

To: [Environment](#)
Subject: Draft ACT Kangaroo Management Plan (KMP)
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**Animal Protectors
Alliance**



Manager
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Dear Sir/Madam,

**Draft ACT Kangaroo Management Plan (KMP)
and proposal for KMP to be made a ‘controlled native species management plan’
Submission from the Animals Protectors Alliance (APA)**

The Animal Protectors Alliance (APA) is an informal affiliation of individuals and representatives of organisations that are committed to the protection and liberation of all animals from all forms of human cruelty. Cruelty, for our purposes, includes all indirect suffering caused by anthropogenic environmental impacts.

Our interest in the KMP is therefore threefold: protecting kangaroos from unnatural suffering and death; protecting all other native animals from environmental degradation resulting from the mismanagement of kangaroos; and protecting the environment which sustains all sentient beings locally and globally.

The attached submission provides detailed comments on the draft ACT Kangaroo Management Plan 2017 (KMP) and the ACT government proposal to adopt it as a ‘Controlled Native Species Management Plan’.

Yours sincerely



Co-founder





ACT KANGAROO MANAGEMENT PLAN SUBMISSION FROM THE ANIMAL PROTECTORS ALLIANCE (APA)

The APA opposes:

- the government's declaration of kangaroos as a 'controlled native animal';
- the adoption of the 2017 Kangaroo Management Plan (KMP) as a 'controlled animal management plan';
- the adoption of the 'conservation culling calculator' and the 'rural culling calculator' as legal instruments; and
- the assumptions, assertions and conclusions of the 2017 KMP as detailed in our submission below.

Please note that this submission will be published on our web page.

Key issues

The KMP lacks credibility on many issues noted in this submission, but our primary concern is with the following three matters:

- lack of evidence to support large-scale killing of Eastern Grey Kangaroos (referred to in this submission as either 'kangaroos' or 'EGKs) in the ACT;
- the cruelty of (especially large-scale) slaughters of kangaroo; and
- the prohibitions on hospitalisation, rehabilitation, release and translocation of kangaroos.

Lack of credible evidence to support the notion that kangaroos cause environmental damage

The papers on which the KMP's entire case rests

No credible evidence is established in the KMP for concluding that eastern grey kangaroos (other than in protected captive situations) are either:

- in any danger of overpopulating their habitat's carrying capacity; or
- capable of having a deleterious environmental impact.

The Animal Protectors Alliance (APA) questions the claim that 'extensive peer reviewed research' underpins the KMP 2010 and therefore KMP 2017 (p5). Certainly many references are included in the bibliography, but most of these do not support either of the above assertions.

We note that the KMP seems to base its entire case for claiming that kangaroos in the ACT are in 'high' densities and are capable of damaging the environment, on only eight studies (p16) by only five authors.

One of these paper, Dimond, re earless dragons (p16), is cited as supporting assertions that kangaroos are causing a decline of Earless Dragons in the ACT. In fact, this paper does not even mention kangaroos. Meanwhile, the actual current evidence suggests the opposite. A recent NSW government study in the Queanbeyan Nature Reserve, which physically adjoins the eastern end of the Canberra Nature Park but where kangaroo have never been slaughtered, the Earless Dragons are making a major comeback¹. Without reading every paper in detail, we have no reason to believe the findings of the other seven papers have not been similarly misrepresented.

The papers also appear to be far from independent. Two of the three were co-written by the ACT 'Chief Ecologist' who is, obviously, very far from independent. Three of these papers were written by an ACT government employee (or former employee). At least three of them include ACT government publications in their own source material. Several of the authors mention support from the ACT government or its officers in their acknowledgments. All five authors are associated with organisations to which it is likely the ACT government provides some financial arrangements.

Four of the five authors are also identified as associated with the Fenner School of the Australian National University. The Fenner School is closely associated industries and government programs that kill animals. None of them can be assumed to be entirely independent of the animal killing culture.

The KMP claims all these papers have been peer reviewed but, without knowing the details of whoever peer reviewed them, we have no reason to assume the peer reviewers were themselves independent of the ACT government and/or the 'lethal control' mind-set.

We certainly dismiss the review of the ACT government slaughter program which was obtained from Kurahaupo Consulting (p5). Kurahaupo Consulting appears to be a 'pest' management consultancy business, so this reviewer is unquestionably not independent of the 'lethal control' culture. Additionally, the Kurahaupo Review was analysed and dismissed as worthless by a respected and entirely independent retired CSIRO plant scientist, Dr William Taylor at ACAT 2014².

If further concern is the narrow range of experience represented by these four authors (we exclude the Dimond who is clearly irrelevant to this discussion - see above). One almost has the impression that all seven papers are the work of a single collaborative group of authors which includes the ACT 'Chief Ecologist' and several other recurring names associated with the Fenner School. One Fenner professor, David Lindenmayer, co-wrote no less than six of the eight papers.

The Barton paper is cowritten by Manning and Lindenmayer. Two of the Howland papers are co-written by Manning, two by the ACT Chief Ecologist, and all three by Linder Mayer. Both the McIntyres are co-written by Manning, and one by Lindenmayer. The Manning is also co-written by Lindenmayer.

This close-knit group of 'authors, at least five of them associated with a single institution (the Fenner School), simply does not represent a wide enough range of experience for the KMP to cite their views as, all by themselves, justifying an annual unnatural massacre of thousands of native animals, and the suffering it inflicts on those animals.

In short the KMP cites not a single item of credible, independent science to support its annual kangaroo slaughter.

By contrast, all the scientists who, for decades now have argued against kangaroo killing because it threatens not only the survival of kangaroos as a species but also many other aspects of ecological diversity, are entirely independent (eg Rawlinson, Auty, Croft, Ramp, Ben Ami, Mjadwesch to name just a few).

Other native species are threatened by artificial reductions in kangaroo grazing intensity

Many of the other papers cited in the KMP support APA's own understanding of the critical role of kangaroos in maintaining the biological diversity of Australian grassland and open woodland environments. For millions of years, kangaroo grazing maintained the balance, mix and diversity of Australian ecosystems. Their populations (other than in captive or protected situations) cannot grow faster than 9-10% per year^{3,4}. When left unslaughtered by humans, their populations within any given area of habitat tend to stabilise in dynamic equilibrium with their environment^{4,5}.

