Australian Capital Territory

## Nature Conservation (Controlled Native Species– Eastern Grey Kangaroo) Declaration 2017

**Disallowable Instrument DI2017–13** 

made under the

Nature Conservation Act 2014, s 157 (What is a controlled native species?)

### **EXPLANATORY STATEMENT**

This explanatory statement relates to *the Nature Conservation (Controlled Native Species– Eastern Grey Kangaroo) Declaration 2017* as presented to the Legislative Assembly. It has been prepared in order to assist the reader of the disallowable instrument. It does not form part of the disallowable instrument and has not been endorsed by the Assembly.

The Statement must be read in conjunction with the disallowable instrument. It is not, and is not meant to be, a comprehensive description of the disallowable instrument. What is said about a provision is not to be taken as an authoritative guide to the meaning of a provision, this being a task for the courts.

#### Background

Native plant and animal species can cause unacceptable environmental, social or economic impacts often in response to humans or their alteration of the natural environment and land use.

The Minister may declare a native species to be a controlled native species if satisfied that the species is having, or is likely to have, an unacceptable environmental, social or economic impact (s157 of the *Nature Conservation Act 2014* (NC Act)).

Once a species is declared as a controlled native species, the Conservator of Flora and Fauna may prepare a Controlled Native Species Management Plan. The objective of a controlled native species management plan is to detail the appropriate management of the species on stated land.

#### Overview

This declaration applies to the Eastern Grey Kangaroo, *Macropus giganteus.*<sup>1</sup> The Minister is satisfied that the species is having an unacceptable environmental and economic impact in the ACT.

In the ACT, Eastern Grey Kangaroos are capable of reaching densities that have unacceptable environmental impacts on threatened grassland and woodland ecosystems. These impacts arise from high population densities of kangaroos. High densities are most likely a result of fundamental changes over time to the regulation of kangaroo abundance through predation. Firstly, Aboriginal hunting removed mega-fauna including large predators such as Megalania (an extinct giant goanna) and Thylacoleo (an extinct genus of carnivorous marsupials) which disappeared from Australia between 40,000 and 50,000 years ago. Several thousand years ago, as a result of its introduction into Australia, the Dingo replaced the Thylacine and Tasmanian Devil. European settlement subsequently suppressed the Dingo and ended hunting by Aboriginal people. Since about World War II there has been significant ongoing reduction of former suppression of kangaroos. The impacts from high kangaroo population densities are summarised below (**Table 1**).

Impact type	Summary of unacceptable impacts
Environmental impacts	• Excessive grazing pressure on native grassy ecosystems resulting in degradation of the natural integrity of those ecosystems.
	• Excessive grazing pressure resulting in loss and degradation of habitat critical to threatened species of grassy ecosystems.
Economic impacts	• Effects on the economic viability of rural properties and increased management costs for other lands.

Table 1 – Summary of impacts from Eastern Grey Kangaroos

#### **Unacceptability of impacts**

The unacceptability of the impacts arises from (1) loss of ecosystem function and condition (2) the loss and potential loss of species, including threatened species, from the environment because they are unable to persist in their habitats in the presence of high kangaroo density and (3) the loss of productivity from rural lands.

The significant impacts from high density populations of Eastern Grey Kangaroos require management of this species on an ongoing basis to reduce impacts to an acceptable level. The approach to managing impacts would be outlined in a Controlled Native Species Management Plan.

Whilst it is acknowledged that significant conflict occurs between kangaroos and vehicles, this is considered primarily a road safety issue and is managed by roads authorities.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Macropus giganteus Shaw, 1790 refer ABRS (Australian Biological Resources Study) 2009. Australian Faunal Directory. Australian Biological Resources Study, Canberra. Viewed 29 August 2015. http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/index.html).

<sup>&</sup>lt;sup>2</sup> Road safety issues on existing roads in certain areas are being addressed with fencing. Fencing and underpasses for wildlife are considered in the planning stage of new major roads.

#### Loss of ecosystem function and condition

The Eastern Grey Kangaroo has a significant impact on the grassy ecological communities of the ACT.

