



EASTERN GREY KANGAROO: DRAFT CONTROLLED NATIVE SPECIES MANAGEMENT PLAN

CONSULTATION REPORT

MAY 2017



PART A: BRIEF SUMMARY OF SUBMISSIONS AND CHANGES TO THE FINAL PLAN

1. Eastern Grey Kangaroo: Draft Controlled Native Species Management Plan 2017

The Eastern Grey Kangaroo (*Macropus giganteus*) was declared a controlled native species from 8 February 2017 under the *Nature Conservation Act 2014*. On 7 February 2017, the Conservator of Flora and Fauna (the Conservator) released the Eastern Grey Kangaroo – Draft Controlled Native Species Management Plan (Draft Plan) for six weeks until 24 March 2017.

During consultation the Conservator received 47 submissions on the Draft Plan. These were from individuals (29), community organisations (17), and a government agency (1). Of these:

- 10 submissions supported the Draft Plan
- 31 submissions opposed the Draft Plan
- 6 submissions did not specifically express 'support/not support' but dealt with particular aspects of the Draft Plan only.

The Draft Plan has been revised after taking these submissions into consideration.

2. Summary of issues in submissions

- *Grassy ecosystems*: Those involved in ACT land and grassy ecosystem management supported the Plan.
- *Animal welfare and culling*: Many of the submissions critical of the Draft Plan were from organisations or individuals with the stated aim of protecting animal rights and opposing any killing of kangaroos. The killing of pouch young was of particular concern. Some submissions were concerned with the effect on mob structure and the impact of repeated disturbances and absence of mob members, and the loss of accumulated environmental knowledge of the mob. There were general comments on the culling procedures including the National Code of Practice including a request for its audit; questions over the growth rate figures used to calculate numbers; the use of carcasses (both for and against); and how changing seasonal conditions are accounted for.
- *Hand rearing/translocation*: Some submissions were critical of the policy to not allow the hospitalisation, rehabilitation and release, nor translocation of kangaroos.
- *Scientific basis*: Some submissions criticised or rejected the scientific basis of the Draft Plan, stating that it had no credible scientific basis. Others requested a 'proper scientific review' of the numbers to be culled and wanted more research. Some submissions questioned whether there might be a conflict of interest with authors of studies being associated with institutions partly funded by the ACT Government, however other submissions supported the scientific basis of kangaroo management.
- *Habitat*: Several submissions stated that the impact of development by the Government was reducing the available habitat, with some calling for all development to cease. The interaction of kangaroos with other land management operations (fire, weeds, predators to name a few) was raised many times.
- *Managing population numbers*: Some submissions stated managing the population numbers as unnecessary and consider kangaroos to be perfectly adapted to the environment and incapable of overpopulating their habitat. Some submissions were

interested in alternative kangaroo management with some support for kangaroo fertility control however others claimed it was unethical to limit reproduction. Fences were proposed as a management tool that required further consideration.

- *Declaration of the Eastern Grey Kangaroo:* A number of submissions objected to the declaration of the Eastern Grey Kangaroo to be a controlled native species and the process used.
- *Terminology used:* Some submissions objected to the use of the term ‘culling’ and ‘euthanasia’ in the Draft Plan.
- A number of general comments were made regarding kangaroo management (both positive and negative); requests were made for further references and some questioned the social survey results on kangaroo management.

3. Changes to the Draft Plan

The main changes to the Draft Plan based on the submissions received include:

- Wording and a policy about the selected use of fencing to protect environmental values or stop the movement of kangaroos into particular land has been added.
- Information from a study on the welfare aspects of kangaroo culling undertaken in ACT nature reserves (Hampton & Forsyth 2016) has been included to address concerns about the welfare of culling and compliance with the code of practice.
- A statement making it explicit that rural and conservation culling is audited has been added.
- The wording in the purpose of the Draft Plan has been revised to acknowledge that factors other than kangaroos also influence grassy ecosystems.

PART B: OUTLINE OF RESPONSES TO THE ISSUES RAISED IN SUBMISSIONS

The following table outlines the responses to issues raised in the public consultation period and lists the subsequent amendments made to the Draft Plan. The list is in no particular order.

