

1. Community input was sought on the draft South Australian Commercial Kangaroo Management Plan 2020-2024 from 6 June 2019 to 6 September 2019. The SA Government's "Your Say" website sought input through online discussion, a survey, email feedback. The contents of the website were deliberately false, deceptive and prejudicial intended to influence and lead public opinion. They included:

*Help guide how we manage and monitor abundant kangaroo species and the commercial kangaroo industry.*

2. *However, since the adoption of the current plan in 2018, kangaroo numbers have increased across much of the state and primary producers and regional communities have felt constrained in their ability to manage the overabundance within the current system. In response a new draft plan has been developed.*

In many regions of SA, kangaroo numbers have declined to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky. Harvesting affected population modelling indicates that where harvesting strategies depress kangaroo densities below the quasi extinction there is an elevated risk of population densities reaching two kangaroos per km<sup>2</sup>, a minimum population density level below which Eastern and Western Grey Kangaroo and Red Kangaroo populations are considered at risk of extinction (Hacker et al. 2004). There are eight instances where kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>. One area was not surveyed and therefore numbers are unknown. There are another eight instances where kangaroo numbers fall below two kangaroos per km<sup>2</sup>, which means these kangaroos are at risk of extinction (Hacker et al. 2004). The DEW's own estimates prove that kangaroos are not abundant in South Australia and that there is not an overabundance of kangaroos. Rather, kangaroo numbers have crashed, placing most populations at risk of extinction.

Olsen and Low (2006) in their Literature Review Update on Current State of Scientific Knowledge on Kangaroos in the Environment, Including Ecological Impact and Economic Impact and Effect of Culling said that:

Damage mitigation as grounds for harvesting is unfounded. Indeed there is little convincing evidence of substantial damage by kangaroos to crops, pastoral production or rangelands, except in a few localized areas.

The truth of the matter was withheld from the public during the time community input was sought. Instead, community input was requested based on deceptive, misleading and prejudicial statements.

3. The draft plan of management states:

*South of the dog-fence, kangaroos have increased above historic levels because of the changes in land use (Newsome 1975), increase in permanent watering points provided for stock and a reduction in predation pressure from dingos (Pople et al. 2000; Letnic et al. 2011).*

This statement is false, deceptive and misleading. According to the Commercial Kangaroo Harvest 2019 Quota Report and 2020 Quota Report, inside the dog fence red kangaroo numbers have declined by 214,474 since 2018, whereas outside the dog fence red kangaroo numbers have not been counted since 2018, so an estimate of their numbers is impossible to gauge. In the same areas, western grey kangaroo numbers are recorded as zero. Euros are also listed as zero outside the dog fence.

The kangaroos included in the commercial harvest have crashed in numbers.

4. The draft plan of management claims:

*This management plan has been altered to increase the flexibility of the commercial industry to assist landholders in managing kangaroos across the state by, expanding the commercial harvesting zone, increasing the number of species available for harvest and applying a riskbased approach to quota setting.*

The last part of this sentence is false, deceptive and misleading. In much of South Australia, kangaroo numbers have dropped to critical levels of less than five kangaroos per km<sup>2</sup>, densities defined by the Murray Darling Report as “quasi extinction” and meaning: “The nominal value of kangaroo densities taken to indicate the effective loss of the species.” (Hacker et al. 2004).

The Murray Darling Report, written by government and independent scientists, gives clear warnings regarding the risks of hunting kangaroos at population densities below five kangaroos per km<sup>2</sup>: “Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre, and could be considered a threat to species conservation.” (Hacker et al. 2004).

In many regions of SA, kangaroo numbers have declined to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes a threat to species conservation. There are eight regions where kangaroo numbers fall below two kangaroos per km<sup>2</sup>, which means these kangaroos are at risk of extinction (Hacker et al. 2004) yet instead of suspending the commercial harvest of kangaroos, the DEW has done the opposite by expanding the commercial harvest of kangaroos. Furthermore, the harvest species has been expanded to include the eastern grey kangaroo. Based on the estimates of numbers and the quota allowed, the commercial harvest of eastern grey kangaroos in the lower south east reduces their numbers to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, which indicates the effective loss of the species. (see Hacker et al. 2004).

The purported riskbased approach to quota setting has ignored research and is recklessly placing many kangaroo populations at risk of extinction. Perhaps the draft plan of management means that the quota setting is riskbased – as in risky.

5. The draft plan of management states:

*The primary goal of this plan is to ensure an ecologically sustainable harvest of kangaroos and to provide an alternative management option for reducing the damage caused by overabundant kangaroos. This will be achieved through the application of the best available scientific knowledge, best practice management and monitoring of outcomes to ensure that the viability of kangaroo populations is not compromised by any action undertaken under this plan.*

To refer to kangaroos as overabundant is false, deceptive, misleading and prejudicial. There are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>. Three areas were surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. The DEW's own estimates prove that kangaroos are not overabundant in South Australia and that commercial harvest is not just unsustainable but a threat to these populations. The best available scientific knowledge in being ignored, resulting in a threat to many

kangaroo populations.

6. The draft plan of management states:

*The EPBC Act specifies that such approval must only be given if the Minister is satisfied that: the plan includes management controls directed towards ensuring the impacts of the activities covered by the plan are ecologically sustainable; the activities in the plan are not detrimental to the species to which the plan relates or any relevant ecosystem.*

This statement is false, deceptive and misleading. The draft plan of management breaches the EPBC Act. There are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. Approval should not be given by the Minister – except this draft plan is false, deceptive and misleading.

7. The draft plan of management states:

*Goal To provide for the sustainable use of kangaroo species referred to in this plan in accordance with the principles of ecologically sustainable development.*

This statement is false, deceptive and misleading. On page 1, the draft management plan claims that *“This management plan has been altered to increase the flexibility of the commercial industry to assist landholders in managing kangaroos across the state by, expanding the commercial harvesting zone, increasing the number of species available for harvest and applying a riskbased approach to quota setting.”*

The DEW is increasing “the flexibility of the commercial industry to assist landholders in managing kangaroos across the state by, expanding the commercial harvesting zone, increasing the number of species available for harvest” despite crashing kangaroo numbers. There are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. Clearly the goal is not the sustainable use of kangaroo species, nor is the plan in accordance with the principles of ecologically sustainable development. The draft plan of management is a threat to species conservation (Hacker et al. 2004).

8. The draft management plan states:

*(c) the principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;*  
*(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;*

These statements are deceptive and misleading. While the statements in themselves are true, they are ignored by the current draft plan of management, which continues the commercial harvest of kangaroos at risk of extinction and therefore is a threat to kangaroo populations. In most regions kangaroo numbers have declined to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004). To expand or continue the commercial harvest of quasi-extinct kangaroos places the draft management plan and therefore the DEW in breach of section 3A of the EPBC Act.