At the time of European settlement, lowland grassy ecosystems of south-eastern Australia supported a rich vertebrate fauna, including a wide variety of bird species, large and small marsupials, other mammals (e.g. bats, rodents), reptiles and frogs and a diverse invertebrate fauna.<sup>3</sup>

As a result of increasingly fragmented landscapes; improved habitat for kangaroos; and loss of predators from the ecosystem, kangaroos have a major top-down influence on ecosystem processes in both grasslands and woodlands leading to loss of condition and function.

Woodlands and grasslands provide habitat for the majority of Australian land bird species.<sup>4</sup> The management of herbivore grazing pressure in woodlands and grasslands is an important management strategy for the conservation of bird species (some of which are threatened) that utilise floristically diverse and well-structured grassland and grassy woodland understorey. Many species found in grassy woodlands have declined, and few of these are found in simplified habitats that have little understorey other than exotic pasture.<sup>5</sup>

For many vertebrate and invertebrate species, the complete loss, reduced extent, fragmentation and degradation of grassy ecosystem habitat has had major deleterious impacts, with some species now existing only in correspondingly small and fragmented populations.

In the ACT, and throughout their former south-eastern Australian distribution, the remaining native grasslands and grassy woodlands have been reduced to fragments and are subject to ongoing threats. This has led to the listing of woodland ecological communities as threatened under both ACT (*Nature Conservation Act 2014*) and federal (*Environment Protection and Biodiversity Conservation Act 1999*) legislation.

#### Natural temperate grassland

In the ACT, Natural Temperate Grassland was the dominant ecological community across the lowland plains.<sup>6</sup>

Natural Temperate Grassland is now one of Australia's most endangered ecological communities with as little as 0.5 per cent of its estimated pre-1750 extent remaining.<sup>7</sup> Benson estimated that there were 20,000 ha of natural temperate grassland in the ACT prior to European settlement.<sup>8</sup> In 2005, ACT lowland native grasslands were surveyed: forty-seven sites (covering 2172 ha) were found to contain 991 ha of Natural Temperate Grassland,

<sup>&</sup>lt;sup>3</sup> Osborne W, Kukolic K and Jones S 1995. Management of vertebrates in native grasslands: a case of clutching straws? in *Management of relict lowland grasslands. Proceedings of a workshop and public seminar, September 24 and 25, 1993.* Conservation Series No. 8, eds S Sharp and R Rehwinkel (ACT Parks and Conservation Service, Canberra): pp. 89–96.; Driscoll DA 1994. *Invertebrates of Lowland Native Grasslands in the Australian Capital Territory: Conservation and Research Strategies for a Recovery Plan.* Technical Report No. 9 (ACT Parks and Conservation Service, Tuggeranong, ACT).

 <sup>&</sup>lt;sup>4</sup> Olsen P 2008. The State of Australia's Birds 2008, Supplement to Wingspan 18(4): December 2008. (Birds Australia).
 <sup>5</sup> Freudenberger D 2001. Bush for the Birds: Biodiversity enhancement guidelines for the Saltshaker Project, Boorowa, NSW (CSIRO Sustainable Ecosystems,

Canberra). <sup>6</sup> Benson J and Wyse Jackson M 1994. The Monaro region, in *Conservation of lowland native grasslands in south-eastern Australia*, eds K McDougall and JB Kirkpatrick (Report to the World Wide Fund for Nature, Australia): pp. 13–43; Pryor LD 1938. The botany, forestry and zoology of the Australian Capital

Kirkpatrick (Report to the World Wide Fund for Nature, Australia): pp. 13–43; Pryor LD 1938. The botany, forestry and zoology of the Australian Capital Territory on an ecological basis, in *Handbook for Canberra, ANZAAS Meeting, Canberra January 1939*, ed. K. Burns (Commonwealth Government Printer, Canberra): pp. 1–31; Wildlife Research Unit 1994. *Management plan for ACT lowland native grasslands*. Unpublished report to the Australian Nature Conservation Agency (ACT Parks and Conservation Service, Canberra).

<sup>&</sup>lt;sup>7</sup> Kirkpatrick J, McDougall K and Hyde M 1995. *Australia's Most Threatened Ecosystems: the southeastern lowland native grasslands* (Surrey Beatty/World Wide Fund for Nature Australia, Chipping Norton, NSW).

