems with high densities of the larger species of kangaroos: Eastern Grey, Red, Western Grey, Red-necked Wallaby, Agile Wallaby and Euro. In large areas in south-eastern and south-western Australia, and by anecdotal report in at least one district - Daly River - in northern Australia, there are now consistent issues with over-abundant kangaroos. This includes economic impacts (taking feed grown for stock or food crops), health and social issues (cars hitting kangaroos and causing injuries and death to people, and damage to vehicles), and environmental impacts (over-grazing of native vegetation, including grazing of threatened plant species and suppression of regenerating trees and shrubs). The districts with these impacts are highly diverse, ranging from suburban fringes, to wheatbelt districts, and forested national parks. The land tenures range from National Parks to cleared freehold lands (Prowse *et al.* 2019).

Dingoes have even more impact on feral goat populations. They eradicate them (e.g. Lee 1991; Newsome *et al.* 2001; Pollock 2019; personal observation, and multiple observations of other graziers reported to me). The only feral goat populations in Australia occur where Dingoes have been largely or totally exterminated. These populations of goats occur across widely diverse environments, with varying land-uses. In many areas they are a significant environmental and financial problem. As occurs with over-abundant kangaroos, they compete with stock for feed and over-graze native vegetation.

I have neither read, observed, nor heard of *any* landscapes in Australia with any feral goat populations, or of problematic numbers of kangaroos, where there are unpersecuted populations of Dingoes. These extensive national environmental benefits of having Dingoes in the landscape are worth emphasizing in some detail. Goats have broad habitat preferences, and most cattle stations throughout Australia once kept goats for milk and meat. This provided a ready source of abundant feral populations that now occur in the southern parts of the Outback where Dingoes have been exterminated. It is reasonable to assume that all of northern Australia and much of Central Australia would also be infested with feral goats if Dingoes had not and do not eradicate escapee domestic goats. Kakadu, the MacDonnell Ranges, and thousands of other localities would have massive over-grazing issues because of goats. Similarly, consistent over-abundance of the large kangaroo species would cause major ongoing economic and environmental problems through northern and central Australia, not just in the more settled areas where Dingoes have been eradicated.

This is the very clear experience of thousands of landholders. As referenced above, this is also supported by a number of research papers and recorded observations confirming that Dingoes control the populations of medium sized herbivores.

I would suggest that Allen *et al.* (2017) are constructing an argument that there is no 'consensus' on any ecological role of Dingoes because they themselves block any 'consensus'. I would argue this is wandering into a space of wilfully ignoring or cherry-picking the available data, on a par with saying 'there is no scientific consensus on human induced climate change' or that 'there is no scientific consensus that cigarettes are carcinogenic' because one can always find a very small number of scientists, often who receive funding from the fossil-fuel or tobacco industries, who deny the evidence. That Dingoes consistently reduce herbivore populations through predation is not 'equivocal' or 'debatable'. Nor is it 'equivocal' or 'debatable' that landscape health is improved by this predation, and that also economic benefits arise from this predation. This is certainly our experience on the ground at Noonbah Station.

In contrast, the ‘Dingo protection’ side of the debate has I believe got the general proposition right. However, from a cattle producer’s perspective, the research and advocacy of this side of the debate focusses often on the least important points, ones which are unlikely to influence land managers running stock. Much research has been focused on the more indirect impacts of Dingoes on foxes and cats, which has now been researched in a range of studies (e.g. Moseby *et al.* 2012; Johnson & VanDerWal 2009; Letnic *et al.* 2011). My own assessment is that any objective meta-analysis (overall assessment of all the research) finds Dingoes do reduce cat and fox densities and/or effective home ranges in many habitats. And that the details will vary across vegetation types.

However, while ecologically important, the fact that Dingoes could control foxes and cats is not of economic relevance to cattle producers. This matters in moving beyond scientific debates to actually having an influence on land management. Cattle producers manage most of the landscapes where indiscriminate killing of Dingoes still routinely occurs. To engage with cattle producers the focus needs to be on the economic and environmental benefits of reducing total grazing pressure— by reducing kangaroos and feral herbivores. However, cattle producers are not being provided with information on the potential economic benefits that arise from having healthy Dingo populations on their properties.

In addition, as an ex-sheep producer, I believe the potential for non-lethal control should be more precisely and realistically advocated by proponents of protecting Dingoes. Aside from expensive barrier fencing, guardian animals appear to be a proven method of protection, in at least some situations. However, successfully setting up guard dog systems is not straightforward, especially on large properties, nor would it be without major costs and hard to manage risks for a producer. It may take some trial and error and external training and support for most producers to make guard dogs effective on their properties. This needs to be taken into account by proponents of non-lethal control for sheep and goat producers. Simply saying ‘use guard dogs, it has worked before’ is largely empty and possibly annoying rhetoric for most producers. Further extension and support is required before it would be taken up broadly.