9. The draft plan of management states:

*When combined, these aims provide a strategic direction for ensuring an ecologically sustainable harvest of kangaroos, and provide an alternative management option for reducing the damage to land condition caused by overabundant kangaroos.*

*The commercially used kangaroo and wallaby species are abundant within their current distributions in South Australia.*

*The commercially harvested kangaroo species that are the subject of this plan are widespread and secure.*

These statements are false, deceptive, misleading and prejudicial. There are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. The DEW is not ensuring an ecologically sustainable harvest of kangaroos. The DEW is ignoring the best scientific knowledge and expanding an ecologically risky commercial harvest of kangaroos.

10. The draft plan of management states:

*Ensure Humane Harvest of Kangaroos.*

This statement is false, deceptive and misleading. It's impossible to ensure the humane harvest of kangaroos. This is a cruel, inhumane industry. It is not humane to bludgeon to death joeys and young at foot, nor is it humane to allow joeys and young at foot to die without their mother's care. There is no humane way to harvest kangaroos. There is also no way of policing or monitoring activities that take place in the cover of night in remote rural areas.

The following comments are from Lyn Gynther, Ex-Kangaroo Shooter, Queensland:

“The entire industry is a cruel, inhumane and 100% unpoliced occupation as the only person who truly knows how the kangaroos die along with their joeys is the shooter and his off-sider. No other person is watching what they are doing at night.

“Roos are shot in the neck, dying a terrible death by choking on their own blood, arms are blown off, joeys have the cold steel blade of a knife run across their tiny throats, often losing arms in the process (particularly if the joey is very tiny) and little

care is taken by the shooter when he has already shot 60 or 80 roos for the night. Joeys which are too large to have their throat cut are grabbed by the legs and bashed up against a hard part of the truck, (a tow ball or wheel, bull bar) and very seldom does the initial hit kill the joey outright. I have known shooters to swing the joey once only and then toss it behind their backs where the joey simply has a fractured skull and is unconscious, I have also known shooters to not kill the tiny newborn pouch joey and simply toss it over their shoulder into the night to die from exposure.

The following comments come from David Nicholls, a professional kangaroo shooter of 38 years:

“The mouth of a kangaroo can be blown off and the kangaroo can escape to die of shock and starvation. Stomachs can be hit expelling the contents with the kangaroo still alive. Backbones can be pulverised to an unrecognisable state. Hind legs can be shattered with the kangaroo desperately trying to get away on the other or without the use of the other. To deny that this goes on is just an exercise in attempting to fool the public.

“Kangaroos have a social life not unlike humans, with strong mother and Joey ties, companions, relatives and the like. When continually shot, kangaroos fret for loved ones, their own lives being forced to live in a state of spasmodic terror. Kangaroos can be and are horribly wounded, in pouch joeys are bludgeoned to death. The out of pouch joeys all alone for the first time in their short lives, panic stricken after witnessing the brutal death of its mother are left to die from starvation and/or hypothermia. The survivors live in a state of constant fear with proper social order in constant disarray and upheaval”,

11. The draft plan of management states:

*Promote Community Awareness and Participation.*

This statement is false, deceptive and misleading. The current position of the DEW is to provide false, deceptive, misleading and prejudicial information to the community that breaches Commonwealth and state legislation. The DEW has created and perpetuated the myth that kangaroos are “overabundant” in SA when the DEW’s own estimates reveal that, in most regions of SA, kangaroo numbers have crashed to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004). The fact that the DEW has expanded the commercial harvest of kangaroos perpetuates the myth. Instead, the harvest of kangaroos should be suspended due to the risk of extinction.

Furthermore, the DEW misleads the public by omission when they do not include in the quotas or draft plan of management the unknown number of joeys and young at foot bludgeoned to death in the most inhumane manner. The suggestion that kangaroo harvesting under the darkness of night in rural areas can be monitored or policed is also false, deceptive and misleading. The nature of the industry requires the DEW to provide false, deceptive, misleading and prejudicial information to the community because the killing of at risk kangaroos, along with the bludgeoning of joeys, creates public outrage and for good reasons.

12. The draft plan of management states:

*Monitor Kangaroo Populations and set quotas.*

*Monitoring commercially harvested kangaroo populations, both directly (surveys) and indirectly (industry returns), ensures that potential negative consequences of harvesting (Appendix 2) are managed appropriately, and viable populations of kangaroos are maintained throughout their ranges.*

*The results of the surveys are used to set sustainable harvest quotas each year and monitor the kangaroo populations in each harvest area.*

*Sustainable commercial kangaroo harvest quotas will be set annually per Commercial Harvest SubRegion for each species.*

*Based on kangaroo population dynamics, quotas set at 15 to 20% are considered sustainable in the long-term (Caughley 1987, Hacker et al. 2004)*

*Extinction is highly unlikely for this simulated population unless there is some combination of low numbers, catastrophic weather and unsustainable harvesting (i.e. much greater than 15 percent). A more useful measure of threshold performance is the probability of the population dropping to a relatively low density. This can be calculated as the proportion of the 10,000 simulation runs where the population falls below particular densities.*

These statements are deceptive and misleading. According to the 2019 and 2020 quota reports, most regions have not been surveyed since 2017 and 2018. Some regions aren't accurately surveyed at all. Instead, the number of kangaroos found in a location is applied to similar locations in the region without any evidence that this "guess" is valid. Since 2017, SA has experienced severe drought. Without accurate estimates it's impossible to know how much kangaroo numbers have declined in response to the drought. I live in farming land in the mid-north. Farmers in the area say that kangaroos are a problem, damaging crops and equipment. Yet, we have not seen a kangaroo in the area since January 2019. Farmers used to say that the Tasmanian Tiger killed sheep. Research in the last decade has proven farmers wrong. The Tasmanian Tiger's jaw is incapable of devouring sheep. Farmers aren't experts in animal behaviour and biology. Farmers are happy to see kangaroos become extinct. To listen to farmers above scientific research and expertise, to accommodate farmers over and above obtaining accurate estimates of kangaroo populations is foolhardy and results in extinction.

There are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. In fact, the DEW has expanded the commercial harvesting of kangaroos to include all regions in South Australia. The DEW is not ensuring that potential negative consequences of harvesting are managed appropriately, and viable populations of kangaroos are maintained throughout their ranges. The results of surveys are not used to set sustainable harvest quotas. The DEW is allowing the hunting of kangaroos at risk of extinction. Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre, and could be considered a threat to species conservation." (Hacker et al. 2004). The quotas for 2020 are not sustainable.

