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MANAGING THE UNMANAGEABLE: REINSTATING THE DINGO FOR PASTORAL SUSTAINABILITY IN AUSTRALIAN RANGELANDS

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ABSTRACT: The predominant grazing management system used in the arid rangelands regions of Australia, set stocking, is not conducive to sustainable land management. More appropriate grazing management systems based upon periodic rest periods for important pasture species have not been adopted by pastoralists because the unmanaged grazing pressure from animals such as goats and kangaroos has been too high. Dingoes are the only cost-effective and long-term management solution to the effect of unmanaged grazing by goats and kangaroos. Yet government funding targets dingo eradication in pastoral areas, and it does so by adopting misleading and scientifically inaccurate terms for describing dingoes.

INTRODUCTION

Wooleen Station is situated in the southern rangelands of Western Australia, which comprise about one third of the state. It is a semi-arid area, and like most of the semi-arid areas in Australia has long been used for pastoralism, and so is now significantly degraded. This paper focuses on the 'low-hanging fruit' that Australians and pastoralists can take advantage of to repair the degradation of the past, and set our rangelands up for a more sustainable future.

Overgrazing has been the overwhelming cause of the declining condition of Australia's rangelands. Good grazing management will be the solution, but it is not as simple as just making sure that pastoralists have the right amount of stock on their land. That is certainly important, and most pastoralists need to gain a much greater understanding of what their pasture is, and what it should be, in order to understand the correct stocking capacity during different seasons. Much needs to be learned about how to transition rangelands pastures from their present condition to what it needs to be in the future in order for our operations to become truly sustainable.

OVERGRAZING

Domestic stock have traditionally caused less than half the problem of overgrazing. The biggest cause of overgrazing comes from unmanaged animals, most of which have not contributed to the pastoralists' income. Animals such as goats, kangaroos and rabbits have had a far larger impact on pastoral resources than domestic stock, for three main reasons.

Firstly, there are simply more of them, leading to more grazing pressure. The grazing pressure of 120 rabbits is roughly equal to fifteen kangaroos, or eight goats, or one cow. Throughout the history of pastoralism in the southern rangelands, the combined grazing pressure of these unmanaged animals has nearly always been greater than that of domestic stock. This is especially true in dry times and droughts. In 1991 the Western Australian Department of Agriculture estimated that 61% of the grazing pressure was coming from kangaroos and goats (49% from kangaroos and 12% from goats); and rabbit numbers couldn't be counted (Burnside et al.1995: 25; Curry et al. 1994: 2; Pringle et al. 1994: 63–64, 125).

Secondly, unmanaged animals are exactly that. They are not contained by fences and consequently they go wherever they please. And if a pastoralist cannot control at least half of the grazing pressure on their property, then that pastoralist is not effectively managing their land. This is particularly true if the landscape is in poor condition, because even a very small amount of grazing can slow the recovery of biodiverse native plants and animals. It's likely that there has never been enough control of the grazing pressure to adequately manage pasture in the Australian rangelands.

The third reason is a combination of the first two, and relates to the mindset of those who manage pastoral enterprises. The prevailing mindset is that controlled grazing is impossible on large properties. This mindset has come about for good reason, because for most of the history of Australian pastoralism, good pasture management has been impossible to achieve in the face of large amounts of unmanaged grazing.

From a pastoralist's perspective there's never been any point in trying to recover an overgrazed patch of land by removing their sheep or cattle from that area. This is because the unmanaged grazing continues regardless, ensuring that recovery is either non-existent, or slow to the point of

being economically unviable (Wilcox & McKinnon 1974). This mindset is the reason why, in the past 150 years of pastoralism in Australia, there have been almost no inroads made into developing sustainable grazing systems for large arid and semi-arid properties.

SET STOCKING

The vast majority of Australian stations continue to use a system known as set stocking, whereby domestic stock are left to graze in the same area indefinitely. That's because pastoralists who are unable to manage 60% of the grazing animals soon give up on managing the remaining 40%. Pastoralists reason that their best chance of making the most use of their pasture is to get their own stock to eat it before the kangaroos do.