<sup>&</sup>lt;sup>8</sup> McLeod SR 1997. Is the concept of carrying capacity useful in variable environments? *Oikos* 79: 529–542.

which is about 5 per cent of the estimated pre-European extent of the ecological community.<sup>9</sup> All of the remaining native grasslands have undergone varying degrees of modification due to past land uses.

In Natural Temperate Grasslands, three major changes to the flora have occurred: (a) replacement of grazing sensitive grass species with hardier, less palatable grass species; (b) loss of forb species; and (c) invasion by a wide range of mainly herbaceous weed species and introduced pasture species.

The community is listed as endangered under both the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) and the *Nature Conservation Act 2014* (ACT).

#### Yellow Box – Red Gum Grassy Woodland

The dominant ACT lowland woodland community is Yellow Box (*Eucalyptus melliodora*) – Red Gum (*E. blakelyi*) Grassy Woodland and Derived Grasslands.<sup>10</sup>

Yellow Box – Red Gum Grassy Woodlands are characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs, and the dominance, or prior dominance, of White Box, Yellow Box or Blakely's Red Gum trees. The tree-cover is generally discontinuous and consists of widely-spaced trees of medium height in which the canopies are clearly separated.<sup>11</sup>

About one-third of the estimated 32,000 ha of pre-1750 Yellow Box – Red Gum Grassy Woodland remains in the ACT in a partially or moderately modified form, as well as areas that are more highly disturbed.<sup>12</sup> Typically the woodlands contain Yellow Box or Red Gum trees over a variable understorey ranging from areas with a high native component to areas of mainly exotic pasture.

# The ecological community is listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) and as endangered under the Nature Conservation Act 2014.<sup>13</sup>

Management of herbivore grazing pressure is an important factor in efforts to rehabilitate Yellow Box – Red Gum Grassy Woodlands in poor condition due to past land uses. An example is Mt Painter Nature Reserve where high densities of kangaroos, as well as rabbits and hares, are hindering rehabilitation work.

#### Loss and decline of species

A wide range of plant and animal species have declined from their historic range and distribution as a result of habitat loss and fragmentation. Where species persist, they exist mainly in small populations, in isolated patches of habitat (for example, the Golden Sun Moth and Small Purple Pea). In some instances, species may be reasonably common in small habitat patches where they occur, but there are only one or a few areas of habitat (for example, the Ginninderra Peppercress and Pink-tailed Worm Lizard). Small isolated populations are at risk of extinction because of their size:<sup>14</sup> Added pressures, such as the

<sup>&</sup>lt;sup>9</sup> ACT Government 2005. A Vision Splendid of the Grassy Plains Extended: ACT Lowland Native Grassland Conservation Strategy. Action Plan No. 28, Arts, Heritage and Environment, Canberra.

<sup>&</sup>lt;sup>10</sup> The Commonwealth listing of this woodland community includes white box (E. albens) and other species as determinant species.

<sup>&</sup>lt;sup>11</sup> Yates CJ and Hobbs RJ 2000. Temperate eucalypt woodlands in Australia – an overview, in Temperate Eucalypt Woodlands in Australia: Biology,

Conservation, Management and Restoration, eds RJ Hobbs and CJ Yates (Surrey Beatty and Sons, Chipping Norton): pp. 1–5. <sup>12</sup> ACT Government 2004. Woodlands for Wildlife: ACT Lowland Woodland Conservation Strategy. Action Plan No. 27 (Environment ACT, Canberra).

<sup>&</sup>lt;sup>13</sup> At the time of its listing, the ACT did not have a category of 'critically endangered'. The status will be reviewed.

<sup>&</sup>lt;sup>14</sup> Caughley G and Gunn A 1996. Conservation Biology in Theory and Practice (Blackwell Science, Cambridge, Massachusetts).

impact of kangaroo grazing on species, significantly increases the risk of extinction of these species.

The relationships between the habitat requirements of ACT threatened fauna species and kangaroo grazing are summarised in **Table 2**. An assessment of the significance of kangaroo grazing on threatened species derives from the knowledge about grazing impacts generally, current understanding of the habitat requirements of grassland species, data collected for some species, and field observations as part of survey, monitoring and research undertaken by ecologists and researchers within the ACT Government and in other institutions.

