



BOUNDING EXTINCTION

Kangaroos and Democracy in the ACT

Frankie Seymour, April 2021

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About this paper

Kangaroos need all thinking people on their side before it is too late. For people to think sensibly they must be accurately informed. I have written this paper to inform moderately intelligent lay people, as simply as possible, about kangaroos generally, but mainly about kangaroos in the ACT, and about the efforts of the ACT government to silence, ignore or dismiss the concerns of those who object to the ACT government's treatment of kangaroos.

In this paper, I will recount only matters of fact, of reasonable speculation, of logical argument and of personal experience. If some emotion leaks into my description of events occasionally, it is because such emotion is warranted by those events; it does not compromise the accuracy of the information provided.

The first section of this paper summarises the key points about kangaroo biology, the impact of exotic animal agriculture on the Australian environment, and the ways in which all species of kangaroo are under attack across the entire nation

The second part of the paper is a short history and case study of what has been happening to Eastern Grey Kangaroos in the Australian Capital Territory (ACT) since self-government in 1989.

References are included in this paper for any assertions other than matters of common knowledge, reasoned argument and speculation. Personal experience or other anecdotal accounts are identified as such. My system for numbering source citations refers directly to my list of references at the end of the paper (rather than a list of footnotes), with specific page or paragraph numbers identified, where known/relevant, underneath the title of the numbered document. Source documents appear in alphabetical order by author's surname where a specific author is identified, and otherwise by title (eg ACT Kangaroo Management Plan) or by a general descriptor (eg "documents" or "footage" where a group of sources is referred to)

Where cited documents are available online, I have provided current links. If the links change, or where cited documents have never been published online, they are nevertheless matters of public record, and should be available from the relevant authors and authorities. For example, government documents relating to the Golf Course slaughter in 1994 pre-dated the Internet and have never been available electronically. However, government and media archives should be obtainable if anyone doubts my account.

In relation to the matters reported directly from my own experience, and the oral reports and observations provided by colleagues and other members of the public, these must be treated as primary sources. Whether you believe them comes down to whether you choose to believe independent eye witness accounts over the assertions of vested interests, and whether you can find other eye witness accounts that conflict with them. I have found none.

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Background - Kangaroos in Australia

Kangaroo biology and reproduction

Kangaroos, in more or less their current form, have lived in Australia for five to fifteen million years²³. Kangaroo grazing, breeding, locomotion and behaviour have become perfectly adapted to their environment. Their mobility allows them to move rapidly over extensive grazing ranges, rather than overgraze any particular area. This maintains diversity of landscape, with some high grass, some medium, some low and occasionally small patches of bare ground.

This diversity of landscape enables a great diversity of other species to share their habitat. For example, the endangered Grassland Earless Dragon thrives in habitat which provides "areas with a more open structure, characterised by small patches of bare ground between the grasses and herbs"⁴⁹. If kangaroos became extinct, many other species that depend on them for maintaining their necessary habitat would soon follow.

Because of their mobility and thick, coarse fur, kangaroos carry and distribute spores and seeds around the landscape, and the gentle impressions their claws make in soil provide ready-made holes for seeds to fall into. Seeds are also carried in their faeces. This seed distribution further contributes to maintaining diversity of habitat.

A kangaroo consumes only 13 per cent of the water consumed by a sheep⁴³. Because of their faster and different digestive processes, a kangaroo also produces only a small proportion of the methane produced by a cow or a sheep⁵⁷.

Far less massive than sheep or cattle, kangaroos move lightly on the land, bounding with soft feet and a long claw, rather than trampling with heavy bodies and hard, sharp hoofs. They are grass eaters but (because they have both upper and lower teeth) they bite grass off without gnawing it down to bare ground or ripping it out by the roots, as sheep and cattle do²⁸. Therefore, they do not graze down to the soil unless they are forced to do it by confinement. They do not browse on anything green as cattle do, just grasses.

Adapted to Australia's cycle of long droughts, adult kangaroos are able to survive because they can travel very long distances quickly and with relatively small energy expenditure to find food and water if they must. This capacity also enables adult kangaroos to easily escape fire and predators⁴¹.

Additionally, because they do not procreate when the food supply is inadequate, they do not waste nutrition needed for their own survival by bearing young. During times of drought, males do not form sperm and females generally do not conceive unless there is green feed available²². All kangaroo species can suspend the growth of a foetus, in a process known as diapause, until the older joey moves out of the pouch. In other words, the kangaroo population adjusts to the reduced availability of feed primarily by reducing its fertility rate rather than increasing its (already quite high) natural mortality rate²⁸.

In good seasons, kangaroos will bear one joey a year (as with humans, very occasionally twins occur); joeys are not fully weaned until they are 18 months old. At any time of year, if food is plentiful, a mature female kangaroo may have two joeys in her care, aged about a year apart - one in pouch and one at foot. However, Eastern Grey males normally do not breed until about five years of

age and females not until two years²⁸. These breeding ages can be pushed down to younger animals where there is a sustained slaughter of more mature animals (eg during commercial harvesting, or sustained "management" slaughter)³³.

It is likely, even in areas where the food supply is fairly good all year round, that most adult kangaroos, like other wild grazing animals, eventually starve because they run out of teeth. As kangaroos wear out their front teeth, teeth from further back migrate forward, but they do not grow new ones. When their last teeth wear out, they can no longer eat²⁸.

In the current situation where so many mother kangaroos with young at foot are killed by guns or cars, it is likely most infant mortality is also due to starvation. As with the aged starvation, this is not because food is scarce but because these orphaned young are not fully weaned.

The natural infant mortality of Eastern Greys is very high, between 50 and 70 and, in some years, it may be as high as 100 per cent^{42a}. Although it is likely that, in our current era, a great many infant kangaroos die of starvation due to the killing of their mothers by land "managers" and "harvesters", natural infant mortality is substantially due to predation by foxes and eagles²¹. It is difficult to guess how mortality from fox predation compares with kangaroo mortality due to dingo predation prior to European settlement since no baseline data were ever collected.

Foxes have inherited the niche left by dingoes in settled, coastal areas but, since foxes are smaller than dingoes, presumably their predation is restricted to joeys whereas dingoes would probably have taken a proportion of sick, hungry or weakened adults as well. Fluctuations in fox populations due to fox killing programs and fluctuations in rabbit populations (rabbits account for 70% of fox diet in Australia⁴⁷) further confounds comparison.

The eagles were there before European settlement, along with some marsupial carnivores (several of them now driven to extinction by bounties and habitat loss); but most of the vast expanses of fully cleared grasslands that nowadays expose young kangaroos to eagle-eyes were not. It therefore seems likely that more kangaroo joeys are taken by eagles than were taken when their habitat afforded them the shelter of open woodland.

What is certain, however, and needs no citation, is that kangaroo mortality due to guns, motor vehicles, pollution, exotic diseases, habitat loss and the accelerated climate change humans are causing on the planet was unknown prior to European settlement.

With their low breeding rate and very high infant mortality rate, overpopulation is virtually impossible in free ranging kangaroos; breeding increases when plenty of green feed is available, but slows and may cease entirely when food becomes scarce. Normal infant and adult mortality do the rest. Several studies^{17, 27}, including a 20 year longitudinal study at Yean Yan Reserve in Victoria, showed that kangaroo infant survival rates, when spared human interventions (eg management slaughters and commercial "harvesting"), ultimately stabilise in equilibrium with the resident population's death rate.

Extinction, however, is very possible. The species' late, slow and suspendable breeding and high natural infant mortality rate can readily shift a population into rapid decline. Once you add all the new, post-European mortality factors, the extinction might very quickly become universal and irreversible. The current crash in Eastern Grey Kangaroos in NSW suggests this extinction is now

well underway. This crash follows the several extreme drought periods through the first two decades of the current Millennium, the 2019-2020 fires, and the NSW government's election sop to farmers allowing the totally unregulated slaughter of kangaroos (and other allegedly "common" native animals). The more recent floods would certainly have added to the pressure on the Eastern Grey Kangaroos, along with the (apparently) insect-borne viral epidemic which has been causing mass die-offs of kangaroos in the wake of flooding since the 1960s⁵⁵.

Sheep and cattle in Australia

Grazing of sheep and cattle in Australia (through no fault of the sheep and cattle who never asked to be brought to such a hostile environment) has had a devastating impact on Australia's environment in terms of: biodiversity loss due to land clearing; land and soil degradation; surface water degradation and depletion; greenhouse gas emissions; and a wide range of secondary impacts. This section elaborates on each of these points.

A comparison of National Vegetation Inventory data on area under forest and woodland at the time of European settlement compared with the area under forest and woodland in 2004 (as shown by satellite imagery analysed by the Australian Greenhouse Office), showed that Australia may have lost as much as 75% of its original forest habitat^{19a&b}. These datasets were compiled using different methodologies and are not strictly comparable but they are nevertheless quite telling. Most of this clearing has been for grazing sheep and cattle^{19c}, but recently big primary producers are keen to clear even more land for plant crops such as grain, canola and cotton⁵⁴.

Land clearing for livestock has had multiple impacts, wiping out numerous individual native animals directly, along with entire habitats. Removing habitat means that individuals who are displaced rather than killed by the clearing are forced to compete with other individuals for niches in nearby similar habitat (if there is any). Logically, any given area of habitat can comfortably sustain only a limited population of any species (though this number will vary with seasonal conditions), so eventually a number of individuals, more or less equivalent to the number of forced immigrants displaced from the removed habitat, will die. Therefore, the number of individuals of a species killed or displaced by land-clearing is, in effect, permanently deducted from the total population of that species world-wide.

The few scattered trees left standing in cleared paddocks are vulnerable to diseases and parasites. Vehicles and clothing and the bodies of alien animals like sheep and cattle may bring in new diseases and parasites to attack the surviving trees¹⁸. It is likely that even indigenous organisms that never threatened their host tree populations while there were plenty of trees, might become a problem for their hosts when the organisms are suddenly confined to a few surviving trees.

The cleared land itself has been further damaged by grazing of groundcover by sheep and cattle who (because they are more massive) eat much more than kangaroos^{19d}, while also destroying (rather than merely cropping) groundcover because of their different dental arrangements. Kangaroos have upper and lower teeth for slicing grass. By contrast, sheep and cattle have only lower teeth for ripping and grinding grass, including rootstock, against an upper mouth ridge²⁸. Sheep and cattle therefore graze much closer to the ground than kangaroos, exposing bare soil. Their hard hooves and heavy bodies also trample groundcover, loosening the exposed soils which (in Australia) are often shallow, and therefore highly (and very quickly) susceptible to erosion³⁶.

