

Submission
No 341

**INQUIRY INTO HEALTH AND WELLBEING OF
KANGAROOS AND OTHER MACROPODS IN NEW SOUTH
WALES**

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SUBMISSION RE KANGAROO ENQUIRY
(Mark Pearson Chair) NSW PARLIAMENT APRIL 2021

Aren't kangaroos a pest?

Claims that there are more kangaroos today than before Captain Cook Landed are erroneous. The records of early explorers and the journals of Captain Cook himself show that kangaroos existed in vast numbers before the First Fleet arrived without adverse effects on the land or vegetation.

What we are now seeing (especially over the past 20 years) is that populations are seriously declining. In 2003 kangaroo numbers crashed by 50-75%. Still no reprieve was afforded to the kangaroo species by OUR species. In 1993 kangaroo populations in the Lower Darling were estimated at over 1 million. In 2005 that population estimate was only 100,876. **That's a 90% drop.** However, in 2005 the quota set by National Parks and Wildlife Service was 45,970. In other words 41% of the population. This is **NOT** ecologically sound or even "sustainable" or credible wildlife management.

In 2001 populations were estimated at 57 million by 2010 estimates were at only 25 million.

In the Southern Tablelands of NSW (a once non commercial zone due to low levels of kangaroos) THIS REGION WAS OPENED TO THE COMMERCIAL INDUSTRY 20 yrs ago, as the industry was searching for more quotas & thus more kangaroos to kill. One has to ask the obvious question, why did the commercial industry insist on more regions to be opened up if plenty of kangaroos existed in the rest of the state (most of NSW) already guaranteed to the industry ?

In NSW 2018 quota of 2.25 million with a SPECIAL quota (additional) of 216,469 which was just preceding the record breaking drought. However, in 2019 1.83 mill plus a SPECIAL quota of 185,928 was allocated during the worst drought in living memory , as quotas are set "prospectively" there was NO accounting for the unprecedented bushfires that began in 2019.

Also management plans once were set each year (many decades ago) but this went to a 4 yearly MProgram which evades regular scrutiny & public input. When I was a member of the NSW Kangaroo Advisory Committee for over 10yrs , the 3 conservationist on this committee fought hard against these deleterious changes but we were out voted consistently. Additionally, due to escalating

pressure from the Shooters Assoc they were admitted onto the committee, which previously they were exempt from for obvious reasons.

No native species can ever be scientifically classified as 'a pest' . The problem arises with introduced animals & burgeoning livestock numbers that have degraded & denuded once natural 'pastures' and ecosystems. The elephant is in the room, governments & vested interests have refused to acknowledge the elephant.

THESE ACTUAL TAKE (kill figures) as of 30 Sept 2018 NSW highlights some worrying concerns EXONERATING OUR FEARS.

Eastern Grey Kangaroos Zone 1 Tiboobura quota 21,041 Kill 410 E Grey Zone 2 Broken Hill quota 27,410 kill 4600

EGrey Zone 10 Coonabarabran quota 127,061 kill 65,000 EGrey Zone 16 Sth East NSW quota 192,645 kill 6,600

Red Kangaroos Zone 1 Tibooburra quota 193,040 kill 15,800

Red Kangaroos Zone 6 Cobar quota 39,014 kill 3,800

Western Greys Zone 6 Cobar quota 10,742 kill 2,500

Sth East NSW Zone 16 was surveyed under 2000 kms to cover a region of 41,211 (km²)

Looking over dozens & dozens of quotas & kill figures, no where was there a 100% quota taken over several years . I find it hard to believe that shooters simply woke up one morning & found enlightenment, deciding not to kill their maximum quota limits. Maybe they had an epiphany ?

Kangaroos prefer different vegetation to sheep and cattle.