13. The draft plan of management states:

*DEW will instigate compliance action on all South Australian permit holders who are found to have breached permit conditions (i.e. the Commercial Code) relating to animal welfare.*

*Reports of unauthorised activities and activities in breach of permit conditions are investigated, and where sufficient evidence is available, offenders are prosecuted and/or issued with Expiation Notices as appropriate.*

*Activities not following South Australian legislation will be investigated and where an offence has been committed, appropriate compliance action will be taken. Investigation and prosecution of activities in breach of South Australian legislation are essential for delivery of this plan. Good compliance also maintains public, industry and stakeholder confidence in the effectiveness of the plan as a mechanism for maintaining the viability of kangaroo populations, and thus the commercial kangaroo industry.*

These statements are false, deceptive and misleading. I have telephoned the police about our neighbour's sons going recreational hunting in the Flinders Ranges almost every month since October 2018. We do not ring anymore because the police refuse to attend, let alone investigate, to see if the hunters have permits or not. I have emailed the Department of Natural Resources, only to be told that there is nothing they can do unless a person is caught red-handed with a kangaroo. I have spoken to a local magistrate of the Port Pirie Magistrates Court. I have contacted the Premier and Minister of Police, who haven't responded. I cannot get anyone to investigate whether hunters are breaching permit conditions and if no one will investigate, compliance action is impossible. Everyone I've spoken to says that there is nothing they can do due to hunting occurring in remote locations and during the middle of night.

The draft plan of management in relation to the harvesting of kangaroos is false, deceptive and misleading in breach of the South Australia National Parks and Wildlife Act 1972 and the South Australia Public Sector (Honesty and Accountability) Act 1995. The draft plan of management and the DEW should be investigated for not following South Australian legislation. The draft plan of management places kangaroos at risk of extinction. It does not maintain the viability of kangaroo populations.

There are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. The DEW is not ensuring an ecologically sustainable harvest of kangaroos. The DEW is expanding an ecologically risky commercial harvest of kangaroos and risking sustainability.

14. The draft plan of management states:

*Management strategies for kangaroos must meet detailed legislative requirements to ensure their sustainability.*

*To ensure that viable populations of kangaroos are maintained throughout their ranges, the commercial kangaroo industry in South Australia is closely regulated by a range of permitting and tag procedures provided for under the NPW Act, Kangaroo Harvesting Regulations, Wildlife Regulations, DEW policy and this plan. Permitting procedures are described in detail in Appendix 5. The compliance of the kangaroo industry with the above legislation and policy is essential for maintaining viable populations of kangaroos and ensuring public confidence in the management of kangaroos in South Australia.*

These statements are false, deceptive and/or misleading. The statements imply that the draft plan of management meets detailed legislative requirements and ensures kangaroo sustainability. The draft plan of management in relation to the harvesting of kangaroos is false, deceptive, misleading and prejudicial in breach of the South Australia National Parks and Wildlife Act 1972, EPBC Act and the South Australia Public Sector (Honesty and Accountability) Act 1995.

Furthermore, there are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. The DEW is not ensuring an ecologically sustainable harvest of kangaroos. The DEW is expanding an ecologically risky commercial harvest of kangaroos and risking sustainability.

15. The draft plan of management states:

*Media releases also improve program transparency and accountability, and therefore public confidence.*

It is true that media releases improve public confidence, which is why the DEW falsely, deceptively and misleadingly claims in media releases that there are overabundant kangaroos and high numbers of kangaroos. The DEW falsely, deceptively and misleadingly uses the terms overabundant kangaroos and high numbers of kangaroos to justify the need for management and harvesting. There are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. The only reason kangaroos need managing is to monitor their crashing numbers for the sake of conservation, but this is not what the DEW is doing. The DEW is expanding commercial hunting to include all regions of South Australia because kangaroo numbers are low, resulting in low harvests, and therefore other areas must be allocated to boost harvest numbers. The DEW media releases are false, deceptive, misleading and prejudicial. They do not improve program transparency and accountability. They allow the DEW to recklessly expand kangaroo harvesting when kangaroo numbers are low, resulting in low harvests. The regular use of false and misleading words like overabundant, high numbers and sustainability hide what is really going on.

16. The draft plan of management states:



*This plan adopts the ethic that the mitigation of environmental, economic, and social impacts of kangaroos should be allowed through culling, provided it takes place in a manner that is humane and does not pose a risk to the long-term conservation of kangaroos.*

This statement is false, deceptive and misleading. The draft plan of management is false, deceptive, misleading and prejudicial in breach of the South Australia National Parks and Wildlife Act 1972, EPBC Act and the South Australia Public Sector (Honesty and Accountability) Act 1995.

Furthermore, there are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. The DEW is not ensuring an ecologically sustainable harvest of kangaroos. The DEW is expanding an ecologically risky commercial harvest of kangaroos and risking sustainability.

Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre, and could be considered a threat to species conservation. (Hacker et al. 2004). The quotas for 2020 are not sustainable.

It's impossible to ensure the humane harvest of kangaroos. This is a cruel, inhumane industry. It is not humane to bludgeon to death joeys and young at foot, nor is it humane to allow joeys and young at foot to die without their mother's care. There is no humane way to harvest kangaroos. There is also no way of policing or monitoring activities that take place in the cover of night in remote rural areas. If it was humane to shoot animals in the head or heart, then murdering humans would not be illegal.

17. The draft plan of management states:

*the landholder can apply for a permit to destroy a specified number of kangaroos when kangaroos are causing, or are likely to cause, detrimental impacts.*

*Kangaroos culled under a Permit to Destroy Wildlife must be killed following the National Code of Practice for the Humane Shooting of Kangaroos and Wallabies for Non-Commercial Purposes (NRMMC 2008).*

*Action 1: All kangaroos killed under permit in South Australia must be killed humanely following the Commercial Code.*

*Action 1: Compliance with the Commercial Code is monitored routinely, and breaches are penalised.*

*The permit allows for the permit holder to destroy a specified number of kangaroos that are causing, or are likely to cause, damage to the environment, or to stock, crops or other property, or that constitute a safety risk or hazard.*

*The permit holder, or the person listed on the permit to shoot kangaroos, must comply with the NonCommercial Code. Kangaroos must be shot in accordance with*

*the Non-Commercial Code.*

These statements are false, deceptive and misleading. My neighbour's sons like to go kangaroo hunting in the Flinders Ranges on the weekends. Kangaroos used to visit my property during summer. They didn't damage any fences, equipment or crops. They simply lazed in the shade and drank from the water trough. They only came in summer, never during winter when our neighbours had crops, which is why I know that crops weren't damaged. At least this is what kangaroos used to do. Kangaroos have disappeared. A year has lapsed since the last kangaroo visited my property, and I work from home, so I'm home most of the time. My neighbour lives twenty minutes away. He has no knowledge of kangaroos in my area. In truth, birds and wind do much more damage than rare kangaroos. Yet, the neighbour's sons go hunting for recreational purposes in the Flinders Ranges on the weekends. I go outside very night to water our trees in the paddock. Kangaroo hunting took place in the Flinders Ranges from 21 December 2019 through to 1 January 2020 including Christmas Eve and Christmas Day. The hunting must be non-commercial. There's nowhere to take the carcasses on Christmas Day and Boxing Day etc. The hunters may or may not have permits. Who knows how many kangaroos they killed or whether the hunters followed the Code? No one monitors whether a specified number of kangaroos are being killed or if the kangaroos are causing damage. They are not. People can lie about their reasons for wanting a permit, then go recreational hunting as often as they like. Given the fact that the DEW draft plan of management is so false, deceptive and misleading, the DEW cannot expect honesty from the industry. The entire industry is premised on lies.