But set stocking is an entirely inappropriate grazing practice and it has decimated our pastoral resources. It has done so not only in Australia, but also in rangelands worldwide. Set stocking ensures that pasture plants never get a break from grazing, and it has led to systematic removal of the best pasture species from our landscapes, often to the point of local extinction. In the southern rangelands we are now faced with the situation whereby we no longer have any of the fabulous grazing plants that inspired the first pastoralists into moving there in the first place. These include *Themeda triandra* (Kangaroo Grass), *Panicum decompositum* (Native Millet), *Chrysopogon fallax* (Ribbon Grass) and *Rhynchosia minima.*

ROTATIONAL GRAZING

Any responsible grazing system must allow the most palatable plants time to recover from grazing. These more appropriate grazing systems are generally known as rotational grazing. There are many manifestations of rotational grazing, and generally the more developed they are the better they work (Pollock 2019). But even rotating the stock from one side of the property to the other side every year is a vast improvement on the set stocking model.

Yet rotational grazing has been practically impossible to achieve in the southern rangelands, and many other rangeland ecosystems across Australia, because the impact of unmanaged animals has rendered it unworkable.

So, what is the solution to the problem of the unmanaged grazers? The solution is not a new one, but it does require that most difficult of all things — a cultural shift. By far the cheapest, most guaranteed to be effective thing we can do as Australians to recover our rangeland resources, whether it be for production or conservation, is to stop killing the dingoes.

THE ROLE OF THE DINGO

Dingoes are the natural predator for kangaroos, and consequently kangaroos are in plague proportions everywhere that the dingo has been removed (Figure 1). In the southern rangelands region, kangaroos represented about 50% of the grazing pressure. This has made rotational grazing or simply resting paddocks a waste of time, as pastoralists have never had enough control of the grazing pressure to make a difference. In many areas this has led to a complete loss of perennial groundcover and widespread erosion. Good pasture management in the southern rangelands is practically impossible without the dingo, and the same could be said for almost all of Australia's semi-arid and arid pastoral regions. There are, however, some exceptions.

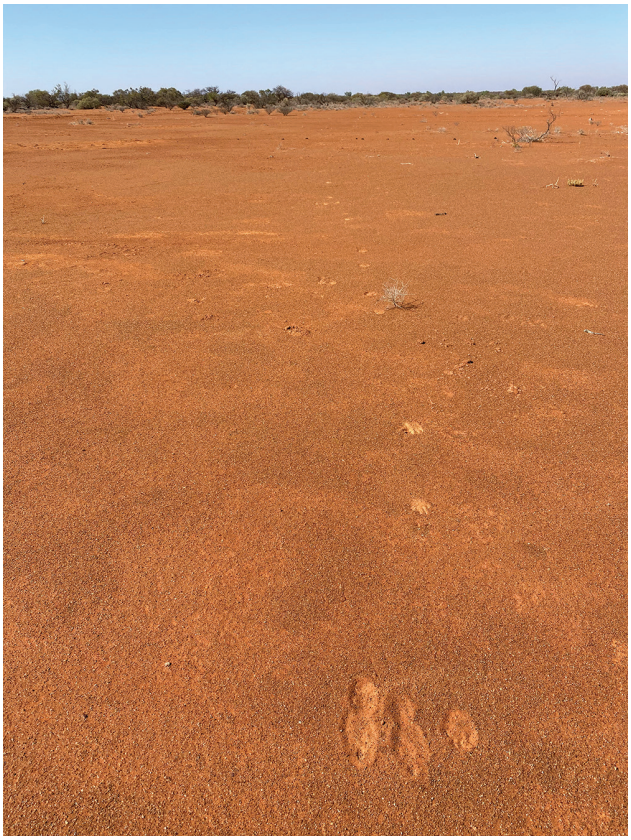

Figure 1: Tracks of dingo after kangaroo on Wooleen. Photograph by David Pollock.