In fact, research substantiates that sheep greatly impact “DELETERIOUSLY” on kangaroos. Further research by the University of NSW and the CSIRO has shown that the impact of kangaroos on agriculture overall is negligible, though at times there is a buildup of numbers in some areas in good seasons. However, pasture biomass (vegetation) has to drop below 500 kg/ha before most competition occurs. Essentially below this level there is no vegetation for any herbivore to eat. It is simply a dustbowl. Sheep eat what 2.5 kangaroos eat on average. Their grazing pressure is a low as 0.4 DSE (DRY SHEEP EQUIVALENT).

The degradation of our agricultural lands has been caused by over 200 years of abuse and mismanagement. Our native wildlife can not be blamed for salinity problems, overgrazing, deforestation, our current water crisis or global warming.

As well as being killed by commercial shooters, kangaroos are also culled by farmers because they are considered to be a crop pest and said to compete with livestock for water and food resources (which are usually artificially installed for livestock support). However, studies have demonstrated that kangaroos access less than 5% of crops and mostly those that are close to forest edges.⁶ While this could still be considered problematic from a farmer's perspective, crops that are located 400 metres away from a forest edge are not visited at all.⁷

Studies looking at resource competition between livestock and kangaroos could only identify some evidence of it in extreme times of droughts. Red kangaroos even avoid areas that are inhabited by sheep. Indeed, kangaroo distribution is primarily dependent on good quality habitat (for grazing and resting), rather than artificial water points (around which vegetation regeneration is often poor due to the impact of livestock).⁸

41. 43 Dror Ben-Ami (2009). A Shot in the Dark - A Report on Kangaroo Harvesting. PP 10-13. Available at: <https://bit.ly/2F1RzOd>

kangaroo killing good for the environment?

No quite the opposite.

The kill is often justified on the grounds that kangaroos can replace hard-hoofed sheep and cattle; yet farmers show no signs of shifting away from sheep and cattle. Kangaroos are slow to grow, don't reproduce in drought and produce little edible meat. In times of drought populations plummet and 70% of joeys die during drought within the first year of life. The concept that kangaroo meat can replace beef and lamb is simply unrealistic. Farmers' organisations have already stated that they will only supplement their current stock NOT SUBSTITUTE kangaroos for sheep or cattle. Remember kangaroos don't grow wool. Kangaroos are also NOT FARMED and can't be penned, corralled or herded. Under current

practices to replace one sheep (for human consumption) some 22 adult kangaroos need to be killed for prime cut meat.

For every Australian (approx 25 million people) to eat 1 portion (0.25 Kg) of kangaroo meat per week at an average 12Kg kangaroo, over 437,500 kangaroos would need to be shot per week, or just over 22 million per year and that's WITHOUT EXPORTS. Assuming a 15% average take you would need around 151 million kangaroos to support this "offtake". ***This is about 5.6 times the 30 year average of 27 million kangaroos.***

Kangaroos have been in Australia for millions of years and are vital seed dispersers for native grasses. They fulfill a special ecological niche and their

boom and bust populations can not withstand insatiable commercial pressure, accompanied with massive habitat loss, impact of feral animals, vehicle collisions & global warming.

Is there evidence of historical danger to the species?

Yes

The biggest and strongest of the male kangaroos are the prime target. Kill enough of these and the species is weakened. Even members of the kangaroo industry are worried. At a meeting in South Australia, one shooter said: "There are not enough big 'roos left - just this garbage stuff - to see a big 'roo is a rarity" unquote. The average age of a Big Red kangaroo is now just two years of age. Their natural lifespan is 20 to 25 years. Yet the Government turns a blind eye to these concerns. More females are being shot allegedly, which means the industry is running out of big males. In previous years the male shooting bias was around 85%. As kangaroos are polygamous this poses serious concerns for the future viability of the species. The number of females in the population is a **critical factor to survival**, NOT the number of males. When governments favour industry demands over ecological concerns all of our wildlife is seriously threatened. Historically quotas have been escalating BUT populations are NOT escalating.