I have telephoned the police about our neighbour's sons going recreational hunting in the Flinders Ranges almost every month since October 2018. We do not ring anymore because the police refuse to attend, let alone investigate, to see if the hunters have permits or not. I have emailed the Department of Natural Resources, only to be told that there is nothing they can do unless a person is caught red-handed with a kangaroo. I have spoken to a local magistrate of the Port Pirie Magistrates Court. I have contacted the Premier and Minister of Police, who haven't responded. I cannot get anyone to investigate whether hunters are breaching permit conditions and if no one will investigate, compliance action is impossible. Everyone I've spoken to says that there is nothing they can do due to hunting occurring in remote locations and during the middle of night.

No one polices or monitors the hunting of kangaroos, so nowhere knows how many kangaroos a permit holder might kill. The specified number is not policed.

18. The draft plan of management states:

*In South Australia the harvest has a negligible impact on kangaroo population dynamics. This is consistent across other Australian States that commercially harvest kangaroos (Hacker and McLeod 2003).*

*Kangaroo population estimates may be obtained directly from surveys or a predictive population model developed from the long-term survey data.*

*Population models developed by The University of Adelaide and run by DEW staff will be used to predict annual population estimates for species in CHSRs with long-term datasets. Established CHSRs are surveyed by DEW once every three years, except for three sub-regions that will be surveyed annually.*

*If the kangaroo management program is concerned that kangaroo populations are*

*approaching management thresholds (e.g. Low Harvest Threshold or thresholds to reduce or suspend harvest), additional surveys may be conducted to ensure accurate information on the population size is obtained prior to setting quotas.*

*Low harvest thresholds will only be triggered within CHSRs that experience harvests below the threshold for three consecutive years. Where the harvest falls below the threshold, the last proportional quota will either be reissued annually until the next survey, or where a population model exists, annual proportional quotas will be calculated from predicted population estimates. For the established CHSRs, no survey will occur until the harvest exceeds the harvest threshold, at which point a survey will be triggered for the following survey period (June-August each year) to re-estimate the population, reset the now static proportional quota and recalibrate the population model. For new CHSRs with insufficient data for calculating averages or estimating population using models, populations will be resurveyed at five-yearly intervals until the harvest reaches the threshold to trigger three-yearly surveys.*

*When kangaroo populations decline to specific thresholds (low abundance thresholds), the commercial harvest of these particular species in the particular Commercial Harvest Sub-Regions will be reduced or suspended.*

*Commercial harvesting has occurred for over 35 years, and it is clear from the extensive monitoring and research that has been conducted over that time that harvest is demonstrably sustainable (e.g. see Pople and Grigg 1999; Olsen and Low 2006).*

*Potential negative effect mitigated by: Action 11: Commercial harvest quotas are set at levels that are ecologically sustainable for kangaroo populations (Caughley 1987; Pople et al. 2010a), even when combined with other mortality factors (including predation).*

*Potential negative effect mitigated by: Economic threshold density below which it is not financially viable to harvest (see Hacker et al. 2004).*

*A process for developing management responses to evaluate and minimise risk to kangaroo populations in an adaptive approach to management.*

*Overall, the demographic impacts of harvest appear to be of little conservation concern (Pople and Grigg 1999), but further research may be required in the future.*

*When populations fluctuate widely, harvest strategies that track changes in population size have been found to reduce the likelihood of overharvest (Lande et al. 1995). A proportional harvest strategy is currently used to set quotas for the commercial harvest of kangaroos in Australia (Pople and Grigg 1999). This harvest strategy tracks fluctuations in population abundance and adjusts quotas accordingly, and has been found to have a low risk of overharvesting (Engen et. al. 1997). Proportional threshold harvesting is a modification of proportional harvesting and sets a threshold in population abundance, below which the proportion of the population that can be harvested is reduced eventually to zero. Harvest thresholds thus lower the risk of over-harvesting by reducing harvest mortality at times of low population size.*

*Nevertheless, proportional threshold harvesting has been shown to be superior, in terms of reducing depletion and extinction while maintaining yield, to other harvesting strategies including proportional harvesting.*

*Thresholds are based on population estimates to ensure that populations are not overharvested when at low densities.*

These statements are false, deceptive and/or misleading. South Australia is experiencing drought conditions, bushfires and heatwaves that are unprecedented due to climate change. On 25 September 2019, the Upper House of the South Australian Parliament passed a motion declaring a Climate Emergency. According to the DEW's own estimates, kangaroo numbers have crashed from 2018 to 2019. In one case, red kangaroo numbers dropped by 82% in one region and 71% in another. Under current circumstances, kangaroo harvest is ecologically risky.

In the region known as Marree (inside dog fence), numbers of red kangaroos plummeted from 261,010 in 2018 to 46,536 in 2019, resulting in a decline of 214,474. If low threshold harvests are triggered after three consecutive years, some species in some areas could be wiped out. A decline such as the one mentioned above should trigger alarm bells and an immediate suspension of commercial harvest. Instead, the quota for 2020 is 17%. Declining kangaroo populations are not being sufficiently monitored or suspended from commercial harvest. The DEW is driving kangaroo populations to extinction while hiding behind words such as overabundant and high numbers.

Some regions haven't been surveyed since 2017 and 2018, despite kangaroo numbers crashing in other areas. The declining numbers should instigate annual surveys in all regions. To use long-term survey data under new Climate Emergency conditions is insufficient, irresponsible and inappropriate. If the DEW doesn't know what is happening to kangaroo populations in real time, especially when numbers are crashing, the DEW is acting recklessly and failing to ensure the sustainability of kangaroos.

Furthermore, there are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. In these regions, commercial harvesting is a threat to species conservation. Yet, commercial harvesting is continuing in all these regions despite the risks. The DEW is not ensuring an ecologically sustainable harvest of kangaroos. The DEW is expanding an ecologically risky commercial harvest of kangaroos and risking sustainability. The DEW should be very concerned about kangaroo populations.

Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre and could be considered a threat to species conservation. (Hacker et al. 2004). Economic threshold density below which it is not financially viable to harvest (see Hacker et al. 2004) is being ignored. The quotas for 2020 are not sustainable and harvesting should be suspended.

In response to concern about diminishing kangaroo populations in NSW an Administrative Appeals Tribunal forced the inclusion of density trigger points for the four harvested species below which harvesting will cease (Administrative Appeals Tribunal 2008). If SA was to use the same trigger points, harvesting would have to cease in most regions.

Kangaroo populations are being overharvested in regions of low densities.

