

MYTHS AND REALITIES


MYTH:

KANGAROOS DAMAGE THE ENVIRONMENT.

REALITY:

KANGAROOS *BENEFIT* THE ENVIRONMENT

- Kangaroos' feet do not damage the ground and cause soil erosion, like introduced cloven hoofed animals do. They have soft, padded feet designed for their natural environment. kangaroos only exert 1-8% of grazing pressure on land. Ref: <http://www.environment.gov.au/soe/2006/publications/drs/indicator/162/index.html>
- University studies have shown that the presence of kangaroos actually increases the prevalence of native grasses and the biodiversity of the environment, which is logical considering kangaroos feed on native plants, then excrete the seeds in their faeces, effectively regenerating native plants and grasses. Any seedling that falls into the long-tapering footprint of the kangaroo is buried into the hole left by the toenail. Covered and with moisture concentrated at one point, the germinated seedling has a chance of survival. Their tail drags along behind them while they are grazing, pressing the ground, rolling seeds into the earth. Their urine and faeces is a natural fertilizer (not excessively high in nitrogen which pollutes ground and surface water like livestock waste), essential to the health of the land and biodiversity.
- Kangaroo dung promotes nature's soil purifiers, the dung beetles. Dung beetles bury and consume dung, improving nutrient recycling and soil structure. The uptake of nitrogen, phosphorous and sulphur in plants was over 80% greater in soils where dung beetles were active, compared to those where they were not. Tunnelling dung beetles also assist root penetration and improve water infiltration to the soil, thereby reducing run-off.
- **Kangaroos provide a natural fire prevention by keeping grasses short** and preventing understory kindle that dry out and feed catastrophic bush fires. This has been reflected in the areas around Canberra, where the Territory and Municipal Services decided to kill off thousands of grass-eating kangaroos on the basis they were eating and destroying the grassland habitat of endangered species. Yet just 10 weeks after the kangaroos were killed, an announcement was made on August 26th 2011 in the Canberra Times, with the heading '**Growing fears grass to fire up summer**' that stated: *"According to the ACT Emergency Service Agency Commissioner the grass loads across the region are as heavy as they have been in 20 years and could pose a risk. The ACT Government is considering bringing forward the start of the fire season owing to the threat of wide-scale grassland fires."*
- Unlike livestock, kangaroos do not release greenhouse gases such as methane, nitrous oxide and ammonia into the atmosphere.
- Kangaroos do not drink massive quantities of water. The livestock industry uses 65% of all water used.



**Kangaroos have been living harmoniously
and in balance with their
environment for at least 16 million years,
and they are perfectly suited to
their native habitat.**

MYTH:

KANGAROOS ARE PESTS, DESTROY WHEAT CROPS, AND COMPETE WITH SHEEP FOR GRAZING

REALITY:

- Kangaroos have virtually no impact on the country's crops, despite claims by farmers that they are a major crop pest. A six year study (*the biggest ever undertaken - examined whether red kangaroos affected sheep farming*) by Dr Steven McLeod at the University of New South Wales, determined: **"There was no evidence of a competitive effect of red kangaroos on sheep in terms of body mass, wool growth, reproductive output of sheep or the growth and survivorship of lambs. In fact, Red Kangaroos consistently avoid areas used by sheep."** Ref: *The Couch.com.au* on the 2nd June 2011 spoke to Cara Walker after she investigated kangaroos. <http://thecouch.com.au/2011/06/talking-green-australias-kangaroo-population/>
- A 4 year study of Grey Kangaroos in Western Australia by the CSIRO found that 95% of wheat crops are never visited by kangaroos, who rarely wander more than 400 metres from their home range in the bush. Arnold, G. *"Can Kangaroos survive in the Wheat Belt?" West Australia Journal of Agriculture, Vol 31, 1990.* Dr Graham Arnold, former senior principle research scientist, CSIRO, Division of Wildlife and Ecology, who studied the impact of kangaroos on croplands, stated in 1998: **"Most kangaroos did not like to eat farm crops and would only thrive if given access to their natural foods. Unless the community manages remnant vegetation to minimise degradation and enhance the regeneration of native plants, kangaroos and some other native species will disappear from much of Western Australia over the next 100 years."**
- Yet farmers and the Australian government still refer to kangaroos as pests. *"Pests is an emotive word. It conjures up visions of animals destroying crops. I can think of no situations where this is likely to be true for kangaroos."* (Dr. Graham Arnold, CSIRO) In fact, commercial killing takes place in the outback where crops are never grown.
- Gordon Grigg, one of the most avid supporters of kangaroo slaughter and author of *Commercial Harvesting of Kangaroos in Australia*, the kangaroo industry's bible, recently stated that kangaroos' grazing requirements may have been over-estimated by as much as 500 per cent. The CSIRO study showed that kangaroos do not compete with sheep <http://www.publish.csiro.au/paper/WR9740027.htm>
- Scientific studies by Grigg 2002 in Cited In; Olsen & Low's 2006 have indicated that **'it takes 5 kangaroos to eat what 1 sheep eats, and 60 kangaroos to eat what 1 cow eats'**. Livestock consume as much as 98.4% of the herbage available in NSW alone, and this figure would be the same for equivalent stock numbers in other states.

Kangaroos do not live on 'grass' alone, as they browse on many native plants and shrubs which make up a large part of their diet. So kangaroos are not eating *all* of the grass, as farmers continue to claim.

- **Kangaroos will not eat grass that has been urinated on by cattle nor sheep.** This is because of the very high concentrations of predominantly Nitrogen, and also Potassium and Sulphur that is found in cattle and sheep urine. Urine increases the N concentration of grass (particularly the nitrate fraction) and increased the potassium concentration of grass and clover. N fixation by clover was markedly decreased by urine, particularly during the winter. Nitrate poisoning can occur when animals eat too much forage, high in nitrates. Distribution data of Richards & Wolton (1976) show that under intensive dairy farming (three cows per ha) urine affects about 40% of the grazed area. Such an addition must cause an overall decrease in N fixation by at least 10% annually. LEDGARD ET AL.: COW URINE EFFECTS ON PASTURE Total nitrogen (N) concentration in the urine of 12- to 18-month old female sheep, cattle and deer grazing a common pasture was measured in the morning, noon and evening for three consecutive days on two separate occasions in spring, and on a single occasion sampling in autumn. Mean (and range) of urine N concentrations for single urinations were 7.9 (1.4–17.8), fresh urine for sheep; 4.4 (0.9–13.2) cattle; and 4.1 (0.5–16.6) g N kg⁻¹ deer. *New Zealand Journal of Agricultural Research* Volume 53, Issue 3, 2010

MYTH:

KANGAROOS ARE OVERPOPULATING

REALITY:

- Kangaroo populations have severely declined throughout Australia and are now regionally extinct in areas of WA, SA, Western NSW and Vic. This is reflected on the size and age of harvested kangaroos now in 2016. **The average age of a Red kangaroo killed for harvesting is only 2 years in New South Wales, which is younger than breeding age. Grey kangaroos are also killed before they become sexually mature and in many cases prior to weaning from their mother.**
- Estimates place kangaroo populations at two hundred million at the time before the arrival of Europeans. Current estimates are somewhere between 19 and 42 million.
- There is evidence that in NSW, over 70% of all kangaroos taken are females. Killing such a high proportion of females can lead to precipitous population declines according to a population model published in Kangaroo Keepers edited by H J Lavery. ***However since 2013 this figure has decreased to 32%.** Yet, each year QLD are harvesting 97-98.5% of males only. This severely imbalances the Kangaroo species and is extremely 'poor management' by the government & scientific community to allow this to happen. This was bought about by the Kangaroo Industry refusing to accept females after the public had 'animal welfare' issues for joeys. One has to wonder who is managing the 'Kangaroo population stability' as a species - the Kangaroo Industry or the Scientific Community who are supposed to be overseeing this practice! In view of these occurrences across States, combined with threats from climate change impacts, this could have serious consequences for kangaroos, in particular Red kangaroos.
- Kangaroo populations have declined by 40% since 2001, and according to a report and threatened species nomination by NSW ecologist Ray Mjadwesch, <http://www.freedomofspecies.org/show/ecologist-ray-mjadwesch-abundant-vanishing-kangaroo>, all commercially hunted kangaroos have declined so dramatically that they fulfil the criteria as a threatened species, with up to 90% of kangaroos lost since the arrival of white man. *Kangaroos At Risk*: <http://www.kangaroosatrisk.net/>
- Kangaroo densities can be viewed in all state government kangaroo harvest quota reports including the 2015 Quota Report for Commercial Kangaroo Harvest in SA, 2014 Quota Report NSW Commercial Kangaroo Harvest Management Plan 2012-2016, the 2015 Quota Submission for Commercially Harvested Macropods in QLD, and the 2015 Commercial Kangaroo Harvest Quota Submission for WA.
- If left undisturbed in continuing optimal natural conditions, kangaroo populations do not keep infinitely increasing, but tend towards equilibrium or stability. Ref: Bilton & Croft (2004) Bayliss P (1985) *The Population Dynamics of Red and Western Grey Kangaroos in Arid New South Wales, Australia. I. Population Trends and Rainfall. The Journal of Animal Ecology, Vol. 54, No. 1. (Feb., 1985), pp. 111-125.* Wilson GR (1975) *Age Structures of Populations of Kangaroos (Macropodidae) taken by Professional Shooters in New South Wales Australian Wildlife Research, 1975 2, 1-9, CSIRO Publishing, Melbourne* Arnold GW, Grassia A, Steven DE, Weeldenburg JR (1991) *Population ecology of western grey kangaroos in a remnant of Wandoo Woodland at Bakers Hill, southern Western Australia Wildlife Research 18(5) 561-575, CSIRO Publishing, Melbourne*
- During drought, juvenile mortality can be up to 100%. Ref: Shepherd N (1987) *Condition and recruitment of kangaroos in Kangaroos: (Eds: Caughley G, Shepherd N, Short J) Cambridge University Press, Cambridge.* Applying 73% juvenile mortality, and assuming optimal breeding conditions every year of her breeding life, a doe may have two joeys survive to weaning in her lifetime (up to 3 in Reds), Ref: Bilton & Croft (2004) Dawson (2012) but only if she lives a full and successful fertile life, with a lifetime of good environmental conditions, which is unrealistic. Ref: Bilton and Croft (2004)
- Wild kangaroo juvenile mortality in the first year of life is similar to other mammals in that it is high. Ref: Caughley, G (1967) *Calculations of population mortality rate and life expectancy and kangaroos from the ratio of juveniles to adults New Zealand Journal of Science 10: 578-584- around 73% in optimal natural conditions.* Ref: Arnold GW et al (1991) 50% of emergent young Eastern Grey joeys still dependent on their mothers have been recorded as being taken by foxes. Ref: Banks et al (2000) *Predation by red foxes limits recruitment in populations of eastern grey kangaroos Austral Ecology (2000) 25, 283-291.*