This degradation is further compounded because the soil is no longer sheltered by trees from rain, wind and evaporation. Erosion of the exposed, loosened, dried-out soil by rain and wind and occasional flood leaves barren clay where nothing can grow back, at least not for a long time^{19e}.

The soil that is washed away by rain can have secondary impacts on water courses (see below). The soil that is blown away on the wind can create dust storms with secondary impacts wherever the dust lands^{19f}. Dust along with silt in surface water can turn it turbid, suffocating the plants and animals that live in it^{19g}, or, as it settles on the benthos, making the water too shallow for fish or blocking fish passage^{19h}.

Removal of streamside vegetation to provide access for heavy, hooved livestock damages surface watercourses^{19h}. Additionally, without the tree roots that held the banks together, streams become wide and shallow. Without shade from the streamside trees, many streams evaporate and disappear. Without the deep roots that keep saline groundwater down where it could do no harm, salt can rise and poison almost everything¹⁹ⁱ.

Sheep and cattle also require far more watering than kangaroos⁴³, further reducing these already seriously damaged and depleted water supplies. Damming of streams to provide this on-site watering exposes even more surface water to evaporation, siltation and an excess of nutrients from livestock excrement^{19j}.

Land clearing for livestock has also dramatically reduced Australia's greenhouse gas sinks (the green, leafy forests and woodlands which absorb greenhouse gases from the atmosphere)^{19k}. Meanwhile, methane emissions from ruminants (sheep and cattle) account for at least a fifth of Australia's contribution to global greenhouse gas emissions⁵⁷.

All this damage from grazing sheep and cattle in a country inherently unsuited to them is compounded by interactions between the different elements of damage in a continuing destructive spiral.

How have kangaroos fared in all this?

Kangaroos are the victims of the largest land-based wild animal slaughter in the world. Millions of kangaroos are slaughtered by farmers every year in Australia because they are perceived to compete for pasture on land that has been cleared of kangaroo habitat to provide paddocks for the introduced sheep and cattle. Additionally, every year, millions of kangaroos are commercially "harvested" for their meat and skins. In recent years, annual "harvesting" quotas have been set around five million, although the maximum killed is rarely more than a quarter of the quota^{42b}. The quotas are based on extraordinarily simplistic population counts which extrapolate from a kilometre wide flyover transect to harvesting zones of around 530,000 km²⁴⁸.

Kangaroos are driven, or fenced out, or shot across almost the entirety of their native habitat, namely the 4.5 million km² that has been purloined for (mainly animal) agriculture^{19c}. Since there are no baseline data to show how many kangaroos have been displaced by this land theft (other than early settler accounts of mobs of thousands of them) it is now not possible to estimate the number of individuals who have died as a result of it.

No-one seems to have tried to estimate the further numbers of kangaroos: killed on roads; or poisoned by polluted water sources, or dying of native or exotic diseases; or unable to survive the recent increase in frequency, severity, and duration of extreme weather events and ongoing climate change.

In the early years of European settlement, anecdotal evidence suggests there were huge mobs of thousands of kangaroos everywhere in Australia. The arrival of guns devastated these populations. In 1836, Charles Darwin, himself, after a few decades of kangaroo exposure to guns, predicted their extinction: "It may be long before these animals are altogether exterminated, but their doom is fixed."²⁴

During that first hundred years, many other native animal species were driven to extinction by the combination of hunting bounties and habitat loss. The species that survived this dual onslaught, including kangaroos, were those that could survive, however dangerously and uncomfortably, in the altered habitat. This gave rise to a myth that kangaroo have benefitted from the removal of trees, the increased access to surface water and grazing pasture and the introduction of exotic grass species and crops. For Red Kangaroos of the arid regions, access to water may have been beneficial for a short while until the scale of persecution (often around those very waterholes) wiped out any benefits.

Eastern and Western Grey Kangaroos may be able to eek out a living in this cleared, pseudo-European landscape but these kangaroos have evolved to rely on some tree cover at least, for shelter from the elements and protection from predators. Prior to European settlement, they were already well-adapted to accessing the abundant surface water reported to have been available in their habitat back then. When the sheep and cattle dams created by the graziers starved the natural watering holes of their water supply, and the land's capacity to hold water disappeared with the tree cover, the kangaroos and other native animals were forced to use the dams where, once again, they were shot in their millions.

Nevertheless, because their original numbers were so vast, and because they could survive in the cleared sheep and cattle paddocks, they did not fall to the swift extinction suffered by many other native Australian animals. Because farmers continue to perceive kangaroos as competitors for pasture and water, which the farmers perceive themselves to own, farmers have been permitted to continue killing kangaroos in vast numbers, long after bounties were lifted on most of the other native animals.

Because they are among the tallest native animals, kangaroos are highly visible on the open sheep and cattle pastures where they still, precariously, survive. This, and the fact that kangaroo families like to "mob up" in larger numbers, for safety and social interaction at certain times, has sometimes led to the delusion that there are "plagues" of them.

For decades, the level of massacre conducted by farmers, commercial shooters and recreational shooters was assumed (on no scientific basis whatsoever) to have merely balanced out the decline in predation by First Nation Australians and dingoes. However, current data, compiled from a range of primarily government sources and field observations, suggests the Eastern Grey Kangaroo population (especially in NSW) may be as little as ten per cent of the population prior to European settlement; that vast areas of former kangaroo habitat are now devoid of kangaroos; and that the surviving populations are in steep and rapid decline^{42b}.

Environmental scientists, wildlife carers and animal protection advocates in Australia have long opposed the large-scale commercial and non-commercial (and, obviously, recreational) slaughter of kangaroos, because of: the alarming decline in the kangaroo population; the impact of kangaroo decline on the many other species of animal and plant that have depended on them for millions of years; and the cruelty to the individual animals (especially joeys who are either bashed to death, decapitated or abandoned to hypothermia, dehydration, starvation, myopathy, car-strike and predation).

Kangaroos in the ACT

The "Bush Capital"

Canberra, "the Bush Capital", is, perhaps, the only Australian city where kangaroos used (only a few years ago) to be visible in suburban parks and on the vast tracts of undeveloped land between suburbs almost any time of the day and year. It would be a rare day you could drive far in Canberra without seeing kangaroos grazing quietly a few dozen metres away.

Although most of the ACT's kangaroos live in Namadgi National Parks, mobs comprising (altogether) several thousand kangaroos were scattered across suburban Canberra. About 33 individual nature reserves that form the Canberra Nature Park provided hubs for their populations. These reserves run in a branching chain from southern Canberra to the newest northerly suburbs, but most of these reserves are divided from each other by roads. Underpasses between them are provided in a few places, but these cement tunnels are designed for walkers and cyclists rather than kangaroos or other wildlife. Kangaroos generally have no way of crossing from one reserve to another, except by braving roads busy with high-speed traffic, including several 4-6 lane arterial roads.

This lack of wildlife corridors across the roads that divide the reserves in Canberra is probably responsible for hundreds, perhaps thousands of kangaroo (and other wildlife) deaths a year by motor vehicle strike, although no-one seems to be counting them in any scientific way. Crossing roads between reserves is especially dangerous for young males (and any females and joeys that choose to go with them) when they leave the home mob to find their own space. Sometimes these youngsters can relocate without leaving the reserve, or by moving to an adjoining reserve, farm or undeveloped land. But on smaller, or more isolated reserves this may not be not an option. The only option is to cross a road.

The roads are at their most dangerous during the government's own annual kangaroo slaughter when whole mobs of female kangaroos who would not normally bother to leave the reserve at all except in time of fire, flood or extreme drought are driven out in panic and terror, and to the hundreds of young at foot orphaned by the shooting as described by many eye witnesses¹³.

There is no commercial "harvest" of kangaroos in the ACT (at least so they tell us) but it has always been possible for farmers and other land managers to obtain licences (from the ACT government and, before self-government in 1989, from the Australian Government through the Department of Territories) to kill kangaroos on their private property. The number of kangaroos permitted to be killed by private land managers increased from 2966 in 1997 to 20,722 in 2015^{11a}, while the actual kangaroo population was crashing in the drought conditions that have characterised most of this period, and especially in the 2003 fires.

Government House translocation

No electronic record appears to exist now, but it was probably in the late 1980s (either pre-self government or in the early days of self-government) that a combination of (surgical) fertility control and translocation was used to reduce the population of kangaroos living in the grounds of Government House in Canberra.

Even though the translocation was not the "soft release" that is normal practice for kangaroo translocations today, members of the Wildlife Foundation of the ACT who assisted with the translocation reported that no deaths, injury or visible signs of distress occurred among those that were translocated. These wildlife carers kept an eye of the translocated kangaroos. Pat Tracy, president of the Foundation and later the Foundation's nominee on the ACT's Animal Welfare Advisory Committee, reported that the translocated kangaroos were readily accepted by resident mobs at their release site¹³.

The Animal Welfare Advisory Committee

In 1992, three years after self-government, the ACT Legislative Assembly passed the ACT's own Animal Welfare Act⁵. Under this Act, the Minister responsible for animal welfare was required to appoint an Animal Welfare Advisory Committee (AWAC) composed of nominees from community organisations with an interest in either animal use/management and animal welfare (section 109). As well as several nominees of animal user organisations or industries (and the ACT government), animal welfare representation included:

- a nominee from a wildlife rescue/carer organisation;
- a nominee by the RSPCA;
- a nominee by a "welfare" organisation other than the RSPCA.

A representative of the Australian Veterinary Association (AVA) is also included but this nominee could just as easily be a vet engaged in animal research as a vet working in private practice.

Animal Liberation ACT (ALACT) was asked to nominate the not-RSPCA person to AWAC. As president of ALACT at the time, I nominated veterinarian, Dr Roger Meischke, who had been one of the veterinary whistleblowers on the live sheep export ships, and had worked as AVA nominee on the ACT Animal Welfare Working Group (along with the ALACT and other nominees) on the development of the ACT's Animal Welfare Policy during the 1980s (before self-government). This was the Policy which had now morphed into the Act.

A principle role of the AWAC was to "participate in the development of approved codes of practice" (Section 109). In fact, AWAC became responsible for the entire development of most of the ACT's Codes of Practice, and most of the Committee's time for the first twenty years of AWAC's existence was spent developing codes of practice. AWAC established subcommittees of its members, sometimes with additional members from the wider community, to develop the codes outside of the full AWAC meetings, and to report on progress on the code development to the full meetings¹³.

