

Submission to Future Drought Fund Consultative Committee

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Improved management of kangaroos will reduce their contribution to the effects of drought and should be considered in the design of programs for the Future Drought Fund.

Summary

Kangaroos are aggravating the impacts of the drought, damaging sustainability of primary production and potentially threatening the social licence of all rangeland pastoral industries. Kangaroo populations have peaked and are now declining due to drought and millions are starving which is an animal welfare disaster and a national disgrace. When populations are high (even as they are declining) kangaroos can also adversely affect other biodiversity.

Investment in improved kangaroo management, including a stronger kangaroo industry, aligns clearly with all three strategic priorities for the Drought Resilience Fund.

Economic resilience - lifting the productivity and profitability of the agriculture sector

- Avoiding waste and utilising an existing resource, which is freely available.
- Enabling enterprise diversification using a species better adapted to drought conditions.
- Turning a liability (cost to control) into an asset (product to sell).

Environmental resilience - enhancing the health and sustainability of Australia's farming

- Encouraging improved management of native vegetation, water, soil and biodiversity through the use of a species adapted to the Australian environment
- Restructuring of operations by producers to improve kangaroo management leading to reducing carbon emissions, enhancing sequestration, generating carbon credits and producing low emission meat.

Social resilience - helping farms and communities be better prepared to respond to the impacts of drought and reduce their stress

- Innovating and improving planning through communities or rural co-ops which would otherwise be left undone.

- Enhancing public good by enabling additional options for employment in rural communities, especially in the rangelands.
- Creating employment opportunities for Indigenous Australians working on country and connecting them with traditional practices and food sources.

This submission describes how improved kangaroo management can make better use of the kangaroo resource. It presents initial ideas and refers to the Joint Statement of Concerned Ecologists which arose from symposiums in 2019 at the conferences of the Australian Rangelands Society and the Ecological Society of Australia. Our statement is attached.

The situation is critical and we propose that the Future Drought Fund Consultative Committee recommend that improved kangaroo management be considered and included in the Drought Resilience Funding Plan 2020 to 2024. My colleagues and I are available to follow up with more if required. A paper providing further detail and references can be found at <https://doi.org/10.7882/AZ.2018.043>.

Context

Australia's kangaroos are widely distributed, with the majority living on pastoral rangelands used for sheep production in southern Australia. Their numbers have increased in the past 200 years due to greater availability of short grass, increased watering points, dingo control and loss of Aboriginal hunting. Aerial surveys of the rangelands over 36 years show fluctuations between 55 and 20 million in boom and bust in cycles (Figure 1), which are unrelated to commercial harvest (Figure 2). Droughts cause increased competition with livestock, eventually leading to busts, with millions of kangaroos suffering, starving and dying. In eastern Australia between 2013 and 2018 numbers have dropped by 16 million. Better management could reduce livestock competition and prevent vast suffering.