ISSUE	RESPONSE	AMENDMENT TO PLAN
Grassy Ecosystems	<p>The Draft Plan contains a clear statement on the purpose and goals at 2.2. The two primary goals are to:</p> <ol style="list-style-type: none"> 1. 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. 2. Manage and minimise the environmental, economic and social impacts of those kangaroos on other biota, grassy ecosystems and primary production. <p>Kangaroos are an important component of grassy ecosystems and moderate grazing is beneficial. The aim of conservation culling in nature reserves is to moderate kangaroo grazing, not eliminate it. Threats to grassy ecosystem structure, function and diversity other than kangaroo grazing are acknowledged by ACT Government but are outside the scope of this plan.</p>	<p>In the purpose of the final plan the wording “...and additional factors influencing ground layer vegetation” was added to acknowledge that factors other than kangaroos influence grassy ecosystems.</p>
Animal welfare and culling	<p>The ACT Government adheres to the <i>National Code of Practice for the Humane Shooting of Kangaroos and Wallabies for Non-commercial Purposes</i> (2008). Comments regarding the humaneness of the National Code should be addressed to the Commonwealth Department of Environment and Energy.</p>	<p>Text stating that rural and conservation culling is audited has been added (see Section 4.3.1; and Section 6.1).</p>

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	<p>Eastern Grey Kangaroos are capable of breeding year round however most young are born in summer. The kangaroo culling season avoids the time of year when large pouch young and small young at foot aged 8-12 months and highly dependent on milk are most prevalent. A small number of young of this age will be carried by adult females during the culling season as Eastern Grey Kangaroos are not strict seasonal breeders. See Section 4.3.1 (c) regarding the timing of the cull to improve welfare for dependent young. See also Section 4.3.1 (g) of the draft Plan for details on the misconceptions surrounding the 'ghost population'.</p> <p>Kangaroo management is undertaken as humanely as possible in accordance with the National Code of Practice. It provides for the euthanasia of pouch young with force sufficient to crush the skull and destroy the brain, thus providing instant death while avoiding inflicting unnecessary pain on the animal. This is to prevent the inhumane death of pouch young that could otherwise not survive on their own. As such, this is considered consistent with the objects of the <i>Animal Welfare Act 1992</i>. Compliance with the <i>Code of Practice for the Humane Shooting of Kangaroos and Wallabies for Non-commercial Purposes</i> is assessed through a mandatory shooter proficiency test and subsequent auditing process for rural and conservation culling.</p> <p>Culling is non-selective, so no particular age or sex is targeted. The assumption that Eastern Grey Kangaroos form fixed mobs is incorrect; they form loose fluid groups, with members moving in and out of aggregations randomly and continually.</p> <p>Each year the ACT Government vet audits the conservation cull and inspects carcasses. Most years an independent vet is engaged to inspect the cull and a report is provided to the ACT Government. Recent reports can be found here: http://www.environment.act.gov.au/parks-conservation/plants-and-animals/urban_wildlife/local_wildlife/kangaroos. Hampton and Forsyth (2016) observed a wounding rate of zero over five nights during the ACT Government's cull of Eastern Grey Kangaroos in 2015. They also recorded a 98% instantaneous death rate with a median time to death of 12 seconds for the three animals not killed instantly.</p> <p>Culled animals are removed from reserves and buried. The kangaroo management program does not mimic the natural pattern of kangaroos dying throughout the year (notwithstanding the peak in mortality related to starvation in late winter-early spring). Thus it is considered unlikely that the benefit to scavengers and detritivore species would outweigh public opposition to carcasses being left to decompose in public spaces.</p> <p>The growth rate of kangaroo populations varies between sites and years. In recent years in the ACT, annual population growth rates of up to 40% have been recorded (see 'Calculation of the number of kangaroos to cull' http://www.environment.act.gov.au/_data/assets/pdf_file/0004/576715/Calculation-of-the-number-of-kangaroos-to-cull.pdf).</p> <p>Commercial harvesting in the ACT is discussed in Section 6.3 of the Draft Plan. The policies state that commercial harvesting will not be pursued in the foreseeable future but that any future decision to introduce commercial harvesting would be based on a rigorous cost/benefit analysis and independent review.</p>	<p>Information from Hampton & Forsyth (2016) has been added to address welfare concerns about shooting, compliance with the National Code of Practice, the orphaning of young at foot and the timing of the kangaroo culling season.</p>
Hand rearing/translocation	<p>The policy on rehabilitating Eastern Grey Kangaroos in the ACT is discussed in Section 4.3.1 e) of the Draft Plan (pg 31-32). Licences are not issued for the hand-rearing of young kangaroos in the ACT due to animal welfare concerns, the need for consistent management for the species and to reduce the risk of injuries to humans from large male kangaroos that were originally hand-reared. These reasons are discussed on pages 31 and 32 of the Draft Plan.</p> <p>The reasons that translocation is not permitted as a management technique for kangaroos is discussed on page 33 and 34 of the Draft Plan. These include animal welfare concerns, lack of known conservation benefits, ineffectiveness as a population management tool and lack of suitable release sites. However, there is currently a licence to export a small number of rehabilitated young out of the ACT. The policy for keeping of kangaroos by wildlife carers is also explained in Section 4.3.1 (e) of the Draft Plan.</p>	<p>No change to the plan</p>
Scientific basis	<p>The scientific literature cited in the Draft Plan is fully independent of ACT Government unless</p>	<p>No change to plan</p>