Although not in themselves mandatory, these codes (like animal welfare codes in several other states) were extremely powerful legal instruments because (under section 20) adherence to a code of practice provided a complete defence for cruelty which was otherwise prohibited under the Animal Welfare Act⁵. If the codes were to have any value at all from an animal protection point of view, it was the brief of the animal advocates on the AWAC to set a standard of welfare as high or higher, rather than lower, than that implied by the general provisions of the Act. On the other hand, current practice in the treatment of wild animals and farm animals in the ACT (or anywhere else in Australia) had no hope of complying with animal welfare law, so the brief of the animal users on AWAC was to make sure the codes set standards that continued to excuse acts of cruelty that breached the Act.

While the welfare nominees on the AWAC were mostly able to achieve their objective with codes of practice for the care of companion animals, the animal user nominees on the committee, who always outnumbered the animal advocates, made it impossible to achieve any such critical results for the treatment of farm animals or wild animals. The best the welfare nominees could hope for, for these animals, was an occasional trivial improvement on the status quo. Such improvements were rarely achieved¹³.

The first Code of Practice for killing kangaroos

Soon after its appointment, AWAC developed an ACT Code of Practice for the Humane Destruction of Kangaroos⁶, through a subcommittee. Dr Meischke, whose professional commitments made it impossible for him to participate in every code-developing subcommittee, asked me (as ALACT president at the time) to nominate someone to serve on the subcommittee developing the kangaroo killing code. Unable to find anyone else to finger for the job, I took it on myself. (In 1996, after Meischke resigned from AWAC, I was myself appointed as the not-the-RSPCA nominee on the ACT AWAC, in which position I remained for nearly 18 years.)¹³

While AWAC never agreed or indicated any support for kangaroo "culling", the Committee recognised it was happening anyway, and wanted to make sure it was done with as little cruelty as the animal users and managers in the group were willing to accept.

The kangaroo killing code covered not only shooting situations but also roadside euthanasia, and other means of "culling" besides the use of guns (eg darting for capture followed by lethal injection). These inclusions attempted to address what the AWAC perceived to be uniquely ACT concerns because of the number of kangaroos being hit by cars in suburban areas, and the proximity of many potential "culling" sites (farms) to residential suburbs.

Some members of both the subcommittee and the full AWAC felt strongly that kangaroos should be killed only when they were injured, diseased or starving, and were horrified at the idea that joeys should be bashed to death or decapitated, much less orphaned and abandoned by the slaughter of their mothers. But we were overruled on both these points by the government and animal user representatives on the Committee. Nevertheless, the Code did make one important recommendation.

In Section 2.1, it stated that:

“Kangaroos cannot easily be driven like sheep or cattle and for the larger species there is a high risk of injury to the animal and handler. Trapping of the larger kangaroos, such as the Eastern Grey, is impractical even for small confined populations. Trapping is stressful for these kangaroos and includes the risk of leg breakages and capture myopathy causing death. Trapping to enable destruction is not recommended.”

This was a recommendation, not a prohibition because, at that time, a code did not have the power to prohibit anything. However, these words identified driving or trapping a kangaroo as, in short, cruel and unacceptable, and therefore, presumably, to be regarded as an offence under the Animal Welfare Act, and indefensible under the Code.

Even though a Code of Practice could make only make recommendations, a Code does have (as mentioned above) significant legal status. Adherence to it (but only adherence to it - not the mere existence of it) provided a defence (this has now been changed to an "exemption" but I am advised the effect is the same) for what would otherwise be a breach of the ACT Animal Welfare Act.

Members of the AWAC and, indeed, the general public, assumed, therefore, that if a person killed a kangaroo in a manner which even this thoroughly inadequate Code recognised as cruel, that person could be prosecuted for cruelty under the Animal Welfare Act.

The ACT Kangaroo Advisory Committee

Soon after gazettal of the ACT's code of practice for killing kangaroos, the ACT government appointed a Kangaroo Advisory Committee (KAC). This Committee included no welfare representation and apparently no representative of any wildlife carer group. The KAC proceeded to produce several reports on kangaroo management all of which advocated killing kangaroos.

There was (and is, as far as we know) no kangaroo industry in the ACT and, at this stage, there was no ACT government slaughter, so the motive for developing these reports remains obscure. However, it appears from the references cited in the ACT Kangaroo Management Plan of 2010^{10a} that these reports asserted (presumably on no better evidence than appears in the ACT Kangaroo Management Plans themselves) that there may sometimes be "ecological" reasons for wanting to "manage" kangaroos. None of these reports seem to be available online.

One of the most significant recommendations of the reports of this mysterious Kangaroo Advisory Committee, was about the hand-rearing and release of Eastern Grey Kangaroos. It must be assumed that this recommendation is the origin of the ACT government's policy preventing wildlife carers from nursing injured kangaroos back to health and hand-rearing orphans. This policy has caused the unnecessary deaths of thousands of kangaroos hit by motor vehicles and has caused incalculable grief and suffering to the humans who accidentally injure these animals, or stop to help an injured animal.

Until 2017, this had been nothing more than a policy. With the KMP 2017¹¹ which has been accepted by the ACT Assembly as a Controlled Native Animal Management Plan, this cruel policy now has legal status^{11c}. Anyone wanting to save the life of an injured kangaroo or a surviving pouch joey on an ACT road has to break the law by taking it across the border. Fortunately this is not difficult, but many people do not realise that reporting an injured kangaroo or orphaned joey to RSPCA Wildlife or the ACT authorities is a death sentence, and have to live the rest of their lives with the trauma of the guilt of having caused the death of an animal that could have been saved¹³.

The first publicly announced slaughter

The first time the ACT government let the public know it had issued a licence for a kangaroo slaughter was in 1994, when the government licenced the Royal Canberra Golf Club to kill 150 tame kangaroos (by anaesthetic darting and lethal injection) on the Golf Course. The terms of the killing licence were that the killing should take place in daylight, while an RSPCA inspector was present, and only while there were no golfers on the course¹³.

The gates to the golf course seemed to open around 8.00 am. Being summer, golfers were often on the course until full dark around 9.00 pm. Protesters against the slaughter decided that the only time the contracted killer, Dr George Wilson, could do his killing was between summer dawn and 8.00 am when the course opened to members.

Through November and December, animal and wildlife activists, sometimes only one at a time, stood watch at the only gate to the Golf Club every morning between 4.30 and 8.00 am. If the shooter's van or the RSPCA van arrived, the protestor/s stood or placed their car in the middle of the entry driveway. Each time this happened, the shooter turned around and drove away. The police were never called.

Eventually the shooter breached the conditions of his licence by shooting in the evening without the RSPCA present (and possibly while there were still golfers on the course). The Club's licence was cancelled, at the RSPCA's request, 70 kangaroos short of its target.

The first ACT government slaughter

Ten years later, in 2004, for the first time, the ACT government announced that it had issued a licence to itself to shoot kangaroos on an ACT managed nature reserve⁸. On this occasion the reserve was the one which surrounds Googong Dam, one of the ACT's principle water supplies. Located in NSW on Commonwealth land, but managed by the ACT government, this land is resumed sheep paddocks, severely degraded by sheep grazing but recovering slowly since the sheep were moved out. At the time the slaughter was announced, the whole region had been in severe drought for close to a decade.

The government claimed in the mainstream media that the kangaroos were a threat to the water supply, and that they were starving⁸. Wildlife carers examining the resident kangaroos reported that there was no sign of dehydration or starvation among them, probably because the dam provided plenty of groundwater to support moderately good herbage even during the drought, as well as direct access to high quality drinking water. Visitors to the reserve reported that the grass, though dry-looking and tufty, was nevertheless surprisingly healthy (well-rooted, of varied height with patches of bare ground between large clumps of grass, and with green new shoots visible, especially close to the water's edge)¹³.

Some 800 kangaroos were killed under this licence, despite the best efforts of animal and environmental protection activists to hinder the slaughter. However, one night, I saw the shooter drive into the reserve with his vehicle already laden with swinging kangaroo corpses¹³. This caused strong and lasting suspicions that some of the kangaroos reported as killed on the Googong reserve may actually have been killed on adjoining farms.

When the government counted the kangaroos on the Googong reserve soon after the slaughter was concluded, they found the total number of kangaroos on the reserve was the same as the number before the slaughter (ie about 800)^{2a}. Presumably kangaroos driven out of the surrounding sheep farms by the shooting occurring there (which presumably occurs all year round, not just during May to July while the government's slaughter was underway) had moved into the reserve when the government shooting had ceased - to fill the space emptied by the slaughtered, and to enjoy the reasonable herbage and excellent water supply.

Therefore, the slaughter had achieved nothing in terms of reducing any of the alleged impact of kangaroo grazing on the reserve or water supply. What it had done was cause the death of 800 apparently healthy animals, the destruction of their mobs, the orphaning of their joeys, and another dent in what is left of Australia's overall Eastern Grey Kangaroo population.

Documents obtained under Freedom of Information (FOI)²⁹ after the slaughter showed that the government appeared to have decided to conduct the slaughter on a whim, at the urging of local farmers, without any scientific evidence. The only scientific opinion the government sought (informally), was from a former ACT government employee, Don Fletcher, who was, at this time, relatively independent of the government, while he worked on his PhD. In several email responses to the ACT government requests for his opinion, Fletcher spoke quite strongly against the slaughter, partly because no proper studies had been conducted, partly because (on the government's own figures) the numbers of kangaroos on the Googong Reserve had already crashed before the slaughter began, and partly because of the risk of bush fires if the remaining kangaroos were removed.

Approval for re-zoning the area adjacent to the Googong reserve allowed the building of the suburb of Googong two years later²⁵. Many members of the public assume that this had, all along, been the real reason for the removal of the kangaroos living on the reserve and the adjoining farms: that they had been removed in some deal done with the Queanbeyan Council or the Googong developers who did not want kangaroos causing car accidents on the roads of their proposed new suburb.

The Belconnen Naval Transmission Station

In 2008 the Defence Department obtained a licence from the ACT government to slaughter 500 kangaroos at the old Belconnen Naval Transmission Station (BNTS)¹, a fully enclosed grassland space about 2-3K², surrounded by high (kangaroo-proof) fences.

The BNTS comprised a bit more than half of a squarish block of grassland which was surrounded by 4-6 lane highways: Ginninderra Highway separating it from Bruce to the South, Baldwin Drive separating it from Kaleen and Giralang to the east and north, and William Slim Drive separating it from McKellar to the west. The Transmission Station itself, opened in 1939, had been decommissioned in 2005²⁰.

The area had been designated as part of the proposed new suburb of Lawson and, over the previous few years, there had been a wrangle about how much of the Station and its surrounding land should be preserved for its historical significance and heritage value. By 2006, the area between Bruce and the BNTS had been designated for the first stage of the development of Lawson, and the south-eastern quarter of the BNTS for the second stage of the development³¹.