Kangaroos expand exponentially after rain

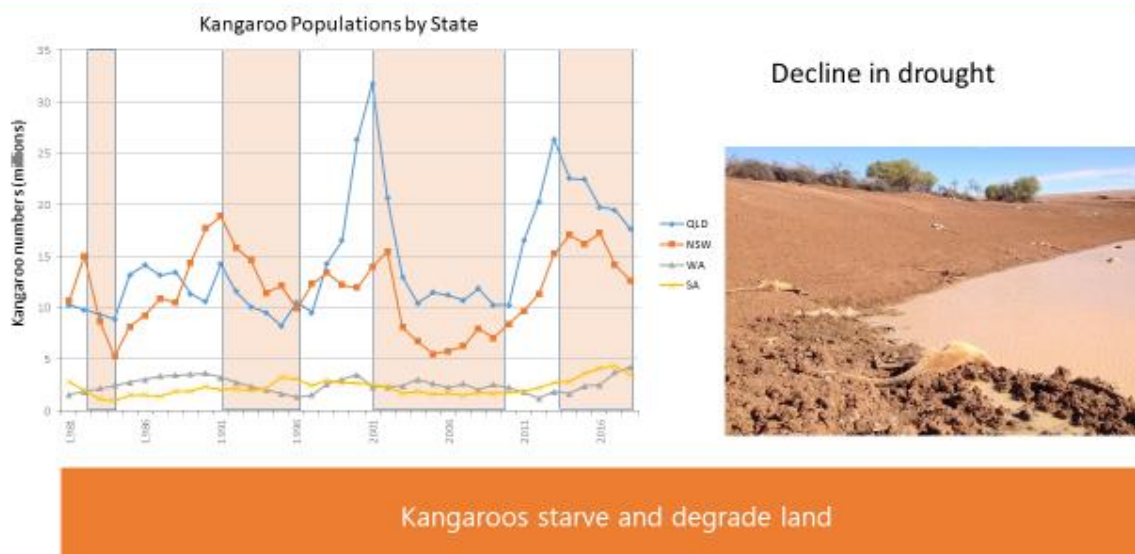


Figure 1 Kangaroo populations showing boom and bust cycles (shaded areas are periods of drought).

Changes not related to commercial harvest

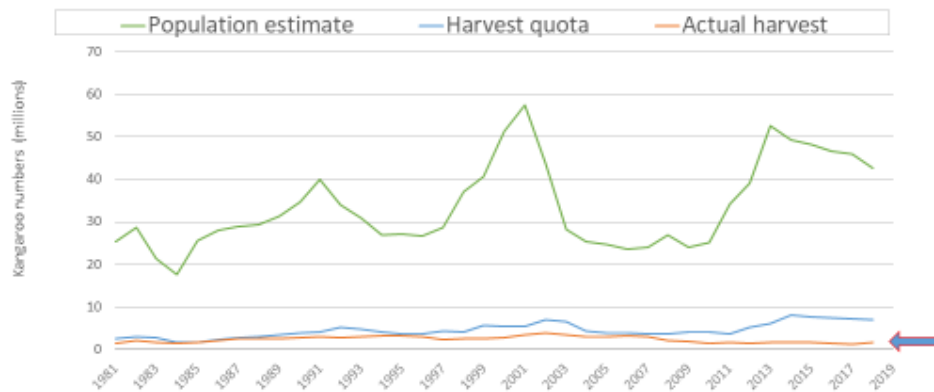


Figure 2 Kangaroo populations estimates, harvest quota and actual harvest.

Under current arrangements, commercial demand for kangaroo carcasses is low and so are prices. State governments have primary responsibility for kangaroos and when populations boom and a crisis ensues, they issue damage mitigation permits so that graziers can reduce pressure on their resources and 'deal with pests'; but it is often too late. It is also a significant waste issue with millions of kilograms of meat being left to rot in paddocks at a time when a growing global population needs sources of protein and meat alternatives are being promoted as an environmental alternative.

In a new and concerning twist, grazier's desperate to avoid this situation are increasingly erecting exclusion fences around clusters of properties to reduce access by kangaroos to pastures and watering points. Non-commercial shooting within these clusters aims to substantially reduce kangaroos and in some cases eliminate them. However, fences can only restrict the movement of kangaroos, not reduce populations.

Attitudes to kangaroos

Notwithstanding that kangaroos are iconic and treasured native animals that are integral to Australian cultures and ecosystem-function; there is a substantial gradient in attitudes to them between the city and the country. Many folks regard it as unethical and distasteful to use kangaroos and mistakenly believe that commercial exploitation threatens kangaroos. In large part these differences are due to lack of understanding and information of the role and skill in professional kangaroo management. Research by NSW Department Primary Industries, shows that those who are most vociferous against the use of kangaroos, are those who know least about it.

Although opponents are a minority, they are very vocal, which makes many politicians, organisations, and potential funding sources wary of engaging and investing in kangaroo management. Notwithstanding, commercial use of macropod species is supported by all States and Territories apart from the ACT (and the ACT is currently reviewing its policy).

Rangelands are the home of most of Australia's kangaroos

The Australian rangelands to which these disparities of opinion apply are natural systems, unsuited to crops or intensive production. The proportion that is grazed for livestock production (see white and some yellow in figure 3) is 60 percent of Australia's total land area.

