

# Understanding Kangaroo Management in South Australia

In South Australia, large populations of Red Kangaroos (*Osphranter rufus*), Western and Eastern Grey Kangaroos (*Macropus fuliginosus*, *Macropus giganteus*), Euros (*Osphranter robustus*) and Tammar Wallabies (*Notamacropus eugenii*) can have negative impacts on conservation and land management at certain times and in certain areas<sup>1, 2</sup>. These impact-causing populations also pose risks to animal welfare, cultural values, and the wellbeing of local communities.

Effectively managing the impacts of these populations is critical to protecting our native species and ecosystem health into the future. Furthermore, the impact of drought-induced mass starvation of kangaroos has been deemed to be no longer acceptable by many stakeholders involved in kangaroo management. However, given the complexity and challenges of managing a native species, fully understanding the causes and impacts is a key first step to engaging with this 'wicked' problem.

## Why do some kangaroo populations cause negative impacts?

Kangaroo species have a natural "boom-and-bust" population cycle that follows changes in resource availability. This means that when resources are plentiful they breed very effectively ("boom"), and when resources are scarce females cease breeding and populations may naturally decrease ("bust"). This evolutionary strategy has served them well historically within the dynamic Australian environment, allowing a natural regulation of population levels that can be healthily sustained by the available food and water resources.

However, since European settlement, kangaroo numbers have significantly increased in some areas, due to historical and ongoing land management practices, such as increased access to artificial water sources, increased pasture availability, and the removal of predators.

---

<sup>1</sup> South Australia Department for Environment and Water. [Kangaroo conservation and management](#).

<sup>2</sup> Species names listed as per the [Australian Faunal Directory](#). Please note DEW describes all 5 species as being in the genus 'macropus', i.e. Red Kangaroo - *Macropus rufus*, Euro - *Macropus robustus*, and Tammar Wallaby - *Macropus eugenii*.



For example, dingoes are known to play a role in regulating kangaroo populations and their impacts: kangaroo grazing has a strong impact on vegetation cover in areas where dingoes are rare, and negligible impact where dingoes are common<sup>3</sup>.

These changes in the landscape have increased the severity of the “boom-and-bust” population cycle resulting in significantly increased population peaks (“boom”) that result in substantial impacts (outlined below). In addition, once resources are less plentiful or drought hits the population the “bust” is more dramatic and impactful, with mass kangaroo starvation and die-off resulting in concerning animal welfare outcomes and significant distress for local communities.

It is important to note that different species of kangaroos can cause adverse impacts in some areas but not in others. For example, Tamar wallabies (*Macropus eugenii*) can be overabundant locally on Kangaroo Island but are not on mainland areas.

### **What are the potential impacts of large kangaroo populations?**

The intense grazing pressure from large kangaroo populations can result in severe land degradation, biodiversity loss, and other risks to native plant and animal species that may ultimately disrupt healthy ecosystem function.

Large kangaroo populations on agricultural land also impact agricultural values by contributing to total grazing pressure, impacting livestock industries and sustainable farming practices (e.g., paddocks left to regrow between periods of livestock use). These impacts are exacerbated during periods of drought, when resources are already scarce. Current understanding of the total economic costs of kangaroo impacts is limited in South Australia, with estimates generally based on simplified representations of livestock interactions and/or based on perceived rather than measured costs.

Kangaroos can also pose risks to public safety and wellbeing through increased risk of vehicle accidents and the mental health implications of communities witnessing mass die-off during drought periods. This is particularly impactful on Traditional Owners for which these kangaroos are particularly culturally significant. Deaths by starvation also pose substantial animal welfare and disease risks to the kangaroos themselves.



---

<sup>3</sup> Morris, T. and M. Letnic (2017). [Removal of an apex predator initiates a trophic cascade that extends from herbivores to vegetation and the soil nutrient pool.](#)

## What are the kangaroo management options in South Australia?

There are many potential management approaches to kangaroo populations, however they will not all be effective or appropriate for every management context. Appropriate methods for peri-urban versus pastoral landscapes in particular will vary greatly.

The South Australian Department of Environment and Water (DEW) encourages land managers to consider non-lethal methods first, including exclusion fencing and limiting access to water.

Other non-lethal methods, such as translocation and fertility treatments have been extensively researched and trialled. Authors of a recent study on fertility treatment seeking an alternative to lethal control concluded that fertility treatment is a niche tool suitable only for small scale management in circumstances where kangaroos are more used to humans, enabling close access for darting<sup>4</sup>.

Similarly, studies on translocation methods show poor survival rates and animal welfare outcomes<sup>5</sup>. Apart from these animal welfare costs, both translocation and fertility treatments are typically unfeasible over the spatial scale of impact-causing kangaroo populations in regional South Australia.