Presumably, the range of population densities which constitutes 'stable' in a given habitat will vary with climatic conditions, but will generally be the right number of kangaroos to maximise the ecological health of the mix of other species sharing their ecosystems. Some of the other species will decline when kangaroo densities are relatively high while others prosper, and the reverse may (or may not) occur when kangaroos populations are relatively low.

Since kangaroos have been doing this for 5-15 million years, whichever the direction of the resulting fluctuations in populations of other species participating in the ecosystem, these fluctuations themselves maximise the survival and well-being of all participating species. In other words if a species population is low because a good season has caused the kangaroo population to be relatively high, or because a bad season has caused kangaroos to graze closer than usual to the ground, both these impacts are almost certainly a good and necessary thing for both the suppressed species and the rest of the ecosystem.

At one level the KMP recognises this principle, acknowledging that kangaroos are a keystone species (p13). In fact, all of the KMP's claims that kangaroos damage the environment rest on three assumptions:

- extreme human intervention in natural processes has caused many species to become threatened;
- sometimes, during periods of higher than usual kangaroo density, some of the species the kangaroos are suppressing (quite appropriately, under natural conditions) happen to be threatened species;
- because of their already reduced numbers, there is a risk that high density kangaroo grazing, instead of being merely a routine fluctuation which benefits all species in the long run, might be the last straw for some of these threatened species.

The KMP regards suppressing a threatened species, no matter how ecologically necessary this suppression might have been before the species became threatened, to be 'a bad thing'. The KMP's solution is to engage in yet more extreme human interventions – annual mass slaughters of kangaroos. The whole idea that you can fix the problems caused by one ham-fisted intervention with another ham-fisted intervention defies logic.

Even if reducing kangaroo numbers were the only way to save some of these threatened species, the cost would be a huge increase in the threats that would face many other species (threatened or not yet threatened) because the benefits of kangaroos grazing at their natural density cycles have been disrupted. In fact the constant reduction in kangaroos is very likely to result in species not yet threatened becoming threatened. Since 2010, the ACT government does not appear to have

undertaken any monitoring for these types of impacts, nor does the KMP cite any studies that might shed light on these types of impacts.

Given the importance of kangaroos to maintaining so many other ecological processes, wiping out thousands of them every year (irrespective of seasonal and climatic conditions and any resulting fluctuations in populations of other ecosystem components) in the hope of saving one of two not-so-keystone species seems wildly irrational.

If a population of a threatened species is so low as to be threatened by the species on which all species in the ecosystem (including the threatened species itself) depend, surely it would be infinitely more sensible to let the kangaroos get on with their job while undertaking specific breeding programs to increase the populations of the threatened species. The ecosystem could then be repopulated (gradually, and at times when seasonal conditions are right) with the threatened species.

However, in the long run, clearly the only way any native species are going to survive the damage humans have done, and continue to do to their habitat, is for humans to stop doing that damage. In the ACT, while kangaroos are being blamed so vocally and erroneously for the loss of threatened species, the real culprits continue unabated: grazing by sheep and cattle on former wildlife habitat; and unbridled urban expansion and infill.

The cruelty of (especially large-scale) slaughters of kangaroos

The Code or Practice is inhumane

The assertion that the *National Code of Practice for the Humane Shooting of Kangaroos and Wallabies for Noncommercial Purposes*⁶ somehow makes the slaughter of kangaroos humane is ludicrous. Even assuming shooters comply with this Code, itself a matter of some dispute, the Code itself permits a staggering level of cruelty.

The references to this Code in the KMP are numerous (pp 5, 6, 8, 29, 30, 31, 32, 35, 36, 38, 43, 53 and 55). Yet the entire legal function of a Code of Practice under ACT law, is to exempt from prosecution acts of cruelty that would otherwise be prosecuted under the Animal Welfare Act⁷.

The kangaroo killing code the ACT government has adopted permits:

- pouch joeys to be bludgeoned to death;
- at-foot joeys to be orphaned and abandoned to die of hypothermia, dehydration, starvation, myopathy, fox predation and car strike;
- mob structure to be destroyed and survivors kept in a state of unremitting terror.

Prior to 2014, the ACT had its own *Code or Practice for the Humane Destruction of Kangaroos*⁸, developed by the ACT government's own Animal Welfare Advisory Committee (AWAC). It shared many (but not quite all) of the cruelties permitted by the current Code. This former Code made only recommendations - it was not mandatory.

Notably its recommendations were ignored during the kangaroos slaughter at the Belconnen Naval Transmission Station (BNTS) in 2008, resulting in terrible cruelty which was defensible by the Code, but which the ACT government declined to prosecute (not surprising since the cruelty was authorised by the ACT government).

In 2009, state and Territory representatives released a national model code for the non-commercial shooting of kangaroos. Like all such codes, it represented the lowest common denominator that the states or territory governments with the weakest welfare legislation was prepared to accept.

Considering this new national model Code inadequate to both the unusual relationship between people and kangaroos in the ACT, and to the high welfare expectations of the ACT population, the AWAC developed a new ACT-specific Code which incorporated the best of the old Code and the model Code. This ACT specific Code was recommended to the Minister. For unfathomable reasons, the Minister rejected this Code and adopted instead the model (lowest common denominator) Code unchanged.

A recent Commonwealth government paper (McLeod)⁹ confirms that inherent cruelty of large-scale kangaroo slaughters, whether commercial and ‘management’ driven (as endorsed by the relevant Codes of Practice), comparing the bashing to death of joeys to the slaughter of baby harp seals for the fur industry.

KMP has got the ‘season’ wrong’

Additionally, the KMP is quite wrong in asserting that the ACT government does its killing during a ‘season’ when female kangaroos are likely to have fewer milk-dependent young than at any time of year (p31).

If kangaroo young are mainly born in summer as stated in the KMP (p12), then the ACT killing season, March through July, takes place at a time when every mature female kangaroo has both a pouch young aged 1-8 months, and most have an unweaned young at foot aged under 18 months. Older unweaned young might not need as much milk as younger ones but they will still die without any.

The only time of year when fewer young at foot will be orphaned by the slaughter of mothers would seem to be from the end of August until mid-October, when the oldest of the older young are weaned and the oldest of the younger young have not yet become young at foot.

At ACAT 2014, Dr George Wilson confirmed the annual orphaning of an entire ‘ghost’ population of at-foot young¹⁰. Over the last seven years, numerous eye witnesses have reported (and some have made statutory declarations) concerning the vast number of unattended at-foot young lining the streets surrounding reserves after a night of shooting during the five months between February and August.