Although kangaroos have three joeys at a time, which makes it seem like their population can 'explode', the facts are that only one of those will mature to independence every 12 months. It takes 2-3 years for them to reach sexual maturity. In good times, there is a 75% mortality rate, so only 1 in 4 will even survive to adulthood in perfect conditions. (In drought conditions there is a 100% mortality rate). In a female's 8 years of breeding, only 2 joeys will survive to rebreed, if all goes well. However, if she dies, 3 possible generations die with her. It has been scientifically proven that, in reality, a 14% quota results in a 40% population decline due to joeys being killed, and they are not accounted for in the kill figures. Kill quotas are rarely met - not for lack of shooters trying, but the numbers are simply not there. In 20 years, carcass sizes have dropped from 40 kg to as low as 12 kg now. The kangaroos being shot are either not even adults or the gene pool has been seriously depleted if these are current adult sizes. In other words many are not even reaching sexual maturity to be able to breed .

With such high quotas and such low kill figures something is seriously wrong within Kangaroo populations.

CONSIDER THESE STATISTICS (NPWS).....

EASTERN GREY KANGAROOS

2010 Sth East NSW quota 98000 kill 43000

Central Tablelands Nth quota 64000 kill 20000 Central Tableland Sth quota 80000 kill 15000

2011 Sth East NSW quota 98000 kill 4000 Central tablelands Nth quota 64000 kill 6000
Central tablelands STh quota 80000 kill 7000 Upper Hunter quota 25000 kill 3000

Isn't the killing humane?

No.

The RSPCA publication entitled "Incidence of Cruelty to Kangaroos Report" showed that 5% to 15% of kangaroos are not killed outright. Many die a slow and painful death. When mothers are shot, joeys are ripped from their mother's pouch and bludgeoned to death, stomped underfoot & decapitated. The at foot joeys flee into the bush to die from starvation and predation. In fact the Govts "Humane Code of Conduct" for killing joeys demands that they be bludgeoned to death with a wheel brace/crushed under foot/ decapitated & generally bashed to death. THINK ABOUT THE MINDSET THAT THIS LEVEL OF CRUELTY DEMANDS.

SHOOTERS MUST BE COMFORTABLY NUMB in order to destroy a small helpless creature (after you have shot their mother) requires a huge amount of denial & total insensitivity.

When you consider that this is a **luxury industry**, the deaths of millions of joeys is totally unnecessary. No one needs kangaroo leather.

Remember **demand dictates** the kill. Markets are determining how many kangaroos are shot which has no relation to damage mitigation killing deemed necessary by some landholders. This is why the commercial industry does not permit the filming of the killing of in pouch joeys. Such brutal scenes have never been witnessed on national TV. The commercial industry fears that the Australian public will one day realise and witness what actually happens to these defenseless joeys. Wildlife carers are over worked attempting to care for joeys & adult kangaroos that have been left to die an agonizing death. During drought /floods & increasing global warming, these demands are simply rising each week. You can see online how many wildlife carers are suffering immense emotional stress & physical exhaustion, which we now recognize as PTSD. Meanwhile, our heartless & vote obsessed Govt ignores these passionate and dedicated individuals, preferring to fund and promote a brutal / unsustainable & insatiable

commercial industry.

How many are being killed?

The quota for 2010 was 4.23million and since 1990 quotas have been around 4 to 6 million annually. **Consider that the quota in 1973 was only 213,000.**

The government views all of our wildlife as a "renewable resource" simply a commodity. Proof of damage competition has NOT been necessary for over 20 years. The general public knows nothing of this and is rarely consulted or supplied with the truth. The Governments once accepted 'policy' of damage mitigation has long since been abandoned & our national icon is merely relegated as a resource, just like wheat or corn. Please refer to the quotas & kill figures given above. During severe droughts in NSW the Premier scrapped record keeping for non commercial/recreational shooters. This was a time when record collection would have been

most necessary to establish what was the “real’ kill totals during bushfires following the drought? This we will never know.