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	<p>stated otherwise in the manuscript. As with any scientific publication, potential conflicts of interest are stated (often in an acknowledgements section) along with funding bodies, co-investigators and persons involved in preliminary review of the work.</p> <p>Numerous scientific studies from within culled and uncultured reserves in the ACT have demonstrated the diversity and abundance of a range of taxa (including threatened species) in relationship to habitat characteristics, and also the impacts of kangaroos on that habitat (see Section 3). This information has been used to guide kangaroo management decisions (including decisions to not cull some areas) within Canberra’s nature reserves. This ‘understanding landscape responses’ approach has been adopted over monitoring multiple variables in all culled reserves, such that data can efficiently inform an evidence-based management approach. Details of the methods used in each study can be found in the original manuscripts.</p> <p>In addition to the eight independent, peer reviewed papers presented in Table 4, the Draft Plan is based on the 2010 Kangaroo Management Plan which drew from over 400 references including approximately 125 articles in peer reviewed science journals and 115 books or book chapters most of which were peer reviewed. In its review in 2014 of both the counting methods and calculator, Kurahaupo Consulting employed a highly-regarded Melbourne-based scientist for additional kangaroo expertise from a source independent of the ACT Government. The review supported the government counting methods and culling advice. The review is available at: http://www.environment.act.gov.au/parks-conservation/plants-and-animals/urban_wildlife/local_wildlife/kangaroos/review-of-eastern-grey-kangaroo-counts-and-derivation-of-sustainable-density-estimates-in-the-act</p> <p>Research on threatened species, ecological communities and kangaroo populations will continue.</p>	
<p>Habitat</p>	<p>Threats to grassy ecosystem structure, function and diversity other than kangaroo grazing are acknowledged by ACT Government but are outside the scope of this plan. Predation pressure (including that represented by vehicle collisions) is insufficient to prevent kangaroo population growth in culled reserves. Pest plant and animal management takes place in all areas where kangaroo culling occurs.</p> <p>Eastern Grey Kangaroos are the principal herbivore in ACT nature reserves. The central role which climate plays in grassy ecosystem structure, function and diversity and both current and predicted climatic conditions are considered as part of kangaroo management. Climatic and environmental variables influence how kangaroo grazing impacts on ground layer vegetation over the short term (e.g. month to month). Under some conditions, such as high productivity of preferred grasses species, fire, slashing or temporary grazing by livestock are alternative tools used to manage habitat structure and fire risk in less palatable grass associations in a timely manner.</p> <p>Local research shows that fire encourages forb and grass species regeneration but does not alter species composition over the long term (pers comm. T. Corrigan). Kangaroos preferentially graze shorter grass (ACT Gov. unpublished data) so for periods of time after fire in grassy systems Eastern Grey Kangaroos will make use of the regrowth flush. However, given the mosaic approach the ACT uses for burning these systems and the associated nitrogen loss, there is unlikely to be any net benefit to the Eastern Grey Kangaroo population.</p> <p>Table 2.2 provides explanation of the management purposes and goals of the Draft Plan within the context of the overall management of Canberra’s ecosystems and open spaces. The policies for managing kangaroos on development sites are discussed in section 5.4.3. Kangaroos on greenfield development sites will be managed in the most appropriate way to achieve animal welfare and grassy ecosystem conservation objectives. See policy box in Section 5.4.3.</p> <p>The area in Callum Brae and Jerrabomberra Valley zoned as Broadacre on the Territory Plan is zoned as such to match the zoning in the National Capital Plan; the Territory Plan cannot be inconsistent with the National Capital Plan. Nature Conservation Area is an allowable use within a Broadacre zone. The area that is currently Nature Reserve is intended to remain as reserve in perpetuity. It is also intended to expand the reserve system in the Jerrabomberra</p>	<p>In the purpose of the plan the wording “....and additional factors influencing ground layer vegetation” was added to acknowledge that factors other than kangaroos influence grassy ecosystems.</p>