The prohibitions on hospitalisation, rehabilitation, release and translocation of kangaroos

The KMP’s discussion of whether wildlife carers should be permitted to hospitalise, rehabilitate and release kangaroos (p32) is entirely misinformed and misleading, as is the discussion of translocation (p34). The KMP authors would know this if they had consulted any person with daily experience in these matters.

Throughout the range of Eastern Grey Kangaroos, in NSW, Victoria and Queensland, there are hundreds of experienced carers who rescue, hospitalise, rehabilitate and release kangaroos every day of their lives. These animals are frequently released at sites well away from their former range (ie translocated) because their former range has either ceased to exist or become too dangerous.

These wildlife care practitioners are highly skilled and their efforts almost always successful. Because the process is undertaken by experts who care about the animals as individuals, the welfare of the rescued kangaroo is not compromised in any way by the rescue, the rehabilitation process, or the release. Nor is the welfare of the kangaroos or other animals already occupying the new home range compromised.

None of these animals appear to suffer any of the welfare problems mentioned by the KMP. However, even if there were minor welfare risks involved in translocation, they are so utterly trivial in comparison to the welfare impacts of the current shooting regime that they do not even warrant mention.

As we write this, a translocation of some 300 kangaroos is taking place at Mount Panorama, fully supported by Bathurst Regional Council simply because, although expensive from the point of view of just a rural council, it is the only humane solution to a serious problem.

Apparently the writers of the KMP have also forgotten their own local history. Translocation, as well as fertility control, were undertaken with complete success (ie no animal welfare issues) at Government House in the early 1990s. All the translocated kangaroos survived and were accepted into local mobs.

This translocation was undertaken without any of the current soft relocation techniques nor the expertise which has been developed since then. In any case, any minor welfare issues translocation might involve are orders of magnitude better than being shot, bludgeoned or dying of cold, hunger, stress, predation or car strike.

APA does not support translocation of kangaroos except as a humane and viable alternative to shooting. The KMP has presented no independent evidence to suggest that there are, or ever will be too many kangaroos in the ACT for their own, or the public's, or the ecosystem's good. But, whether or not translocating kangaroos is necessary or desirable, we would still support translocation as an alternative to slaughter.

We strongly advise the authors of the KMP to revise the KMP's position on rescue, hospitalisation, rehabilitation for release, and translocation of kangaroos.

Other matters raised in the KMP

Public opinion surveys reveal nothing useful

The public opinion surveys (pp5,27) are obviously irrelevant in regard to whether kangaroos have deleterious environmental impacts. They are only a measure of how successful the ACT government's propaganda machine has been.

The surveys were paid for by TAMS and it seems unlikely the government would pay to undertake a survey without constructing and conducting it in such a way that the results would support their entrenched policy of annually slaughtering kangaroos.

The way the questions are phrased in the 2015 Survey would have made it impossible for many reasonable people not to appear to favour some form of 'culling' (which some would assume means only euthanasing sick or starving kangaroos). If 'culling' really were to prevent starvation during times of drought (which it never has been), or to conserve grassland and woodland animals (when in fact it seems to be doing the opposite), of course many reasonable people would have to say they agree with it.

Additionally, the 2015 survey did not report details of its methodology: how respondents were selected or whether they were conducted from a random sample. It is perfectly possible the survey was conducted among community groups that are pro-slaughter lobbyists, or groups that rely on the government for their funding.

In fact, many ACT residents might well believe the government's propaganda that the slaughter is about preserving plants, animals and ecosystems, and the government's claims that it is humane. This does not mean that these assertions are either true or supported by any credible evidence. It only that means the government has the financial clout to swamp the public with misinformation.

How does the recent increase in reserve habitat offset sweeping loss of other ACT habitat to development?

The KMP claims (p5) that reserve land in the ACT has increased with extensions to Mulanggari and Gungaharra Nature Reserves. This may be true but, at the same time, vast tracts of open land where friendly urban mobs of kangaroos used to live have disappeared under roads, suburbs and at least one massive solar farm. There was no reason why the solar farm should have precluded wildlife but sadly it has because the panels are set too close to the ground for kangaroos and the land is completely fenced off. This means none of the other species which depend on kangaroos will be able to survive there.

Other beautiful reserves including Callum Brae, where relentless kangaroo slaughter has taken place almost every year, appear to be zoned as 'Greenfield'¹¹ (ie scheduled for future development).

Species threatened by kangaroo reduction

The KMP notes (p6) that *some threatened grassland plant and animal species are now restricted to only one or a few scattered populations and are highly vulnerable to adverse changes in their habitat.* This is certainly true. However, the KMP goes on to suggest that kangaroos might be among such adverse impacts.

In fact, most of these changes in habitat are caused by the habitat modification brought to Australia with the European invasion, and have been exacerbated by the relentless war waged against the kangaroos whose grazing is critical to the survival of these species.

They have not, according to any evidence, (other than the papers discussed under *Key issues*) been exacerbated by kangaroo grazing. It is likely that ACT government's kangaroo killing campaign will ensure the extinction of these species.

BNTS defames animal rights campaigners

The KMP asserts (p8) that *While there are animal rights campaigns regarding kangaroos, there are no equivalent campaigns for the protection of these small grassland plants and animals.*

This is rubbish. Animal rights campaigners, by definition, care about all animals. Campaigns to save the kangaroo are inherently also campaigns to save the animals with whom they share their habitat.

Home range and fecundity

Home Range

The KMP asserts (pp11,51) that *EGKs show high fidelity to remarkably small home ranges for such a large, mobile animal (female home range approximately 0.5 square kilometre, male home range approximately 1.0 square kilometre).*

The KMP appears to be mistaken in this assertion, for which no citation is given except the Chief Ecologist's own unpublished data (which, as mentioned above, cannot be considered independent and which we therefore do not regard as plausible).

Like pretty much all other animals on Earth, the home range of a kangaroo expands and contracts with the availability of food, water and shelter. In Queanbeyan, kangaroos, in time of drought, routinely move many kilometres down the Queanbeyan River to graze at the Golf Course and suburban laws. In Canberra, if they survive the deadly roads that divide their habitat, kangaroos seem to regard several different reserves, covering well over a kilometre as part of their home turf (eg East Jerrabomberra, West Jerrabomberra, Callum Brae, Mount Mugga Mugga and Isaacs Ridge). Additionally, young male routinely disperse from their native ranges across Canberra suburbs to establish a new home range on other reserves, farms or open land.