The government, once again, claimed publicly that the kangaroo slaughter was needed because the kangaroos were starving⁹. Many members of the public were sceptical: Googong, four years earlier, had established the assumption that the killing of the native inhabitants of an area was a prelude to development, which seems to have been the case with the BNTS as well.

Although starvation was theoretically possible on this site because the animals were fully confined within the area, the claim that the animals were starving was disputed by experienced wildlife carers who observed the animals, by experienced vegetation experts who observed the condition of the

groundcover, and by numerous passers-by who observed that the kangaroos had full access to the still very green area of Ginninderra Creek which passed through the enclosed land¹³.

Because of its proximity to passing traffic, the government's public announcements noted that the police had ruled that firearms could not be used in the BNTS. On this basis, the ACT government allowed these animals to be driven into a corral, trapped there, then darted in front of their mob-mates, and hauled off to be slaughtered by lethal injection. This was unambiguously contrary to the ACT Code of Practice for the Humane Destruction of Kangaroos that was in force at the time.

This slaughter, therefore, prime facie, breached the Animal Welfare Act by knowingly causing pain and distress to an animal. The Code of Practice had established that driving and trapping would cause distress. Eye witnesses also observed mothers being separated from joeys when they were herded into the corral. This caused the animals (and the observers) further distress. Additionally, the trapping of the kangaroos caused actual physical pain, as the panicked kangaroos collided with the walls of the enclosure and with each other mid-air, falling to the ground with broken or damaged legs³⁴. Because the driving and trapping of the kangaroos did not adhere to the relevant Code of Practice, the Code provided no defence or exemption from the Act for what happened at BNTS.

Nor did this slaughter have the defence of being "necessary" since expert wildlife carers from Wildcare Queanbeyan had developed a stress-free program of capture and translocation. The option of "soft" translocation was clear and immediately available. Naomi Henry from Wildcare also advised that a number of property owners had offered their land as a relocation site⁵⁶.

Because the slaughter was clearly illegal, several members of the public (including myself) begged the RSPCA to demand that the Defence Department's licence be cancelled (as the RSPCA had with the Golf Club licence in 1994). However, the RSPCA spokesperson claimed that RSPCA could do nothing because kangaroo killing was covered by a code of practice. The RSPCA respondent appeared to believe that it was the existence of a code of practice, not adherence to it, that provided the defence/exemption¹³. This interpretation was clearly contrary to the Act but there was no convincing the RSPCA of that.

Because the BNTS was open grassland on a longish slope between several major roads, the trapping for slaughter was conducted in full view of the public (watching from outside the fence) including the local, national and international media who filmed the terrified kangaroos colliding with each other mid-air and smashing themselves into the fences of the enclosure³⁴.

Mandatory Codes of Practice

The ACT government has now changed the Animal Welfare Act to allow the making of mandatory codes of practice. A breach of the Code, such as occurred during the BNTS slaughter, should, in future, have been prosecutable under both the general cruelty provisions of the Animal Welfare Act and the clause of the Act requiring adherence to a mandatory code of practice. However, two other things happened which have prevented this amendment from providing any benefits for kangaroos.

The ACT Kangaroo Management Plan 2010

Firstly, in 2010, the ACT government published its Kangaroo Management Plan 2010 (KMP 2010)¹⁰. Although the government sought public comment on this plan, and several submissions were made

by welfare experts, kangaroo experts and independent ecologists, virtually nothing of the draft Plan was changed in the final Plan to reflect any of those submissions.

The ACT government's KMP 2010 purported to provide a scientific explanation for the government's commitment to slaughtering kangaroos. The KMP seems to assume from its first chapter that "managing" kangaroos means killing them, and that killing them is necessary because kangaroos eat grass; and that more grass (herbage, biomass) means more biodiversity. Therefore, it argues, slaughtering hundreds or thousands of kangaroos is good for any endangered species living in the kangaroos' habitat. This erroneous (see discussion of kangaroo biology above) belief seemed to underpin the entire document.

There is also an attempt to convince readers that the crashing of Eastern Grey Kangaroo populations in times of extended drought is due to starvation^{10b}, rather than the cessation of breeding combined with normal attrition. This implies that killing kangaroos is an act of mercy. If this were the genuine belief behind the slaughter, one would expect the government to conduct an actual cull - a careful and humane singling out and euthanasia of individual kangaroos who are suffering and have no chance of surviving. This would be a policy no animal advocate has ever opposed, assuming it were conducted without causing any greater pain or stress to the target animal or any other animal. What one would not expect is the mass slaughter that has occurred over the last eleven years: the random massacre of a pre-set target number of kangaroos in a healthy population.

Furthermore, even if there were a basis in fact for a "cull" of sick or starving kangaroos during a time of extended drought, what possible justification could there be for the continuing slaughter through the years of plenty that always follow (or, at least, always have - all bets are off with anthropogenic climate change, of course). When there is far more herbage in the reserves than even a fully intact population of kangaroos could possibly consume, there is a clear and present danger of bushfires.

The ACT government has been unable to cite any source, other than the KMP, to justify its kangaroo killing policy. The KMP itself fails to cite any authority or data to justify its recommendation of an ideal kangaroo density of 0.6 to 1.5 kangaroos per hectare^{10c}, or an annual slaughter of 40% of kangaroos^{10d}. This kill rate is three to four times the highest possible population growth rate for eastern grey kangaroos, given their slow breeding, late breeding, gender distribution, gestation and lactation period, average natural lifespan, cessation of breeding when food is scarce, and normal infant mortality rate (see above).

The KMP is certainly full of citations of earlier, more scholarly works, but examination of those works rarely supports the KMP's underlying assertions: that more biomass is better for the environment than diverse biomass; that an ideal density of kangaroos is 0.6-1.5 per hectare; that managing kangaroos is in any way necessary; and that managing means killing. Essentially, the government contends that the KMP is good science because the KMP says so.

The ACT Code of Practice for Shooting Kangaroos

Animal welfare law (or prevention of cruelty to animals law as it is referred to in NSW) is entirely a matter for state and territory governments. The Australian government has no animal welfare legislation of its own, and no jurisdiction in the area of animal welfare except where it may affect international agreements or trade.

However, in order to achieve some measure of consistency in welfare requirements across the nation, intergovernmental teams of bureaucrats develop national "model" codes or "standards" of animal welfare which provide the rock-bottom minimum standard to which all jurisdictions are willing to agree.

The relevant Minister from each State and Territory jurisdiction and the Commonwealth must agree to these model codes before they are approved. Obviously, no Minister will ever agree to a code that requires his or her jurisdiction to adhere to a higher standard of welfare than it already does, especially if those standards would in any way inhibit the routine behaviour of farmers or wildlife "harvesting" industries. Therefore, these model codes always provide for a level of animal welfare consistent with that of the jurisdiction with the worst animal welfare standards.

State and Territory governments are then supposed to take the agreed model code or standard home, and make their own code based on the model, improving it where their own welfare law allows them to do so, and otherwise adapting it to their specific concerns.

Kangaroo shooting for "management" purpose is just one of numerous issues for which a model code of animal welfare has been developed at the national level. Approved as a model code in 2009, the National (model) Code of Practice for the Humane Shooting of Kangaroos for non-commercial Purposes⁴⁴, as usual, represents an extremely low standard of animals welfare. This code is the second thing that prevented the amendments to the Animal Welfare Act from reducing cruelty to kangaroos.

The national model code "for shooting kangaroos" did offer some incremental improvements on the ACT's existing code "for killing kangaroos". More stringent prescriptions regarding type of gun, ammunition, shooting procedures and conditions would (hopefully) reduce the instances of kangaroos being wounded rather than killed outright. However, the model Code was strictly about shooting, so it gave no instructions regarding driving, trapping, anaesthetic darting, nor dealing with kangaroos hit by cars.

On this basis, the ACT AWAC rejected the model code as inadequate to the needs and expectations of the ACT public, and developed a new draft code based on the least inhumane elements of the old ACT Code and the least inhumane elements of the national model code³².

It kept the model code's prescriptions regarding guns, ammunition, shooting procedures, and conditions; but, as now permitted under the new clause of the Animal Welfare Act allowing for mandatory codes (see above), it promoted to a prohibition the old Code's recommendation against driving and trapping. It also proposed to prohibit the intentional killing of females with young which would have vastly reduced the number of joeys orphaned or bashed to death or decapitated. It maintained its advice for dealing with injured kangaroos in roadside situations.

AWAC recommended its synthesised code to the Minister but agreement on it was not unanimous. Mostly, AWAC likes to reach consensus on codes but it is not always possible. This was not the first time AWAC had recommended a code that did not have unanimous agreement from the Committee. On previous occasions, the Minister had accepted the recommended code, on the basis of the majority vote. On this occasion however, the Minister did not. He rejected the AWAC's recommended code and instead adopted - as the ACT's own new code - the (unamended, except for

the title) minimalist national model ¹³, gazetting it as the *Animal Welfare Code of Practice for the Humane (Shooting of Kangaroos and Wallabies, 2014, No 1* ¹⁶.

We can only speculate on the Minister, Shane Rattenbury's reason for rejecting the recommendation of the majority of AWAC and accepting instead the unamended model code which the consensus of AWAC had rejected. Presumably, as a new Minister from a cross bench party, he felt considerable pressure to bow to the wishes of Departmental advisors who were deeply entrenched in the culture of killing kangaroos.

As a result of his decision, it is now virtually impossible for the RSPCA (if they had any will to do so) to prosecute kangaroo killers for either driving and trapping kangaroos.

On the shooting of mothers, the new Code seems to recommend against it. But, a line or two later, it creates a one hundred per cent exemption when the killing is for "ecological or management" purposes" ^{16a}. Pretty much every non-commercial kangaroo massacre ever conducted is claimed as being for "management" or "ecological" purposes, so this clause about not shooting mothers might as well have been omitted completely. As a result of this exemption, a prosecution would first have to convince the court that the reason for the slaughter was neither "ecological" nor "management".

So, for now, there seems to be no legal hope for the bludgeoned joeys or the hundreds of orphaned young at foot abandoned to horrible death during the ACT government's annual slaughter on Canberra Reserves, nor in any other jurisdiction where this exemption for "ecological" or "management" killing of mothers has been included in the jurisdiction's own Code of Practice.

As for driving and trapping kangaroos, it is less likely to be considered as an option now the ACT police appear to have withdrawn their objections to use of firearms within easy killing range of streets, houses, humans and their companion animals.