Climatic conditions have been so severe that a recent article in the “Stock Journal” 18th Jan 2021 stated that some areas around Marla/ Oodnadatta may be suspended due to heavy losses of kangaroos. However, state Govt agencies has said (promised) ‘other areas’ may be available & that landholders could still shoot without a commercial license. This is an ongoing dilemma as macropod numbers decline, pressure from vested interests demand ‘other areas’ to be available for shooting.

Worryingly, as of Jan 2020 in Sth Australia the government has permitted a commercial harvest on Kangaroo Island which is totally unnecessary & bloody minded. Since the worst bushfire in living memory kangaroo populations have declined by over 40% , when traditionally there hasn’t been a commercial industry in this small island. I have been to this island several years ago & there were few wallabies that we witnessed, except to say many dead by the side of the road . The situation now must be horrendous for those few that have survived with little food to eat & now a Govt sanctioned commercial industry in pursuit.

Who gains from the killing?

Not Australians.nor should they.

As the wild places of the world are increasingly destroyed, people are seeking genuine wildlife experiences - something we could give them through our unique and magnificent wildlife. The majority of tourists visit Australia to embrace the beauty of our wildlife, they don’t want to see dead carcasses from sunrise to sunset. The commercial industry creates a premature expanding graveyard for

kangaroos across Australia. The income revenue from Tourism greatly out weighs the money earned by the kangaroo industry cartel. Most profits going off shore to EU countries, Australia’s largest importer of kangaroo leather.

The commercial industry is an unnecessary luxury market that views kangaroos only in terms of dollars and cents. ALL the profit goes back to the commercial industry (a wealthy few) for minimal outlay. The Australian public still knows little (if anything) about how the commercial industry operates and therefore is uninformed about the reality. Tax payers are funding a private cartel of a few corporations & the Australian public is largely unaware of this. The commercial industry is also given government subsidies and grants totaling hundreds of thousands of dollars each year, in an increasing effort to enhance their profits. Our tax payers’ dollars should be going to genuine environmental organisations & animal welfare groups who work to preserve & protect our environment and it’s wildlife . Govts should be supporting & funding our unsung heroes who are wildlife carers AND receive little, if any government funding.

Our wildlife is NOT A COMMODITY to be traded to the highest bidder. It is our precious national heritage.

Our wildlife has a right to exist independently of our own demands and desires.

The average age of big reds shot is now just two years of age. They can live up to 25yrs if ‘allowed’ to. Over the past 35 yrs some 90 million kangaroos have been shot & all in the name of profit .As for our Government agencies this brutality is simply over looked as rural votes take precedence.

Isn’t kangaroo meat healthy.

It's certainly not healthy for the kangaroo species. Killing animals in the dust, dirt and flies can never meet standards of hygiene mandatory in an abattoir.

A recent Government report, *Australia's Preparedness for Emerging Wildlife Diseases*, states that wildlife disease is a threat to human health. There is little doubt that diseases can be contracted from eating kangaroo meat that has been shot and gutted in the dust and dirt of outback Australia. When people become ill from eating contaminated food, it is difficult to isolate exactly what food made them ill. You would need to be able to examine the original carcass consumed. Chillers are often unhygienic and out of public view. These facts have been revealed in recent years by an undercover exercise, overseen by an ex-shooter. Mobile chiller boxes were photographed and breaches recorded, in both NSW

and QLD.

There is NO Government agency over seeing their nightly hunts.

Kangaroo meat samples were tested from several supermarkets and most samples independently tested showed dangerous levels of e.coli and salmonella bacteria. This is the same reason why Russia banned the import of kangaroo meat for over 2 years. There is no sane or sensible reason to be eating our national symbol.

All the world's wildlife is currently already threatened and therefore potentially threatened or endangered. Australia has the worst record of mammalian extinctions on the planet. The kangaroo is part of the Australian landscape. After the Statue of Liberty, it is the second most recognisable national symbol in the world. Yet tonight and almost every night, four-wheel drives will criss-cross the fragile soil of our rangelands seeking out kangaroos.