The ACT 'Chief Ecologist' is well aware that, after the ACT government's slaughter at Googong in 2004, the reserve was immediately repopulated with kangaroos from the surrounding farmland, and from the corridor downriver. Many would have had to travel well over a single kilometre to establish the widespread mobs that quickly reappeared in that very long and narrow reserve.

If the established mobs (not including dispersing youngsters) in the Canberra Nature Park were, at one time, slow to move far from their home ranges, it was undoubtedly because they did not need to. The reserves provided food, water, a (moderately) suitable environment, and were safe from the routine slaughter occurring in farmlands. Staying put also meant they did not have to cross deadly roads.

Now, however, the lie is put to this assertion of 'high fidelity' every year, as the Canberra Nature Park reserves are left utterly devoid of kangaroos, all slain or fled. Many of those who have fled have travelled for many kilometres (as they have evolved to do over millions of years of escaping from other predators). Many do return, if they can, to their old range when it seems safe, often just in time to be slaughtered the following year.

Fecundity

The KMP (pp11,68) also states that *ACT data show high levels of fecundity even at high population density and low per capita food availability. This is probably typical of temperate populations.* Again, no citation is given for this except the Chief Ecologist's own PhD thesis.

The statement that fecundity of kangaroos in temperate regions is unlikely to vary as much as it does in drier areas is reasonable, and seems to be supported by independent evidence. But that is simply because it is far less likely for kangaroos in temperate regions to be food stressed.

It is well established (Burnie and Wilson 2001) that EGKs do not produce young (females do not conceive, males do not produce sperm) during periods of intense food stress. If the Chief Ecologist's research really did seem to show that ACT kangaroos are utterly different in this characteristic from all the other EGKs in the world, *Occam's Razor* would seem to suggest there is something very seriously wrong with that research. It seems much more likely the low per capita food availability was not quite as low as the Chief Ecologist thought – perhaps because the mobs' home range were expanding further, in response to the food shortage, than the Chief Ecologist thought.

The reduced fecundity of kangaroos during periods of food stress could be readily confirmed or denied through consultation with the region's many kangaroo carers who rescue and rehabilitate sick and injured kangaroos, a substantial proportion of whom would, in times of drought, be food-stressed females. We assume the Chief Ecologist did not bother to consult any of these experts.

Kangaroos vs sheep and cattle

The KMP admits (p25) that: *the nature of kangaroo grazing has important advantages over domestic grazing as their diet is almost entirely grass (Kirkpatrick 1965, Taylor 1983; Jarman and Phillips 1989), unlike the diets of sheep and cattle.*

In our view, this statement does not go nearly far enough. Not only do livestock browse more ubiquitously than kangaroos, they also (because of their different dental arrangement) graze much closer to rootstock, ripping it out, rather than biting it off¹². Additionally their hard hooves can destroy soil stability and soil habitat in minutes, especially with the weight of their heavy bodies exacerbating the damage¹³. Kangaroos also consume less water than sheep or cattle¹⁴ (Munn et al, 2009). Sheep and cattle can therefore do more damage to threatened animal and plant habitat in a matter of hours, than kangaroos did in 15 million years.

If the government's concern is for native species, sheep and cattle cannot, by any stretch of scientific imagination, be used as a substitute for kangaroos. If the purpose is to destroy the ecological structure of the land as a prelude to development, sheep and cattle will do the job nicely. If the purpose is to protect the ecological diversity while managing the threat of bushfires, then the kangaroos need to be kept in place at their natural (not 'managed') densities.

Extinction processes

The KMP (p14) lists the causes of extinction of species in grassy lowlands: alienation, fragmentation, degradation of habitat and lack of recolonization following disturbance. It is astonishing that the authors appear to be oblivious to the fact that the most visible of all species suffering from these very causes of extinction is the Eastern Grey Kangaroo.

In fact, it seems to APA very clear that the only reasons EGKs are not already listed nationally as an endangered species is because of the economic pressure of farmers and the commercial kangaroo industry.

It would not be surprising if it could be demonstrated that kangaroos were, in fact, abundant in the ACT until 2008. Because of the presence, as kangaroo havens, of the ACT reserve system, open unleased Territory land, and green urban areas, and the absence of commercial hunting, kangaroos were not subjected to a scale of slaughter elsewhere in the species' range. However, this abundance could not be used to justify population reduction in one small place when the rest of the population throughout its range is in such swift and alarming decline. On the contrary, it obligates the ACT government to preserve at least one healthy population of this beleaguered species.

Because of the massive scale of the slaughter kangaroos are enduring across the entirety of eastern Australia, there are vast areas of their original range in which they now have disappeared altogether. The unremitting slaughter across an entire species whose young take nearly two years to become fully independent and to 2-5 years to become sexually mature, has pushed this entire species into serious trouble. The species population is now estimated at nearly an order of magnitude less than at the time of European settlement¹⁵.

Now, however, even in the ACT, kangaroos are most certainly not still abundant. If the ACT government's methods of counting them say they are, there is clearly something wrong with those methods. The absence of kangaroos from our urban reserves over the last few years is shockingly obvious to all frequenters of those reserves. When a counting methodology comes up with figures that defy common sense there is something wrong with the methodology.

Economic impacts – a simple solution

The underlying assumption in this section (p25) is that the economic value of the sheep and cattle farms has some role to play in determining the justifiability or otherwise of killing kangaroos.

Given how little the sheep and cattle farmers contribute to the ACT economy and the fact that kangaroos are essential to the ecological health of ACT ecosystems, it seems a no-brainer that sheep and cattle farming in the ACT should be, first of all, scaled down to accommodate an unmanaged stable population kangaroos, fully protected from shooting by farmers.

Ultimately we look forward to the day when sheep and cattle farming are phased out in their entirety in favour of more economically and environmentally viable rural industries such as plantation forestry. Some of this former farmland could also be used for solar and wind farms. However, solar farms such as the one on Long Gully Road precludes land-sharing with kangaroos. This wind-farm should be altered so that the panels are high enough to allow kangaroos to manage the vegetation underneath them.