## The focus needed

Rangelands managed for cattle cover about 30% of the continent, a vast area. This covers most of the area where Dingoes are still killed indiscriminately across large landscapes. Research and information outreach is required to cattle producers on the benefits as well as potential costs for their businesses in maintaining Dingoes. The economic information that is currently available for producers unfortunately, and seemingly deliberately, usually muddles together the impacts of Dingoes on sheep/goats with their impacts on cattle, implying that Dingoes will always cause major costs to cattle producers without lethal control. We need research, advocacy and outreach that provides accurate information to more cattle producers on the potential benefits of lower total grazing pressure that are provided by Dingoes, as well as the possible costs of calf predation.

I understand and respect that for sheep and goat producers having Dingoes or any type of feral dog in the landscape can be enormously impactful on their business, as well as creating significant personal stress and heartache in trying to protect their stock from attack. However, lethal control of Dingoes is increasingly and demonstrably not working in many districts. In some regions I would argue that landscape level baiting in cattle producing landscapes, outside sheep localities, is exacerbating problems for sheep and goat producers. It potentially builds populations of bait-shy animals which may then successfully invade sheep country. It will also imbed whole of landscape degradation impacts from over-abundant kangaroos and feral goats.

I do not understand why Meat and Livestock Australia, the Centre for Invasive Species Control and other researchers funded by the sheep industry focus on researching and promoting lethal control, rather than allocating significant research and extension funding to increasing the effectiveness and uptake of non-lethal control. For example, extending the use of guardian animals over more properties has the potential to both protect stock from Dingoes, and maintain the ecological and financial benefits of low kangaroo, feral goat and feral pig numbers.

We would all be much better served by a more thoughtful and nuanced approach to Dingoes. Indiscriminate killing across large areas is not serving the best interests of our agri-businesses, nor is it keeping our landscapes healthy. We really need to rethink the sustainable long term use of our ecosystems, and our role in them.

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APPENDIX I



Wild Dingoes are a key part of the Emmott's cattle producing business in Western Queensland.  
Photo by Angus Emmott



The Emmott family own and run cattle at Noonbah Station, on the Thomson River, south of Longreach in Western Queensland. The property has been home to the Emmotts for three generations. Angus Emmott is a naturalist and zoologist as well as a cattle producer, and has closely studied wildlife in the region since boyhood.

Photo by Matt Pennisi



The station is perhaps typical of many Outback cattle stations. It is 52,000 hectares in area. The landscape has a diverse mix of floodplain country and Mulga and Gidyea woodland.

Photo by Angus Emmott



Cattle numbers at Noonbah vary from close to zero to 3,000 depending on seasonal conditions and markets. Like most Outback stations, Noonbah has had virtually no clearing of native bushland. Cattle graze on native grasses and shrubs.

Photo by Angus Emmott



Dingoes were absent from Noonbah until 2001, when the Emmotts stopped poisoning and shooting. Since then Dingoes have recovered in numbers and there are stable Dingo family groups on the property.

Photo by Angus Emmott



Prior to Dingoes coming back numbers of Red and Grey kangaroos were consistently high. Native pastures were over-grazed. The Emmotts could not rest paddocks from grazing to allow regeneration, as while the cattle could be removed from a paddock, over-abundant kangaroos would jump the fences and still strip paddocks for feed.

Photo by Angus Emmott



Since the re-establishment of Dingo predation, kangaroo numbers have been consistently low. Here a Grey Kangaroo has escaped its pursuers by going into a waterhole. Being taller gives kangaroos an advantage over Dingoes in water- they can fend off or drown attacking Dingoes swimming at them. These Dingoes are wise to this and are waiting it out, hoping to have a chance if the 'roo makes a bolt out of the water.

Photo by Angus Emmott



Dingoes have also eradicated feral goats at Noonbah, and greatly reduced the numbers of feral pigs, foxes and feral cats.

Photo by Angus Emmott



Having Dingoes in the landscape has meant more feed for cattle, and allows management of total grazing pressure in individual paddocks, allowing pastures to rest and regrow when needed. The Emmott's have found that maintaining Dingoes at Noonbah is better for their business, and it helps maintain a much healthier and more sustainable environment. Photo by Angus Emmott



Angus Emmott believes that cattle producers throughout Australia should strongly consider the business and sustainability advantages of maintaining Dingo populations. The benefits of reduced grazing by kangaroos and feral animals at Noonbah Station greatly outweighs any occasional lost calves. He is conscious that for sheep and goat producers co-existence with Dingoes is much more difficult- protection by guardian animals or Dingo proof fences is needed to safeguard these smaller stock.

Photo by Angus Emmott