The statements made in the draft plan of management are intended to falsely mislead and reassure the public while, in reality, the commercial harvesting of kangaroos is expanded and putting entire populations of kangaroos at risk of extinction.

19. The draft plan of management states:

*In the commercially harvested parts of South Australia, populations range up to numbers exceeding three million red kangaroos and one-and-a half million western grey kangaroos (Pople et al. 2010a).*

This statement is false, deceptive, misleading and prejudicial. According to the DEW's own estimates, there are 1.5 million red kangaroos in the commercial harvest areas. This figure equates to 1.85 red kangaroos per km<sup>2</sup>, less than half the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004). The DEW estimates western grey kangaroos at 1.3 million, though this figure is not accurate due to several regions not being surveyed.

20. The draft plan of management states:

*Eastern grey kangaroos are widespread in eastern Australia and exhibit high levels of population connectivity (gene flow) across their range (Zenger et al. 2003). In recent years, eastern greys have expanded their distribution in south-eastern South Australia. The population estimate in South Australia is suggested to be at least 20,000 individuals, however, this is considered an underestimate (TSSC 2019).*

This statement is deceptive and misleading. The South East region is indicated in the 2020 Quota Report to be 11,508 km<sup>2</sup>. If we use the above figure of 20,000 and divide it by 11,508, the result is 1.7 eastern grey kangaroos per km<sup>2</sup>. The quasi-extinction density is five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Strategies that produce average densities of less than five kangaroos per square kilometre would result in minimum densities of less than two kangaroos per km<sup>2</sup> and could be considered a threat to species conservation. (Hacker et al. 2004).

However, in the 2020 Quota Report, the number of eastern grey kangaroos is listed as 61,826, which results in a quota of 7,400. If the true figure is 20,000 as stated in the draft plan of management, a harvest of 7,400 reduces the number of kangaroos to 12,600 and 1.09 kangaroos per km<sup>2</sup>. The figures are vastly different. Yet, even at 61,826, there are only 5.37 kangaroos per km<sup>2</sup>. A harvest of 7,400 drops this figure to 4.72, below the quasi-extinction density. The introduction of eastern grey kangaroos to the commercial harvest places another species of kangaroo at risk of extinction.

21. The draft plan of management states:

*The review of the South Australian Commercial Kangaroo Management Plan 2020 2024 will commence no later than twelve months before the expiry of this plan. The review of this plan will commence no later than twelve months before the plan expires and will assess the success of the plan in achieving its goal and aims. The aim of the review will be to improve on the current plan in the development of subsequent plans.*

This statement is deceptive and misleading. Given the fact that the DEW keeps referring to kangaroos as overabundant and in high numbers, widespread and abundant, and falsifies their numbers across the state, the public are misled into believing that reviewing this management plan in three years is adequate. Many of the current kangaroo populations could become extinct within three years. Furthermore, the management plan is false, deceptive, misleading and prejudicial in breach of Commonwealth and State legislation. The 2020 management plan must be struck out and harvesting of kangaroos, commercial and non-commercial, immediately suspended.

22. The draft plan of management states:

*Note: Currently the eastern grey kangaroo is listed as rare and the tammar wallaby is listed as endangered. However, all species have expanded their distribution and abundance over the last 10 years and as a result no longer meet the criteria for being listed as either rare or endangered. As part of a broad review of the NPW Act Schedules, DEW is considering de-listing the kangaroo and wallaby species mentioned above from the NPW Act Schedules.*

This statement is false, deceptive and misleading. The DEW website describes the rare category criteria as consistent with current IUCN definitions for the 'Near threatened' category and encompass species in decline and those that naturally have a limited presence.

Eastern grey kangaroos are limited to the south-east of South Australia. DEW estimates are vague and inaccurate. The South East region is indicated in the 2020 Quota Report to be 11,508 km<sup>2</sup>. If we use the figure of 20,000 and divide it by 11,508, the result is 1.7 eastern grey kangaroos per km<sup>2</sup>. The quasi-extinction density is five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Strategies that produce average densities of less than five kangaroos per square kilometre would result in minimum densities of less than two kangaroos per km<sup>2</sup> and could be considered a threat to species conservation. (Hacker et al. 2004).

In the 2020 Quota Report, the number of eastern grey kangaroos is listed as 61,826, which results in a quota of 7,400. If the true figure is 20,000 as stated in the draft plan of management, a harvest of 7,400 reduces the number of kangaroos to 12,600 and 1.09 kangaroos per km<sup>2</sup>. The figures are vastly different. Yet, even at 61,826, there are only 5.37 kangaroos per km<sup>2</sup>. A harvest of 7,400 drops this figure to 4.72, below the quasi-extinction density. The introduction of eastern grey kangaroos to the commercial harvest places another species of kangaroo at risk of extinction.

Furthermore, a population of tammar wallaby located at Kangaroo Island does not equate to "expanded their distribution and abundance." The tammar wallaby was extinct in SA and had to be re-introduced. This information about the tammar wallaby being extinct is not provided for public review under the draft plan of management.

23. The draft plan of management states:

*Within South Australia, the highest densities of red kangaroo coincide with the more open areas of the sheep grazing rangelands (Cairns et al. 1991) inside the dingo exclusion fence. Over the time that aerial surveys have been flown in South Australia, the area of highest red kangaroo density has been just south of Lake Frome in the north-eastern section of the pastoral zone (Pople et al. 2006). The long-term monitoring data also suggest a westward shift in the range of the red kangaroo*

*(Pople et al. 2010a) over the period that kangaroo surveys have been conducted.*

This statement is deceptive, misleading and prejudicial. From 2018 to 2019, red kangaroo numbers decreased by 82% inside the dingo exclusion fence. This figure equates to a decrease of 214,474 red kangaroos, leaving a small population of 46,536, one of the lowest densities. In the north-east pastoral zone, red kangaroo numbers dropped from 492,476 to 142,774, a massive decline of 349,702. The DEW should use their own recent estimates, instead of data from 1991 and 2010. Data from 1991 and 2010 is deliberately misleading. Clearly the DEW doesn't want the public to know about the massive decline in red kangaroo numbers. The north-east pastoral zone saw a decline in red kangaroo numbers of 71% from 2018 to 2019. Recent figures show drastic declines in red kangaroos, which is why the DEW must have avoided using recent figures.

24. The draft plan of management states:

*Aerial survey data have revealed that western grey kangaroo densities are consistently highest in the Gawler Ranges and the south-eastern section of the South Australian pastoral zone (Pople et al. 2006).*

This statement is deceptive, misleading and prejudicial. Western grey kangaroo numbers in the Gawler Ranges dropped by 136,517 from 2018 to 2019, which means that this species is now quasi-extinct based on five kangaroos per km<sup>2</sup>. In the whole of the north-east pastoral zone, western grey kangaroo populations declined from 91,828 in 2018 to 20,756 in 2019. There is now less than one kangaroo per km<sup>2</sup> in the whole of the north-east pastoral zone. This population of red kangaroos is close to extinction. Again, the dramatic drop in numbers is no doubt why the DEW didn't use figures from recent surveys but from 2006, some 15 years ago.