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	<p>Valley as part of the commitments in the Eastern Broadacre Land Use Study. Variation to the Territory Plan 297 added 22.8 ha to the Mulanggari nature reserve and 22 ha to Gungaderra nature reserve as offsets at a ratio of 3:1 for development on Block 799 Gungahlin. This variation also added paddocks 5 and 6 from the Hackett horse paddocks to the Mount Majura Nature Reserve and part Block 2110 Jerrabomberra to Mugga nature reserve.</p> <p>In addition, Variation to the Territory Plan 319 implemented a number of the ACT Government commitments for conservation relating to the approval of the Gungahlin Strategic Assessment. To date, a further 527.1ha has been added to the reserve system as a result of this assessment alone.</p>	
Managing population numbers	<p>Wild populations of Eastern Grey Kangaroos are limited by predation and starvation, usually affecting sub-adult and older individuals within the population. Unlike in Red Kangaroos, the oestrous cycles of female Eastern Grey Kangaroos is not responsive to environmental conditions. Allowing kangaroo numbers to be regulated 'naturally' through starvation would result in localised extinction of grassy layer dependent species and also represents reduced animal welfare prospects compared to culling. Existing predation pressure is insufficient to prevent kangaroo population growth in culled reserves. As such, allowing regulation of kangaroo numbers through 'natural' processes is not considered an appropriate management strategy for lowland reserves.</p> <p>The ACT Government is continuing to research fertility control for kangaroos (see section 4.3.3 (b) of the Draft Plan) and maintains and extends the nature reserve and offset system. The current fertility control research is focussing on developing an efficient and cost effective method that could potentially be used in conjunction with culling.</p> <p>The policies in section 6.4 include encouraging studies to assess the effectiveness of road design features, such as fencing. Appropriate fencing will continue to be used to manage detrimental impacts of, and to, kangaroos where appropriate.</p>	<p>Text and a policy added about the about the selected use of fencing to protect environmental values or stop the movement of kangaroos into particular land. The potential welfare implications of fences have been noted.</p>
Declaration of Eastern Grey Kangaroos	<p>Chapter 3 provides a comprehensive background to the reasons for listing and the need for management response including culling. In summary Eastern Grey Kangaroo populations in the ACT can reach densities where they have unacceptable environmental, social and economic impacts. The purpose of the declaration is to provide a trigger to commence a process of developing a plan to manage a controlled native species. It is the first step in the process of managing a native species that has, or is likely to have, a significant economic, environmental or social impact. Public consultation on the management of a controlled native species occurs later in the process following the development of the draft plan which outlines what management is required. This approach is consistent with other declarations processes in the Act which do not require public consultation such as Resource Protection Areas, Exempt Species, Activities Declarations, Closed Reserves.</p>	<p>The wording in relation to the declaration was updated to reflect the current wording in the Nature Conservation Act</p>
Terminology used	<p>In this plan 'culling' refers to the reduction of the number animals as a means of population control. The term euthanase relates to 'put an animal to death humanely'. As it is recognised that pouch young are dependant and unable to sustain life independently it is the correct term to use.</p> <p>Agree that a definition of 'total grazing pressure' is required in the Glossary.</p> <p>Agree that the term 'grassland' should be replaced in some cases with 'grassy ecosystem'.</p> <p>Agree that 'euthanised' should be replaced with 'euthanased'.</p>	<p>The terms 'culling', 'euthanase' and 'total grazing pressure' were added to the Glossary'.</p> <p>The term 'grassland' was replaced with 'grassy ecosystem' where appropriate.</p> <p>The term 'euthanised' was replaced with 'euthanased'.</p>
Other issues raised: Economic impacts of kangaroos on rural lands are broader than stated in the plan, for example	<p>Agreed.</p>	<p>The maintenance costs for damage to fences caused by kangaroos included as another economic impact on rural lands.</p>

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<p>damage to fences by kangaroos is not mentioned</p> <p>RSPCA was not mentioned as having a role in the care of wildlife in the ACT</p> <p>The evidence presented in Appendix 2 of kangaroo densities being higher than the desired target density needs to be made explicit in the body of the plan.</p> <p>Figure 3 could be updated to make it clearer</p>	<p>Omission from the Draft Plan.</p> <p>Agreed</p> <p>Agreed</p>	<p>RSPCA ACT added as another group that has a role in the care of sick and injured wildlife.</p> <p>Wording added referencing Appendix 2 and the high kangaroo densities at sites where kangaroos are not managed.</p> <p>Suggested edits made to Figure 3.</p>