For example, some pastoralists have erected kangaroo-proof fences, which are an expensive option, but necessary if they want to run small stock, as well as practise good pasture management (Figure 2). The problem with fencing is that most pastoral stations in Australia are very large, their size being a reflection of the low productivity of a dry climate and infertile soils. Exclusion fences can be feasible on small properties because those properties are situated in areas with higher rainfall, and are therefore more productive. This means that less fencing is needed per

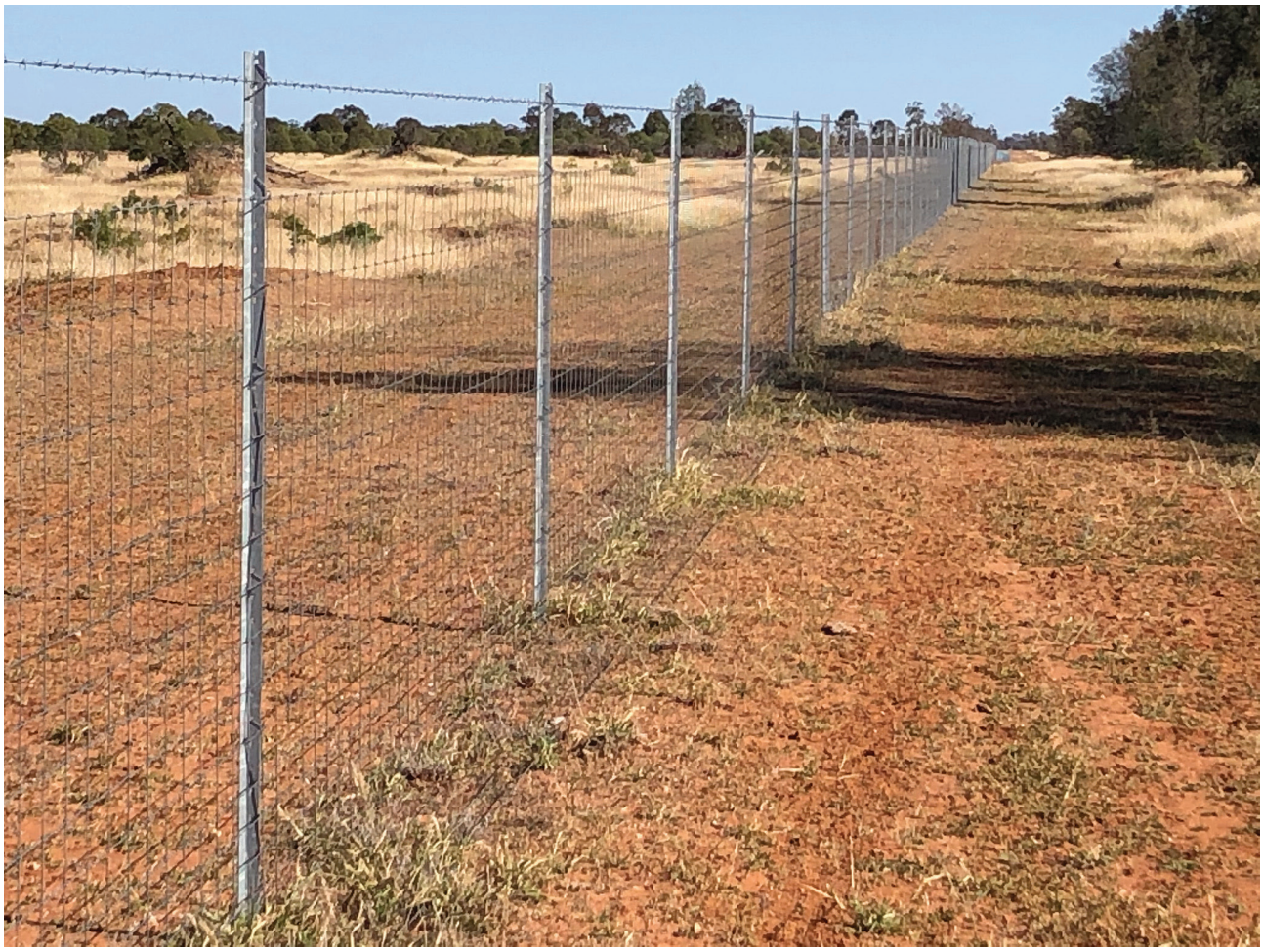

Figure 2: Kangaroo-proof fencing. Photograph from Waratah Fencing.

hectare to protect land that is of a much higher productivity. Land that is more productive has a much higher capacity to pay for more intensive infrastructure, such as pest-proof fences.