Biologically impossible estimates

The KMP proceeds to a discussion of economic impacts of kangaroos (p25) beginning with *Impacts of kangaroos on rural and other lands*. It is in this context it makes the nonsensical claim that *Kangaroo population growth rates of up to 40% per annum have been recorded in the ACT (ACT Government 2016a)*. The citation for this biologically impossible assertion is, not unsurprisingly, any scientific source other than an ACT government propaganda document (called an ‘information sheet’) on the ACT Government Environment website.

Assuming that around half of any kangaroo population are female, and that a substantial proportion of those will be under reproductive age, the maximum rate at which a kangaroo population could increase, even with zero infant and adult mortality, is well under 50% a year.

As mentioned above, the estimate of EGK maximum population growth is about 10% per year, mainly because of the very high infant mortality due to fox predation. In the ACT, where (because of reserve proximity to suburbs) road strike impact is likely to be considerably higher than anywhere else in the country, the notion that kangaroo population growth could be greater, rather than lower, than anywhere else in the country is patently absurd. There is absolutely no possibility of a 40% population growth rate anywhere in the ACT other than in protected captive situations.

Nowhere in the ACT has high enough kangaroo densities to justify killing any of them. Even if kangaroo densities were high 20 years ago, and even if killing to reduce their numbers could ever be justified (which would remain morally unacceptable), killing (unremittingly since 2010) 40% per year (as advocated in the 2010 KMP) or 30% (as advocated in the 2017 version) of a species that cannot grow faster than 10% per year, clearly has only one objective in mind: local extinction.

This huge decline in numbers due to the annual slaughter is supported by numerous community counts.

Impacts on government horse paddocks not caused by kangaroos

The KMP (p26) asserts that *due to competition from kangaroos, one horse paddock complex in the ACT has closed and the capacity of another has been reduced from 80 to about 20 horses over a 14 year period*. Not a single reason is suggested to explain why readers should believe this assertion, rather than to assume, as is much more likely, that overstocking with the horses themselves caused this degradation – horses being hard-hoofed, heavy animals like cattle. More recently at least one

significant loss of horse paddocks can be more readily attributed to the huge new solar farm on what used to be part of the Rose Cottage Horse Paddocks.

APA suggests there will be ample space in the ACT for both kangaroos and horse adjustment once the sheep and cattle farms disappear.

Motor vehicle collisions

We do not dispute any of the information reported (p26) relating to *Impacts of collisions between vehicles and kangaroos*. However, we are concerned that the implication of this analysis seems to be that killing kangaroos with cars could somehow provide a justification for killing even more kangaroos with guns.

Additionally, we would point out that the single greatest cause of collisions between kangaroos and motor vehicles over the last seven years has almost certainly been shooting of kangaroos on reserves adjacent to the roads. Eye witnesses reports virtually no kangaroos to be seen on the sides of Long Gully Road and Mugga Lane on nights before the commencement of shooting, and dozens of joeys and juvenile kangaroos lining these streets after shooting commences.

APA is, of course, much more concerned about the impact of motor vehicle collisions on living beings, such as kangaroos and humans, than we are about the economic impacts. In any competition between a kangaroo and a car, the car is always going to win. Additionally, more often than not, collisions are the result of humans driving too fast. To avoid stress, pain and death to all parties, kangaroo and human, and (comparatively trivial) economic damage to motor vehicles, we urge that measures other than killing kangaroos be taken to avoid these deaths.

Social Impacts

This section (p28) omits to mention the impacts of vehicle collisions on the social units of kangaroos themselves: the direct of trauma experienced by the kangaroo that is hit and any pouch young it has in its care who slowly starves in the pouch; the trauma to any surviving young at foot, and to the mob as a whole social structure is impacted.

To its credit the KMP does mention the social impacts of the emotional trauma suffered by humans when their motor vehicle collides with a kangaroo. In addition to the relatively trivial issue of economic costs, ACT also faces a huge issue of social costs: the emotional trauma to the person who hit the kangaroo; the emotional trauma to people who witness the collision; the emotional trauma of people who stop and call for help for injured kangaroos, only to have a ranger turn up and kill an animal who might have survived; the ongoing grief of seeing kangaroo carcasses on the roads every day; and the very real risk that people will kill or injure themselves swerving to avoid hitting a kangaroo, or moving injured animals off the road.

The solution to the problem of motor vehicle collisions is certainly not to kill even more kangaroos. In the short term, the solution is simply lower speed limits, with traffic calming devices and greater speed surveillance on roads near kangaroo habitat and hotspots, and better driver education. In the long term, the solution is a series of interconnecting wildlife corridors protected from motor vehicles. These would allow kangaroos, especially young males, to move safely between reserves and other pastures and the vast national parks surrounding the national capital.

Given that four to six lane highways have already been rammed between many of the Canberra Nature Park Reserves, kangaroo proof fencing where highways border reserves will only be useful if they are erected in conjunction with broad, vegetated overpasses and underpasses.

This section on social issues also completely omits to mention two other huge social impacts: the impact of the government's annual slaughter on kangaroos and humans.

For the kangaroos the social impacts of the mass slaughter are similar in nature to those of motor vehicle collisions but orders of magnitude worse in both degree and scale.

For the humans, the social impacts of the mass slaughter are overwhelming feelings of grief, disgust and helplessness caused by deaths of thousands of kangaroos every year. This policy has driven hundreds of law-abiding citizens to put their lives and liberty on the line in order to disrupt the government slaughter every year since it began. How can this not be a social impact of the government's annual mass slaughter?

KMP cannot achieve its primary goals

In relation to the primary goals (p29):

- the KMP will **not** *maintain populations of kangaroos as a significant part of the fauna of the 'bush capital' and a component of the grassy ecosystems of the Territory* because it is driving, and will continue to drive the species to local extinction; and
- the KMP will **not** *manage and minimise the environmental, economic and social impacts of those kangaroo populations on other biota, grassy ecosystems and primary production* because the KMP assumes, without providing any credible evidence in support of its assumption, that managing kangaroos somehow means killing them, or otherwise reducing their numbers.

Once again APA points out the following points.