## Table 2Habitat requirements for threatened fauna species in ACT native grassy<br/>ecosystems and significance of kangaroo impacts

Habitat requirements for threatened fauna species in ACT native grassy ecosystems and significance of kangaroo impacts					
Species	Habitat Requirements	Significance of Kangaroo Grazing Impacts			
Grassland Earless Dragon ( <i>Tympanocryptis</i> <i>pinguicolla</i> ) (ACT Grassland Strategy, pp. 38–39)	Key habitat for the three remaining populations is well drained and relatively undisturbed natural temperate grassland dominated by <i>Danthonia</i> and <i>Stipa</i> spp. The species shelters within grass tussocks and in arthropod burrows. The rocks used for shelter in other areas are not a characteristic of ACT sites.	The species and its habitat appear to be maintained under stock and/or kangaroo grazing at low intensities. Heavy grazing pressure by stock, kangaroos and/or rabbits reduces and/or degrades this habitat. Kangaroo grazing pressure (exacerbated by drought conditions), with resultant loss of tussock grassland structure, has impacted on the dragon population. Three of the populations are now largely within kangaroo exclusion fences.			
Striped Legless Lizard ( <i>Delma impar</i> ) (ACT Grassland Strategy, pp. 39–40)	Key habitat is native grassland dominated by kangaroo grass, spear grasses and wallaby grasses. Species is also found in adjacent areas dominated by exotic grasses. An important habitat characteristic appears to be tussock structure, though little is known about how the habitat is used. Soils with moderate to high clay content, often producing cracks in summer are another habitat feature.	The species and its habitat appear to be maintained under stock and/or kangaroo grazing at low intensities. Grass tussock structure, important for this species, is lost under heavy grazing pressure by stock, kangaroos and/or rabbits.			
Golden Sun Moth (Synemon plana) (ACT Grassland Strategy, pp. 40–41)	On current knowledge, this species appears to be dependent on a narrow range of native grasses (commonly a wallaby grass <i>Austrodanthonia</i> <i>carphoides</i> in the ACT), but has been found to utilise the introduced Chilean Needle Grass ( <i>Nassella neesiana</i> ) when native grasses have been significantly depleted. <sup>15</sup> <i>Austrodanthonia</i> is low growing with tussocks usually separated by bare ground.	Native grasslands that support golden sun moth populations in the ACT are subject to low intensity management activities that apparently benefit low growing wallaby grasses and hence maintain habitat quality for the species. These activities include light grazing by stock and/or kangaroos. Heavy grazing is likely to be detrimental.			

<sup>&</sup>lt;sup>15</sup> Braby MF and Dunford M 2006. Field observations on the ecology of the Golden Sun Moth, *Synemon plana* Walker (Lepidoptera: Castniidae), *Australian Entomologist* 33(2): 103–110.

Perunga Grasshopper ( <i>Perunga ochracea</i> ) (ACT Grassland Strategy, pp. 41–42)	Key habitat appears to be natural temperate grassland dominated by wallaby, kangaroo and spear grasses with forb food plants located in the inter-tussock spaces. Species also occurs in open woodland with a grassy understorey. Grass tussocks appear to be essential habitat, being used to escape predators and shelter from wind, low temperatures and frost.	The species persists in lightly grazed areas where tussock structure remains. When it has been recorded from heavily grazed areas, it was still associated with nearby grass tussocks. Observations to date suggest that heavy grazing pressure by stock, kangaroos and rabbits are likely to reduce and/or degrade the habitat of this species.	
Hooded Robin ( <i>Melanodryas</i> <i>cucullata</i> ) (ACT Woodland Strategy, pp. 43–54)	Woodland understorey of tall tussock grasses, low shrubs and fallen logs, which support insects and other invertebrates on which the species feeds, is critical habitat.	Intensive grazing which reduces the complexity of understorey habitat is a threat and in some important ACT woodlands (for example, Mulligans Flat) this grazing is mainly by kangaroos.	
Brown Treecreeper ( <i>Climacteris</i> <i>picumnus</i> ) (ACT Woodland Strategy, pp. 43–54)	Critical habitat is relatively undisturbed grassy woodland with native understorey, especially grasses.	Intensive grazing which reduces the complexity of understorey habitat is a threat and in some important ACT woodlands (for example, Mulligans Flat) this grazing is mainly by kangaroos. Areas with short grass are also favoured by the species.	
White-winged Triller ( <i>Lalage</i> <i>sueurii</i> ) (ACT Woodland Strategy, pp. 43–54)	Critical habitat in the ACT is grassy woodland, with intact grassy understorey and fallen timber that support insects and other invertebrates on which the species feeds.	Intensive grazing which reduces the complexity of understorey habitat is a threat. In important ACT woodlands (for example, Mulligans Flat) this grazing is mainly by kangaroos.	
Superb Parrot (Polytelis swainsonii) (ACT Woodland Strategy, pp. 43–54)	Main habitat in the ACT region is box woodlands. Species prefers to feed on ground on seeds of grasses and herbaceous plants associated with yellow box –red gum grassy woodland.	Intensive grazing of understorey of box woodland by Kangaroos and other species results in loss of structure and diversity. This is an identified threat to the species.	