On the vast majority of stations, however, far more fencing is needed for far less productive land. Consequently the larger the property the less likely it will be that fencing out unmanaged animals is economically viable, especially considering the cost of future maintenance and replacement of those fences.

So the most viable option on larger properties is to make use of the dingo to control unmanaged grazers, with one important caveat — cattle must be run instead of sheep. Cattle are much less susceptible to predation by dingoes, simply because they are a much larger animal (Figure 3). Of the measures that can be employed to cut predation of cattle to almost zero, the most important is to reduce the distance calves have to walk to water. This is a by-product of the good pasture management that can be achieved through rotational grazing.

It follows that Australian pastoralists have little choice but to wean themselves off running sheep and goats in semi-arid regions, if they want to protect their vast and valuable rangeland resources. This is not to suggest an immediate swap of all sheep with cattle. But as a nation we need to start the conversation about how to transition from our current practices, which have proven to be immensely destructive, towards those that restore and sustainably utilise our resources. And there is a lot at stake, as pastoralism in semi-arid and arid regions is the

Figure 3: Cattle being checked out by dingo.Photograph by Arian Wallach.

predominant land use in Australia, covering around 40% of Australia's landmass.

If Australians are committed to a sustainable future then this issue demands immediate attention. And yet, throughout Australia dingoes are maligned by producers and the general public alike — by producers, through adherence to the cultural norm of believing that the dingo is their enemy; by the general public, through a sustained campaign of misinformation that is directly contrary to the available science. This can be summed up by the substitution of the term 'wild dog' for the term 'dingo', terms which conjure up very different mental images. The fiction of the wild dog has been created over the past twenty years to enable the Australian Government to continue to fund dingo culling.

The single most influential move towards restoring the dingo to its rightful level of immense ecological and productive worth would be for all government departments to discontinue the use of the term 'wild dogs' to describe dingoes. This move could easily be justified by the recent, current and ongoing genetic research, which overwhelmingly shows that public funds are *not* currently being used to kill wild dogs, because they are so few in number that it is arguable they don't even exist in Australia's wild places (Cairns et al. 2021a,b; Stephens et al. 2015). The reason governments are able to continue in this fallacy is that the definition of the term wild dog, as it is described by government agencies, includes pure-bred dingoes.

BENEFITS

The natural effect of a reinstatement of appropriate terms would mean that the general public would be made aware of what their money was actually being used for. It is likely that most Australians would not approve of the wholesale removal of the Australia's top-order predator, especially if they could be made aware of the mounting body of scientific evidence showing that it is essential for the ecologically sound management of most of Australia's useable landmass (Fisher et al. 2021). Consequently, programs that are currently funded to kill dingoes would falter, and might eventually disappear altogether.

If government ceased funding directed at control and elimination of dingoes, including money spent on dingo-proof fences in inappropriate places, most rangeland properties would switch to cattle of their own volition. They would have to, as dingoes reclaim most of their former territory. Small stock producers would switch to cattle, and if strategic about it, would do so before the dingoes arrive.

It could be argued that the point at which sheep once again become a suitable enterprise is also the point at which the landscape's natural productivity means that properties are small enough to pay for their own exclusion fences. It is also the point at which management becomes intensive enough that those properties have the capacity to control their unmanaged grazers themselves. Government could provide support for the affected properties to help them transition through this period. Sheep and dingoes