- The only demonstrated deleterious impact of kangaroos on biota and ecosystems results from the artificial reduction of their population by shooting. This prevents them from providing their full and necessary contribution to ecosystem. The solution to this problem is to stop shooting them.
- The economic impact of kangaroos on farms lands can be completely eliminated by phasing out sheep and cattle farming.
- The economic impact of kangaroos on government horse paddocks is nonsense since the damage is actually done by over-stocking of horses. This problem can be completely eliminated by reducing the horse numbers using the paddocks to appropriate densities.
- The economic impact of kangaroos due to collisions with motor vehicles can be completely eliminated by providing a network of wildlife corridors and appropriate fencing, reducing speed limits and enforcing them, and increasing driver education.
- The most significant social impact relating to the interaction of humans and kangaroos is caused by the government's annual kangaroo slaughter, with motor vehicle collisions (often involving kangaroos escaping the government's slaughter) in second place. The solution is to stop shooting them and protect them from vehicle collisions (see above).

KMP is inherently contrary to its own principles

In relation to the principles (p29), we totally reject the statements that the following principles are in any way a guiding principle of the KMP.

Kangaroos are valued as an integral component of grassy ecosystems.

Rather, it is becoming abundantly clear that the guiding principle is to exterminate the local kangaroo population in order to build more suburbs and roads.

Kangaroo management is based on the best available knowledge of kangaroo biology and ecology

Clearly it is not. If it were, the KMP authors would have weighted the research of genuinely independent kangaroo experts who have condemned the notion of ‘culling’ kangaroos, over the research of people who appear to be less than independent (see *Key issues* above).

Kangaroo welfare is a primary consideration in all kangaroo management and all kangaroos are to be treated humanely.

As discussed under the *Key issues*, every year since it commenced, the kangaroo slaughter every year has been about as brutal and inhumane as any wild animal slaughter can be:

- The baby kangaroos are killed the same way as the baby seals on the Canadian ice floes.
- The orphans are abandoned to die of hypothermia, dehydration, starvation, myopathy, fox predations and car strike.
- Adults have been shot, stabbed and bludgeoned before dying of suffocation or blood loss¹⁶.
- Mob structure is destroyed and survivors kept in a state of unremitting endless terror.
- Killing healthy animals is always cruel.
- All these things are permitted by the *Code of Practice for the Humane Killing of Kangaroos*.
- None of them are remotely humane.

Human welfare and the conservation of other grassy ecosystem species are key considerations in all kangaroo management

If human welfare were a consideration the government would not be putting so many people through the annual trauma and post-traumatic stress syndrome of the kangaroo slaughter. It would also not have allowed shooting to occur, without warning to the public, on unleased Territory land in 2015¹⁷, or shooting to take place within 30 metres of traffic on Mugga Lane in 2016.

Intervention to manage kangaroo impacts is necessary in some instances and may involve culling

Even if interventions were necessary, for which the KMP has provided no convincing evidence, such interventions, in a civilised society, would **never** involve mass slaughters. Pain and stress-free euthanasia of mortally sick, injured or starving kangaroos is, of course, acceptable.

Population control policies and actions are based on scientific knowledge supported by ongoing research, appropriate regulation and monitoring, and codes of practice.

No monitoring of the impacts (positive or negative) of the ACT’s annual kangaroo slaughter appears to have been undertaken since KMP 2010.

The only function of the only Code of Practice of practice mentioned in the KMP (or any animal welfare code of practice) is to exempt acts of cruelty that would otherwise be offences from prosecution under the Animal Welfare Act.

Evidence-based management (p30)

A similar promise of evidence-based management (p30) appeared in KMP 2010 but no research showing evidence of either positive or negative impacts of the government's slaughter program ever seems to have been undertaken. Certainly none has been reported in KMP 2017.

Policies are contrary to both kangaroo welfare and environmental protection

Humane treatment of kangaroos in the ACT, Legislation and the code of practice in the ACT, the 'Culling season' and Euthanasia (p30-32)

See our comments under *Key Issues* above.

Illegal killing (p31)

On numerous occasions it has been demonstrated that illegal kangaroo killing is quite acceptable to the ACT government shooters and rangers, whatever the KMP may say. Even if the killing (however inhumane) is legal per se, it is not legal if it is achieved through the illegal use of firearms, the illegal discharge of firearms, or by other means that are illegal. For example:

- ACT government rangers allowed government shooters to kill kangaroos on the Rose Cottage Horse Paddocks near the Centenary Trail while there was no licence in existence for shooting on that particular area of the paddocks¹⁷.
- ACT government rangers, further, allowed government and private shooters to kill kangaroos throughout 2015 (and quite likely ever since 2010) under an invalid licence¹⁸.
- ACT government rangers even allowed shooting to continue for ten weeks after the licence was found to be invalid¹⁸.
- It has since emerged that ACT government shooters have illegally used silencers when killing kangaroos¹⁹.
- In 2015, numerous members of the public reported shooting by government officials taking place within 30 metres of Mugga Lane.
- In 2008, all the kangaroos killed at the Belconnen Naval Transmission Station were killed illegally. At that time, the ACT Code or Practice provided no defence for the cruelty of driving and trapping kangaroos in a small corral, but the same government which issues the illegal licence declined to prosecute.

Keeping of kangaroos by wildlife carers (p32)

See our comments under *Key issues* above

Kangaroo Advisory Committee (pp7,36,37,39,57)

The KMP makes refers (p33) to the curiously anonymous Kangaroo Advisory Committee (KAC). The qualifications and interests of the persons on this much cited committee need to be made known to the public. The only thing known for certain is that the KAC included no ethical or animal welfare representation.

Given the KAC's assertions about hand-rearing kangaroos, releasing and translocating kangaroos, we assume the KAC also included no representation by wildlife carer organisations. On the basis of the hundreds of wildlife carers of NSW, Victoria and Queensland, who successfully rescue, heal, hand-rear, release and translocate eastern grey kangaroo every day of the week, without any of the

problems raised by the KAC, all the reports of the KAC should have been rejected as worthless by the authors of the KMP.

Translocation (p34-35)

See our *Key Issues* above.

Pouch young and 'ghost populations' (p35)

See our *Key Issues* above.

Managing kangaroos densities (p36)

See our *Key Issues* above.

Methods of culling (p36-38)

Since mass slaughter (ie 'culling') is not humane, is not necessary, and is not in any way desirable, we do not support any methods of killing kangaroos. However, we are thankful to learn that the KMP authors are not yet advocating any new allegedly 'humane' poison.

