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Desert Channels Queensland

Position Paper - Macropod Management

November 2019

Desert Channels Queensland Inc (DCQ) is a community-based organisation working with landholders on the sustainable management of their land and water resources. Our goal is to have thriving communities with productive industries supported by a healthy environment.

Macropod Management

The issue

Macropod Management in the Desert Channels Region

Macropods encompassing kangaroos and wallabies have increased in population throughout Australia since settlement (current estimate 45 million) due to a number of reasons including broadacre land clearing, improved pastures, better managing total grazing pressure across the landscape, early destocking prior to the onset of drought, extra watering points and control of their primary predators.

Unfortunately, the increase in the macropod population has and continues to be poorly managed by all stakeholders especially those charged with estimating populations, releasing harvesting quotas and creating new international and domestic markets for both meat and hides.

Numbers can further build up to plague proportions during a run of good seasons (see Figure 1), creating an ecological imbalance which severely impacts the environment and resultant productivity from livestock, as follows;

- Large numbers of macropods moving from property to property and paddock to paddock, select the most palatable and nutritious plants. This hinders the re-establishment of these preferred pasture species through spelling, defeats the benefits of rotational grazing as well as the establishment of improved pastures. Also dramatically reduces the productivity from domestic animals grazing a pasture devoid of their preferred and most nutritious species.
- Large numbers also soil the remaining pasture, further reducing productivity from livestock.
- Other impacts to the environment from a macropod population imbalance include removal of the understory from the vegetation community, thus threatening the existence of small native animals by exposing them to predation from foxes and feral cats (Dr Katherine Moseby, Ecologist). Macropods devour the more palatable plants thus limiting their seed dispersal and as a consequence we are losing our biodiversity for failing to take adequate action in managing populations. We need to manage macropods in order to manage conservation, therefore harvest them before they start suffering a slow painful death from starvation and before the countryside starts suffering (Dr David Paton, Assoc. Professor, Uni. Of Adelaide).
- Macropods compete directly for food and water with all domestic animals so as numbers increase, farm productivity decreases. One mature kangaroo equates to .7 of a DSE (Dry Sheep Equivalent) hence an overpopulation of 1,000 kangaroos reduces the property carrying capacity of 700 sheep (GM = $35,000). An average property within the Desert Channels regions, following a run of good seasons, could be carrying between 5,000 and 15,000 macropods, severely impacting profit margins and predisposing the pastures to drought-like conditions. Unfortunately, despite the availability of mitigation permits, huge numbers are then left to die of thirst or starvation when drought eventually prevails, a shameful outcome within a developed and caring country.

Population of macropods follow trends in seasons as shown in Figure 1. The populations of macropods peaked in 2001 and 2013 following good rainfall and the available of feed. They subsequently decline following lower rainfall periods.