The 2009 ACAT hearing

In 2009, the ACT government licensed the Australian Defence Department to conduct a massive cull of 5000 kangaroos on the Majura grasslands. A challenge in the ACT Civil and Administrative Tribunal (ACAT), by Animal Liberation NSW, brought two eminent ecologists (Dr Dror Ben Ami and Dr Dan Ramp) to give evidence.

Their evidence showed: that Eastern Grey Kangaroo numbers tend to remain consistent with the available feed on reserves without "culling" or any other human intervention; that kangaroos at uncultured, stable populations do no damage to their environment; and that "culling" at Majura would be pointless anyway since kangaroos from the surrounding grassland would simply move in to replace them.

The government's counter-claims were based on the same evidence-free assumptions found in KMP 2010 (see above) which was published the following year: that the ideal kangaroo density is about one kangaroo per hectare; that an annual slaughter of 40% of kangaroos is necessary for maintaining the kangaroo population at one per hectare; and that more biomass is better for the environment than the more diverse landscape that results from kangaroo grazing.

The government spokesperson was Don Fletcher, the same scientist who, while independent of the government, had advised the government against the 2004 slaughter at Googong (see above). After returning to work for the ACT government a few years later, he was, reputedly, the primary author of KMP 2010. It is not clear why, other than the fact that he was once again working for the ACT government, he would have so radically changed his position on slaughters conducted on the basis of no base-line data. Certainly, there is no research, data or authority cited in KMP 2010 that appears to explain his altered position. Indeed, in 2006, Fletcher himself had published a paper concluding that kangaroo densities of five or six per hectare (a high density unheard-of in ACT reserves) seemed to have no deleterious impact on the environment³³.

The experts giving evidence against the slaughter argued, among other things, that killing kangaroos would be useless in terms of protecting reserves from the environmental damage (if any were occurring), because the killed kangaroos would be quickly replaced by kangaroos from outside the reserves³ (at least while there are any kangaroos left outside the reserves to replace them). Fletcher refuted this argument by asserting that kangaroos do not move around much outside their home range. Apparently Fletcher was unaware that juvenile male kangaroos routinely disperse from their home mob seeking their own range, and sometimes take females with them¹².

Dr Fletcher attended the ACAT hearing in 2009 as a spokesperson and advocate for the government's pro-kill policy, not as an independent expert. Nevertheless, the challenge to the 2009 slaughter failed because the Tribunal chose to accept Dr Fletcher's assertions over the evidence of the genuinely independent expert witnesses - even though the government's claims were uncorroborated by evidence from any independent expert witness.

The grisly discovery of 2012

Since then, huge slaughters in the Canberra Nature Park have been conducted every year. In 2012, while animal and environment activists from across the country attempted to disrupt the annual slaughter, a group of protestors found, on one reserve where shooting had recently taken place, a burial pit full of shot kangaroos^{50a}. The corpse of one individual, a young male, was taken to a vet for autopsy. It was found to have been shot, clubbed and stabbed before dying a slow and painful death from blood loss and/or suffocation.

This autopsy report^{50b} made it into the media, but the government simply denied it. Since then the government appears to have been more careful about making sure its kangaroo burial pits cannot be found.

There is absolutely no rational reason to believe that this was a one-off, or that outcomes have improved in any way since then. Only the one burial pit was ever found and this is what was found in it. That is essentially a 100% statistical chance that the same outcomes would be found in all other burial pits.

Another rumoured explanation for the sudden and complete disappearance of burial pits is that the kangaroos are not being buried at all; they are being sold illegally to the corrupt and lucrative international pet food market.

The 2013 ACAT hearing

A further challenge was brought to the ACAT in 2013 by the Australian Society of Kangaroos², joined by Animal Liberation ACT. The 2013 Tribunal once again appears to have mistaken Dr Fletcher for an "expert" witness, despite noting clearly, early in the proceedings, that he was appearing as a government spokesperson^{2b}.

This second challenge failed despite, in this case, outright admissions by Dr Fletcher that:

- the government's claim that kangaroo grazing harms threatened species are just "PR"^{2c};
- the claim that kangaroo grazing is harmful to biodiversity is based on an assumption that biodiversity equates to biomass^{2d};
- the assertion of an ideal carrying capacity of one kangaroo per hectare on ACT reserves is "a guess" and "wrong"^{2e}.

The only independent expert witness attending the hearing, Mr Ray Mjadwesch, confronted Fletcher with the arithmetic which showed clearly that it was biologically impossible (by breeding alone) for the kangaroos remaining on the reserves after the previous years of slaughter to have increased to the numbers counted there in 2013. Fletcher now contradicted the evidence he had given to the Tribunal in 2009 that kangaroos do not move around much outside their home range, and blamed the impossible (by reproduction) counts on inward migration^{2f}.

In fact, in support of this, he quoted the immediate replacement of the slaughtered population at Googong in 2004 (see above). Notably, the Tribunal did not bother to ask why he had given the opposing evidence in 2009, when (as government ecologist) he would surely have been aware of the outcome at Googong five years before the 2009 hearing.

Even though Fletcher admitted to the Tribunal that he was contradicting his earlier evidence, the Tribunal totally failed to grasp the implication: that, just as argued by Ramp and Ben Ami in 2009, a high level of kangaroo migration into the reserves rendered the slaughter worthless in terms of protecting the reserves (if that had actually been the objective). Many of the observers at the hearing gasped at this admission; it suddenly became clear that the purpose of the slaughter was not to protect the reserves at all but to draw all the ACT's surviving kangaroos into them so that they could be exterminated, thus leaving other undeveloped surrounding public land kangaroo-free for development.

The 2013 Tribunal's explanation of its decision was that, although Fletcher was appearing as an advocate for the government policy rather than as an independent expert, the Tribunal considered his claims more credible than those of the field ecologist and ecology consultant who had appeared as an independent expert - the only independent expert present at the hearing^{2g}. They gave no reason for this strange conclusion.

The 2013 Tribunal did reduce the "cull" numbers slightly^{2g}.

Suppression of science

Ramp, Ben Ami and Mjadwesch are not the only ecologists whose expertise has been suppressed in the ACT in favour of assertions by government employees.

In 2009, a PhD student, Robin Tennant-Wood, was commissioned by the ACT government to write a paper on kangaroos. She did exactly what she was commissioned to do. Being a serious scientist, it never occurred to her to lie. She noted that kangaroos are a keystone species (a fact that is also, now, noted in KMP 2017¹¹¹). At the time, this notion that kangaroos might possibly be ecologically valuable contradicted the ACT government's well-propagated narrative that kangaroos are pests. Tennant-Wood was harassed by the government, defamed in the media, and forced to return what she had been paid for doing exactly as she had been contracted to do⁵⁵. Both *The Canberra Times* and the Urban Service Minister falsely reported that Tennant-Wood had "apologised" for her report.

Another ANU PhD student (a personal acquaintance of mine) whose thesis was on human-wildlife interactions in the ACT, reports that she was harassed and bullied by the ANU's strong contingent of "applied ecologists" into completing her thesis at Wollongong University. The reason: she declined to go along with the ACT government's narrative that the ACT's annual massacre is a good thing.

The government has funded only one analysis of its own data (at taxpayers' expense), to show whether or not kangaroo grazing is harming the ecology of ACT reserves. That analysis, by CSIRO Plant Industries, showed that kangaroos had not harmed the vegetation of the reserves and that the reserves are healthier where kangaroos are present than where they were absent, that three kangaroos per hectare had no distinguishable impact from one per hectare, and that no more than three per hectare were present on any reserve studied⁵⁸.

That study, undertaken in 2014, was suppressed by the ACT government and not even referenced in the KMP 2017. It was ultimately released under FOI (most likely by some junior clerk who didn't see any reason why it should be redacted).

Regional Friends of Wildlife Submission

Between the 2013 and 2014 government slaughters, the Regional Friends of Wildlife (RFW) compiled a 186-page evidence-based submission to the ACT Commissioner for Sustainability and the Environment urging a full investigation of the ACT's kangaroo killing policy⁵⁰. RFW pointed out that no monitoring and evaluation work appeared to have been done since the annual slaughter began in 2010 to determine whether the slaughter was achieving any of its stated objectives. Such monitoring, evaluation and adaptive management were required under the KMP 2010^{10e}.

The ACT Commissioner (Robert Neil) took up this concern, asking the Department of Territory and Municipal Services (TAMS), which administered the slaughter, what evaluative research had been undertaken. He was unable to ascertain any evidence that the government has attempted any ecological monitoring, let alone adaptive management³⁸.

Discussion between the ACT Commissioner and RFW continued for more than a year, until Mr Neil moved on to another position. The acting Commissioner who replaced him was less receptive to RFW's concerns, and the next appointed Commissioner, Kate Auty responded that the whole matter has been dealt with "in other forums" (presumably meaning ACAT) and she is not obliged to revisit any of it³⁷. (Ms Auty is, sadly, the daughter of one of the best friends of kangaroos Australia has ever known: veterinarian, Dr John Auty.)

This response by Kate Auty is clearly unsatisfactory, given:

- the ACAT's undisputed lack of subject matter expertise;
- the Tribunal's decisions, on no less than three occasions, to accept the evidence of a government spokesperson over that of independent expert witnesses; and
- the extraordinary admissions by that same spokesperson regarding the reasons and basis for the government's annual slaughter.

It certainly makes one wonder exactly what the then Commissioner thought the ACT public were paying her for.

Recent government figures released to RFW by the ACT Conservator of Flora and Fauna indicate that, within this tiny Territory, in 2015 alone, 82 licences were issued for killing kangaroos on rural land, allowing 20,722 kangaroos to be shot³⁹. This is in addition to the 5000 permitted to be killed by the ACT government's own slaughter on nature reserves. There may also be further licences issued to the Defence Department or other parties that have not been announced to the public.

The 2014 ACAT hearing

A third ACAT challenge was brought in 2014 (by Animal Liberation ACT)⁴. The 2014 Tribunal once again found in favour of the government but this time declined to even provide reasons for its decision. It merely dismissed - again without giving its reasons - the evidence of all the independent experts who appeared in support of Animal Liberation ACT's challenge (inter alia: the same field ecologist as in 2013; a retired CSIRO plant biologist with enormous experience in writing peer reviews; and two kangaroo carers with decades of experience).

The environmental arguments presented by both sides at the 2014 hearing were much the same as in 2009 and 2013 and perhaps that is why the 2014 Tribunal could not be bothered re-evaluating them. But a new animal welfare argument joined the mix, when an "independent" witness (none other than George Wilson!) brought in by the government to give evidence on the animal welfare issues. Dr Wilson admitted under cross-examination that an entire "ghost" population of at-foot joeys is orphaned by the slaughter every year. Even this admission failed to move the 2014 Tribunal.