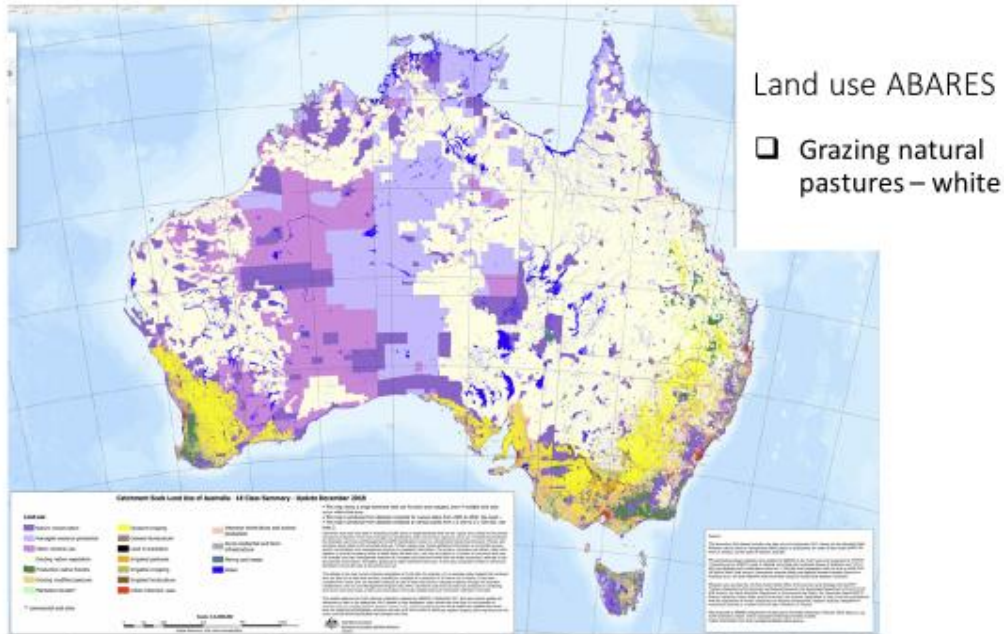


Figure 3 Grazing lands in Australia (ABARES)

Kangaroos contribute significantly to total grazing pressure on these rangelands and their numbers need to be managed to improve outcomes in both conservation and production areas.

Aerial population surveys

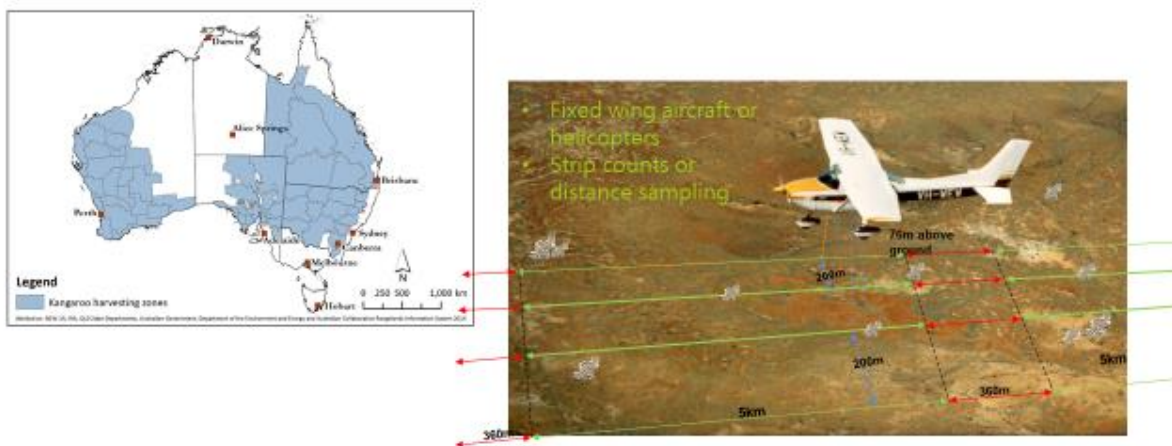
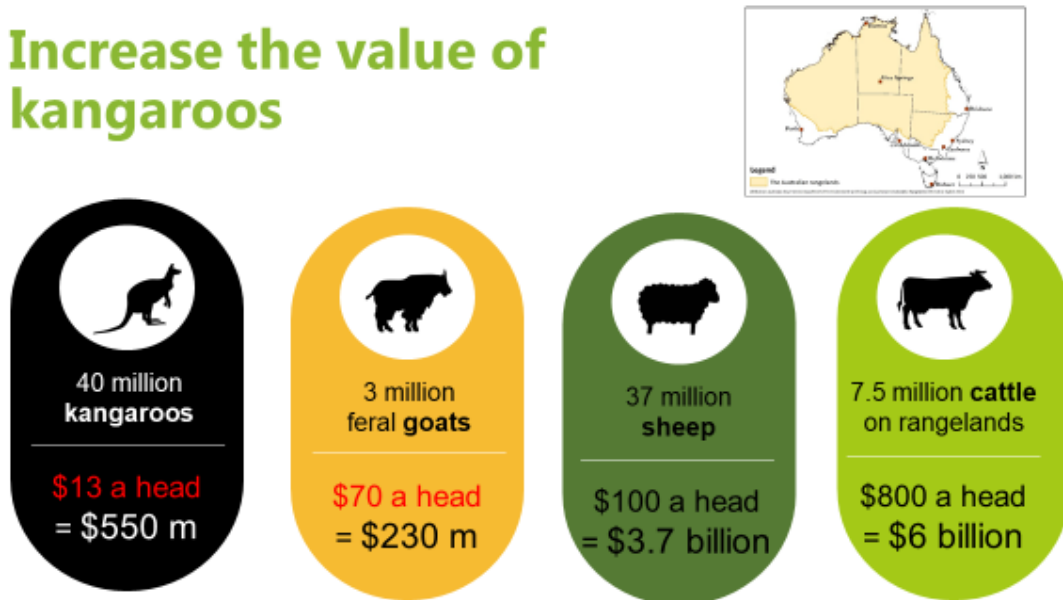