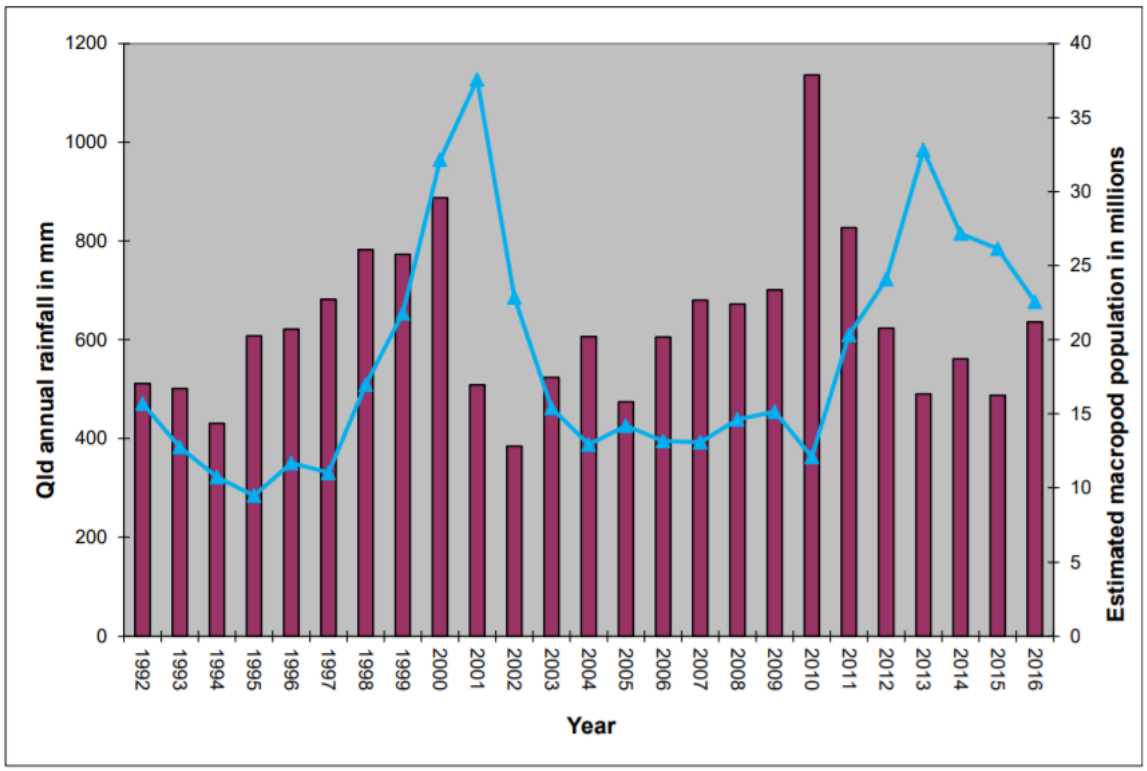


Figure 1 – Estimated population size of commercially harvested macropod populations (blue line) and annual rainfall across Queensland (maroon bars). (DES 2018)

Despite causing issues to pastoralism in the rangelands of Australia, macropods can be regarded as a valuable resource, with the commercial value of kangaroos found in 2013 to be worth more than $270 million a year to Australia. At that time, it was recorded that the industry employed over 4000 people (Kelly 2013), with the majority of those jobs located in remote and rural communities.

Prior to the closure of the processing plant in Blackall, the industry in that community employed sixty-eight harvesters, both full time and part time and when skins were highly sort after around June/July some years, up to eighty-five permits to harvest have been issued. Furthermore, twenty-three people were also employed in the processing plant which had a throughput of 4,000 bodies per week, primarily for export. Blackall and many other western Queensland communities have lost an industry that not only offered diversification from traditional farming practices, but contributed greatly to the viability and sustainability of these small towns struggling with the population drift eastward.

To manage the competing priorities of kangaroo, Queensland has an approved management plan for the harvesting of three key species found in the pastoral region (DEHP 2017). This includes red kangaroos (*Macropus rufus)*, eastern greys (*Macropus giganteus)* and common wallaroos (euros) (*Macropus robustus)*. The aim is to conserve each species over their entire range. In the management of these species, Queensland is divided into three zones for monitoring and quota setting, with the Desert Channels region falling in both the central and western zones. Annual quotas for harvesting are set based on population surveys, natural mortality rates, rainfall trends and previous harvests. Through management, it has been determined that the sustainable harvest is

around 15 percent of the population for grey kangaroos and wallaroos, and 20 percent for red kangaroos. Survey data for the last 25 years demonstrates that this rate of harvest appears not to have impacted the kangaroos' natural ability to recover quickly following drought conditions (DoE 2014).

The commercial kangaroo industry has had different levels of success since its inception; however it is difficult to find documentation that outlines the value of the industry in recent years. It is however noted that the commercial harvest is generally lower than the approved quota because the harvest is affected by seasonal conditions, market demand and the ability of the kangaroo industry to harvest the quota. Figure 2 shows the difference between the yearly quota allocation and the actual harvest for the red kangaroo in Queensland showing that the harvest is much lower than the quota.