KANGAROO MEAT TRADE AND ZOOZOSES

*Other sanitary concerns relate to zoonotic pathogens as 75% of emerging human pathogens originate in wildlife. As shown above, there is good evidence that high levels of contamination in kangaroo meat for human consumption are being hidden from consumers. Numerous epidemics that cause large scale death have been observed in wild kangaroos,⁴³ although kangaroo meat is not tested for many human-harming pathogens it could harbour. One demonstrated example is *Toxoplasma gondii*, which is a recognised long-term risk to human health.⁴⁴ The answer to a question posed at the Senate Community Affairs Committee indicates that kangaroo meat is not tested for this pathogen in Australia⁴⁵ and, in 2009, a study established a moderate presence of the pathogen among the wild western kangaroo population.⁴⁶*

There is no difference in the level of risk of a human pandemic whether the wildlife meat comes from a live market or is slaughtered far away from any scrutiny and then sold in a supermarket. The Covid-19 crisis reminds us that this risk should not be underestimated for any kind of wildlife meat consumption, and particularly in cases where hygiene standards are low, as for kangaroo meat.

Holdis, G., et al. (2008). Microbial profiles of carcasses and minced meat from kangaroos processed in South Australia. International Journal of Food Microbiology 123(1-2): 88- 92.

*Parameswarana, N., et al. (2009). Seroprevalence of *Toxoplasma gondii* in wild kangaroos using an ELISA. Parasitol International 58: 161-165.*

41. 41 EFSA (2011). Scientific Opinion on the evaluation of the safety and efficacy of lactic acid for the removal of microbial surface contamination of beef

carcasses, cuts and trimmings. Available at:
<https://www.efsa.europa.eu/en/efsajournal/pub/2317>

Shooters are NOT supervised at night and we can think of no other industry that is permitted to oversee itself ?

Retail stores that sell kangaroo meat and skins may be the richer for this, but Australia as a nation will be the poorer.

Sadly, Australian consumers are most often uninformed about the facts surrounding the industry and the suffering caused to animals simply to produce a gourmet taste sensation. Our irreplaceable wildlife deserves better.

In Australia, kangaroo meat is mostly used as pet food, only rarely is it intended for human consumption. In contrast with Europe, where MOST of kangaroo meat is exported, it is used both for pet food and for human consumption. In France, kangaroo meat has been offered in supermarkets as exotic and festive meat around Christmas time.³² Germany is home to many companies selling kangaroo products in one form or another. While Italy is more relevant in terms of trade in skins and leather, kangaroo meat may be found at wholesale traders and restaurants.

Kangaroo meat for direct human consumption however, leads to food safety and public health concerns. Such food safety concerns arise in particular in relation to the contamination with Salmonella and E. coli (and the routine treatment of meat with lactic or acetic acid to minimise the contamination), as well as to the use of lead bullets to hunt the animals.

SANITARY / HYGIENE ISSUES

The circumstances of the kangaroo hunt carry inherent risks of bacterial contamination of the meat. Kangaroos are butchered in the field, without supervision and by shooters that are usually not trained for such purposes. Carcasses are then transported, sometimes all night long, in unrefrigerated open trucks exposed to dust, flies and often high temperatures. Shooters usually hunt for an entire night before reaching a refrigerated facility as they need to kill around 50 animals per night to be profitable.

In 2015, an investigation led by the New South Wales Food Authority established numerous violations of the hygiene and safety rules that aim to prevent cross-contamination of kangaroo meat. These breaches included chillers contaminated with old blood, dirty floors, walls and ceilings, carcasses hung from rusty hooks, lack of water and cleaning facilities, inadequate thermometers, and live animals, such as cattle, being allowed to roam around the chiller alongside dead animals.³³ These circumstances foster the growth of bacteria such as Salmonella and E. coli. As such meat is not fit for human consumption, kangaroo meat is routinely washed with lactic or acetic acid to reduce and hide the systemic contamination.³⁴