Wild dogs have completely replaced dingoes and proven to have a much higher impact on joey mortality, since they kill for the thrill of the chase.

- In most areas surveyed in 2014, the QLD government population data shows the kangaroo population crashing with 50% declines, and critical densities of less than five kangaroos per square kilometre across almost half the state. These densities have been classified as 'quasi extinct' in a report commissioned by the Murray Darling Commission, *Kangaroo options in the Murray Darling Basin, 2004* (Hacker et al) stated that if commercial hunting continues at these current critical densities, it puts the species at risk of extinction. **However according to the government's population report, which they base the quota on for the commercial harvest, figures have increased to 32,807,900 from 24,088,150 in 2013. This is an INCREASE of 8,719,750 offspring, (which are counted by sight) in 12 months, which is BIOLOGICALLY IMPOSSIBLE.**

Whereas population numbers are in abundance in small pockets in some states, on the whole, large areas of the Australian landscape is now devoid of kangaroos.

MYTH:

KANGAROOS NUMBERS CAN BE ACCURATELY COUNTED

REALITY:

- Aerial surveys to estimate population densities has been criticized by many of the scientific community, since their estimations of numbers is based with a correction factor, and a percentage of estimated population increases forecast for the *following* 12 months harvest. It is also based on habitat of a region and how many animals may be living in that habitat, but not necessarily sighted. **For example NSW projected a 300% increase in population of joeys in one year alone!**
- Under the new SA Kangaroo Management Plan 2014-17, they are producing new computer software called Meta-models. They stated that *"Our project aims to use the historic survey and harvest data to create and test meta-models, that incorporate kangaroo population demographics, environmental and climatic factors, kangaroo behavioural ecology and economic factors that influence the behaviour of the individuals who commercially harvest kangaroos. The models developed in this project may be used to improve confidence in the population estimates and harvest quotas. The models may also provide an additional, or alternative, method to estimate kangaroo numbers in the future. Such options may be beneficial in areas where surveys can no longer be conducted, for example due to the establishment of wind turbines, or in areas where quotas are rarely met."*

So this means the government departments are now looking at not having to do 'field surveys' to check kangaroo populations. This is a REAL concern.

MYTH:

KANGAROO MEAT IS NOT HARMFUL TO PETS

REALITY:

- Veterinarians have warned that pets are being poisoned by dangerous levels of preservatives in commercial pet food that can leave dogs and cats with brain damage. Some pet food suppliers treat products with high levels of sulphur dioxide to preserve the meat and to disguise signs of putrefaction. Dr Anne Fawcett, companion animal veterinarian at the University of Sydney's Faculty of Vet Science, treated a thiamine deficient cat fed exclusively on **supermarket bought kangaroo meat packaged for pets**. The food was tested and found to have concentrations of sulphur dioxide almost double that allowed for human consumption. Sulphur dioxide is a known cause of thiamine deficiency in humans and animals.

MYTH:

KANGAROOS CAN BE FARMED

REALITY:

- Kangaroos are not herd animals. They are highly nervous and suffer from post-capture myopathy if caught. They can not be inspected, drenched or rounded up.
- Kangaroos could never replace more than a tiny fraction of the cattle and sheep meat that Australians consume. According to the Qld Dept of Primary Industries, in 2016, a single kangaroo only produces about **10 kg** of useable meat and only **3 kg** of that is prime cuts, the rest is used for “manufactured meat” such as pet food. Furthermore, the total maximum potential supply of kangaroo meat is 57,000 tonnes a year compared to the yield of 1.7 million tonnes of beef.
- The ‘Go Green’ push to eat Kangaroo in Australia by the Australian Government and other interested parties is a scientific sham. Eating Kangaroo meat is not sustainable. **Scientists at UTS found that to feed each Australian just 1 small portion of meat, 22 million Kangaroos would need to be killed each year.** This is more than 5 times the 30 year average population of 27 million to provide 1 serving per week to Australians. The total population of Kangaroos has been declining with populations dropping to quasi-extinction levels of less than 5 animals per square kilometre over large areas. The Commercial Harvest of Kangaroos is the largest land-based wildlife slaughter & massacre on earth and continues despite falling numbers.

The entire kangaroo population would need to be killed many times over each year to replace sheep and cattle. For every Australian to eat one small portion per week, the kangaroo population would have to be 175 million. Ref: Dan Ramp UTS

MYTH:

KANGAROOS ARE A ‘PROTECTED’ SPECIES

REALITY:

PROTECTED FROM WHAT?

- For many decades, kangaroos have been treated as ‘pests’ in their own native country, because of the introduction of hard hoofed animals, that destroy Australia’s fragile soils. Even though it has been proven that kangaroos are far more efficient feeders of natural browse, and do not compete with sheep and cattle to the extent that farmers and graziers would have an unknowing believe, macropods are being harvested by the millions under this guise. The truth is that kangaroos are being slaughtered for the money that the government receives for their meat and skins. The kangaroo, who has soft feet and is designed to live in its natural habitat without destruction to its own eco system, has been maligned and killed by the millions, for the sake of introduced sheep and cattle. These uniquely Australian, gentle herbivores are only trying to keep their family mobs and units together, raise their young and simply *survive*. This is their only crime.
- We constantly witness news stories about kangaroos being injured with high powered cross bow arrows, yet rarely is anyone charged with cruelty or for mortal wounding.
- In many Australian states, (NSW, QLD, Victoria and some parts of the NT and WA) kangaroos are only *truly* ‘protected’ from a person who wants to keep them and care for them; which results in the animal/s being taken away from the individual by wildlife officers.



MYTH:

THERE IS NO CORRUPTION WITHIN THE KANGAROO INDUSTRY

REALITY:

In 1970, California first banned products made from kangaroo skin, such as soccer cleats and gloves. The ban remained until 2015 when the Australian Kangaroo Industry and Australian Government tried to persuade California to lift the ban.

- Mike Gipson (right), a freshman assemblyman from Southern California, stated, *"The Australian Government have, as well as other people, approached me around this particular measure"*. *My constituents enjoy soccer cleats and gloves made from kangaroo hides. Australia culls millions of kangaroos each year; they outnumber people there.* Gibson did not follow the normal procedure of introducing a bill, he took a bill he authored on gambling back in February, (AB-1188) and gutted and amended it, turning it into the kangaroo bill. This bill had to be passed within 3 days.



- Jennifer Fearing of The Humane Society US said, *"I think everything about this stinks. I think it's all meant to be cloaked in secrecy and obfuscate a real conversation. We have seen members of the Australian Consulate lobbying alongside these paid lobbyists in the building last week. People should be concerned about a foreign government's influence here that's not being disclosed to their people or ours."*

A check of political contribution records shows 14 lawmakers received money from that lobbyist, including \$1,000 to Mike Gipson.

- Due to this, the animal rights society filed a complaint with the California Fair Political Practices Commission, saying the Australian Government has funnelled money through a kangaroo industry trade group, to a Sacramento lobbyist to influence the debate.
http://dig.abclocal.go.com/kg0/PDF/090915_ITeam_Sworn_Complaint_Attachments.pdf
- The Australian Government not only subsidizes the Kangaroo Industry, **they paid at least 12 US politicians (that we are aware of) \$1,000 to push and promote the kangaroo industry in the US.**
- Australia's Department of Agriculture confirmed it provided **A\$143,000** to the Kangaroo Industries Association of Australia to help pay U.S. law firm Manatt, Phelps and Phillips to lobby Californian lawmakers against the ban of kangaroo imports in 2015.

Thankfully, due to the input by many Australian lobbyists and Animals societies, the Californian ban on kangaroo products was upheld. No doubt the ban will be questioned again in the not too distant future.

This is the inappropriate use of tax payers money, and done without the average Australian's knowledge.

MYTH:

DEVELOPMENT CONSIDERS WILDLIFE HABITATS

REALITY:

- Development of our suburbs and communities in general are having a devastating impact on our Kangaroo populations where entire mobs are culled, to facilitate the building of new estates.
- When the Commercial Harvest and Damage Mitigation Permits are added to this factor, that are being granted to farmers without inspection of damage to property; to justify any killing is certainly ensuring that the Kangaroo species are no longer seen in abundance (if seen at all) across large areas of Australia, and eventual extinction is almost guaranteed.