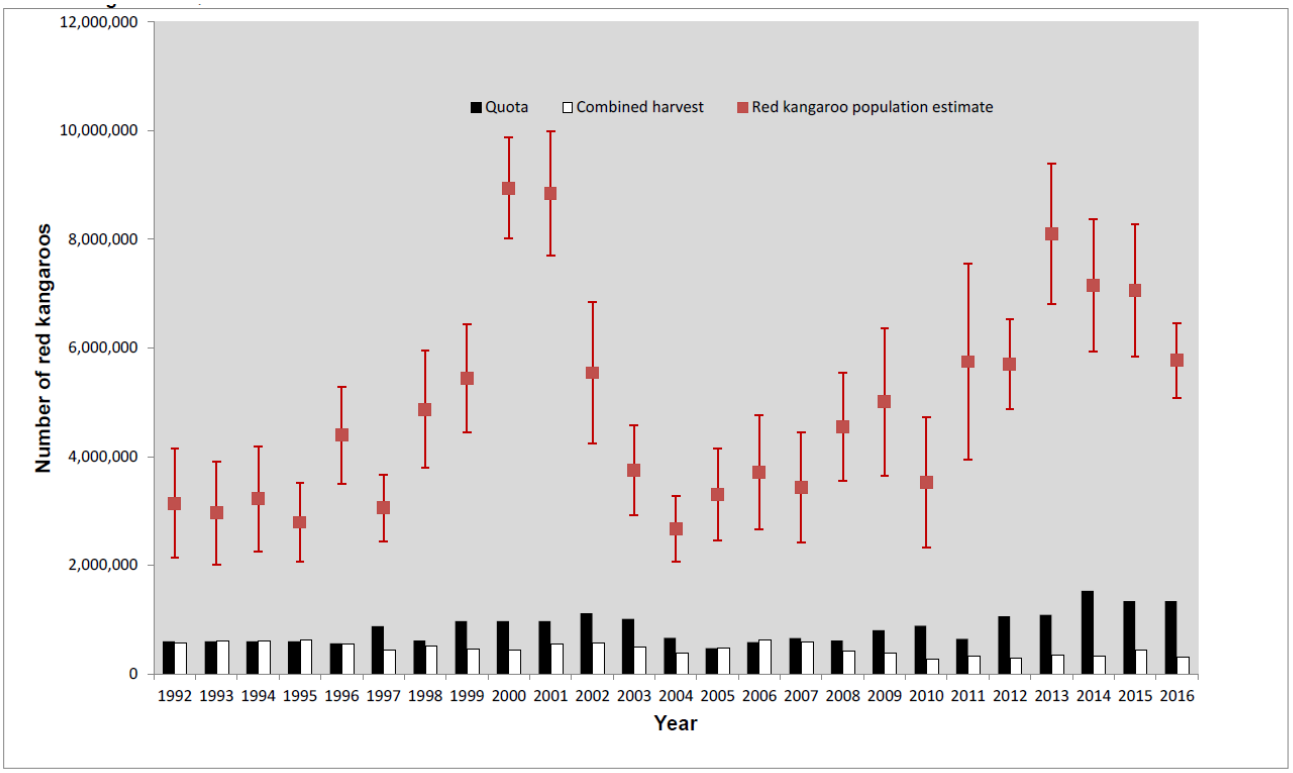


Figure 2 – Long term population estimates, quota and harvest data for the red kangaroo in Queensland (DES 2018).

Current commercial harvesting practices also affect population dynamics by removing the largest dominant males, which in turn encourages an increase in the number of younger females reproducing. A decade ago, around 70 percent of the commercial harvest was large males, and this has increased annually, to reach more than 90 percent in recent years (DEHP 2017). This is shown in figure 3, highlighting the trend for the majority of the commercial harvest to be male.