Earlier tests on kangaroo meat for human consumption have shown high levels of Salmonella and E. coli (Holds et al. 2008).³⁵ Russia has on several occasions halted imports of kangaroo meat from Australia due to contamination with E. coli, with the last ban being put in place in 2014.³⁶ EU border controls on imported kangaroo meat have also flagged the meat as being contaminated with E. coli on 8 occasions since 2015, leading to the meat being withdrawn from the market and destroyed.³⁷ Field studies have shown kangaroos to harbour multiple Salmonella species and Toxoplasma gondii (Permaswan 2009).³⁸

Parameswaran et al. (2009). Seroprevalence of Toxoplasma gondii in wild kangaroos using an ELISA. Parasitol Int.; 58(2):

FURTHER MORE THE EURO GROUP FOR ANIMALS have thus run tests on kangaroo meat available in European supermarkets. Four countries – Belgium, Germany, the Netherlands and France – represent the bulk of EU kangaroo meat imports from Australia (98.3%) Details outlined above.

Belgium France Germany Netherlands
. 33 <https://bit.ly/2qeqOE5>

. 34 Kangroomatters (2018). An open letter about kangaroos. Available at:
<https://www.kangroomatters.org>

Between 9 to 30 samples were obtained from at least two different suppliers (such as supermarkets or frozen food delivery services) in each country. The samples were then tested by independent laboratories in each country for the presence of Salmonella, E. coli, lactic acid and in some cases acetic acid.

No Salmonella contamination was found in any of the samples. Some E. coli was detected in several samples in Germany and the Netherlands. In comparison, lactic acid was detected in all samples from all countries. Lactic acid can occur naturally in decaying bodies, either of bacterial origin or because it is added to decontaminate the meat. Naturally occurring levels of lactic acid in beef can range from 1.4-5g/kg.³⁹ The high levels found in kangaroo meat, ranging from 5.5- 9.5g/kg, are thus likely to stem from a routine treatment of the meat with lactic acid. One laboratory also remarked that it suspects an addition of lactic acid based on the findings.

41. 41 EFSA (2011). Scientific Opinion on the evaluation of the safety and efficacy of lactic acid for the removal of microbial surface contamination of beef carcasses, cuts and trimmings. Available at: <https://www.efsa.europa.eu/en/efsajournal/pub/2317>

RECENT REDUCTION OF LEGISLATIVE REGULATIONS & CONTROLS. Over the last 2 years we experienced the worst bush fires recorded (2019-2020) and this was after record droughts, yet incredibly the NSW Premier has decided to remove much of our previous regulations & conditions covering the kangaroo industry. Just when we thought things couldn't get worse for our long suffering macropods, an Open Season was granted to non commercial shooters & recreational shooters. This tragic situation was politicised, when in fact kangaroo populations were dramatically suffering due to a previous extended & severe drought prior to these unprecedented fires. During drought joey mortality (in pouch young) is 100% and adult mortality around 60%. NSW own Government report (2018) showed serious declines in Red & Grey kangaroos in 8 western plains shooting zones, which covered ¾ of NSW. Still the media reports 'plagues' of kangaroos which is not validated or even questioned within their reporting of this 'myth'. Within the western plains of NSW a total decline of -39.2% of kangaroos was demonstrated in the Govts own data. Kangaroo Management Committee minutes noted that the '**big increases' in the western plains from 2015 -2016** were from increased correction factors & methodology changes. **Inflated correction factors give a false impression of the 'true' populations of kangaroos.**

Stuart Cairns, adjunct lecturer at the University of New England, called the decline "quite severe".

"In Western NSW I think the numbers dropped by about 45 per cent initially," he said.

"At a site I use west of Broken Hill, numbers dropped from about 53 per square kilometre in 2016 to about four per square kilometre last year."

But he said the decline was "no worse" than after similarly tough periods in the early 1980s and 2000s.

"They probably went down a little more precipitously this time than they did in the Millennium drought," Dr Cairns said.

A spokesman for the NSW Department of Planning, Industry and Environment (DPIE), which conducted the annual aerial survey, said the decline could "largely be attributed" to the impact of the drought.