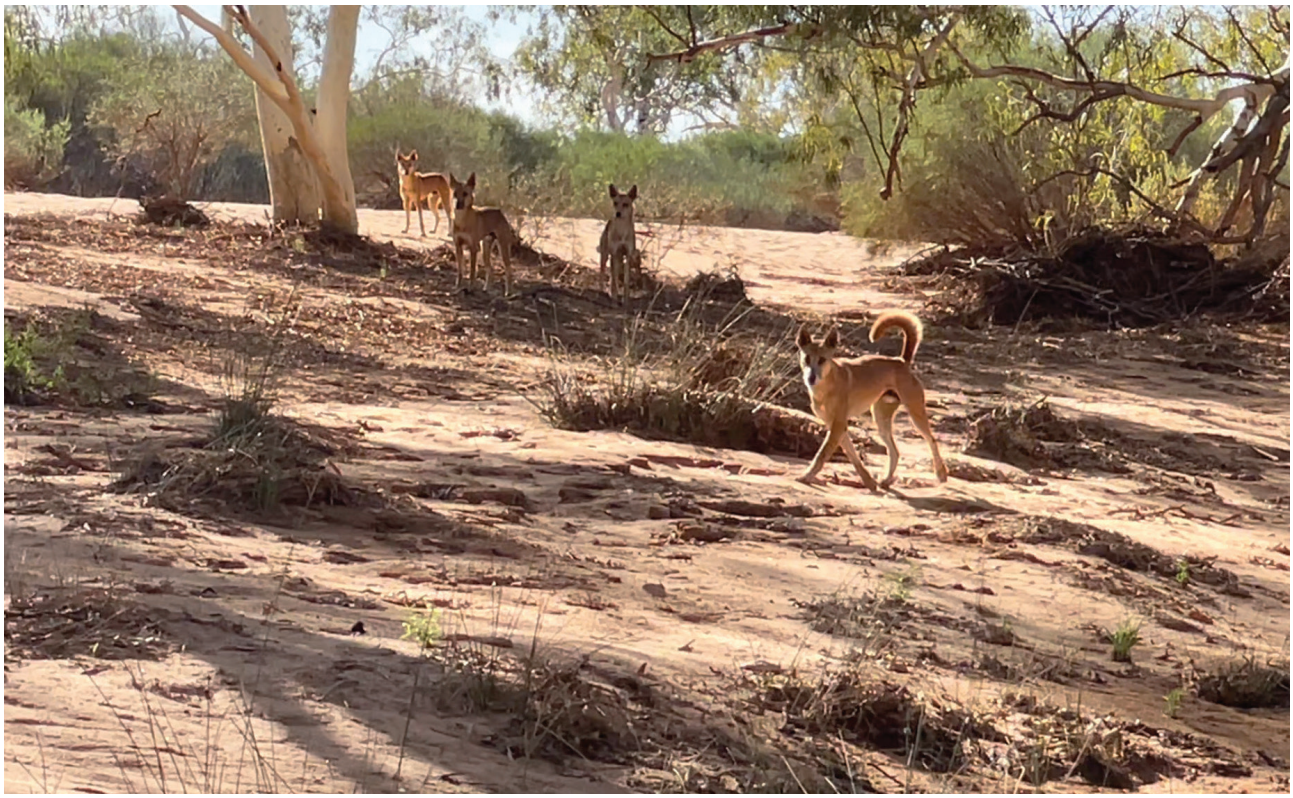

Figure 4: Dingoes on Wooleen. Photograph by David Pollock.

cannot co-exist and without the dingoes on large properties to manage the total grazing pressure, there is almost no likelihood that the landscape will be managed sustainably. If we continue to degrade our soil and pasture then sheep will not survive there for much longer anyway.

If government enacted a policy of not harming dingoes the unmanaged grazing pressure would at last be lifted from the rangelands, and recovery would begin. All that has been outlined here is exactly what has already happened in the southern rangelands over the past twenty years, with the exception that a lot of money has been spent fighting the dingoes when that money would have been much better spent helping pastoralists to transition.

Now it is possible for pastoralists in the southern rangelands to realise the benefit of grazing systems which are more profitable and more productive. Once those systems are embraced, we will be on the path to a sustainable future.

There is one other consideration, and that is that dingoes are not only essential for good grazing management, but they are also essential for the survival of the native fauna of rangeland areas (Figure 4). Wherever dingoes have gained a foothold they have completely removed the fox in the southern rangelands. They have also affected cat numbers, though it remains to be seen if they can remove them completely. Australia has the largest extinction rate of mammals in the world, and that will continue for as long as we deny the dingo its ecological role.

RECOMMENDATION

One key next step forward must be that the Australian Government, and any organisation that it funds, ceases to use the term ‘wild dogs’ to describe dingoes. Perception is everything here. A very different mental image is created in the minds of the general public by these terms, and they do not understand that when agencies talk of wild dogs, what they really mean is dingoes. It is irresponsible and counter-productive to the good management of Australian resources for the public to continue to be misled in this way.

Acknowledgements

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