Threatened species

In its media releases and supporting material regarding the slaughters that have been conducted every winter since 2009, the ACT government has claimed that one of the purposes of the slaughter is to protect endangered and threatened species⁷. The assertion is that these are species whose habitat is being impacted by excessive kangaroo grazing. (I note again that, at the 2013 ACAT hearing, the government spokesperson admitted that this claim was just "PR"^{2b}).

In regard to one at least of the threatened species mentioned in the government's "PR", the claim that kangaroo grazing is reducing their numbers is obviously inaccurate. The Earless Dragon will not thrive in a uniformly high grass environment that must inevitably result (without other interventions, such as introducing cows, with all the environmental problems arising from them - see above) from removing large numbers of kangaroos⁴⁹. Earless Dragon populations are declining in the Canberra Nature Park where kangaroos are routinely killed but thriving in the Queanbeyan Nature Reserve⁵³,

which is part of the same grassland system, just across the NSW border, where kangaroos have never been "culled".

Nevertheless, the same list of endangered species has appeared again and again in the government's "PR" in support of the slaughter, ever since.

It should be noted that all these threatened species have nationally agreed Threat Abatement Plans. In not one of these Threat Abatement Plans is "overgrazing" by kangaroos mentioned as a threat.

No further ACAT challenges

Since 2014, there have been no further ACAT challenges. Kangaroo advocates believe that the evidence presented against the slaughter at the last three hearings was already overwhelming, yet failed to overwhelm the Tribunal. The most even-handed of theories on why and how three Tribunal managed to come to such obviously wrong decisions blame mere arrogance and incompetence. Many far more damning theories abound.

Additionally, advocates perceive that this trio of ACAT decisions (2009, 2013 and 2014) is being used by the government to further delude the ACT public into assuming the slaughter is necessary. This perception is borne out by Auty's response to RFW's request that she continue Commissioner Neil's enquiries.

KMP 2017 was agreed by the ACT Assembly as a "Controlled Native Animal Management Plan", a legal instrument; so that the ACT government is no longer required to issue itself with a licence to kill as many kangaroos in the ACT (or Googong) as it likes whenever and wherever it likes.

There is a general impression among the animal and environmental advocates of the ACT community that the ACT government believes it can now get away with anything, even shooting humans.

Protest action: vigil, compiling evidence and "hidden shield"

Every publicly announced kangaroo slaughter since 1994 has seen activists of all ages, ideologies and varying states of health volunteering to put themselves in harm's way to save the kangaroos.

In 1994 (see above), over the month before Christmas, kangaroo protectors guarded the gates of the Royal Canberra Golf Club every morning from summer dawn until the gates opened. This ultimately forced the Golf Club to allow the darting in the evenings when the RSPCA inspector was not present. According to the then CEO of RSPCA, it was this failure of the shooter to abide by the conditions of the licence, which required an RSPCA inspector to be present and/or no members of the public to be present during the shooting, which led to the cancellation of the licence, saving 70 kangaroos (see above).

In 2004 (see above), kangaroo protectors successfully stopped shooting several times at Googong Reserve by being present on the Reserve almost all night, almost every night. Somehow the government still managed to shoot 800 kangaroos - although the fact that the shooter was, on one occasion, seen driving into the Reserve with his ute already laden with dead kangaroos led to speculation that some of the 800 were actually killed on adjoining farm lands (see above). FOI

material obtained after the event support this suspicion: the records suggested that some of the shooting took place on nights and at times when protestors were on the reserve and would have heard shots if there had been shooting there those nights¹³.

In 2008 (see above), a vigil was maintained at the gate of the BNTS by, among others, a group of traditional owners of the land and other First Nations people who claimed the kangaroos as their brothers and sisters. When several First Nations people entered the Reserve, hoping to place themselves between the kangaroos and the shooters, their right to walk on their own land was denied. They were arrested and charged with trespass¹³.

During the Defence force slaughter at Majura in 2009, several people walked onto the land to try to save the kangaroos¹³. Their hope was to approach the shooting unseen and only reveal themselves when they were close enough to stop it; but, on that vast and open grassland, this proved virtually impossible.

During the annual slaughters in the Canberra Nature Park since 2009, many protestors from the ACT and other states have held vigils at the gates of the reserves closed for shooting. Others have climbed fences and walked onto the reserves. On several occasions during the early years, this action successfully stopped shooting, however temporarily¹³.

On other occasions, usually when the rangers have stayed at the gates to guard them against entry by protestors while allowing the shooters to go off on their own, shooting has simply continued, even with members of the public present on the reserves shouting and waving at the shooters from only metres away. The government has been notified that shooting has taken place while members of the public were so close by, but government spokespeople have simply denied that this has occurred¹³.

Direct peaceful intervention to stop this cruelty is becoming increasingly difficult. The ACT government now threatens \$8000 fines for walking on the ACT's public reserves when they are closed for shooting, and \$30,000 for "hindering" the cruelty. Additionally, after the arrest of the elderly protestor (see below) in 2015, several of the volunteers holding vigil at the gates of the reserves reported various levels of police harassment including being surrounded by police cars and having brilliant lights shone in their faces¹³.

Since 2012, the government has repeatedly and publicly accused "kangaroo protestors" of acts of vandalism. There has never been any evidence to back these accusations and many protestors are of the view that these accusations are just a ploy to turn the public against the kangaroo defenders. Some believe that none of these alleged acts of vandalism even occurred. Others are certain that, if there were acts of vandalism, they were the work of a government agent provocateur¹³.

The ACT mass media have consistently publicised the government's assertions of vandalism³⁵ while declining to pick up press releases from activist groups denying the allegations, and informing the media of specific instances of animal cruelty and human endangerment¹⁵.

Dangerous and illegal shooting on public horse paddocks in 2015

In 2015, the ACT government not only licensed TAMS to kill 5000 more kangaroos (over two years) on Canberra reserves, but also permitted shooting to occur on public recreational land other than nature reserves (eg the Rose Cottage Horse Paddocks)^{14a}. The government allowed this without any

attempt to warn the public that it was doing so; in fact, two members of the public were told directly by the ACT police that shooting would not take place there^{14b}.

Although it turned out there was a licence for shooting on several small blocks of the area broadly known as the Rose Cottage Horse Paddocks (RCHP), that licence did not include the very large block where the shooting took place. That shooting had therefore been illegal.

Activists assumed that this large area was excluded from the licence covering the other blocks because it encompassed the much-used Centenary Trail, and the main area frequented by members of the public both night and day. But, on the day after shooting on this block was reported to the police, the existing licence was amended to include this block^{14c}.

All attempts to seek an investigation of this illegal and dangerous shooting in a public place have met with utter silence from the government and stonewalling by those who are charged with being government watchdogs. The Animal Protectors Alliance (APA) pursued a lengthy series of submissions on this matter¹⁴, and received the following responses.

- A form letter response from the Chief Minister declined to acknowledge the subject matter of the complaint^{14d}.
- The FOI officer refused to release any information about licences for shooting kangaroos on other open, public, non-reserve land, despite the public safety implications^{14e}.
- The FOI review officer, following a request for an FOI review, affirmed the original decision^{14f}.
- The ACT Ombudsman cited the section of the Ombudsman Act specifically exempting administrative decisions on matters of environmental management from the Ombudsman's jurisdiction, and suggested that APA contact the Commissioner for Sustainability and the Environment^{14g}.
- The Commissioner responded that misbehaviour by the government's environmental managers was none of her business and APA should have made our complaint to ACAT^{14h}.
- The Police Professional Standards Operations Monitoring Centre (PSOMC) responded to a submission regarding the failures by ACT Policing with a letter dismissing the complaint because they believed it somehow had something to do with a recent court case (it had nothing to do with any court case)¹⁴ⁱ.
- The Police Ombudsman responded that he would not investigate APA's complaint because he had decided, without any investigation, that the police decision to allow shooting, without warning, in an area open to and frequented by members of the public, day and night, was neither "deficient nor irregular"^{14j}.

Clearly, the ACT government's determination to kill kangaroos - apparently driven by no motive other than a culture which is inherently committed to killing things - has now become a threat not only to kangaroos as individual sentient beings and as a species, but also to human life, and to democracy itself.

Since then, the government's hired guns have become even more cocky about shooting within easy ricochet distance of human watchers, routinely shooting within 30 metres of Mugga Lane¹³.

The licence itself was invalid

Meanwhile, back in 2015, the government successfully prosecuted the elderly man (the same man who had reported the illegal shooting a week earlier) for "hindering" the shooting in the reserve which adjoined the RCHP. The protestor was on the RCHP, well outside the reserve, quite lawfully, and using a whistle to alert the shooters to his presence there, where he had every right to be.

Later, he whistled, and yelled, on this occasion in order to alert the rangers to what he believed to be the sound of an injured kangaroo (which he recognised from having heard a similar sound when attending a roadside situation after a collision between a kangaroo and a car). The Code of Practice for killing kangaroos, for all its faults, does at least require that a wounded kangaroo be put out of its misery before any others are killed. After a brief look around, the rangers decided the kangaroo distress call was actually a fox (the sound of a fox is entirely different and quite unmistakable). They called the police and the elderly man was arrested.

The magistrate found that the shooting company for whom the shooter worked (and therefore was its agent) was a government official because the company was shooting under a contract to the government; and that the defendant's actions had hindered this "government official" from shooting kangaroos.

However, she then found the licence to be invalid because it referred to the wrong clause of the Nature Conservation Act. So, while the shooter was a "government official" and he was "hindered", he could not be regarded as exercising his function as a government official because that would require a valid licence.

She did however find the elderly man guilty of hindering an actual government official, the ranger who was designated "incident controller" for the night's shooting (under the invalid licence), because he was not, himself, doing the illegal killing⁴⁰.

This decision was overturned on appeal to the Supreme Court. The Judge ruled that a person cannot "illegally hinder an illegal activity"⁵².

This utterly obvious decision was a great relief to all involved (except, presumably, the government officials and the magistrate who made such a blatantly erroneous decision), but it is not the reason the magistrate's ruling should have been set aside.

The man who blew the whistle blew it first to alert the shooters to his proximity to the shooting in a place where he had every lawful right to be; he did it to safeguard his own life, not to hinder the shooting. He blew it and yelled the second time to alert the rangers to a wounded animal that needed to be euthanased, not to hinder the shooting.

Dangerous shooting on reserves in 2016

The 2016 slaughter began on 16 May 2016, under the same invalid licence. The Supreme Court decision was not made until the slaughter was almost over. In previous years, the government has posted a press release about the slaughter on its website. In 2016, the government did nothing so openly, allowing the public to find out about the slaughter through a news report.