25. The draft plan of management states:

*The eastern grey kangaroo has been increasing its range in South Australia over recent decades and now inhabits the lower and upper South East, parts of the MurrayDarling Basin, the eastern and northern Mount Lofty Ranges and the north and south Olary Plains (north and south of the Barrier Highway) (Figure 6). Pastoral development has resulted in a marked increase in populations of the eastern grey (Pople and Grigg 1999).*

This statement is false, deceptive, misleading and prejudicial. According to Phylogeography of Eastern Grey Kangaroos, *Macropus giganteus*, Suggests a Mesic Refugium in Eastern Australia (Coghlan et al. 2015), eastern grey kangaroos range throughout QLD and NSW, as well as other states in the eastern part of Australia including Victoria (VIC), parts of Tasmania (TAS), and the extreme eastern part of South Australia. Again, the DEW is using population data from 1999. The DEW's own estimates contradict the above statement.

Eastern grey kangaroos are limited to the south-east of South Australia. DEW estimates are vague and inaccurate. The South East region is indicated in the 2020 Quota Report to be 11,508 km<sup>2</sup>. If we use the figure of 20,000 and divide it by 11,508, the result is 1.7 eastern grey kangaroos per km<sup>2</sup>. The quasi-extinction density is five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Strategies that produce average densities of less than five kangaroos per square kilometre would result in minimum densities of less than two kangaroos per km<sup>2</sup> and could be considered a threat to species conservation. (Hacker et al. 2004).

In the 2020 Quota Report, the number of eastern grey kangaroos is listed as 61,826, which results in a quota of 7,400. If the true figure is 20,000 as stated in the draft plan of management, a harvest of 7,400 reduces the number of kangaroos to 12,600 and 1.09 kangaroos per km<sup>2</sup>. The figures are vastly different. Yet, even at 61,826, there are only 5.37 kangaroos per km<sup>2</sup>. A harvest of 7,400 drops this figure to 4.72, below the quasi-extinction density. The introduction of eastern grey kangaroos to the commercial harvest places another species of kangaroo at risk of extinction.

26. The draft plan of management states:

*Red kangaroos are opportunistic breeders and will breed throughout the year except in periods of extreme drought. This species exhibits a reproductive technique called embryonic diapause, where a viable embryo can be carried in the uterus for many months with its development arrested at the stage of a blastocyst (e.g. 70-100 cells). A blastocyst will remain in diapause while there is another young in the pouch, or when environmental conditions are poor. This reproductive strategy reduces the time between breeding events. Largely a gregarious species, the red kangaroo has a polygamous mating system (i.e. one male, many females). The species exhibits sexual dimorphism, with males larger than females.*

*Kangaroos have high fecundity and the ability to reproduce quickly following losses due to drought or harvesting.*

These statements are deceptive and misleading. A red kangaroo carries a joey in its pouch for 235 days which limits the number of births a year to one. Red kangaroos stop breeding during periods of extreme drought.

Kangaroos have one baby a year, who remains within the pouch up to 11 months. One baby a year, who stays in the pouch for 11 months, does not equate to high fecundity and the ability to reproduce quickly.

27. The draft plan of management states:

*Like the red kangaroo, the western grey kangaroo will breed year round except in very poor seasons. Breeding peaks in spring and summer have been recorded (Hacker et al. 2004).*

This statement is deceptive and misleading. The draft plan of management fails to mention that western grey kangaroos respond to drought conditions by ceasing to breed until conditions improve. Therefore, western grey kangaroos have no way of increasing their numbers during the current drought. Yet, commercial hunting is continued and expanded at an unsustainable rate. By omitting this detail, the DEW did not want the public to know that, at this time, western grey kangaroos have ceased to breed.

Furthermore, a western grey joey remains in a mother's pouch for 11 months. While the western grey kangaroo can breed year round, it can only have one baby per year.

28. The draft plan of management states:

*Euros are opportunistic breeders, with continuous breeding possible throughout the year. Breeding is reduced during dry conditions and may cease during prolonged drought. Like red kangaroos, embryonic diapause occurs in this species. The euro exhibits marked sexual dimorphism, with mature males attaining twice the weight of*



*mature females.*

This statement is deceptive and misleading. The euro has one baby a year. The joey stays in the pouch for 238 days. Prolonged drought may cause the reproductive cycle to cease altogether until the drought breaks. By omitting these details, the DEW does not want the public to know that euros only have one baby a year, which is likely to die during times of drought, and with pro-longed drought euros have ceased to breed.

29. The draft plan of management states:

*Breeding occurs throughout the year, however is known to peak in the summer months (Pople and Grigg 1999).*

This statement is deceptive and misleading. A joey stays in the pouch for 11 months, which means that an eastern grey kangaroo has one baby a year. During times of drought, female eastern grey kangaroos are no longer sexually active. By omitting these details, the DEW does not want the public to know that eastern grey kangaroos only have one baby a year, which is likely to die during times of drought, and with pro-longed drought eastern grey kangaroos are known to stop breeding.

30. The draft plan of management states:

*Breeding cycles of the Kangaroo Island population of tammar wallaby have been well studied. The subspecies is a seasonal breeder, with a high rate of reproduction, generally birthing one joey between late January and early February (Hinds, 2008). Like euros and red kangaroos, tammar wallabies undergo embryonic diapause.*

This statement is deceptive and misleading. Offspring permanently exit the pouch between 250 and 270 days of age, which means that tammar wallabies have one baby per year. Juvenile mortality in wallabies is high and negatively impacted by drought during late (peak) lactation and after weaning (Johnson 1989; Fisher et al. 2001; see also red kangaroos: Newsome 1965). Drought greatly reduces pouch young survival and population recruitment (Newsome 1965; Bayliss 1985; Caughley et al. 1985; Fisher et al. 2001). Furthermore, tammar wallabies stop breeding under prolonged drought conditions.

By omitting these details, the DEW does not want the public to know that tammar wallabies only have one baby a year, which is likely to die during times of drought, and with pro-longed drought tammar wallabies stop breeding.

31. The draft plan of management states:

*The knowledge that harvesting mortality during drought is compensatory, not additive – harvesting removes animals that would die of natural causes during steep population declines, i.e. larger, older males (Pople and McLeod 2000)*

*The average size of kangaroos in harvested populations may be lower, and populations contain a higher proportion of young animals than unharvested populations, but these differences are lessened during drought when older animals are lost from unharvested populations (Pople 1996).*

*The sex bias (i.e. the percentage of harvested kangaroos that are male) has increased from 60-70% male (DEWNR 2013) to 92-97% male for red and western grey kangaroos (DEWNR 2017). The increase in sex-bias is due, in part, to some*

*meat processors only accepting male carcasses for a number of years, although currently all meat processors in South Australia accept both male and female carcasses.*

*The genetic diversity and fitness of animal populations may be influenced by the selective removal of individuals that display a particular physical characteristic before they can contribute to the next generation (Allendorf et al. 2008; Coltman 2008). Consequently, there is the potential that the selective harvest of kangaroos (i.e. harvest efforts biased towards older, larger males) may lead to changes in the population genetic structure.*

These statements are deceptive and misleading.