**Australia relies heavily on using the kangaroo to promote tourism, Qantas flights, all Australian made products etc. by utilising an image of a 'kangaroo' on each tag.
What will Australia, 'renowned for the Kangaroo' do, when there are none left.**

One such account of development over the survival of kangaroos, is the disgusting carnage carried out by the government in a suburb of Canberra, NSW in 2008. However, there are many more examples of this senseless slaughter of innocent animals carried out in many Australian states.

THE HORRIFIC AND DISTRESSING ACCOUNT OF THE BELCONNEN SLAUGHTER A.C.T (Australian Capital Territory)

by (the late) Pat O'Brien. Wildlife Protection Association of Australia- www.wildlifeprotection.org.au

Belconnen, was a no longer used military radio station that had a resident population of 500 grey kangaroos. It was acquired for nothing by the ACT Government, who wanted to decontaminate the site, and build luxury housing there, worth many millions of dollars. Clearly the kangaroos had to go, and the Government first claimed they were starving. They were not. So then they claimed the kangaroos were responsible for the demise of several small species who lived in the grass. It was the first time the Canberra government had expressed concerns about these species, although they had previously allowed supermarkets, housing developments and car-parks to be built on these same habitats. The Belconnen kangaroo kill that ultimately took place was the most horrific kangaroo massacre ever seen in Australia in recent years.



The Belconnen kangaroo kill went ahead on May 2008, and finished on the 2nd June. Like many others, I guess I've been traumatised by the kill too. I thought I'd seen everything that humans could do to wildlife, and to kangaroos, but this just beggars description. I'm still having trouble writing this up, it was a bloodbath. I saw kangaroos flopping around on broken legs, broken from crashing into the fences in panic. Some protestors saw three kangaroos with broken legs thrashing around, and just left in the pen while the workers did other things. Helpless joeys were jumping around in panic as their mothers were killed. Protestors saw one joey crushed under the panicking kangaroos. They killed dozens of infant joeys, who were forced to see their mothers killed, before they themselves were killed. After their mothers were killed, the joeys were seen left in a pen for three days. On the morning of the 26th they had disappeared. Workers were seen herding kangaroos, and towards the end of the kill were herding them with vehicles, and even using security guards to chase them into the pens. **Herding kangaroos is illegal in every State.**

Tiga Williams, kangaroo protester, environmental children's entertainer, and wildlife carer reported the following scenes at the Canberra kangaroo slaughter today. *"The images I witnessed today were nothing short of abhorrent. There are no words to describe the cruelty, inhumanity and pure evilness that are being inflicted upon these innocent kangaroos. These contractors are working for speed not the humane treatment of individual animals."* Tiga stated that; *"At least 4 large men tried to herd the 50 or so kangaroos into the killing pen, but the kangaroos knew that death awaited them and kept running away. When the tactics of men on foot did not work they brought in a 4 wheel drive herding them towards the killing pen. The kangaroos were running in fear and panic, tiny babies were being thrown out of the pouch, kangaroos hitting each other and the fences. One doe hit the perimeter fence with such force we believe she broke her neck and died. The four wheel drive came over, and the men bagged the dead kangaroo and put her in the back of the vehicle. Kangaroos and joeys are seen frantically trying to dig under the fences, trying to go over the fence."*



There were tiny joeys too young to be out of their mother's pouch, frantically trying to keep up with their mothers. There are at least a dozen or more joeys who will not find their mothers again tonight, and who may die alone tonight in the freezing temperatures."

Unfortunately the media, who gave the protest good coverage the first couple of days, has been blacked out, and little has appeared since, although initial reports made headlines all over the world.

This is how Australians treat their national symbol. If they get in the way of urban development, they must go. Translocation is extremely rare.

While those who love and care for injured kangaroos weep, the mass does not. A popular Sydney daily newspaper printed the news of the slaughter in Canberra. Nearly 150 people wrote in within an hour or so with their comments. About 140 delighted in the kill, slurring the very few who opposed it. The bloodhounds wrote statements calling kangaroos 'pests', abusing people like Sir Paul McCartney who opposed the slaughter, and demanding people eat kangaroo meat.



Even the late Steve Irwin, who loved kangaroos, would have been branded a 'hippy' (sic) or a 'wanker'. Most of the attacks contained statements that are grossly ill-informed. This is the general state of Australian 'culture' at this moment in time. This is the country that campaigns to save the whale.





Left: Workers warily approach the body of a small kangaroo. This photo indicates how some humans fear wildlife - the man at left (**actually, the tranquiliser shooter**) looks as if he is approaching a venomous brown snake. Apparently the young kangaroo escaped from the killing zone and collapsed back into the approach section. It died.

Right: Another dead kangaroo is taken away from near the killing area. There is another animal nearby with a collar. That means it is supposed to be saved for experimental purposes. But because it has apparently escaped from the enclosure where those animals have been kept, procedure demands it be re-anaesthetised before being sent back.



Left: This poor kangaroo tried to jump the barriers in a bid to escape its ordeal of being made captive.

Right: A vehicle herds the terrified kangaroos into the killing pen.



Another protester records her observations:
 Day 7 of the Canberra cull sees kangaroos being chased by vehicles and men on foot, shouting, bashing steel upon steel, revving engines to scare and herd them into the killing pens. Thirty were herded into the killing pen, jumping madly in panic, a kangaroo stampede, hitting fences and colliding with each other, desperately trying to get out. I see a joey escape through a gap, then another, then another, a large kangaroo, then an even larger kangaroo, a beautiful strong male. They grouped together, frantically licking forearms, terrified, drooling from fear and anxiousness. Another joey joined them, I prayed for more to find the magic little hole to freedom. The large male collected his group and led them away from the frenzied fear and panic, to a peaceful place under the trees. At dusk, the leader of the mob made his way down towards the killing pens, where dozens of his friends and family remained imprisoned.



Above: The kangaroos were then dumped into a large pit, as though these once majestic animals were no better than trash.

He talked to them through the fence, trying to soothe their fears, encouraging them to find the way out. Staying calm, he tried to help them find that secret door, so he could take them away to that peaceful place and look after them, the way he knows he should. But his efforts were in vain. It was a painful yet truly remarkable scene to witness.

Another comment: I found the immense suffering of the mothers and joeys during the massacre at Belconnen particularly hard to bear. Their maternal bonds are just like ours, and to see them calling for each other, with the little ones being trampled in the panic, just broke my heart. Some of the joeys were left without their mums and without food and water for days. Eventually they just gave up and allowed themselves to be pushed into the killing pens. We have to stop doing this to sentient beings if we are to retain any semblance of true humanity (kindness/mercy). The males were also trying to protect the abandoned joeys and lead them away to safety. What is wrong with human males (and tragically some females) that they were happy to be cowards, sadists and bullies while the animals were setting an example of dignified, caring behaviour?

MYTH:

KANGAROO MEAT IS NOT HARMFUL TO HUMAN HEALTH

REALITY:

- Kangaroos are shot in the bush at night and are gutted on the spot in the dust and dirt of the bush. Dangling from hooks in an open truck, they are then driven many hours later on dusty, unsealed roads to chillers which may or may not keep the carcasses at the correct safe temperature until the chillers are filled and the carcasses are taken to the processing plants.

Kangaroo meat needs to be cooked rare, else it is too tough to eat, however because of this factor, many parasites, protozoa and bacteria are not destroyed, thus making the meat a high risk for contracting diseases. As well as poisoning from Salmonella, E.coli and Staphylococcus, diners on kangaroo risk contracting toxoplasmosis, which can result in foetal death or birth defects in pregnant women.

Kangaroo meat was the cause of Australia's first recorded outbreak of the potentially fatal disease toxoplasmosis that infected twelve people including a pregnant woman which caused her baby to be born blind. It also contains fungal and viral diseases that are transferable to humans and animals.

- Canada and Russia has banned the importation of kangaroo meat. California has recently denied the resumption of importing kangaroo products. The European Union is currently considering banning the importation of all kangaroo products.
- Kangaroos can also harbour a wide range of parasites including abdominal and muscular parasites. Doctors publicly warned Australians against eating undercooked kangaroo meat after discovering what they believe to be a new parasite found in two people who suffered long term illness after eating kangaroo meat. <http://www.independent.co.uk/news/doctors-warn-of-kangaroo-meat-bug-1233632.html>
- Dr. David Obendorf, BVSc (Hons), B(An)Sc, PhD (Melbourne) Chairperson, Wildlife Advisory Committee, Australian Member of the Scientific Advisory Board to the International Animal Health Body, (OIE) Paris (Office des Internationale Epizootes), Wildlife Pathologist with over 20 years experience in the parasites & diseases of Australian native fauna, has reported that kangaroos and wallabies can harbour a wide range of parasitic, bacterial, fungal and viral diseases and the majority of infections are unapparent (i.e. animals appear normal). Even meat inspection procedures are unlikely to detect some infections unless gross lesions are detected or routine samples are taken for microbiological and pathological testing. Worldwide, it is recognised that so-called 'game meats' are a source of these infections for hunters, processors and consumers, especially when care is not taken while eviscerating and handling the carcasses or when the meat from these animals is served undercooked or raw. Trichinosis, cysticercosis and toxoplasmosis are examples of parasitic zoonoses (i.e. diseases transmissible from animals to humans).
- Professor John Goldsmid, Lecturer in Microbiology at the University of Tasmania expressed his scientific concerns about the lack of research into a range of diseases and parasites transmissible between Tasmanian native animals and humans. Australia has no dedicated research or diagnostic facility to investigate wildlife diseases. Detections of new diseases are handled on an ad hoc basis by government or university laboratories. A recent scientific report of the International Health Organization, the Office Internationale des Epizootes warns that wild animal meats which are raw, undercooked, dried or cold-smoked are potentially infectious to animal or humans that consume them. The incidence of Toxoplasma abortions and infertility is amongst the highest in Australia. Free ranging wallabies, pademelons, bandicoots and wombats are regularly killed by this infection and surveys show a high percentage of wallabies harbour this infection. The concern is that chefs and food raconteurs recommend cooking methods which would not kill this parasite. A newly identified worm thought to be derived from marsupials was found to be responsible for acute illness in two humans. Like Trichinella they invade muscles. The worms are thought to belong to a class of nematodes known as Muscipiceoids. In wallabies and possums these nematodes live in several tissues of the body and can invade muscles.