Source: ACT Kangaroo Management Plan.<sup>16</sup>

**Note**: Abbreviated titles have been used for ACT nature conservation strategies which contain information and action plans for declared threatened species and ecological communities: ACT Woodland Strategy;<sup>17</sup> ACT Grassland Strategy;<sup>18</sup> ACT Riparian Strategy.<sup>19</sup>

The relationships between the habitat requirements of ACT threatened flora species and kangaroo grazing are summarised in **Table 3**.

<sup>&</sup>lt;sup>16</sup> ACT Government 2010. Department of Territory and Municipal Services & Australian Capital Territory. Parks, Conservation & Lands 2010, ACT Kangaroo management plan, Territory and Municipal Services, Canberra.

<sup>&</sup>lt;sup>17</sup> ACT Government, above 11.

<sup>&</sup>lt;sup>18</sup> ACT Government, above 8.

<sup>&</sup>lt;sup>19</sup> ACT Government 2007. *Ribbons of Life: ACT Aquatic Species and Riparian Zone Conservation Strategy*. Action Plan No. 29 (Department of Territory and Municipal Services, Canberra).

#### Table 3 Habitat requirements for threatened flora species in ACT native grassy ecosystems and significance of kangaroo impacts

kangaroo impacts				
Species	Habitat Requirements	Significance of Kangaroo Grazing		
<b>Austral Toadflax</b> ( <i>Thesium</i> <i>australe</i> ) (ACT Woodland Strategy, pp. 33–34)	Strongly associated with kangaroo grass dominated herbaceous understorey. ACT populations should be managed to retain an open vegetation structure (for example, limiting tree/shrub cover).	Heavy grazing pressure from Kangaroos is a threat to species.		
Hoary Sunray (Leucochrysum albicans var. tricolor) (ACT Woodland Strategy, pp. 34)	Occurs in open areas in grassy woodland, Usually found in ungrazed or lightly grazed areas. Large numbers sometimes colonise disturbed sites.	This species is very sensitive to grazing.		
<b>Ginninderra Peppercress</b> ( <i>Lepidium ginninderrense</i> ) (ACT Grassland Strategy, pp. 28–29)	At the one site where species occurs, it grows well where competing grass tussocks are short and open. The species is susceptible to overgrazing.	Heavy kangaroo grazing is likely to have deleterious impact.		

Habitat requirements for threatened flora species in ACT native grassy ecosystems and significance of

#### Source ACT Kangaroo Management Plan. 20

Note: Abbreviated titles have been used for ACT nature conservation strategies which contain information and action plans for declared threatened species and ecological communities: ACT Woodland Strategy; <sup>21</sup> ACT Grassland Strategy; <sup>22</sup> ACT Riparian Strategy.<sup>23</sup>

#### **Economic impacts**

The presence of high kangaroo population densities in the ACT has a negative economic impact. Negative economic effects are associated with reduced agricultural productivity on rural leases and other land. These impacts are largely on rural lessees and some motorists that collide with kangaroos.