Frequency of slaughter and Size of 'culled' population (p37)

The KMP states that: *When culling is not carried out annually, the result is that more animals will need to be killed per year on average. This is because populations grow exponentially.* In fact, unlike litter-bearing animals which can **only** be controlled by fertility control, kangaroo populations grow very slowly 9-10% at maximum (see *Key Issues* above). Only females bear young. Neither males nor females breed at all if there is inadequate feed²⁰. Females do not breed until they are two, males not until they are five. Females cannot bear more than one young a year (except in the rare event of twins). Many young born are lost to predators or cars.

Even though a depleted population may grow, it grows only until it is in equilibrium with its environment^{3,4}, at which point it stops growing. This seems to be the norm where kangaroo populations are not slaughtered in large numbers. Coulson and Ramp observed this at Yan Yean over a 20 year longitudinal study. The same observation can be made at any time of any year just across the ACT border in the Queanbeyan Nature Reserve.

Because of the very slow growth rate of kangaroo populations and the government's policy of killing them every year three to four times faster than the population can possible grow, it is becoming increasingly clear that the ACT government's killing program is aimed at eradication rather than reduction of the population to a supposedly desirable density.

Given the lack of necessity for slaughtering kangaroos, the ecological dangers inherent in slaughtering kangaroos, and the extreme cruelty of slaughtering kangaroos (see *Key Issues* above) a 'culled' population of one kangaroo (unless it is mortally ill or injured) is one too many 'culled' kangaroos.

Fertility control (p38)

In the absence of any independent evidence that kangaroo numbers in the ACT need to be controlled, APA does not support fertility control (39-41) for this species. In fact we consider it just a less inhumane route to EGK extinction.

We do, however, support fertility control if the alternative is shooting kangaroos either in perpetuity or until there are none left.

In making this statement we publicly acknowledge that we are judging kangaroo extinction, irrespective of the ecological consequences, to be preferable to allowing the suffering caused by mass shooting to continue in perpetuity.

We do not support any form of fertility control which:

- causes pain or stress to either adult or young kangaroos;
- involves the killing of pouch young; or
- changes kangaroos behaviour in wild situations.

We do not, under any circumstances, accept fertility control as an addition to shooting. Any trial of fertility control should replace kangaroo shooting in its entirety and be maintained for a least as long as the shooting program has been in place, but with a much more serious attempt at adaptive and evidence-based management than has occurred in relation to the slaughter program.

Any fertility control trial should be overseen by independent science and welfare experts so that at a government which has demonstrated itself to be committed to killing things is unable to deliberately sabotage the outcomes of the trial.

Environmental modification (p41)

Large-scale environmental modification (p42) is already well underway in the ACT where so much urban development has recently replaced kangaroo and other wildlife habitat. Since the KMP has provided no independent evidence that kangaroo numbers need to be controlled, we do not support this or any other form environmental modification.

Managing captive populations (p42)

This section claims that vertebrate irruption occurred at Government House, Royal Canberra Golf Club and Belconnen Naval Transmitting Station.

Since the populations at Government House and the Royal Canberra Golf Club were not in fact captive both had access to the lake and kangaroos are excellent swimmers, while the gates at the Golf Course were open all day every day, these are not examples of irruption in captive populations (p42-43) at all. These animals were, however, very tame and trusting. Such trust imposes a moral obligation on humans to do no harm, an obligation that is, perhaps, less absolute with free-living wild populations who already regard humans as just one more savage predator they expect to try to do them harm.

At the Belconnen Naval Transmission Station (BNTS), no vertebrate irruption had occurred. In fact, the population had reduced considerably over the year preceding the Defence Department slaughter there in 2008. There were no more than the usual number of kangaroo carcasses on the BNTS land during this period of decline, therefore the kangaroos were not dying any faster than usual. They were, apparently, doing what kangaroos do so well – managing their own population by their own natural fertility control.

Populations made captive by developers as a consequence of development should be either translocated, or managed exclusively by fertility control under expert supervision at the developer's

expense. Trapping these animals, then killing them is even more ethically abhorrent than the current practice of killing them in the wild.

Tame animals in a captive situation should never be killed as this would be a betrayal of trust.

No ‘conservation culling’ program has ever occurred in the ACT

Since no credible evidence has been provided to support it, the APA rejects the implication that any conservation culling program (p44) has ever been conducted in the ACT.

The purpose of the kangaroo killing program is unattainable by a killing program

As mentioned above, there is no way the program set out in the KMP can possibly achieve the stated objectives of the KMP (p45).

Grassland target densities a guess and ‘wrong’

We remind the writers that the Chief Ecologist admitted to ACAT that his ‘guess’ that one kangaroo per hectare was a desirable number was ‘wrong’²¹. To describe this wrong guess as *current knowledge* is patently misleading.

Even if there were any reason to believe this guess at a ‘desirable’ grassland density (p46) was close to right, Fletcher’s assumption that more herbage mass is better for the ecosystem health than kangaroo-managed herbage mass is neither logical or plausible. We strongly advise the KMP writers to throw out this nonsensical wrong guess and rethink the whole matter from scratch.

The KMP has provided no independent evidence that kangaroos have any negative impacts on grassy ecosystems (see *Key issues* above), nor that they are in the slightest need of being ‘managed’.

Herbage mass removal not necessary if kangaroos are left alone

If kangaroos are left in place, where they are critical to the survival of other native species and where (if neither confined nor slaughtered *en masse*) they do not breed to densities that are capable of doing harm but rather in equilibrium with their environment^{2,3}, there is no reason for any artificial removal of herbage mass (p47). Kangaroo grazing at natural, realistic densities is our best first-line defence against bushfires.

Shooting on public land and nationally owned land is a matter of public interest

If mass shooting (which APA does not under any circumstances condone) is to take place on public land which forms part of a kangaroo ‘management’ unit (p47), the government must ensure that:

- any licence issued to private land managers for shooting on this non-reserve land is issued for the right land;
- the existence of the licence is made known to the public as a matter of course; and
- rangers, shooters and police must be made fully aware of exactly where shooting is permitted.

None of these things were ensured in 2015, where shooting was licenced (LK2015670) for some parts of the rural land adjoining the Wanniasa Hills Nature Reserve but not licensed for the bulk of the adjoining rural land where shooting actually took place. No warning was given to members of the

public that shooting would take place on any part of this rural public land. Two members of the public were even reassured by both ACT Policing that shooting would not take place there¹⁷.