Where non-lethal methods are ineffective or impractical, kangaroos can be managed commercially through the kangaroo harvesting industry or non-commercially through landholders applying for Permits to Destroy Wildlife from DEW. Both commercial and noncommercial shooters must adhere to their respective National Codes of Practice. For more information see DEW's Information for Landholders Factsheet.



## What role do landholders and land managers have in kangaroo management?

Landholders and land managers play a critical role in the management of kangaroos on their properties and beyond, as they are usually the first to witness the impacts of high populations on the ground. Ultimately, they are responsible for addressing and mitigating these impacts, either through direct management actions or by engaging external assistance, within the bounds defined by the law.

On the property level, it is important for landholders to have an idea of the baseline number of kangaroos that their properties can sustain, and take appropriate action if the number is seen to go above this threshold to a level that disrupts healthy ecosystem function. Land managers can then instigate the appropriate land management solution (e.g. commercial harvest, Permit to Destroy Wildlife) for their context and contact the relevant stakeholders (e.g. DEW, commercial harvesters) in a timely manner as necessary.

<sup>4</sup> Wimpenny, C., Hinds, L.A., Herbert, C.A., Wilson, M. and Coulson, G. (2021). Fertility control for managing macropods – Current approaches and future prospects.

<sup>5</sup> Cowan, M., Blythman, M., Angus, J., & Gibson, L. (2020). Post-release monitoring of western grey kangaroos (Macropus fuliginosus) relocated from an urban development site.

## **What role does the kangaroo harvesting industry play in kangaroo management?**

The kangaroo harvesting industry is another management tool that can address kangaroo impacts. Landholders and land managers can engage with commercial kangaroo harvesters to help reduce kangaroo numbers, and hence impacts, on their properties.

Where non-lethal methods are ineffective or impractical, many stakeholders consider commercial harvest as preferable to non-commercial due to its positive co-benefits<sup>6</sup>.

These potential co-benefits include recognition of the intrinsic value of kangaroos, decreased meat waste, improved welfare outcomes (due to strict accreditation requirements for professional field processors), increased sustainable meat production, and support for economic development and livelihoods in regional areas.

## **How is the kangaroo harvesting industry regulated to ensure kangaroo species are protected in South Australia?**

The commercial harvesting industry is highly regulated. The South Australian Commercial Kangaroo Management Plan 2020-2024 guides how many kangaroos may be taken by the commercial kangaroo industry.

When regional kangaroo populations exceed minimum population thresholds, species-specific harvest quotas are issued across 17 Commercial Kangaroo Harvest Sub-Regions based largely on assessments of kangaroo population determined from aerial and ground surveys.

The plan has mechanisms to adapt to the influences of climate on rainfall and resulting forage on kangaroo population size. It allows sustainable harvest quotas to increase when kangaroo populations are high following good conditions and reduce when population sizes are low.



Other legislation that has impact on the harvesting industry in addition to the Management Plan include: *Landscape South Australia Act 2019*, *Primary Produce (Food Safety Schemes) Act 2004*, *Pastoral Land Management and Conservation Act 1989*, and the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. See DEW's Kangaroo conservation and management webpage for more information.

---

<sup>6</sup> Read et al. 2021, Improving Kangaroo Management: A Joint Statement, Ecological Management & Restoration, <https://doi.org/10.1111/emr.12467>

## Other challenges and opportunities for kangaroo management

Kangaroo management is a complex and 'wicked' issue and there are many challenges that remain to ensure improved management effectiveness and public approval. These challenges include:

- Mitigating or eliminating animal welfare concerns for lethal management methods (e.g., impacts on dependent joeys and pouch young)
- Supporting private and public land managers with the resources needed to understand kangaroo population impacts in their landscape and manage populations as needed
- Ensuring appropriate involvement of Traditional Owners
- Enhancing an economically sustainable harvesting industry

Despite these challenges, there is potential for effective, proactive kangaroo management to result in win-wins for the environment, people and kangaroos through collaborations between land managers, Indigenous landowners, conservation groups, animal welfare groups and government and industry bodies.

For example, kangaroo management could provide a sustainable pathway to support traditional harvesting opportunities, diversify agricultural practices and increase drought resilience, and provide a reliable source of protein for Australia's growing population, as well as supporting ecosystem health and the protection of threatened species into the future.

**For more information contact [coordinator@sakangaroopartnership.com](mailto:coordinator@sakangaroopartnership.com) or visit <https://www.landscape.sa.gov.au/saal/projects-and-partners/projects/kangaroo-partnership-project>**

This factsheet was created by the Kangaroo Partnership Project Coordinator and Steering Committee, with guidance from the project partners acknowledged below.

### Our partners