#### Impacts on rural production

There are 150 rural leases in the ACT, covering 39,500 hectares or 17 per cent of the Territory. 'Rural areas' is one of the land use categories in the General Policy Plan contained within the National Capital Plan, which states that these areas 'should be retained and utilised on a sustainable yield basis whilst providing a distinctive rural landscape setting for the National Capital'.<sup>24</sup>

The Territory Plan, Vol 1 contains specific objectives for the Rural Zone (NUZ2) covering landscape setting, ecological integrity, biodiversity conservation, rural productivity and sustainability, land parcel sizes and lease periods.<sup>25</sup> The management of high density populations of Eastern Grey Kangaroos is essential to retain rural productivity and sustainable land management.

<sup>25</sup> Territory Plan 2008 (ACT), NI2008-27, s9.1.

<sup>20</sup> ACT Government, above 15.

<sup>&</sup>lt;sup>21</sup> ACT Government, above 11.

<sup>&</sup>lt;sup>22</sup> ACT Government, above 8.

<sup>23</sup> ACT Government, above 18.

<sup>24</sup> NCA (National Capital Authority) 2008. National Capital Plan (Consolidated) (Commonwealth of Australia, National Capital Authority, Canberra), p. 125.

Key considerations of managing high density populations of Eastern Grey Kangaroos on rural lands are to reduce competition with domestic stock, manage total grazing pressure and ensure land is managed sustainably.

#### **Competition for domestic stock**

For competition to be demonstrated, one species must have a deleterious effect on another.

Although a dietary overlap is known to exist, the interactions between sheep and kangaroos in relation to pastures and seasonal conditions are complex.<sup>26</sup> Most studies of dietary competition between livestock (mainly sheep) and kangaroos have been conducted in the arid and semi-arid rangelands, including studies of Eastern Grey Kangaroos.<sup>27</sup> In these areas, rainfall, which is unpredictable, is the main factor in pasture condition and, because pastoralism is a marginal economic activity, kangaroos only need to affect sheep occasionally for them to be perceived as a pest.<sup>28</sup> In temperate areas, the pasture contains a high grassy component and Eastern Grey Kangaroos are more specialised in feeding on grass than the kangaroo species of the rangelands. This means that more of the temperate pastures comprise species favoured by both kangaroos and livestock.

McLeod indicates that competition with grazing sheep and cattle is a large cost associated with the kangaroo.<sup>29</sup> A 1988 study of vertebrate pest impacts in the sheep industry estimated kangaroos impact to contribute some \$200 million per year production losses to rural production nationally out of a total of \$303.5 million per year vertebrate pest cost impact.<sup>30</sup>

Recent research from the midlands of Tasmania looked at the specific costs of competition from Eastern Grey Kangaroos.<sup>31</sup> In the Midlands region, the primary impact was from the Forrester Kangaroo (the common name of the Eastern Grey Kangaroo in Tasmania).<sup>32,33</sup>

Smith identified that in the temperate zone, there was spatial and temporal variation in pasture loss from kangaroo grazing.<sup>34</sup> The pasture during summer, autumn and winter was higher than in spring (because of higher herbage available within adjoining remnant vegetation). A key finding was that the distance from the edge of cover vegetation had a significant effect on pasture loss.<sup>35</sup> Smith indicated that 'over 90% of pasture production within the first three hundred metres of native vegetation was consumed by wildlife in late summer and autumn during the study'.<sup>36</sup> The loss of pasture due to kangaroo grazing was greater than 60 per cent of available herbage at distances of up to 500 metres from native vegetation.<sup>37</sup>

<sup>34</sup> Smith, above 30.

<sup>&</sup>lt;sup>26</sup> Dawson TJ 1995. *Kangaroos: Biology of the Largest Marsupials* (UNSW Press, Sydney); Edwards GP, Croft DB and Dawson TJ 1995. The dietary overlap between red kangaroos (*Macropus rufus*) and sheep (*Ovis aries*) in the arid rangelands of Australia, *Australian Journal of Ecology* 20: 324–334; Edwards GP, Croft DB and Dawson TJ 1996. Competition between red kangaroos (*Macropus rufus*) and sheep (*Ovis aries*) in the arid rangelands of Australia, *Australian Journal of Ecology* 20: 324–334; Edwards GP, Croft DB and Dawson TJ 1996. Competition between red kangaroos (*Macropus rufus*) and sheep (*Ovis aries*) in the arid rangelands of Australia, *Australian Journal of Ecology* 21: 165–172.