MYTH:

THE KANGAROO HARVEST IS ETHICAL & HUMANE

REALITY:

- The National Code of Practice for the Humane Shooting of Kangaroos and Wallabies sanctions joeys being pulled out of the pouch and bashed to death or decapitated. The young of no other species is permitted to be killed in such a brutal way. The current Code does not cover the treatment of the young at foot joey orphaned when the mother is shot. Joeys at foot are still reliant on their mother's milk, and without this sustenance, her guidance and nurturing, these joeys are left to wander aimlessly until they die of starvation, dehydration, predation or the psychological deprivation of being without their mother.
- The only thing necessary for a kangaroo shooter is to have a valid firearms licence, a TAFE certificate for safe food handling and to show he can hit a target at 80 metres, although shooting over 200 metres is more likely what happens in reality. The National Kangaroo Campaign Australia state: "The Code is a voluntary code only, and no provision exists in it for permits/licences to be suspended in the event of failure to adhere to the Code."
- Shooting kangaroos occurs at night with no observation by an independent body. The government and industry claim that their shooters kill humanely by a single headshot BUT these statistics of head shot kangaroos are taken from carcasses hanging in chillers. Shooters do not bring in body-shot animals to chillers as these animals are not accepted, therefore there is no monitoring of the number of kangaroos which have been body shot. **However, every annual state report has notated some body shots and rejected animals, in particular, neck shots for the skin industry. Infringements continue to be issued based on this evidence. Harvesters and dealers continue to be fined.** Field inspections by RSPCA Australia of kangaroo processors in 1985 and in 2000-2002 found 248,81 and 112,578 kangaroos had suffered body shots through non-compliance of the Code of Practice which requires immediate death by a shot to the brain. This was considered a conservative number. **The fact remains no policing at point of kill, is still not in place in 2015 to monitor this work place.**
- **Regarding the humane killing method by a shot to the brain.** Scientific field research done by Hacker in 2004 involved the shooting of 2755 Kangaroos. To determine their age he gouged out the eyes of the shot sample animals and went on to say that he was unable to determine age by using the length of the jaw as the maxilla (jawbone) was too badly damaged from head shots".

WE SHOULD QUESTION:

1. How can the eyes not be damaged from head shots, but the jaw bones '*were too badly damaged*', if these animals were killed in accordance with the 'Code of Practice' which was in place in 2004.

These 'research' killings achieve nothing more than reducing the species unnecessarily, simply to satisfy a scientist's curiosity as to how old the kangaroos were.

2. Given there was no 'disease' investigation involved, there was no reasonable argument to allow such killing of native fauna. It also raises the question as to just how 'humane' head shots really are, and if they do in fact cause 'least amount of pain' to the animals as per the description of 'humane' in the dictionary, as any jaw shot animal would die by bleeding to death slowly on the ground.

MYTH:

NO PLANS TO ERADICATE KANGAROOS COMPLETELY

REALITY:

IMPENETRABLE EXCLUSION FENCES:

An enormous threat to our Kangaroos in Central Western Qld at present, is by a new 'dog fence' which is being erected **covering millions of hectares & hundreds of kilometres. Cunnamulla to Hughenden-964km**

The South West NRM Pty Ltd (*made up of farmers throughout the South West Queensland district*), have already written statements that as the fences are finished on each property, '*mitigation will then be addressed including Kangaroos*'.

Collaborative Area Management: 'Exclusive fencing in south west Queensland'.

Background:

The seven existing Collaborative Area Management (cluster) groups were formed as part of a South West NRM (SWNRM), QLD State Government funded initiative. These groups of land managers came together and formed associations, allowing them to purchase fencing materials at a reduced cost.

The groups then built exclusion fences surrounding their properties, helping each other and sharing fencing equipment. Once these fences are completed, the groups will work to mitigate shared issues with the clusters. Some of these issues include non domestic (kangaroos) and feral animals which supply an unsustainable grazing pressure and wild dogs who predate on livestock.

The Collaborative Area Management Project aims to increase diversity on properties, allowing land managers to continue with, or return to sheep. The sheep and wool industry can then benefit local towns through increased employment.

On enquiries to locals in these towns, it has been confirmed that all farmers involved in the project will be 'completely clearing their properties of kangaroos'. In other words, they have a zero tolerance towards kangaroos.

THIS EXCLUSION FENCE WILL NOT ONLY HAVE AN IMPACT ON KANGAROOS, BUT ALL NATIVE WILDLIFE IN THIS VAST AREA



The photo above is used on the SWNRM website: (<http://www.southwestnrm.org.au/sites/default/files/uploads/ihub/cam-poster-a3.pdf>) and shows a small number of juvenile kangaroos, whose natural pathway has been blocked off by the fencing. These young kangaroos no longer have access to their historical feeding grounds, and have probably been separated from the rest of their mob, if indeed that mob still exists.

This is a pitiful sight. Once this fence has been completed, it can be paralleled to the 'canned' hunting practises that outrage many animal lovers, whereby the kangaroos will be essentially marooned in a large fenced area, where their extermination will be absolute.

HOW CAN 'CONSERVATION', 'SUSTAINABILITY' AND 'BIODIVERSITY HEALTH OF THE LANDSCAPE' BE COMPLIMENTARY WITH SHEEP FARMING ?



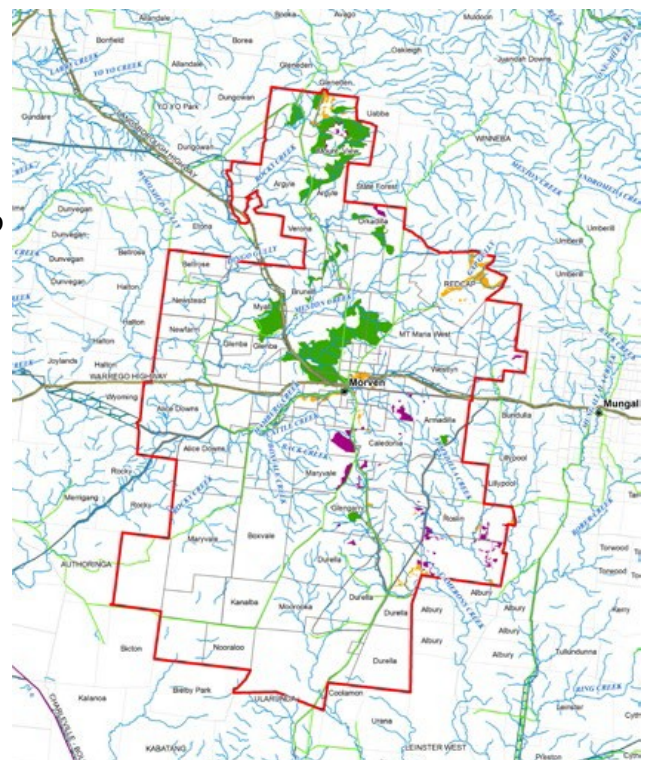
Karen Tully, who is the Conservation Sector Director of South West Natural Resource Management Ltd states:

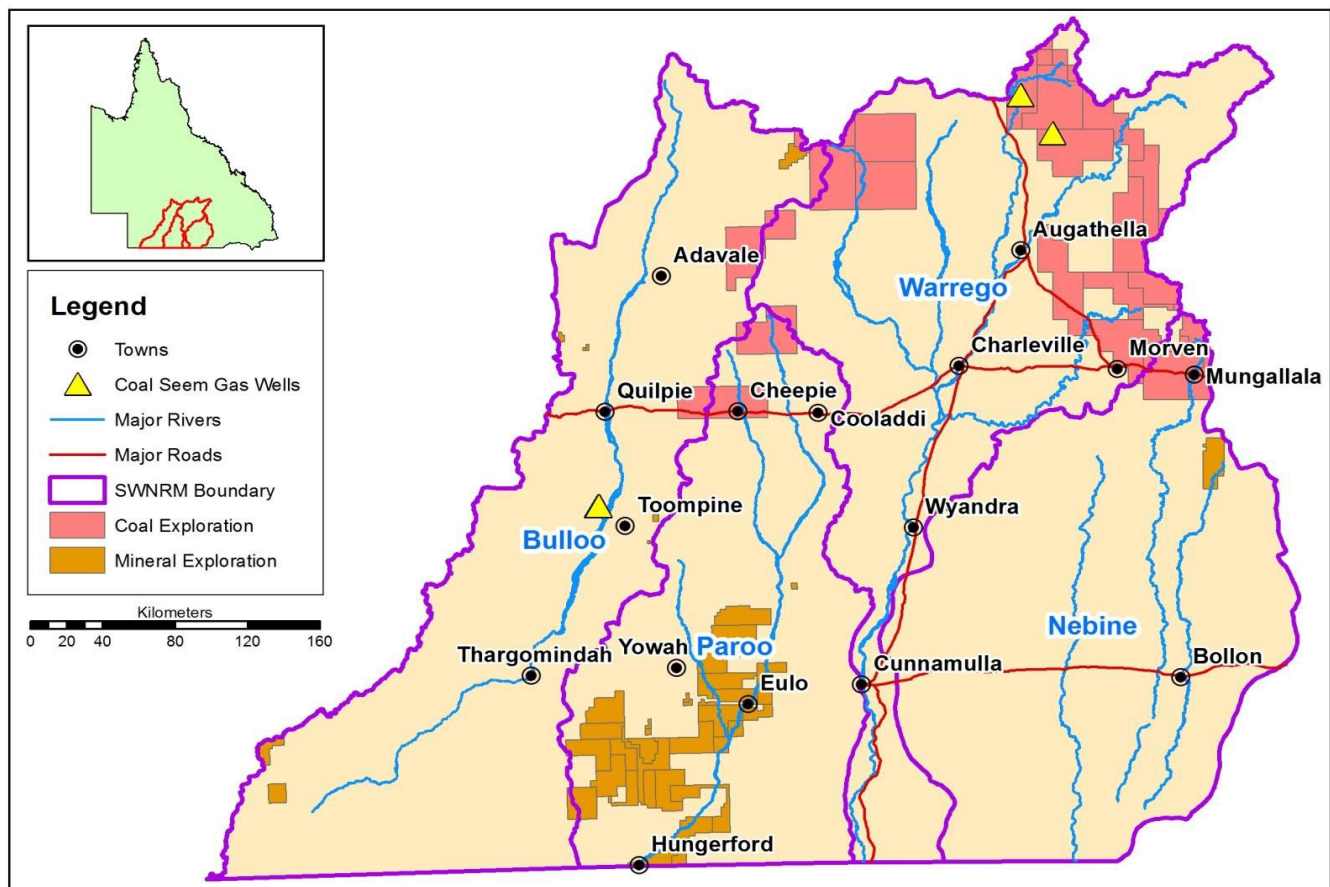
The Collaborative Area Management Project is a big picture initiative that saw the board reflect long and hard about making a significant decision to invest money in enabling landholders to work together in order to improve **productivity of their businesses and improve the sustainability and biodiversity health of the landscape**. This grazing management system will see individual landholders erect hundreds of kilometres of exclusion fencing across unprecedented acres of private property in order to manage grazing pressure from invasive pests and weeds. Although the idea itself is not new, the breathtaking scale of the combined commitment and investment by the landholders is an example of collaboration at its best. Whilst the long term outcomes remain unknown at this point, South West NRM and the individuals involved must be congratulated on having the courage to step outside their comfort zone to 'do something different'. As

Henry Ford said "If you always do what you've always done, you'll always get what you've always got." Time will tell what the benefits of this visionary project will be. Another strategic, big picture development in the last 12 months has seen numerous NRM bodies from our nation coming together to form a National Rangelands NRM Alliance. Whilst it is early days yet, this example of collaboration across the 'outback' areas in our nation is much needed. In this very different world of government funding, I believe this alliance has the potential to capture funds and outcomes. The Great Barrier Reef has been the beneficiary of special funding attention in recent years – maybe now it is time to turn our attention inland to the vast, magnificent and significantly unique landscape that makes up Australia's Rangelands? It is prudent that South West NRM continues to explore the potential of this alliance.

The South Tambo cluster was completed in early 2015 and the Tomoo Creek cluster is due for completion in the coming weeks. The three newest clusters of Wyandra, Quilpie and Woodstock (South of Cunnamulla) are all under construction and are due for completion in 2016.

This project is focused on landholders working together to build and maintain an exclusion fence with the aim of reducing predation by wild dogs and feral pigs and reducing a total grazing pressure that is largely contributed to by **unsustainable kangaroo and feral goat numbers**.





ASSET	VALUES	THREATS
Murrawondah Lakes ¹	Three large, freshwater ephemeral claypan lakes, located 35 km east of Cunnamulla. Supporting the largest area of canegrass swamps east of the Warrego River in the Mulga Lands Bioregion.	Loss of grazing-sensitive ephemeral species from grazing
Myola - Mulga Downs Salt Lakes and Claypans ^{1,2}	Large ephemeral salt lake and associated alluvial plains and swamps located at the lower end of Mungallala Creek near NSW border near the Culgoa Floodplain National Park. Possible significant waterbird communities (including migratory species) inhabit these wetlands during inundation. These have unique geomorphology features of sandy areas (without lunettes).	Suspected grazing effects including vegetation change and erosion
Old Bando Swamp ¹	Large ephemeral claypan swamp on a tributary of the Warrego River located about 40 km south-west of Wyandra. Contains lignum and canegrass communities which would provide waterbird habitat.	Periodic heavy grazing resulting in vegetation changes.
Bulloo Lake ¹	The Bulloo Lake and associated swamps and floodplains at the terminus of the Bulloo River. This vast area contains tall lignum shrublands and provides habitat to numerous species of waterbird and migratory species	Extensive grazing, increased turbidity and siltation, feral animals
Eulo Artesian Springs Supergroup ^{1,2}	There are more than 40 artesian springs (including mounds) or small groups of springs scattered over an extensive area, south-west of Eulo. These springs are fed by artesian groundwater. Many are extinct or have severely restricted flow rates. Some rare or endemic species may occur on active springs.	Serious depletion of supply of artesian water to all springs has occurred as a result of numerous flowing bores in the region. Significant grazing and trampling from livestock and feral animals.
Lake Bullawarra ¹	This large ephemeral lake and associated low lying swamps and anastomosing channels is located 25 km	Extensive grazing and feral animals

MYTH:

THE KANGAROO INDUSTRY IS SUSTAINABLE

REALITY:

- This is a myth successfully marketed by the kangaroo industry, and repeated by uncritical media and unknowing Australians. Kangaroo populations are trending seriously downwards. The commercial killing of kangaroos is the largest land-based wildlife slaughter on earth and continues despite falling numbers, with populations dropping to quasi-extinction levels of less than 5 per square kilometre over large areas. According to scientists at the UTS, the number of kangaroos necessary to replace meat production from sheep and cows is ecologically unfeasible. They found that to provide Australians with just one small portion of kangaroo meat per week, 22 million kangaroos would have to be killed every year. The total population of kangaroos would need to be 175 million to support this off-take. This is more than five times the 30-year average population of 27 million, to provide one serving of meat per Australian per week. Therefore the "go green, eat roo" push is not only a sham science, but terribly negligent to any consumer eating kangaroo meat.
- A common complaint made by tourists who travel Australia, is not seeing a single kangaroo on their tours. Tourism is a more valuable industry than the kangaroo industry, worth \$85 billion dollars a year, whereas the kangaroo industry is subsidized by the Australian Government, and estimated to be down from \$280,000,000 to \$88,000,000.
- A kangaroo shooter only gets \$7-\$13 per carcass, for destroying 3 generations of kangaroos (in the case of a female with 2 dependent joeys). Even at the top weight, a shooter with today's prices for gun powder, projectiles, primers, diesel, disinfectant, motor vehicle maintenance, and sundries, could not make a decent living.
- **The low carcass weights being reported over the last 15 years by governing departments, is evidence in itself that kangaroos are not being given time to mature before being shot, and kangaroo populations are being seriously inflated by the scientific community, who continue to support the kangaroo industry.**
- Regarding sustainability the SA 2014 report clearly states : **"The harvest of kangaroos in South Australia in 2014 is one of the lowest on record, by percentage of available quota."**

After shooting kangaroos consistently now for over 30 years, why does the Government claim it is because of '*economic downturn in the industry*', rather than the truth that 'the kangaroo population has declined to a dangerously low level'.

Low carcass weights coming in to chillers, clearly indicates this fact.

MYTH:

SPORTING ENTERTAINMENT DOES NOT AFFECT WILDLIFE

REALITY:

Each year before the 'Bathurst 1000' car race is held at Mt Panorama, the Bathurst Regional Council brings in a shooter to kill a large percentage of what kangaroos live at the Mount.

In 2008 there were only 145 Kangaroos around the track area. Of these, 60 that were shot were females and joeys, who were deliberately targeted (as per letters held on file by Kanga Watch Inc from Council to shooter). This left a mere 96 animals which could be targeted the following year before 'race day'.

Another letter held on file from council to a resident who complained, the council stated 'The cull was agreed to protect both the kangaroos and participants at the event'.

How many people would be aware that these sporting events nearly always result in our Kangaroos being decimated, simply to facilitate a 2 or 3 day event of entertainment for the public!

MYTH:

KANGAROO POPULATIONS EXPLODE AFTER RAIN

REALITY:

- Kangaroos are a slow-growing species with low reproductive rates and high juvenile mortality. Contrary to common belief, kangaroos cannot raise three joeys to independence per year.