Although extensive signage warning of the shooting had been erected (as usual) on the gates to reserves, and extensive signage had also been erected on the gates to adjoining public recreational land, rangers and/or shooters frequently left gates wide open at night so that the signs were not visible. Several members of the public (not protestors), including cyclists who routinely practice night riding on the reserves, entered reserves at night completely unaware of any danger¹³, and have been doing so ever since. Recent changes to ACT legislation allowing the use of silencers on guns⁵⁵ places these innocent walkers and cyclists, as well as protestors and local residents, at even greater risk of becoming "collateral damage".

In 2016, no signage was erected on the fences surrounding the Rose Cottage Horse Paddocks where shooting had taken place in 2015, possibly because the adjacent Wanniasa Hills Nature Reserve was not scheduled for shooting in 2016. We assume that no shooting took place there in 2016. Certainly, there appeared to be no kangaroos left to shoot on either the RCHP or the Wanniasa Hills Reserve¹³.

Much of what used to be non-reserve public land on Mugga Lane now houses a massive solar farm. It is one of several sites where the ACT government has engaged in mass kangaroo shooting immediately prior to the building of some form of major development (see *Democracy betrayed*, below for other examples).

Notably the nature reserves of Callum Brae and Jerrabomberra Grasslands, where huge numbers of kangaroos have been slaughtered over the last few years, appear on the ACT government's planning map as "broadacre" - ie scheduled for development⁴⁵.

Perhaps emboldened by the failure of any authority to take them to task for endangering human life in 2015, the government shooters shooting on Isaacs Ridge Reserve every year since 2015 have, on several consecutive days, shot within 30 metres of early evening traffic on Mugga Lane and of protestors outside the Isaacs Ridge Nature Reserve gate¹³. I can personally bear witness to this dangerous shooting.

Documenting misbehaviour ¹³

Since 2015, protestors against the slaughter have begun to feel that our own lives now are at risk (even outside the reserves) and, more importantly, that our presence on or near the reserves is no longer an effective way of stopping the shooting.

At the same time, however, the importance of having people physically present to document the misbehaviour of "government officials" (shooters and rangers) is increasing. Protestors (including myself) have been able to document not only the illegal shooting on the horse paddocks and the shooting close to Mugga Lane that has, since then, endangered the public; we are also able to bear witness to the failure of the shooters to "euthanase" the dozens of orphaned young at foot whom any member of the public may witness lining the sides of roads bordering reserves after a night of shooting - at least while there were still kangaroos on the reserves to shoot.

We are also able to bear witness that the "popping" shots which signify that wounded animals are being "euthanased" at close range, often hours after the last of the killing shots have been heard. Under the Code of Practice, abysmal as it is, no new kangaroos should be shot until after any wounded kangaroo is euthanased.

We have also borne witness to "collateral" cruelty: kangaroos fleeing the shooting only to crucify themselves on barbed wire fences, drown themselves in dams, or bound onto the roads straight into the paths of oncoming cars.

Protestors are not the only members of the public who are routinely traumatised by bearing witness to the ACT government's cruelty. Residents who live adjacent to Canberra reserves are subjected to hours of listening to the shooting, night after night, year after year, knowing that with every shot a kangaroo they have known for years as an individual and a personal friend is having their life blasted away⁵⁵.

So far these witness statements have had no impact at all on government officials and their supposed watchdogs (see above) but, in time, they will provide a detailed record that will shame and condemn the ACT government before the entire world.

KMP 2017 - a Controlled Native Animal Management Plan

After twelve years of relentless shooting through the months between March and July, the government has still done no work at all to monitor or evaluate the impacts (either beneficial or deleterious) of its shooting program. That failure has not stopped it from changing the legal status of kangaroos from a "protected native animal" to "controlled native animal", a dangerous move because it entrenches the government's non-existent science in law.

According to the Nature Conservation Act 2014, a declared Controlled Native Animal should be managed under a Controlled Native Animal Management Plan. For this purpose the government has revised its 2010 Kangaroo Management Plan¹⁰ as the 2017 Kangaroo Management Plan (Controlled Native Animal Management Plan)¹¹, attempting to update it in several ways. As a disallowable instrument, this document has now been entrenched in law.

Since there had been no monitoring or evaluation of the ecological impacts of the slaughter over the last seven years (see above), the KMP 2017 added very little to KMP 2010. In fact, KMP 2017 removed all promises of "adaptive management". Not only has the government undertaken no adaptive management to date; apparently now, it never intends to do any.

KMP 2017 promotes the alleged desirability of one kangaroo per hectare from "a guess" and "wrong" (at ACAT 2013)^{2d} to "current knowledge"^{11d} - without any more data, nor any more coherent argument to support it other than was cited in KMP 2010, and despite Fletcher's own research of 2006 (see above) and the CSIRO Plant Industries report of 2014 (see above) directly contradicting it.

It also claims that it is somehow more humane to kill nursing mothers during the ACT killing season, March to August because fewer of them will have dependent at-foot joeys to be orphaned by the killing ^{11k}. This is obviously wrong since there are only 12 months in a year and kangaroo joeys remain dependent on lactation for proper nutrition until they are 18 months old; this means there is no time of year when a female kangaroo is unlikely to have a dependent at-foot joey in her care.

According to Don Fletcher at ACAT (see above), the one kangaroo per hectare assertion is based on nothing more than the observation that kangaroos eat grass and therefore reduce herbage mass^{2c}. The assumption seems to be that that more herbage mass is somehow better for biodiversity than

diversity of herbage mass, a view which appears to contradict the very meaning of the word "diversity".

The KMP 2017 has now built on its 2010 assertion that killing 40 per cent of kangaroos every year on rural land is necessary to maintain a population density of one kangaroo per hectare. Its attempted justification: that kangaroo populations in the ACT have been known to grow as fast as 40 per cent per year^{11e}. (As noted above, this is biologically impossible for free living kangaroos under natural conditions). The only citation for this assertion is an ACT government "information" sheet (which should read "propaganda" sheet) which itself refers to no supporting evidence.

In support of its assertions that kangaroos in Canberra are a threat to threatened species, KMP 2017 now cites "eight" papers^{11f}. A close examination of these eight papers voids the legitimacy of these citations. One of the eight papers does not even mention kangaroos. The remaining seven papers (by only four authors) present research which show that kangaroos, by eating grass, are capable, under some circumstances, of suppressing the populations of some of the animals and plants with which they share their habitat. Given the critical ecological role of kangaroos is maintaining suitable habitat for all the other plants and animals that share their habitat, it would be strange if kangaroos did not do so. This, after all, is how ecosystems work. This is precisely the role of a keystone species.

Without any baseline studies to determine the normal (ecologically healthy) variability of kangaroo impacts on other plant and animal populations, no conclusions can be drawn from these papers that kangaroo impacts are deleterious to any other species in the long term. In fact quite the reverse is likely: that kangaroo grazing suppresses other species in the ecosystem only in accordance with their need to be suppressed under certain environmental conditions.

The authorship of the seven papers which mention kangaroos is also curious^{11g}. All seven papers are co-written by at least one of the other authors or co-authors. Three of the papers are written by a (former) ACT government employee who appears to have worked in the area of the government responsible for killing kangaroos, and (on the basis of his own acknowledgements) to have been supported in his studies (either financially or morally) by his former employer. At least one of this author's papers is co-written by Don Fletcher himself.

Essentially, all the four authors and their co-authors seem to share joint responsibility for all seven papers. This is too narrow a range of authorship to draw conclusions that are so vastly at odds with all the independent research showing that kangaroos are a keystone species without which many other species will decline and die.

Furthermore (without prejudice to their individual competence or integrity), this group of authors can scarcely be regarded as any more independent of the ACT government than an "ecologist" who works directly for the government; there are too many ways in which professional scientists depend on government funding (eg grants, scholarships, partnerships, consultancies); and the acknowledgement pages in these papers generally express thanks to the ACT government for some form of financial, in-kind or moral support.

Finally, the authors and co-authors of these papers are definitely not independent of Australia's general killing culture. They are all associated with the Fenner School of Environment and Society which has a long history of involvement in lethal animal "management". They seem to be associated

with a relatively new discipline known as "applied ecology" which appears to be a branch of agricultural science and to have very little to do with actual ecology.

In other areas, KMP 2017 just repeats misleading statements and assurances from KMP 2010:

- the frequent references to the code or practice as though it somehow prevents cruelty when, in fact (see above), the code's function in law is to permit cruelty;
- the erroneous assertion that it is less inhumane to kill kangaroos from March through July than any other time of year ^{11h};
- the prohibition on translocating kangaroos ¹¹ⁱ and on rearing and rehabilitating orphaned and injured kangaroos ^{11c}.

There is much in both KMPs that is well researched and plausible, but none of this material in any way supports the killing of kangaroos.

Meanwhile, the only study (by CSIRO Plant Industries - see above) commissioned by the ACT government to report on the interactions of kangaroos and the environment on ACT reserves, found that kangaroos up to three per hectare (and no more than that were present on any of the reserves studied) were generally beneficial to the environment. That study was neither mentioned nor referenced in KMP 17.

Fertility control as an alternative to killing

For a short while, in 2013-2014, the ACT government attempted to reassure the public on the kangaroo issue by announcing a fertility control "trial" ⁵¹. Many animal and environmental advocates dismissed this announcement as a publicity stunt since the proposed "trial" would not reduce by a single kangaroo the number of kangaroos the government proposed to kill in the foreseeable future.

The government's fertility control trial has also been condemned by advocates of kangaroo fertility control, who regard the government's approach as ludicrously wasteful of public funds and unlikely to be either effective or humane.

From an ecological point of view, even if it had been offered as a replacement for kangaroo killing and even if it were potentially effective and humane, fertility control of kangaroos would be as unsupportable as killing kangaroos. Because eastern grey kangaroos breed so late and so slowly, because they stop breeding altogether when food is scarce, because they have such a high infant mortality rate, and because their population may already be an order of magnitude smaller than it was at the time of European settlement ^{42b}, fertility control (potentially a humane and effective approach for a fast-breeding species) would simply be a less inhumane road to extinction for kangaroos.

If kangaroo extinction is inevitable, which many informed people believe it is if the current national massacre continues, many animal advocates regard fertility control as a preferable way of achieving it than killing, and therefore support it as an alternative to killing. But no animal advocate or environmentalist that I know of regards kangaroo fertility control as desirable, it is merely a less inhumane way of ensuring that kangaroos become extinct.

Notably, KMP 2017 reports that one immunocontraceptive fertility control agent, Gonadotrophin Releasing Hormone, has proven highly successful, but the government still appears to have no intention of recommending it as an alternative to slaughter^{11j}.