<sup>&</sup>lt;sup>27</sup> Dawson TJ, McTavish KJ and Ellis BA 2004. Diets and foraging behaviour of red and eastern grey kangaroos in arid shrub land: Is feeding behaviour involved in the range expansion of the eastern grey kangaroo into the arid zone? *Australian Mammalogy* 26(2): 169–178; Witte I 2002. *Spatio-temporal Interactions of Mammalian Herbivores in the Arid Zone*. PhD thesis (University of New South Wales, Sydney).

<sup>&</sup>lt;sup>28</sup> Tyndale-Biscoe H 2005. Life of Marsupials (CSIRO Publishing, Collingwood, Vic).

<sup>&</sup>lt;sup>29</sup> McLeod R 2004. Counting the Cost: Impact of Invasive Animals in Australia, 2004 (Cooperative Centre for Pest Control, Canberra).

<sup>&</sup>lt;sup>30</sup> Sloane *et al.* 1988 quoted in McLeod, above 28.

<sup>&</sup>lt;sup>31</sup> Smith, Rowan William August 2012. 'Impacts of Wildlife Grazing on Pastures in the Midlands, Tasmania' thesis is submitted in fulfillment of the requirement for the degree of Doctor of Philosophy at the University of Tasmania, Launceston.

<sup>&</sup>lt;sup>32</sup> Norton, T.W., Lacey, M.J., Smith, R., Statham, M., Rawnsley, Donaghy, D., Gracie, A., and Burkitt, L. (2010). *Managing the Impacts of Browsing by Wildlife on Tasmanian Farms - A report to the Alternatives to the Use of 1080 Program administered jointly by the Tasmanian Department of Primary Industries, Parks, Wildlife and Environment and Australian government for UTAS project N0016050.* Tasmanian Institute of Agricultural Research, University of Tasmania.
<sup>33</sup> Bennetts Wallaby and Pademelons were significant in other regions of Tasmania,.

<sup>35</sup> Ibid.

<sup>&</sup>lt;sup>36</sup> Smith RW, Statham M, Norton TW, Rawnsley RP, Statham HL, Gracie AJ, Donaghy DJ (2012) Effects of wildlife grazing on the production, ground cover and plant species composition of an established perennial pasture in the Midlands region, Tasmania. *Wildlife Research* 39(2), 123-136, p 169).
<sup>37</sup> Smith, above 30.

#### **Regulatory impact statement**

This disallowable instrument is not likely to impose appreciable costs on the community, or part of the community and therefore a regulatory impact statement is not required (s34 (1) of the *Legislation Act 2001*). Further, a regulatory impact statement is unnecessary, in accordance with s36 (1) of the Legislation Act, as the disallowable instrument does not operate to the disadvantage of anyone by adversely affecting the person's rights, or imposing liabilities on the person.

#### Consistency with Scrutiny of Bills terms of reference

The instrument is consistent with the Legislative Assembly's Scrutiny of Bill's Committee Terms of Reference. In particular, the instrument:

- 1. is made under a ministerial power found in the Nature Conservation Act;
- 2. is in accord with the general objects of the Act under which it is made. The disallowable instrument is consistent with the objects of the Act to protect, conserve and enhance the biodiversity of the ACT as stated in section 6 of the Act;
- 3. does not unduly trespass on rights previously established by law. The listing of a species as a controlled native species provides a statutory basis for the management of that species within a strategic policy context. The consequence of the declaration is that it allows the Conservator to prepare a controlled native species plan which is also a disallowable instrument. The declaration itself does not have any direct impact on rights;
- 4. does not make rights, liberties and/or obligations unduly dependent upon non– reviewable decisions. The declaration is reviewed by the Assembly through provisions for disallowance. This is the appropriate review mechanism for this declaration (s65).
- 5. The disallowable instrument does not directly impact on any rights, liberties and/or obligations of individuals.

#### **Outline of provisions**

#### Section 1 – Name of instrument

This section names the instrument.

#### **Section 2 – Commencement**

This section provides for the commencement of the instrument.

#### **Section 3 – Declaration**

This section declares the Eastern Grey Kangaroo (*Macropus giganteus*) to be a controlled native species.