Removing the alpha males from a mob also destroys social order, leaving females at the whim of younger and immature males and a mob with no structure or hierarchy. This is a dangerous and potentially fatal situation for the doe (female) and any joey she may have in pouch or at foot. It can lead to the death of the doe and her joeys from stress myopathy or exhaustion as she desperately tries to escape the forceful advances of the young males. The larger dominant males also play a role in integrating with the young joeys, playing with them from a very young age, and teaching them all the important survival techniques. (Williams.T, 2008, Canberra, ACT)

Furthermore, watching videos of commercial hunters on YouTube reveals that a commercial hunter shoots every kangaroo in a mob. The entire mob is killed, leaving no kangaroos of any size or age.

Commercial hunters shoot from a distance at night using a spotlight. They cannot distinguish between male and female kangaroos. YouTube videos are a great source of how commercial harvesting takes place.

Commercial harvesting of Kangaroos in Australia (Pople and Grigg, 1999) states: "At a constant harvest rate of 15%, sustained yield was maximised with a harvest comprising 60-70% male."

The fact that 92-97% of harvested red and western grey kangaroos were male should be alarming to the DEW. Without males, kangaroos cannot repopulate. Without females, kangaroos cannot repopulate. Where are the females? Commercial and non-commercial hunting must cease so that kangaroo numbers and sex ratios can properly be investigated and studied, especially in light of low numbers of female kangaroos.

32. The draft plan of management states:

*Populations of kangaroos are not isolated in the landscape, and dispersing individuals can contribute to restocking a harvested population.*

*Dispersal of individuals between populations (Clegg et al. 1998; Neaves et al. 2009) and patchiness of harvest allow for gene flow between populations, which helps to prevent genetic changes in a population.*

These statements are false, deceptive and misleading. An oft used argument is that kangaroos will migrate from one management zone to another (Pople pers. comm. in Grigg G (2002)). However, the term "management zone" belies the size, which can be that of a European country. Red Kangaroos, the most mobile of the harvested kangaroos, are relatively sedentary (Croft 1991; Moss 1995). In response to concern

about diminishing kangaroo populations in NSW an Administrative Appeals Tribunal forced the inclusion of density trigger points for the four harvested species below which harvesting will be cease (Administrative Appeals Tribunal 2008). If SA was to use the same trigger points, harvesting would have to cease in most regions.

33. The draft plan of management omits the fact that quotas are actually much higher and, in reality, unknown due to a failure to account for the “waste” of the industry in the form of joeys and young at foot who must be destroyed on site by blunt force trauma. These inconvenient numbers mean that quotas are, in fact, much higher and further reduce the sustainability of the industry. Populations of kangaroos are further placed at risk by the death of the next generation. This information was left out of the draft plan of management because it wouldn’t be palatable to the general public. Therefore, the information contained in the draft plan of management is false, deceptive, misleading and prejudiced toward making the kangaroo harvest industry look good.
34. In a media release dated 7 June 2019, DEW Chief Executive Officer John Schutz said:

*By better managing kangaroo overabundance across the state we will see improved outcomes for the environment as well as supporting kangaroo welfare.*

*Surveys will be conducted to determine population estimates for each species in each harvest sub-region so that quotas can be set before kangaroos are harvested. This will ensure that populations are managed sustainably.*

These statements are false, deceptive and misleading, intended to justify the expansion of kangaroo harvesting when the DEW’s own estimates of numbers puts the red and western grey kangaroo in decline and, in most regions, to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004).

Furthermore, there are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre, and could be considered a threat to species conservation. (Hacker et al. 2004).

35. On the DEW website, dated 7 June 2019, is an article headed “Changes proposed for SA’s commercial kangaroo management”. The article claims:

*Changes are being considered to the South Australian Commercial Kangaroo Management Plan to better manage kangaroo overabundance across the state.*

*The current plan was adopted in 2018, but high kangaroo numbers have prompted a review in order to better protect the environment, support kangaroo welfare, and the agricultural and commercial harvest industries.*

*Department for Environment and Water (DEW) spokesperson Anthony Freebairn said that while recent dry conditions have resulted in a natural decline of kangaroo numbers in the north of South Australia, populations remain high across most*

*agricultural areas of the state.*

*“High kangaroo numbers put pressure on the environment, the quality of life of kangaroos, and the agricultural industry, and also pose a danger to motorists,” Mr Freebairn said.*

These statements are false, deceptive, misleading and prejudicial, intended to justify the expansion of kangaroo harvesting when the DEW's own estimates of kangaroo numbers puts the red and western grey kangaroo in decline and, in most regions, to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004).

Furthermore, there are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre, and could be considered a threat to species conservation. (Hacker et al. 2004).

36. On the DEW website, the following information is provided:

*Kangaroo numbers have increased substantially since European settlement, with some populations now overabundant. Many kangaroos have benefitted from increased access to water, grazing land and the removal of their main predator, the dingo. High abundance of kangaroos are causing adverse impacts on South Australia's ecosystems, human activities, public safety due to increased traffic accidents and on the welfare of individual animals, in particular during times with dry weather conditions.*

This statement is false, deceptive, misleading and prejudicial, intended to justify the expansion of kangaroo harvesting when the DEW's own estimates of numbers puts the red and western grey kangaroo in decline and, in most regions, to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004). To continually suggest an overabundance of kangaroos is irresponsible, false and misleading, and breaches state and Commonwealth environmental legislation.

37. On the DEW website, dated 12 December 2019, is an article headed “Kangaroo commercial harvest zone expanded”. The article states:

*The change will support primary producers, local government and the commercial kangaroo industry to better manage overabundant kangaroos, and provide an opportunity to use kangaroos for meat or skin production that might otherwise only be culled and left on the ground.*

This statement is false, deceptive, misleading and prejudicial, intended to justify the expansion of kangaroo harvesting when the DEW's own estimates of numbers puts the red and western grey kangaroo in decline and, in most regions, to less than the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004).

Furthermore, there are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre, and could be considered a threat to species conservation. (Hacker et al. 2004). The quotas for 2020 are not sustainable.

To continually suggest an overabundance of kangaroos is irresponsible, false and misleading, and breaches state and Commonwealth environmental legislation.

38. The abovementioned article, states:

*While recent dry conditions have resulted in a natural decline of kangaroo numbers in the north of South Australia, populations remain high across most agricultural areas of the state.*

This statement is false, deceptive, misleading and prejudicial. Kangaroo numbers have crashed since 2018 and, in most regions, have fallen below the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004).