John Kelly, CEO of the Kangaroo Industry Association of Australia has been quoted as stating: "The kangaroo population is exploding right now as a result of the feed and water that is all the way across the landscape"

- It is biologically impossible for kangaroo populations to rapidly increase or “*explode*” as is regularly stated. Kangaroos can only recover from decline by resuming their normal biological reproductive processes, which are slow. *Ref: Australian Government Department of the Environment Report on the commercial harvest of kangaroos in Australia April 2014. Pg2 ABC News online (5 Jan 2015) Kangaroo population explodes in western Queensland. (Source 7pm TV News QLD) Available from <http://www.abc.net.au/news/2015-01-05/kangaroo-population-explodes-in-western-queensland/5999846> [24 Aug 2015) These are the reasons for the public’s misconceptions that kangaroos are in plague proportions. The Australian government has a vested interest in keeping this industry going forward as they have invested a great deal of tax payer’s money in grants and levies to keep this industry operating.*
- Note that holding a blastocyst in embryonic diapause does not give a major reproductive advantage - a blastocyst is comprised of only 70-100 cells, and is only .25 mm in diameter (Dawson 1995). Embryonic diapause is rare in Eastern Grey Kangaroos, and is unknown in Western Grey Kangaroos (Dawson 1995). Development of a dormant blastocyst (embryonic joey) can only occur when the previous joey has died or has permanently left the pouch. The reduction in lactation rates, which is triggered by hormonal changes, activates the blastocyst to commence development. *Ref: Dawson T 2012 Kangaroos: biology of the largest marsupials Comstock Publishing Associates, New York. Tyndale-Biscoe H (2005) Life of Marsupials CSIRO Publishing Collingwood Australia*
- Twins are very rare, and survival of twins to weaning has not been recorded. *Ref: Dawson (2012) Poole WE (1975)*

Ray Border, spokesperson for the Kangaroo Industry Association stated to the ABC on 13th December 2010 and also broadcasted on ABC radio in the Canberra region on March 3rd, that "In the long term, it's going to be fantastic for everyone, because every doe is reported to have twins, the growth rate of all kangaroos, with feed and water around, is twice as fast as it would normally be. The future is extremely bright." This was during the 2010 floods.

- In reality, for the animals that survived the devastating wide spread floods, the chances of post flood die-off would reduce kangaroo numbers considerably. Post flood die-offs occurred after floods in 1961, 1986, 1987, 1990, 1997, 1998, and 2002, with mortalities of Red and Grey kangaroos, and Wallaroos/Euros in the vicinity of up to **92%** in regions of Queensland, NSW, Victoria and S.A.
- A Grey kangaroo doe can raise just one joey to *full independence per 18-19 months*. A Red kangaroo doe can raise just one joey to *full independence per 14-15 months*. A Common wallaroo doe can raise just one joey to *full independence per 15 months*. A Euro doe can raise just one joey to *full independence per 17 months*.
- A doe’s first joey is the most likely to die. She will first *successfully* raise her young at about 3 years of age, with that joey weaning when she is 4 years old. *Ref: Bilton & Croft (2004)*

MYTH:

KANGAROO NUMBERS ARE SECURE

REALITY:

HOW THE KANGAROO HARVESTING INDUSTRY USES PROPAGANDA TO CONVINCING THE PUBLIC ON NUMBERS OF KANGAROOS

Nomination to List the Large Macropods-as Threatened Species under the NSW Threatened Species Conservation Act 1995

Raymond MJADWESCH—consulting ecologist—author of www.kangaroosatrisk.net
December 2011

Consider a hypothetical scenario:

If an Eastern Grey Kangaroo doe only raises its first joey to the pouch-emergent stage by 3.5 years of age, and finishes breeding at around 12 years of age, she is only likely to produce 8 young in her lifetime. If 75% of joeys are likely to die, this leaves only 2 young to survive to adulthood. If the male female sex ratio is parity, only one surviving joey will be a doe, and on average the original female will only effectively replace herself once in her lifetime. The author's lecturer in population ecology, highly regarded wildlife researcher Dr Johannes Bauer, suggested that these sort of generalities with regard to reproduction are rarely replicated in the wild, and that application of averages (as in the hypothetical scenario above) is not necessarily valid (pers comm 2011).

However this possible scenario must remain a matter of concern to the cautious manager. Regardless of which, given the rates at which kangaroos are being destroyed, relatively "low" reproduction rates provide that it is no surprise that there are vast regions in NSW which seem to be almost completely devoid of kangaroos.

Counting Kangaroos

There must be some problem with counting kangaroos – every time OEH-NPWS or their consultants do it, they change the methodology! The only really accurate way to count them, it seems, is to shoot them (Hacker et al certainly counted the hell out of 2,755 of them in 2004).

In 1975 an attempt was made to estimate the number of Red Kangaroos within the commercial harvest zones of western NSW via conducting an aerial count, giving a population of 3,365,300 kangaroos in western NSW (DECCW 2009). (Caughley & Grigg (1981): This study indicates that extensive aerial survey is a feasible, cheap and precise means of monitoring kangaroo populations in remote areas Short & Grigg (1982): In each, a standardised technique of aerial survey (Caughley et al 1976; Caughley 1977; Grigg 1979) has been employed. Techniques included 2 counters on each side of the plane comparing counts from seven second intervals, and including 50 hrs of training for "trainee" observers. CSIRO scientists and university lecturers and researchers were probably capable of doing an adequate job, and the author does not have a problem with the 2-2.6M Red Kangaroo population estimates in the 1:250,000 mapsheet areas surveyed in the period 1975-1979. But between 1979 and 1980 something strange happens – **the figure increases by 30% in a single year, then by 13%, then by 25%. Over the next 2 years numbers crash by 50% p/a, but then between 1984 and 1985, they miraculously double! That's a 100% increase!** Numbers have since been extremely erratic and increasingly implausible. The best estimates of population growth for grey kangaroos seem to indicate that 9-11% growth is reasonable under standard conditions (eg: Arnold et al 1991, Banks et al 2000). A 30% increase in one year is given as possible in the wild under exceptionally good seasonal conditions (eg: Strahan 1995), however the only reference to growth rates of 30% (and higher) seem to be "calculated" growth rates, or being referred to population estimates based on aerial survey and application of various "correction factors", rather than observed population growth rates in detailed (small) population studies in the field.

Where do 100% increases come from? When you consider the data on a zone by zone and species by species basis, it becomes obvious something must be very wrong with the methodologies being applied by OEH and their consultants. Growth rates approaching and over 50% are common in the accounts of kangaroo populations in the Zone by Zone descriptions of species in the DECCW (2009) 2010 Quota Report. **Note that a 50% population growth rate requires in a population with M:F parity, that every female successfully rears its young to independence, and no animals die, for 12 months.** The more outrageous reported population increases are summarised below.

Monitoring Zone	Year	Red kangaroo	Grey kangaroo
KMZ 1	1992-1993	46% growth	197% growth
KMZ 2	1992-1993		134% growth
	1994-1995		96% growth
	2000-2001	55% growth	
	2003-2004	58% growth	
KMZ 4	1993-1994	107% growth	
	2001-2002	68% growth	
	2006-2007	66% growth	

Monitoring Zone	Year	Red kangaroo	Grey kangaroo
KMZ 4	1992-1993		90% growth
	2005-2006		99% growth
	2007-2008		62% growth
KMZ 6	1993-1994	57% growth	
	1997-1998	91% growth	
	2007-2008	82% growth	
	1992-1993		92% growth
KMZ 7	1988-1989	64% growth	

Monitoring Zone	Year	Red kangaroo	Grey kangaroo
KMZ 7	1989-1990		66% growth
	1992-1993		119% growth
	2000-2001		47% growth
	2006-2007		67% growth
KMZ 8	1988-1989	62% growth	
	1992-1993	170% growth	
	1996-1997	127% growth	
	1997-1998	270% growth	
	1999-2000	82% growth	
	2008-2009	51% growth	
	1988-1989		87% growth
KMZ 8	1992-1993		119% growth
	1996-1997 & 1997-1998		81% growth
	1999-2000		72% growth
	2006-2007		75% growth
KMZ 10	1988-1999	57% growth	
	1990-1991	68% growth	

Monitoring Zone	Year	Red kangaroo	Grey kangaroo
	1992-1993	209% growth	
KMZ 10	1994-1995	167% growth	
	1996-1997	102% growth	
	1997-1998	65% growth	
	1988-1989		55% growth
	1992-1993		313% growth
	2001-2002		45% growth
	2002-2003		54% growth
KMZ 11	1991-1992	47% growth	
	1995-1996	80% growth	
	1998-1999	102% growth	
	1988-1989		57% growth
	1992-1993		109% growth
WALLAROOS			
KMZ 9	2004-2004		158% growth
interestingly a nice recovery as animals were approaching critically low densities of only 2.1 animals / km ²			
KMZ 13	2000-2001		72% growth

Applying the most optimistic reproduction rates (0.92 for Red Kangaroos in South Australia according to Pople & Grigg 1999), tripling (between 2000 and 2001) or quadrupling (as was reported to be the case with Grey Kangaroos in KMZ 10 (Coonabarabran) between 1992 and 1993) is ridiculous.

Any reported population growth rates over 20% seem biologically unlikely, however the summary above provides “estimates” which represent serious anomalies in the data set, which are discussed nowhere. **100% population growth rates – higher than can be achieved by feral goats and feral pigs – are biologically impossible.**

270%, 209% and 313% growth rates are patently absurd, yet these figures are not even questioned, much less discarded. Would the researchers think that all the kangaroos had twins perhaps, including the males?

Or are these data sets simply invalid? Why have these values never been examined?

Note that the 1992-1993 and 2000-2001 increases correspond with changes to survey methodologies. Given that the 1992-1993 methodology change typically doubled populations, and that the 2000-2001 change did not significantly or uniformly modify estimates, the post-2001 survey methodologies are presumed to include the same “corrections” as the intermediate survey methodologies, in comparison to the pre-1992 methodology.

Lundie-Jenkins et al (undated) discusses the importance of long term kangaroo monitoring programs: Repetition of surveys at regular intervals to standardised methods [are important] so that long term trends can be systematically and powerfully explored. But this has not occurred: despite 30 years of survey in NSW, long term trends cannot be “systematically and powerfully explored”, because contemporary surveys apply a “correction factor” to counted animals, and the value of applied “correction factors” (more recently termed “detection probabilities”), and the way correction factors are applied, has changed significantly since the time aerial counts were first conducted.