As grazing pressure by kangaroos is low approx 2-5% , we should be worried about the 95-98% of grazing livestock creating severe & escalating ecological impacts. Govt data has often recorded 200% or 400% or even 600% increases in kangaroo populations , which is biologically impossible. The commercial quota of 15-20% is higher than the maximum wild population growth in optimal conditions that is 10%. Agricultural departments & often environment agencies lump together feral animal (goats/livestock/rabbits etc) in their grazing pressure data , that includes kangaroos.

BELOW IS A STATEMENT from Peter Hylands who is a film maker & concerned citizen addressing many of the incidents he witnesses on a regular basis.

Australia's Landscapes of Fear

October 12, 2019

Peter Hylands reports from Australia, where the killing of kangaroos is commonplace and the population estimates and hunting permits just don't seem to match.

What I see the following morning makes me feel sick, in heart and stomach. The mother's head lies severed in the dust: blood and other liquids leak from her mouth and nose, her entrails smudged on the earth, her legs and fore-limbs docked and thrown to one side.

In this gruesome and cruel scene, I search for the joey. The beautiful animal is still alive; half its face is torn away. Its body stomped and broken. It looks like our little joey was wrenched from its mother's pouch, and its head smashed against a fence post.

Then the joey was thrown into a bush.

As my tears spill onto the little joey, she dies. In the journey to death last night, there would have been hours of agony for this tiny animal. Its joy of life so evident a few hours ago, cut short by a vicious and cruel attack.

What I describe here occurs across the Australian Continent. It occurs every night and over and over again to thousands of these animals across a whole range of species. This callous and immensely cruel behaviour is promoted and supported by Australia's Federal and State Governments who claim the slaughter is humane, sustainable, necessary, and good for the environment. None of these things are remotely true.

Welcome to Australia's landscapes of fear.

The Killing of Kangaroos

The endless negative propaganda coming from both politicians and their public servants across a whole range of species includes claims that species were once rare and are now suddenly abundant and exploding in population because of European settlement, and the changed landscape. That is, populations of animals supposedly explode, even though they are being shot en masse, though the forests that they once lived in are cleared, waterways are damaged, fire regimes are changed and the numerous introduced species now either replacing them or predated them, and on the list goes.

Kangaroos and Koalas are among the many to supposedly benefit from our largesse. Recent history tells a rather different story in its numerous extinctions: not surprisingly, Australia leads the world in biodiversity loss and the extinction of mammal species.

One serious threat to Kangaroo populations is the toxicity of invasive species of plants. A careful inspection of the ground almost anywhere you can imagine on the continent will reveal a plant species that should not be there.

Australia's state governments promote the 'commercial harvesting' of Kangaroos. The animals are killed for pet food, some human consumption, and their skins. This is not the only way these beautiful animals are decimated. Shockingly, as injured Kangaroos lie helpless on roadsides. Body parts are taken while they are still alive: upper limbs and scrotums.

Following scandals and disasters in the 1980s, and not able to learn the lessons from the past, the State of Victoria has recently reintroduced the commercial trade in wildlife for three species of Kangaroo, the Eastern Grey, the Western Grey, and the Red Kangaroo. In the other states of Australia, the slaughter of Kangaroos is at a much larger scale than Victoria.

It is even more extraordinary that the Victorian Government continues to claim that wildlife is protected. I can tell you that this is not the case.

How scandalous the use of data to justify the

slaughter is, can be demonstrated by the circumstances for the Red Kangaroo in Victoria.

When challenged, the government has not answered any of my detailed questions regarding the matters I describe here, beyond the general spin that says everything is just fine, please go away.

Maths can be wonderful and complex. Kangaroo maths are the most puzzling of all. Here is a Kangaroo puzzle from the Victorian Government in Australia.

The Red Kangaroo is one of many species of macropods. Just so you understand the plight of these awesome animals, seven species of macropod are extinct (lost and gone forever), six more species are critically endangered, 10 more are endangered and a further 23 species are threatened or vulnerable (in their range of Australia and Papua New Guinea – most are in Australia).