39. The abovementioned article states:

*High kangaroo numbers put pressure on our agricultural industry, the environment, the quality of life of kangaroos, and also pose a danger to motorists.*

This statement is false, deceptive, misleading and prejudicial. Kangaroo numbers have crashed since 2018 and, in most regions, have fallen below the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004). To continually suggest an overabundance of kangaroos is irresponsible, false and misleading. To expand the kangaroo harvest at a time when kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004) breaches state and Commonwealth environmental legislation.

40. The abovementioned article states:

*Frequent surveys will be conducted to determine population estimates for each species in each region, to ensure quotas for a sustainable harvest are set.*

*The annual kangaroo harvest quota for 2020 has also now been set based on data from recent kangaroo aerial and ground surveys.*

These statements are false, deceptive and misleading. The draft management plan indicates that surveys will be conducted every three years. According to the 2020 Quota Report, some regions haven't been surveyed since 2017.

41. The abovementioned article states:

*Livestock SA CEO Andrew Curtis said members have been reporting the increased kangaroo numbers across many areas of the state for some time.*

This statement is false, deceptive, misleading and prejudicial. Kangaroo numbers have crashed since 2018 and, in most regions, have fallen below the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004).

Furthermore, there are eight SA regions in which kangaroo numbers are around or fall below the quasi-extinction density of five kangaroos per km<sup>2</sup>, the nominal value of kangaroo densities taken to indicate the effective loss of the species. (Hacker et al. 2004). Three areas were not surveyed and therefore numbers are unknown. There are another eight regions in SA in which kangaroo numbers fall below two kangaroos per km<sup>2</sup>. Strategies that produce average densities of less than 5 kangaroos per square kilometre would result in minimum densities of less than 2 kangaroos per square kilometre, and could be considered a threat to species conservation (Hacker et al. 2004).

To continually suggest an overabundance of kangaroos is irresponsible, false and misleading.

42. From 6 June 2019 to 6 September 2019 the DEW sought community input on the draft South Australian Commercial Kangaroo Management Plan 2020-2024. The webpage to join the online discussion and complete the survey included the following statements:

*Help guide how we manage and monitor abundant kangaroo species and the commercial kangaroo industry.*

*However, since the adoption of the current plan in 2018, kangaroo numbers have increased across much of the state and primary producers and regional communities have felt constrained in their ability to manage the overabundance within the current system. In response a new draft plan has been developed.*

These statements are false, deceptive, misleading and prejudicial. In most regions of SA, red kangaroo numbers have fallen below the quasi-extinction density of five kangaroos per km<sup>2</sup>, below which kangaroo harvesting becomes both commercially unviable and ecologically risky (see Hacker et al. 2004). Only four out of fourteen regions contain western grey kangaroos at numbers well above the quasi-extinction level. Eastern grey kangaroos in the lower South East are only fractionally above the quasi-extinction density. In most regions, red kangaroo numbers declined since 2018. In most regions, western grey kangaroo numbers declined. However, some regions were not surveyed, so an increase or decrease is impossible to ascertain. It's impossible to gauge increases or decreases for other species, including the euro, because they were not surveyed. The above statements were intended to mislead the public into believing that kangaroos need culling. Community input was tainted by these misleading comments.

43. The mid-north has been expanded by adding the Yorke Peninsula. This action is inappropriate. In 2019, red kangaroo estimates for the mid-north were 6,227. By adding the Yorke Peninsula, numbers only increase to 8,942. This figure equates to less than half a kangaroo per km<sup>2</sup>, yet the commercial harvest has not been suspended in this region. This poses the question: does anything suspend the commercial harvest of kangaroos? No number seems low enough.

In 2018, the mid-north estimates for western grey kangaroo is 104,459. Bearing in mind that I haven't seen a kangaroo in the area since January 2019, the figures for the mid-north jumped to 189,830 in 2019 due to the addition of the Yorke Peninsula.

These regions should be dealt with separately. They are not close enough to be considered one region. Without separate estimates, it's impossible to know how many kangaroos are located in the mid-north and how many are located in the Yorke Peninsula. Plus, allowing the harvest of 1,500 red kangaroos in the mid-north would wipe out 25% of the population.

Euros in the mid-north were estimated at 17,262 in 2018 and the same again in 2019 due to surveys not being completed. Kangaroo numbers have declined drastically in the mid-north. I haven't seen a kangaroo in the area since January 2019. Not doing surveys and adding the Yorke Peninsula has distorted estimates for all species. This is another example of making reckless decisions at the expense of kangaroo conservation.

44. Ms Nicole Payne, Manager of Kangaroo Management Program, NSW Department of Environment and Conservation, admits in the Administrative Appeals Tribunal that the commercial slaughter of kangaroos is;

“Not designed to achieve population control or damage mitigation, but for commercial harvesting.”

Ms Payne also agreed with Olsen and Low (2006) in their Literature Review ‘Update on Current State of Scientific Knowledge on Kangaroos in the Environment, Including Ecological Impact and Economic Impact and Effect of Culling’ that:

“Damage mitigation as grounds for harvesting is unfounded.”

“Kangaroos provide some benefits to biodiversity and, save for exceptional circumstances, are not competitors with sheep or cattle.”

45. Pople and McLeod (2000, UNSW) are also referred to in the abovementioned court proceedings as well as Olsen and Brayshaw (2000), and support the overriding evidence that between sheep and kangaroos:

Competition seldom occurs.

Within Olsen and Low's Literature Review, they also confirm these findings;

Indeed there is little convincing evidence of substantial damage by kangaroos to crops, pastoral production or rangelands, except in a few localized areas.

Grigg (2002) proposed that kangaroos had a DSE (dry sheep equivalent) of just 0.2, meaning that kangaroos consume only one fifth that of sheep. He states:

The removal of kangaroos will not bring expected benefits to woolgrowers in part because kangaroos are a much smaller component of total grazing pressure than is generally assumed.

46. The Australian State of the Environment Report supports these studies in its findings, that of the 60% of Australia that is made up of low intensity grazing land, kangaroos exert a grazing pressure of just 1-8%, compared to sheep and cattle who combined exert a grazing pressure of 92-99%.
47. Given the false, deceptive, misleading and prejudicial information contained in the South Australian Commercial Kangaroo Management Plan 2020-2024, the only conclusion is that the document was prepared for the sole purpose of expanding the

commercial harvest of kangaroos. The very need to expand the industry implies that kangaroo numbers are low and resulting in low harvests, which is why all of SA now needs to be included in the harvest zone. Sustainability of kangaroo populations is clearly irrelevant. Estimates reveal kangaroo numbers in massive decline, below the quasi-extinction densities, yet conservation is sacrificed so harvesting can be expanded. If the truth was made public, the community would have a far different opinion of SA's kangaroo harvest. The dishonesty breaches Commonwealth and State legislation, and well as human decency.