It is interesting that correction factors are so hard to find. The DEC (2008) “population monitoring report”, despite being the paper that supposedly tells the public all about the kangaroo survey methodology, does not have a handy table showing how correction factors have varied over the years, perhaps because they have uniformly varied **upward**, and this may be a bit embarrassing for the department, when kangaroo numbers in NSW continue to trend **downwards** (see below).

Interestingly also with regard to correction factors, from the QLD EPA:

The EPA does not employ correction factors to its aerial surveys for eastern grey kangaroos and common wallaroos as comparisons of ground surveys and aerial surveys concluded that surveys using the helicopter line-transect method were both accurate and precise in determining population densities for both species over a range of habitats, seasons and densities.

In addition to correction factor revisions, survey areas are constantly changing, with animals from new regions being added into the totals, and new species being added to the totals.

However for whatever reason the NSW OEH and UNE keep making up and refining their own methodologies, and coming up with new “correction factors” (CF in the Table below for “open”, “intermediate” and “wooded” environments). Currently different correction factors are being applied to different species in each broad habitat type (the author’s understanding is that these are based on bioregional factors) in each harvest management zone being surveyed, and temperature has been identified as another factor influencing kangaroo detection.

This combination of circumstances has seen a dramatic increase in kangaroo numbers reported between 1989 and 2002, when kangaroo populations (as reported) apparently peaked – it’s nice to know that *according to the OEH*, after 200 years of European settlement, kangaroo populations continued to rise into the next millennium.

We simply cannot graph kangaroo population totals, because of changed correction factors, and additional areas (and additional kangaroos) being constantly added to population totals, as new harvest zones come on-line. It is not only these factors that make it hard to graph kangaroos however – it is the fact that each survey area is divided into unknown proportions of various habitat types based on biophysical attributes (and therefore CF factors are applied variably across each KMZ). None of the raw data is provided in publicly available reports on kangaroo monitoring (apart from the Cairns reports for the Northern Tablelands (2007) and the Hunter & Central Tablelands (2009) and it is therefore impossible to replicate survey methodologies, it is impossible to re-analyse or re-interpret the data, and it is impossible to critique the methodologies and analyses performed by the various researchers. This goes against everything that science is supposed to be about. Nonetheless even this atrocious data set provides very ominous signs. Total NSW kangaroos (within the harvest zones) have halved, according to DECCW, between 2001 and 2010, while the data includes additional totals from the new South-east NSW (in 2004) and Central Tablelands (in 2009) kangaroo harvest zones.

Trajectories

There have been reported “increases in abundance” of kangaroos (Newsome 1965 and Caughly et al 1980); various authors other than these have attempted to explain why this may have occurred (such as James et al 1998), putting forward theories such as “lack of dingos”, “no Aboriginal hunting”, “improved water” or “more grasslands”. However if you look at the data, the only trends being shown are downward. It’s a bit of a catchcry by the researchers, that you can’t graph long term kangaroo populations because of varying survey methodologies over the years. However you can graph populations in each of the harvest zones, which provides at least standardised survey areas.

**NUMBER OF KANGAROO SHOOTERS IN 2014 FOUND IN STATE REPORTS-
NO STATS ARE AVAILABLE FOR 2015 AND 2016**

It is estimated that there are 6,449 licensed harvesters across NSW, QLD, SA, VIC & WA.

Breakdown :

NSW 3,046 licences held
WA 1,076
QLD 1,064
SA est 863
VIC est 400
NATIONAL TOTAL: 6,449

Females taken in the harvest in 2014 were as follows :

WA The only reference made is that Red females only achieve 41% of her reproductive potential. No other data is available.

SA Reds 3,686 average carcass weight 17.3kg – 17.9kg **22% of quota**
 Eastern greys 4,478 average carcass weight 15.9kg – 17.8kg **20% of quota**
 Euros 86 average carcass weight 14.8kg – 17.7kg **15% of quota**

SA Variances between Harvester and Processor are of major concern. Their report states there are only 449 carcass variances, however the following statistics have been found in the SA annual report:

	Overall Quota	Harvester	Processor	% of Quota harvested
Reds:	323,800 (280,900)	70,928	70,816 (76,788)	22 (27)%
Western greys:	145,000 (111,000)	28,646	28,437 (28,205)	20 (25)%
Euros:	59,500 (60,500)	8,750	8,628 (6,864)	14 (11)%

The variance of the figures above indicate that the difference in numbers are:

Reds: 5,860
Western greys: 441
Euros: 1,886

TOTAL 8,187 Kangaroo variance.

The Harvester count against the Processor count cannot be this far out unless there are serious problems with accounting for tags, or else there have been a lot of rejections at the processor plant from harvest take. However if this was the case, the processor would inform the Department, as this is money they are losing in not being able to use the product. **Queries have been made to the SA Dept and are pending.**

Tamar wallabies: 7,855 are also killed under DMP (*damage mitigation permits*),
Eastern greys: an additional 1,065.

* **The department have further reduced kangaroo numbers in SA within their reserves by taking 641 Eastern greys and 20 Euros.**

886 Damage Mitigation Permits were issued, permitting an additional 33,852 kangaroos & wallabies which were killed on top of the Commercial Harvest.

QLD Females taken

Reds: 13,599 4.9% of quota harvested
Eastern greys: 21,184 3.7% of quota harvested
Wallaroos: 2 01% of quota harvested
TOTAL: **34,785** 3.3% overall

5.9% harvest was skins.

Central QLD: 994,610
Eastern QLD: 43,223
Western QLD: 6,665
TOTAL: **1,044,498**

The overall quota for 2014 was originally calculated to kill 5,011,300 kangaroos, however, as seen in previous years, the quota has not been able to be met, with only 1,044,498 being available to take. This seems to reflect the reduction in number of macropods, even though the Government continues to maintain the reduced numbers is because of market downturns.

NSW Females taken

Average weight was **18.1 kg** with smallest taken was **16.2 kg**

Eastern greys: 18.2 kg smallest 17.4 kg

Reds: 18 kg smallest 17.4 kg

Western greys: 18 kg smallest 17.6

Wallaroos breakdown

Armidale 18.8 kg

Glen Innes 22.1 kg

Females taken in NSW 2014

Species	% quota taken	No of animals	Quota	Harvest
Eastern greys:	10.4%	18,448	1,334,443	177,393
Reds:	6.7%	10,016	761,699	149,502
Wallaroos:				
Armidale	.7%	12	6,771	654
Glen Innes	.4%	17	4,246	1,713
Western greys:	9.3%	2,108	277,158	22,675

Damage Mitigation Permits took out another **89,830 Kangaroos** which equals 3.8% of the commercial harvest quota. NSW Report states that these figures are not always reliable as returns of animals killed **are not always submitted back to the Dept. for verification.**

VIC

No report is provided, as shooting for the pet food 2 year trial was due to finish on 31.3.16. However, the second 2 year period has been extended *before* the figures of first 2 year trial have been provided.

The public should question as to why this has been allowed to occur.

Infringements, Warnings, Cautions, Expiations on licences across Commercial Harvest zones in 2014.

In **Qld** only 1% of Harvesters' licences are required to be checked & 10% of Dealers' Licences. In some states a flat 10% of licences are checked across the board, with no separation between harvesters & dealers under the relevant Acts.

NSW 64 non-compliances reported from 298 licences checked. There are 3046 harvesters in NSW. This means **21.5%** of shooters checked were in breach of the Code of Practice. **(1/5 licensed operators)**

SA 25 offences on non-compliances from 29 chillers checked. There are 63 chillers operating. This means that **86.2%** of dealers checked were in breach of the Code of Practice. There is no evidence provided of what number of harvesters (shooters) were checked. **SA** also found 7 carcasses that had 'neck' shots found in skins checked. It is reported that **9.7%** of samples checked were 'NECK' shots.

QLD Of 136 compliance measures enforced, there were 92 offences actioned. 89 harvesters and 3 dealers committed offences. **89 harvesters out of 1,046 were checked equalling 8.51% and 3 dealers of 96 equalling 3.13% breaches.**

WA The last reported information for WA is 2008, where there were 1076 shooters, 621 dealers, 65 Processors. 1838 inspections were carried out averaging 5.6/day. No other information is available, other than their 2013-14 Kangaroo management plan, which has no data available.

VIC No statistics available.

OVERVIEW:

In spite of the training and courses required by harvesters and processors to operate in this industry, there still continues to be a high number of non compliances being committed. Some of these offences relate to animal welfare issues in each state.

MYTH:
**KANGAROO NUMBERS IN VICTORIA ARE SUSTAINABLE
FOR THE PET FOOD INDUSTRY**

REALITY:

On Monday, 8 February 2016 The Weekly Times reported the Minister for Climate Change and Water, Lisa Neville, announced a two year extension to the pet food trials in Victoria. Ms Neville said the trial — *currently only in western Victoria,— would be extended to other parts of the state.* She added, *“While kangaroos are a critical part of our environment, Victoria has a strong regulatory system to control kangaroos where they are damaging pasture, crops or other property or impacting on biodiversity.”*

FALSE STATEMENT: Her statement that the trials are **only conducted in western Victoria is incorrect;**

CORRECTION: the trials have been conducted in 12 local government areas in North East and Western Victoria, where there are the highest numbers of applications to control of kangaroos.

Local Government Authorities (LGAs) in North East Victoria: Mitchell, Murrindindi, Mansfield, Strathbogie, Benalla and Wangaratta.