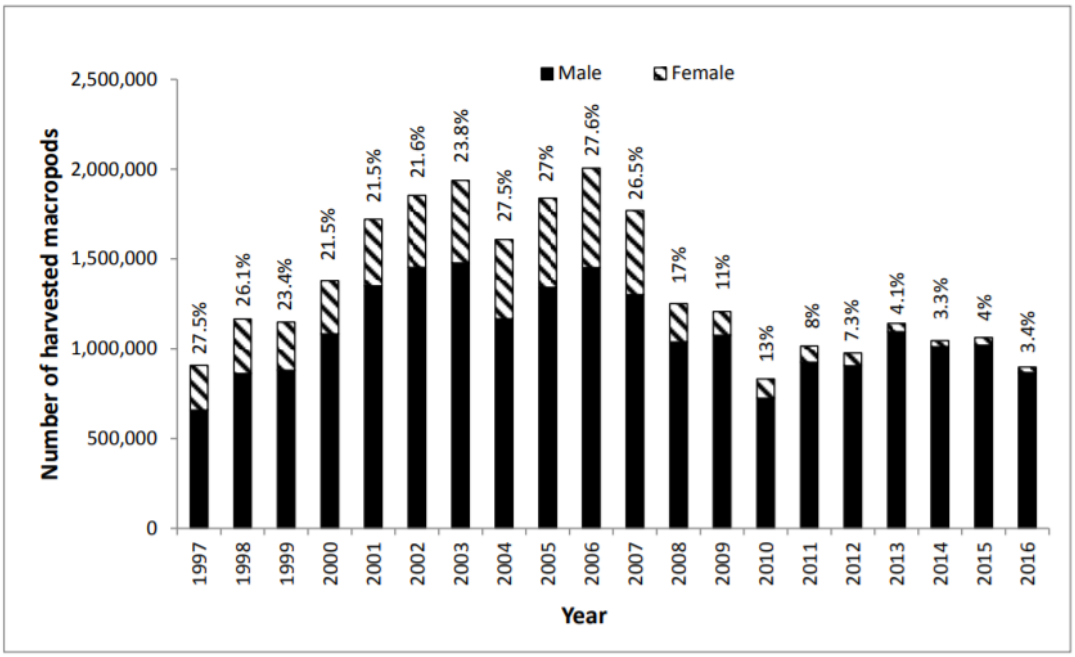
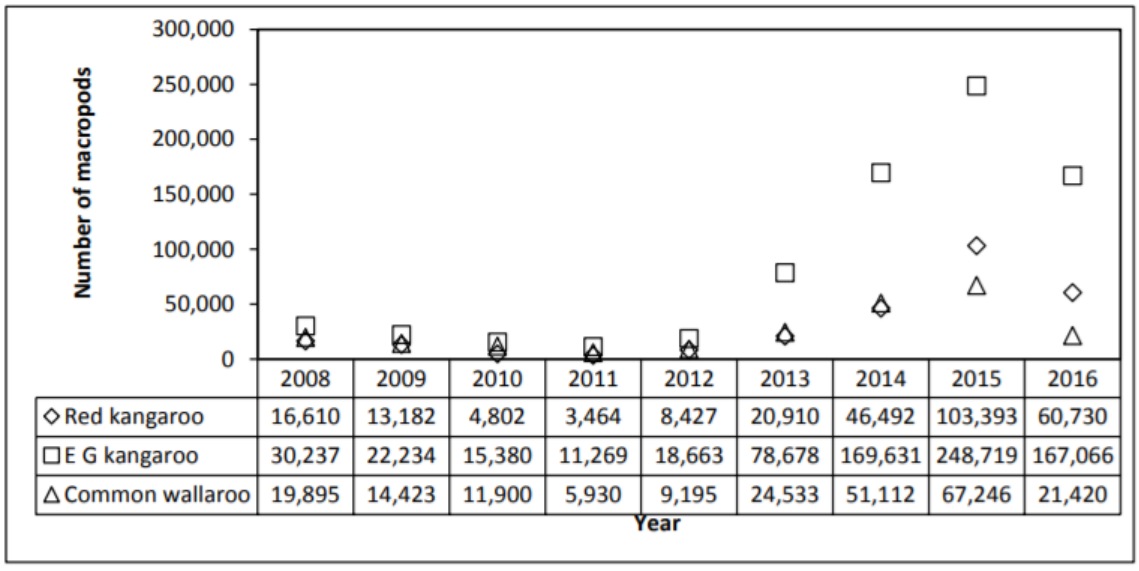


Figure 3 – Total commercial macropod harvest in Queensland since 1997 showing male and female take (DEHP 2017).