Figure 4 Extent of aerial surveys contributing to population estimates in figure 1.

In the smaller area over which aerial kangaroo surveys are conducted, see Figure 4. estimates of livestock numbers are in following Figure 5. If these population estimates, are converted to asset values, we derive values of \$6 billion for cattle \$3.7 billion for sheep and \$230 million for wild goats. Even at the low price of \$13 a head, the 40 million kangaroos on the rangelands are worth \$550m (Figure 5).

Increase the value of kangaroos



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Figure 5 Estimates and asset industry values for rangeland livestock and kangaroos.

If landholders had the same proprietary interest in kangaroos as an asset, just as they do for other grazing animals on their properties, they would be incentivised to work towards increasing kangaroo value, a task which should enable kangaroos to at least equal the value of feral goats per head. The asset value of the kangaroo population would then approach \$3 billion.

This submission proposes that the Drought Future Fund should invest in achieving such a goal. It would take time but the Fund is one of the few (indeed the only) vehicles to be able to do so. Landholders would have an incentive to integrate kangaroos effectively into landscape management and stop regarding them as pests. Such a goal seems sensible to ensure the security of the national icon.

Failure to manage excessive numbers of kangaroos leads to many adverse consequences

While climate, notably the amount and pattern of rainfall, controls primary production of rangelands, the management of herbivore mass, fencing, watering and prescribed fire, which control the stability of the resource are also most important. Kangaroos need to be incorporated into these prescriptions. They contribute to overgrazing, leading to soil erosion and the increase of largely inedible woody shrubs, which is the major cause of land degradation.

Booms and busts of kangaroo populations could take rangeland systems towards tipping points at which resilience breaks down. Unmanaged booms compromise the ability of land managers to manage herbage in drought. Landholders assert that current densities of kangaroos sent them into drought six months earlier and significantly increased the financial, physical and emotional burden of feeding livestock earlier than they would have in the absence of kangaroos.

Deaths of kangaroos are also a source of stress for landholders. It is another reason many of them just want the kangaroo problem to go away. They don't want to think about it. Their preference is to focus on the larger livestock industries rather than supporting innovation in kangaroos which is ironical because they are already feeding the kangaroos.

Wildlife scientists, on the other hand, who have worked on kangaroos and understand population ecology, are almost unanimous that a stronger industry would help prevent booms and is an important component of better kangaroo management.

When it rains and numbers beginning increasing again, Australia needs to have a plan to avoid a recurrence. A National Kangaroo Strategy should be prepared to clarify goals, activities and investments both by Government and industry. It would draw on the Joint Statement from the recent symposia for which there is already multi-stakeholder support. (The growing list of the agencies and societies is available. It includes the NSW Kangaroo Management Task Force and the RSPCA.)

The Strategy would seek to define the attributes of kangaroo management that contribute to resilience of agricultural, natural, ecological, economic and social systems and in particular their resilience to drought. It would define the thresholds which systems should seek to avoid crossing.

A National Kangaroo Strategy would be a dynamic document and part of a Natural Resource Management program within the Drought Resilience Plan.