LGAs in Western Victoria: Southern Grampians, Ararat, Pyrenees, Horsham, Northern Grampians and Yarriambiack. <http://www.depi.vic.gov.au/environment-and-wildlife/wildlife/problems-with-wildlife/kangaroo-trial>

INFORMATION OMITTED:

- 1) Which other parts of Victoria are selected to use the carcasses of Kangaroos shot under an ATCW permit for pet food?
- 2) How many Kangaroos are there in Victoria?
- 3) What proof is there that Kangaroos are damaging pasture?
- 4) What proof is there that Kangaroos are damaging crops?
- 5) What proof is there that Kangaroos are impacting on biodiversity?
- 6) What proof is there that Kangaroos are damaging property?
- 7) **Why has the decision to extend these trials been taken before they have concluded on 31 March 2016?**
- 8) What is meant when using the term ‘biodiversity’ in relation to Kangaroos having an impact on it?

Thursday, 10 March 2016 a report in THE AGE by Jason Dowling reported that the number of Eastern Grey Kangaroos in Victoria has more than doubled in the last two years.

A spokesperson for the Dept of Environment, Land, Water and Planning (DELWP) commented that *“the trial does not aim to **increase** the number of kangaroos controlled, and does not change the requirement for a landholder applying for a permit to first demonstrate that kangaroos are causing damage to their property”*

He went on to say *“kangaroo numbers vary depending on food availability and seasonal conditions”* AND *“Decisions around wildlife management for common species like kangaroos are made at a regional level and are based around local knowledge of the wildlife populations, and site inspections to assess if wildlife is damaging crops, buildings, infrastructure, the natural environment, or threatening human safety,”*

FALSE STATEMENT: *“the trial does not aim to **increase** the number of kangaroos controlled, and does not change the requirement for a landholder applying for a permit to first demonstrate that kangaroos are causing damage to their property”.*

RESPONSE: When has DELWP ever asked for proof of damage done by Kangaroos?

QUESTIONABLE STATEMENT: *“wildlife populations are based on ‘local knowledge”.*

CORRECTION: DELWP has absolutely no idea of how many Kangaroos there are in Victoria.

QUESTIONABLE STATEMENT: *“the pattern of increasing permits for the control of kangaroos in Victoria over the past few years was consistent with the broader fluctuations of kangaroo numbers in other states”.*

RESPONSE: What have the Kangaroo numbers in other states got to do with Victoria? Do long term plans involve Victoria to become part of the commercial industry?

Kangaroo Pet Food Overview from DPI web site

FALSE STATEMENT: Appropriate non-lethal wildlife management options **must be attempted** before DELWP will issue an ATCW (*authority to control wildlife*) for lethal control.

CORRECTION: There is no system within DELWP that confirms that all or any non-lethal controls have been attempted by the applicant. Applicants merely enters what they want, or leave the question blank.

FALSE STATEMENT: Issued on a case by case basis, ATCWs for lethal control are issued for a specified period and for a maximum number of kangaroos. Kangaroos must be destroyed by shooting only, in accordance with strict conditions of the ATCW, to ensure animals are destroyed in a humane manner.

CORRECTION: The phrase 'case by case basis' leads the reader to presume that every application is thoroughly investigated. This however is misleading, as some cases are assessed by what DELWP call 'prior knowledge' based either on the Officer involved knows the property, or a permit has been previously granted. There is no certainty about this assessment.

FALSE STATEMENT: DELWP issues 850 to 2,200 ATCWs for the lethal control of 30,000 to 70,000 kangaroos annually. The vast majority of kangaroo carcasses are buried or left onsite to decompose.

CORRECTION: In 2014 DELWP issued 1,629 permits to kill 74,663 Eastern and Western Grey Kangaroos. From January to May 2015, 809 permits were issued and 41,867 Eastern and Western Grey Kangaroos were killed. The figures from the above DELWP Overview states that 30, 000 to 70, 000 Kangaroos are killed annually with the average being 50,000. The figures from January 2015 until May 2015 total 811 permits issued and 42,197 Eastern and Western Grey Kangaroos including 2 permits for Red Kangaroos, 330 killed.

RESPONSE: It is blatantly obvious that the number of Kangaroos being killed under permit has **increased since the inception of the 'Pet Food Trials'** and the question needs to be asked, 'Is this a deliberate increase by DELWP of permits and number of Kangaroos killed, to justify the Pet Food Trial? Is the long term plan to have the whole of Victoria sending Kangaroo carcasses to the processors? Prior to the notion of *using* the Kangaroo carcasses, the average number of Kangaroos killed under permit numbered around 30,000 it was only when the idea of the trials was being touted that **the annual number increased from 30,000 to 70,000.**

Wildlife Management from the DPI web site

Before DSE and DPI became DELWP their web sites contained information about ATCW's it was called 'Managing Wildlife in Victoria Fact Sheet 1'. This fact sheet was far more open and informative than what appears on the web site today, but the same questions which were raised with Fact Sheet 1 remain unanswered. There is no system in place where landholders are required to validate their use of non-lethal techniques. In most cases, as DSE officer inspects the property to determine that validity of the application.

RESPONSE: In most cases, this does not occur because by their own admission, DSE (DELWP) do not have sufficient wildlife officers to carry out inspections, to validate the claim being made by the applicant. When on very rare occasions an officer does go to the property, there is no requirements by DSE that numbers of animals sighted be confirmed by any means, other than the officer making rough estimates on a piece of paper. Evidence of this has been obtained through Freedom Of Information (FOI). Why is this vital piece of evidence which is central to the whole issue of ATCW's, not validated by a video film or photography?

- This bizarre oversight in the case of macropods is compounded when the inspecting officer completes a count (which is a head count-not a scientific transect line count), then doubles the sighted number of kangaroos, on the unfounded basis that other macropods are hidden in woodland or vegetation.

How is animal welfare assured?

All authorities include strict conditions to ensure animals are controlled in a humane manner. An ATCW does not confer any right to use poison, and does not absolve the holder of any legal obligation under other legislation, including the Prevention of Cruelty to Animals Act 1986.

RESPONSE: The DSE or DELWP cannot ensure animals are controlled in a humane manner when there are no systems in place for: shooting of animals, for finding animals that have escaped although injured, for validating records of the number of animals killed, and no system in place that ensures that joeys in pouch or at foot are humanely killed. **There is no 'Prevention of Cruelty to Animals' code embedded in ATWC permits.**

OVERVIEW



AUSTRALIA IS THE LAND FOR EXTINCTIONS:

Of an original 60 plus species of kangaroos, 29 are now threatened and 11 extinct, since colonial settlement in this country.

Australia has the worst record of extinctions of any country, having exterminated 40% of its wildlife in just 220 years.

The commercial killing of kangaroos is the largest land-based wildlife slaughter on earth and continues despite falling numbers, with populations dropping to below quasi-extinction levels of less than 5 per square kilometre over large areas. <http://www.stopkangarookilling.org>

Australia also kills more unweaned young than any other country.

Calculated on a ten year period an average of **three million adult kangaroos are killed each year** in the rangelands, which constitutes nearly three quarters of the Australian continent, for pet meat, meat for human consumption and hides (Altman).

An estimated **one million joeys** are killed annually as a by-product of the industry, since they must also be killed alongside their mothers in accordance with the national code of practice for the industry (Hacker et al.).

The industry targets the largest animals, decimating the number of the biggest and strongest kangaroos who need to be the breeding stock for strong, healthy populations. This has to affect the gene pool. Killing such a high proportion of females can lead to population declines according to a population model published in Kangaroo Keepers edited by H J Lavery.

Combined with threats from climate change impacts, serious consequences could be the outcome of survival for kangaroos, in particular Red and Grey kangaroos and the Common Wallaroos.

In QLD, the Western grey has already been shot out, and is now forgotten; and has dropped off the radar. There are no monitoring or data reports available as to whether the Western grey has become extinct already in QLD, and if not, whether it has recovered at all from excessive shooting. Inquiries to EHP (Environment and Heritage Protection) about the Western grey kangaroo has been ignored completely, with no response ever coming to hand to date in 2016.

Not only are kangaroo numbers decimated by the Kangaroo Industry, massive mortality rates of macropods have been found dead after floods in 1961, 1986-87, 1990, 1997, 1998, 1999 and 2002. The 2010 floods were even more wide spread, throughout all of the Australian eastern states. Kangaroo numbers have been reduced from 57,430,026 in 2001 to 25,158,026 in 2010 because of the kangaroo industry.

For the first time since the kangaroo industry began operating in Australia 50 years ago, a damning government study has exposed inherent, widespread cruelty within the kangaroo meat and skins industry, confirming concerns that orphaned baby kangaroos are suffering severe mental and physical trauma at the hands of the kangaroo industry. The government research report titled **“Improving the humaneness of commercial kangaroo harvesting”**, was commissioned by the government's Rural Industries Research Development Corporation and published in 2014, 30 years after the RSPCA first discovered systemic cruelty to joeys within the commercial kangaroo industry. This alarming report revealed that professional shooters for the kangaroo meat and skins industry are routinely killing pouch young using practices that breach their code of practice, leading to prolonged pain and suffering for the orphaned joeys. It reveals that 99% of dependent at-foot orphans are abandoned by professional shooters, leaving thousands of baby kangaroos to die every year from starvation, stress and predation. The research also confirms that dependent at-foot young who become separated from their mother, suffer severely, mentally and physically, as a result of losing their mother. However the Australian government has shelved this controversial report, have never referred to it, and appear to be deliberately keeping its findings a secret from the public, while continuing to promote the kangaroo meat and skins industry as ethical and humane, and ignoring their own scientist's recommendations in the report that **“Not telling the public about the welfare impacts of commercial kangaroo harvesting should no longer be an option”** (McLeod & Sharp, 2014) <https://rirdc.infoservices.com.au/items/13-116>

Charles Darwin was right about one thing :

“It may be long before these animals are altogether exterminated, but their doom is fixed”