In 2000 Victorian Government figures showed that the population of Red Kangaroos in Victoria was at around 6,000. That was a sensible number given what had been done to them (which was mostly very nasty). In 2017 amidst claims of exploding populations of Kangaroos, the Victorian Government conducted a primarily aerial survey of species of Kangaroo that they wanted to turn into pet food. This included the Red Kangaroo.

Stop for a moment and let's recap a bit, in the 10 years between 2009 and 2018 the Victorian Government issued permits to kill 49,141 Red Kangaroos in the State. That is more than eight times their year 2000 population estimate. In 2010 the Victorian

Government issued permits to kill a modest 15 Red Kangaroos, in 2017 they issued permits to kill a whopping 15,187 Red Kangaroos in that year.

Back to the 2017 survey, well, they appear to have counted 23 Red Kangaroos (at vast expense), and this was then turned into a population estimate of 13,000 for that year. Having found very few Kangaroos at all in 2017, so desperate were the Victorian Government to turn Kangaroos into pet food, they had another go at a survey, this time they came up with a Red Kangaroo population of 44,000. They won't tell me how many they counted (I have asked many times).

The numbers become even more puzzling when we include young Red Kangaroos (joeys), who are killed by whacking them over the head with a bit of iron (if they are lucky). Young Kangaroos are not counted in the massacre. So let's say the permits the Victorian Government issued would be responsible for an additional 22,113 Red Kangaroos being massacred over the ten years described.

So all up, from a population estimate of 6,000 Red Kangaroos in the year 2000, permits were issued covering 71,254 Red Kangaroos, including young. Add another, say, 6,000 Red Kangaroos for the permits issued in the years 2000 to 2008 plus young at 2,700. Thus, the

estimated permits issued to kill Red Kangaroos in the period since 2000 cover 79,954 animals. This killing, of course, also takes out the next breeding generation, as the Victorian Government requires that all dependent young must be killed by blunt force. In 2018, we still end up with a Victorian Government population estimate of 44,000. This means there are still plenty more to kill.

Overkill

Since the year 2000, the Victorian Government has issued permits to kill Red Kangaroos that cover an estimated 13.3 times their year 2000 population estimate. Where are all these Red Kangaroos in Victoria coming from?

The answer is they are not coming at all.

Update: On Saturday, October 12, Victoria's Minister for the Environment, Lily D'Ambrosio, confirmed that the Red Kangaroo has been removed from the harvest list and is now safe in Victoria from the pet food trade. The animal remains on the harvest species list in all other Australian states and territories where it exists.

Peter Hylands Together with Andrea Hylands, Peter Hylands is runs Creative Cowboy Films, a multi-award winning film and publishing company.

Last but not least increased & dramatically changing climatic conditions can not be ignored. Increased severity & intensity of bushfires /floods and drought All have a deleterious impact on our undervalued, but long suffering wildlife. OVER 3 BILLION NATIVE ANIMALS LOST THEIR LIVES DUE TO HUMAN NEGLIGENCE, ARROGANCE & INCOMPETENCE during 2019-20. I believe this could have been avoided with the right strategies in place , that needed to be initiated a decade ago or more. Many scientists predicted this horrendous bushfire season (2019-2020) some years before the event occurred. Some tried to meet with our Prime Minister, but he was ' too busy' to hear what the experts had to say. However, mining /gas corporation CEO's don't have the same problem with gaining access to the PM?

Below is a link to a paper entitled Bushfire Recovery Report compiled by eminent scientific experts looking at native forest 'recovery' focused in the South East of NSW. This is where most of the unimaginable & devastating fires occurred. Without addressing this issue (and other similar issues) we can not hope to save our diminishing/ threatened and endangered wildlife. I ask , what is our State governments & Federal Governments strategic plan to face up to these tragic re occurring issues , right here & right now?

<https://www.bushfirefacts.org>

SUBMISSION COMPILED BY LINDY STACKER

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