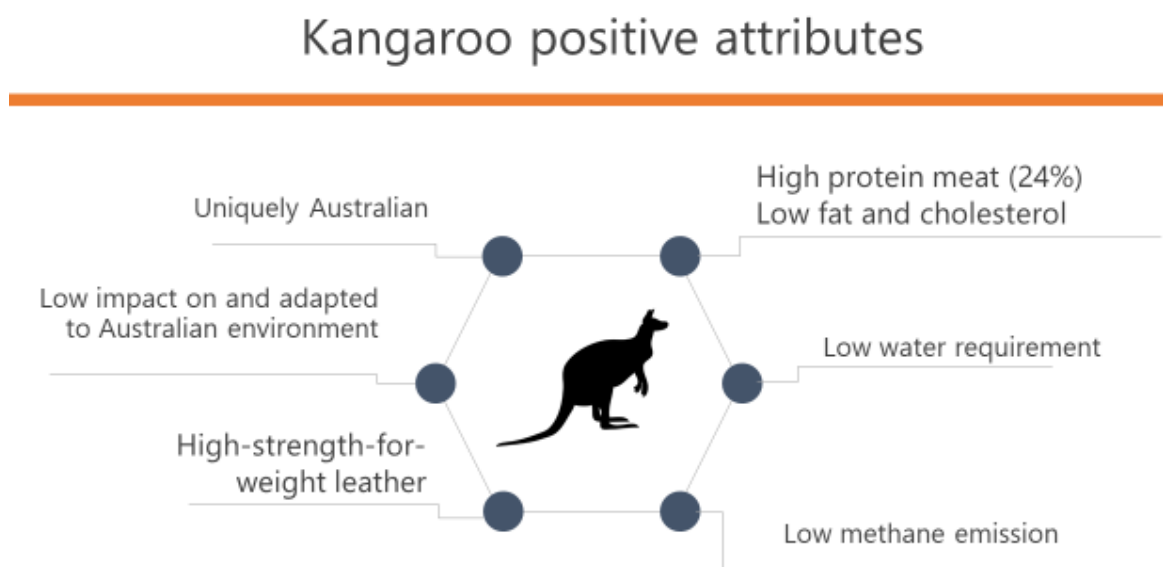


Figure 6 Kangaroo marketing attributes

The two symposia in 2019 considered responsibility and custodianship issues and whether coordinated marketing of the following environmental and product attributes (Figure 6) would provide an ethical choice for socially concerned consumers and thus lead to better welfare and more stable kangaroo populations:

- kangaroos live free and wild on an organic diet of native vegetation,
- kangaroos have less physical impact on vegetation and soils compared to sheep, goats and cattle,
- kangaroo meat is not farmed; it is free-range,
- the method of killing kangaroos is instant and in their own natural habitat, which avoids mustering and trucking and minimises stress
- using kangaroos minimises waste of animals and avoids “pest control” culling, and
- kangaroo meat per kilogram is lower in fat and cholesterol than lean beef and lamb, takes 3 times less water to produce than cattle, and yields 35 times less methane, which is a dangerous greenhouse gas.

Notwithstanding these attributes and potential to increase value, support for research and development of kangaroo industry has been parsimonious. The meagre expenditure by Agrifutures in recent years has focused on meat processing and not integrated farm management or natural resource management.

Under business as usual, environmental damage from increased competition and poor animal welfare will continue. With investment in research and development by the Drought Future Fund the rangeland pastoral industries could follow a different path to resilience. In collaboration with State governments and other industry funders they could work towards improved management of kangaroos including by stronger commercial harvesting before and during boom cycles to reduce eventual busts. The process would seek answers to the following questions;

- Should Australia regard kangaroos as a resource to be integrated into rangeland production systems so as to develop the quality and reliability of supply?
- Is it possible to increase the value and demand by improving quality and better marketing of the natural attributes of kangaroos?
- Can landholders earn carbon and biodiversity credits from better kangaroo management?

Conclusion

Multi-stakeholder collaboration with input from Indigenous, welfare, industry and conservation stakeholders is urgently required to consider these and other questions.

With support from the Drought Future Fund, a National Kangaroo Taskforce should be formed to reform kangaroo management. It would develop a National Kangaroo Strategy that supports State and Commonwealth governments and other stakeholders in better decision-making and lead to greater economic, environmental and social resilience.