The relevant licence was only released to the public after the event, under FOI.

Even under FOI, a request for copies of any other licences issued for shooting on non-reserve public land where the public might be at risk, was refused on the grounds of land manager confidentiality¹⁶ - as if that could be more important than human lives.

At the time, we assumed the block of the paddocks which was not excluded from the licence was excluded precisely because this large block included the Centenary Trail. We assumed that it was excluded precisely because the government understood that shooting there would put public lives at risk.

If so, that concern for human life was apparently not deep enough to continue after the unlicensed shooting was reported to the police. On the very day after the shooting was reported to the police, licence LK 2015670, was amended to include the area which includes the Centenary Trail¹⁷.

If mass shooting (which APA does not under any circumstances condone) is to take place on unleased public land which forms part of a kangaroo 'management' unit, the number of kangaroos authorised to be killed, and actually killed, under all licences across a kangaroo management unit must be reported to the public, not just those killed on the relevant nature reserve.

This also goes for Australian government land (pp48,50) which is still public land, Australian citizens are entitled to know how many of our kangaroos are being killed on our land.

All licences for killing on Australian government lands must be made public at their time of issue.

No more greenfield development sites

APA strongly opposes any further urban development in and around Canberra's Nature Park ecosystem (pp51-52). This constant development is destroying not only our remnant populations of kangaroos (with the help of government and landholder slaughters) but also all the other grassland and woodland species the government claims to be protecting. It is also adversely affecting the lives of the citizens and companion animals of the ACT who are losing every single thing about the national capital that once made it a pleasant place to live.

We notice from the ACT's planning map that Callum Brae and the sweeping grasslands of Jerrabomberra (where kangaroos have essentially been exterminated over the last few years) is categorised as 'greenfield'¹¹, putting the lie to all the Government platitudes about preserving the ecosystems of these reserves.

We certainly agree that any further greenfield development in the ACT must give due consideration to resident kangaroo populations and that kangaroo populations will be managed to achieve the best welfare outcome for the kangaroos. We have already explained, earlier in this submission, that the worst possible welfare outcome for kangaroos is routine mass slaughter, therefore this management must exclude slaughter.

If kangaroos are to be cut off by development from their food and water (and predators) they must be translocated. If there is no appropriate habitat (in or outside the ACT) to which they can be translocated, the development must not go ahead.

Another option is to maintain a semi-tame and stable population of kangaroos on preserved grasslands areas within the new development. This would require careful arrangements to be put in place to protect these animals from car strike, dog attack and the usual run of human psychopaths. In the absence of predators and the presence of humans who will never allow them to starve, fertility control for such a population (as long as it does the animals no harm) would be justified and acceptable.

Kangaroo killing on rural lands and kangaroo movement between government managed land and rural leases

As mentioned earlier, we recommend that sheep and cattle grazing on rural lands (pp51-55) in the ACT be phased out and replaced with more ecologically viable rural industries such as plantation forestry.

Solar and wind farms are another option but as mentioned above, the vast solar farm recently built on Long Gully Road is an ecological disaster. The panels are too low to the ground to allow kangaroos to share the land which, in turn, will preclude the survival of the many plant and animal species which rely on the presence of kangaroos.

Additionally the panels are too close together to allow sufficient sunlight through to the ground to enable any kind of diverse and resilient ecosystem to flourish there. The fence bordering the solar farm also creates a barrier precluding the movement of wildlife in and around that area.

If sheep and cattle farms are to continue in the ACT, farmers should not be allowed to shoot kangaroos. Kangaroo numbers should be permitted to grow until their populations stabilise (without human intervention) at their natural density. This will keep the land healthy. Farmers should simply adjust their stocking densities of sheep and cattle to accommodate these stable resident populations of kangaroos. If this proves economically unviable for them, they always have the option of changing to a more economically viable and ecologically sustainable rural industries.

Again this section makes reference to the 'season' where the number of at-foot joeys orphaned is reduced. This season is set at wrong time of year (see *Key issues*).

The steady increase in number of kangaroos shot on rural properties, nearly an order of magnitude increase since 1997 (p54), is appalling. Given that there is no apparent reason why, over this period, the total number of kangaroos should have increased so much (as opposed to fluctuating in the usual manner of stable kangaroo populations through time of drought and plenty), it is difficult not to see this increase in kill numbers as another element of a government's program to completely eliminate free-living kangaroos from the ACT.

No commercial kangaroo harvesting – one small mercy

We are thankful that the KMP proposes no change to the ACT government's policy against a commercial kangaroo industry in the ACT (p56-58), albeit for the wrong reasons. The economic pressure of the commercial kangaroo industry is probably the most significant impediment to getting kangaroos declared a national threatened species, as well as being a significant factor in the ongoing crash of Eastern Grey Kangaroos across their entire range.

Using murdered kangaroos to murder other animals

We strongly oppose the use of kangaroo corpses (or any other bait material) to make 1080 baits for wild dogs and foxes (p56) primarily on the grounds of the excruciating suffering this poison causes to canids²², but also because killing fast-breeding animals always ensures more rather than less of them.

Unlike slow-breeding kangaroos which can readily to be driven to extinction by unremitting slaughter, killing adult litter-breeding animals like canids (unless you can eradicate the entire population which is virtually impossible without eradicating all other life sharing their habitat) makes room for a much larger population of younger animals. Eventually the population will stabilise again – at pretty much exactly the level it was before the slaughter began.

Appendix 1: Methods Used To Estimate Kangaroo Densities (p60-62)

If these count methods are to have any merit at all, the same method must be used in the same Kangaroo Management Unit at the same time of year, and day, from one year to the next.

The counts must be carried out by trained and independent counters and full documentation of each count must be available to the public.

This will enable members of the public to check the count for themselves, and report different results to the government, as appropriate. Where a public report conflicts with the government count, the government should conduct a second (once again independent) count to double-check their results.

Where a counting method that is known to be less reliable is used, the count should be conducted several times before the count is recorded as though it were accurate.

Appendix 2: Kangaroo Density Estimates since 2010 (p63-65)

As we have no reason to believe that kangaroo counts have been conducted by independent parties, or consistently from year to year, we discount these estimated densities.

In any event, we consider this density data irrelevant because the KMP has provided no independent research to suggest that a wild and free ranging kangaroo population in its natural habitat has ever reached a density that is ecologically undesirable.

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