In the management of kangaroos, another method to control their numbers under legislation is through a damage mitigation permit, which allow native animals to be culled to minimise damage. To be eligible for a damage mitigation permit, applicants need to demonstrate that there is a real need to take wildlife and have taken reasonable steps to mitigate the damage caused by the wildlife. The numbers of kangaroos controlled using this method is increasing, as shown in Figure 4, indicating that the use of permits for kangaroos has increased across Queensland since 2013. There is no available data on how this relates specifically to the Desert Channels Region. The consequence of using this method for control is that the animal is not used as a resource.



	2008	2009	2010	2011	2012	2013	2014	2015	2016
◇ Red kangaroo	16,610	13,182	4,802	3,464	8,427	20,910	46,492	103,393	60,730
□ E G kangaroo	30,237	22,234	15,380	11,269	18,663	78,678	169,631	248,719	167,066
△ Common wallaroo	19,895	14,423	11,900	5,930	9,195	24,533	51,112	67,246	21,420

Figure 4 – Macropods culled under a Damage Mitigation Permit across Queensland (DES 2018).

An emerging issue in the management of macropods is the growing use of exclusion fencing, essential for wild dog control within the sheep zone. Fencing that can prevent the movement of

kangaroos across the landscape has increased in the region without which, it is impossible to run a viable sheep and/or goat enterprise due to wild dog predation. As this fencing increases within the region, it is expected that this will change local population dynamics and further understanding of the impacts is required.

Evidence

- Kangaroos and other macropods are native species and are protected under Commonwealth (*Environment Protection and Biodiversity Conservation Act 1999)* and State legislation *(Nature Conservation Act 1992);*
- Macropods can trigger damage when their numbers increase following good seasons and loss of predators and if left unchecked, create significant environmental damage through overgrazing and soiling pastures. Furthermore population explosions greatly reduce farm profitability and when the season fails, then suffer a slow painful death by the thousand, as feed and water availability diminishes.
- Kangaroos are a significant species for ecosystem health, acting as a first order consumer influencing species composition, along with being a major food source for higher order consumers;
- Options to control macropods can include lethal and non-lethal approaches;
- Non-lethal approaches include fencing to prevent kangaroos from moving into paddocks. This has grown in recent years with funding occurring for exclusion fencing, which prevents macropod migration between fenced areas;
- Other non-lethal approaches include reducing access to water points. This can include fencing dams and closing troughs to macropods.
- Lethal methods of control include commercial harvest. Population modelling suggests that harvest rates of 10-15% of the population could suppressed average populations by 30-40% compared to unharvested populations. Recent years has seen a decreased demand for kangaroo products. Recorded in 2013, it found that commercial harvesting was a significant industry employing many rural and regional people. Commercially harvesting kangaroos also allows for reducing wastage and allowing for resource to support a sustainable industry (Wilson & Edwards, 2018);
- Non-commercial culling occurs under damage mitigation permits, which has increased since 2013.

Position statements

DCQ takes the following positions in relation to macropod management with the aim to support:

1. Healthy, viable populations of all species of macropods, without the extreme population fluctuations that negatively impact landscape condition and cause large number of deaths during drought;
2. Macropod management options that enable land managers to work towards healthy, well managed and resilient landscapes with biodiverse and bio-secure ecological systems;
3. Healthy, viable commercial macropod industry with well-developed markets both in Australia and overseas, endorsed by all levels of government; and
4. Healthy, strong and viable pastoral and agricultural industries that includes social acceptance of macropods as part of both the production and ecology of the landscape.

DCQ recommends

1. Identifying barriers and impediments to effective kangaroo management;
2. Facilitate communication and collaborative approaches between relevant stakeholders;
3. Work with relevant agencies, scientists and stakeholders to develop research opportunities to build on current and expand relevant evidence;
4. Supporting the ongoing development for a Best Practice Management (BPM) for kangaroo management; and
5. Working to increase the exposure for commercial markets both domestically and internationally for kangaroo products.

DCQ will

1. Maintain networks with regional landholders on the current issues relating to kangaroo management to influence Natural Resource Management Planning;
2. Work with key agencies such as Department of Environment and Science to identify barriers to effective macropod management including working to improve policies, regulations and best practice management;
3. Collate, inform and distribute information and research on macropod management and integrate it into Natural Resource Management Planning; and
4. Work with key agencies and interest groups to improve the social perception of macropod management as a commercial resource.

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