Translocation as an alternative to killing

Translocating excess (or all) kangaroos from the Canberra Nature Park to other areas of habitat (eg private properties both in the ACT and across the border, who are willing and eager to take them, or to the vast areas of Namadgi National Park where the kangaroo population has not recovered since the fire of 2003, let alone 2019-20), has always been a humane alternative to killing.

Translocation, along with (surgical) fertility control, was used in the ACT at Government House in the late 1980s or early 1990s (see above). Even though the translocation was not the "soft release" that is normal practice for kangaroo and other wildlife relocations today, no deaths, injuries or visible signs of distress occurred among those that were translocated (see above).

In spite of this positive local experience, translocation was "not considered appropriate" in the KMP 2010^{10f} on the grounds of "welfare" and monetary expense. Since welfare was demonstrably not plausible as a reason for this position, one must assume the entire reason was monetary expense. The source for this view in KMP 2010 was to the Australasian Wildlife Management Society (AWMS); its very title indicates that this is not an organisation which is likely to make welfare a priority. The attitude was most likely just: kangaroos are not on the threatened species list so why bother?

The 2017 KMP is just as adamant about translocation¹¹ⁱ stating that: "Translocation of kangaroos will not be permitted as a management solution". For its source for this assertion it uses, of all things, the ACAT 2014 hearing in which the Tribunal concluded that: "the technical development of translocation ...has not progressed sufficiently at this stage as to allow it to be considered a practical alternative to culling by firearms".

The Tribunal itself had no expertise on which to base this conclusion. The Tribunal appears to have demonstrated its usual incompetence by accepting the assertions of government officials without considering the evidence of independent experts, several of whom were present and ready to give evidence on the matter.

Translocation from open reserves is likely to be criticised by some in the ACT community because moving kangaroos out of a reserve will simply provide an opportunity for other young kangaroos dispersing from adjoining land to move in. However, this is a specious argument since this is equally true of killing them. In any case, given the speed with which kangaroo numbers are crashing in the ACT and across NSW, either way, there will soon be none left outside the reserves to replace those killed or moved.

Translocation (along with both killing and fertility control) also poses a risk to other native animals that depend on the presence of kangaroos on the reserves. As discussed above, kangaroo grazing is essential to the survival of many other native species, and earless dragons (at least) seem to thrive in landscapes where kangaroos in unmanaged densities are present. Removing all or too many kangaroos from native grassland and open woodland habitats will almost certainly lead to the local (at least) extinction of some of these dependent species. Once again, the view of animal welfare

advocates is that if these other native animals on ACT urban reserves are to be driven to extinction by kangaroo removal anyway, it would be far better if the kangaroos at least survived the process (ie were relocated elsewhere rather than killed).

Despite the KMP's ill-informed assertions, translocation remains an ideal solution for unwanted mobs of urban kangaroos, especially those cut off from alternative habitat by new suburbs. It would, for example, have been an ideal solution for the kangaroos at the BNTS.

During 2017, a highly successful translocation of kangaroos from the Mount Panorama racecourse in Bathurst to a private property some distance from the city was undertaken²⁶. No welfare problems arose. I personally participated in this translocation and can confirm that, when translocations are undertaken by experts who both know and care what they are doing, the animal welfare risks are minimal¹³.

This project serves as a model for future large-scale translocations, and has helped to expose the more general ignorance of gainsaying governments and the thousands of lives that could have been saved if they had adopted translocation instead of slaughter.

Democracy betrayed

Every year, democratic processes, laws protecting human life, as well as animal life, and laws protecting human freedoms are being eroded in the ACT.

The government has persistently lied to the public about its reasons for killing kangaroos on ACT reserves. Its dishonest claims include *inter alia*:

- that the Code of Practice protects animal welfare, whereas in fact the Code's purpose is to permit cruelty that would be prohibited under the Animal Welfare Act (see above);
- that the slaughter is conducted for ecological reason, whereas in fact kangaroos are a keystone species and are critical (at natural densities) to the survival of other plants and animals on the nature reserves (see above);
- that volume of biomass is an indicator of biological diversity, whereas it can often be an indicator of the reverse (see above); and
- that kangaroo grazing is a threat to a long list of otherwise threatened native species, whereas: there is no evidence for this cited in either KMP; kangaroo grazing is not listed as a threat to any of these species; there is plenty of evidence that some of these species are thriving in places (eg the adjoining Queanbeyan Nature Reserve) where kangaroos have never been killed; and Don Fletcher himself has admitted that these claims are PR.

The government has repeatedly suppressed, harassed and undermined any scientist, however highly qualified, whose work challenges the pervasive cultural obsession with killing kangaroos (also other native and naturalised animals but with a particular, irrational mindset against kangaroos).

The government has engaged in seemingly cynical, hypocritical or incomprehensibly contradictory statements in order to deceive the public:

- whichever claim suits them on the day: good seasons = heaps of kangaroos, ergo we need to shoot them; bad seasons = kangaroos are starving, ergo we need to shoot them;
- whichever claim suits them on the day: government spokesperson to ACAT 2009: kangaroo are sedentary, and prefer not to leave home ranges, therefore those killed will not immediately be replaced by immigration; government spokesperson to ACAT 2013: every kangaroo killed at Googong 2004 was replaced within months by immigration, therefore kangaroo immigration explains population increases in Canberra Nature Park reserves that would be biologically impossible by reproductions alone;
- claims that culling is to protect threatened species when developments have so often followed the killing, and consequently killed every living thing that the cull was alleged to be protecting (Lawson, Googong, Mugga Lane tip, Mugga Lane quarry, Mugga Lane horse paddocks, roads, bike paths, the Long Gully Solar Farm, the proposed Southern Memorial Park, the Majura Parkway and the Majura solar park).
- The government has systematically eroded the public's right and capacity to protest against the government's cruelty and ecological vandalism.
- Government Ministers have accused innocent people of anti-social crimes, for the purpose of turning the public against the kangaroos' cause. The news media in the ACT has allowed them to get away with it³⁵.
- The government has permitted/ordered the police to harass lawful protestors, and to arrest people on serious charges for exercising their lawful right to protest on land where they have every legal right to be¹³.
- The Police Ombudsman considers that the decision by ACT Policing to allow the ACT government to put human lives at risk was neither "deficient nor irregular"^{14j}.
- The government, apparently, considers itself exempt from obligations either to protect the public from its hired guns or to respond to complaints from people whose lives have been put at risk^{14a-j}.
- The Ombudsman has been legislatively prevented from investigating the behaviour of the government officials who have put human lives at risk^{14g}.
- The Commissioner for the Environment and Sustainability denies all responsibility for investigating the misbehaviour of ACT government environmental managers^{14h}.
- The ACAT has proven itself to be (at the very best of all possible interpretations) incompetent in this matter (see above).
- The old Nature Conservation Act 1980 has now been replaced by a new Nature Conservation Act 2014⁴⁶. This new Act allows a declared "controlled native species" to be killed without a licence. The government has now declared kangaroos a "controlled native species". Thus government officials have exempted themselves from even the rubber stamp of having to apply for a shooting licence, and from any further challenge through the ACAT.
- The government has turned its KMP 2017 into a legal instrument giving legal weight to all its unfounded assertions and cruel and environmentally damaging commands.

Concluding thoughts

Despite lip service to an intention to retain "some" kangaroos in Canberra, the actions of the ACT government demonstrate a determination to achieve complete local extinction of this species.

In fact, given the complete absence of any kangaroos to be found anywhere in the Canberra Nature Park following every shooting season since about 2015, they have already done so. Any kangaroo to be found in the Canberra Nature Park in time for the following year's shooting has arrived via inward migration, either escaping from ongoing shooting on ACT farms, or from the fires of 2019-20 in Namadgi and surrounding NSW, or escaping from the completely unregulated shooting and land clearing now permitted in NSW. The saffron thistle explosion pervading reserves in 2021, which currently excludes almost any animal life from several reserves, has assisted the government in its extermination campaign.

Successive ACT governments, their agencies, their advisors and even their supposed watchdogs appear incapable of doing the job the public pay them to do when it comes to kangaroos, or recognising any misconduct associated with killing them.

The mainstream news media seems to be incapable of conducting rigorous investigative journalism in relation to kangaroos.

Scientists who are employed or funded (or partially funded) by industries and governments that are committed to "lethal control" in general and killing kangaroos in particular are inherently incapable of being considered reliable experts in regard to kangaroos, while independent scientists who try to tell the truth are routinely harassed, ignored, suppressed or sidelined.

Everyone in a position of power or influence appears to be in denial on this issue. A number of speculations arise:

- Perhaps this denial is a cultural meme, a continuation of the "kill everything that's already here and make the place more like home" mindset which has pervaded the European invasion of Australia.
- Perhaps the agistment fees the government receives for grazing cattle on reserves where kangaroos have been exterminated is a factor.
- Perhaps there are kick-backs to the government from developers for getting rid of the kangaroos so they (the developers) don't have to bother.
- Perhaps, as elsewhere in Australia, the government is too easily influenced by the agricultural lobby; farmers have always hated any living thing that challenges their right to do whatever they like on what they perceive to be "their" land.
- Perhaps it is bureaucratic empire building - the \$1m a year of public money provided to ACT Parks and Conservation³⁰ is just too much for the bureaucrats to give up.
- At worst, perhaps the "culled" kangaroos are secretly being supplied to the corrupt and lucrative international pet food market.
- Or, perhaps it is just too painful for people to admit to themselves that they have caused so much suffering so needlessly to so many for so long.

What seems to be indisputable is that no-one could continue to hold the view that mass killing of kangaroos is necessary or tolerable if they would only go to the trouble of acquainting themselves with the biological facts about kangaroos, the Australian environment, and the suffering inflicted on individual animals.

Throughout human history, similar cruelties have been gradually abolished as understanding has changed - one glimmer at a time. In a few generations, whole paradigms have shifted. Little more than a hundred years ago, enslaving orphaned, four-year-old humans in workhouses was considered acceptable behaviour. Nowadays it would be unthinkable.

Sadly, it is also true that humans have driven vast numbers of species to extinction before the general public had a clue they were doing it.

Right now, it is still in the balance which of these two futures lies in store for kangaroos, although every day the latter is looking increasingly likely. What is certain is that it will be one or the other.

It seems all too likely that the only thing that will force politicians and bureaucrats to change their attitudes to kangaroo killing is a huge public backlash which makes them fear for their jobs. Tragically, this backlash may not occur until after the last kangaroo is dead - and nothing remotely like it will ever live again anywhere on Earth.

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