

# CONSULTATION DRAFT

## NATIONAL KOALA CONSERVATION AND MANAGEMENT STRATEGY

**2009 - 2014**

### **For consultation**

This strategy is being revised by the National Koala Conservation and Management Strategy Steering Committee on behalf of the Natural Resource Management Ministerial Council.

The Steering Committee has prepared this draft in consultation with a number of koala researchers and managers, in order to provide a basis for consultation with stakeholders and the general public. Its contents are indicative only, and will be further revised and developed following deliberation about responses received in this consultation period. Objectives and actions outlined in this draft require further consideration of their extent, timing, priority and costs, all of which will be informed by public comment. The contents of this draft do not necessarily reflect the views of individual members of the Steering Committee or of the Ministerial Council.

Following further revision the Ministerial Council will consider a revised draft of this Strategy.

Submissions should be emailed to: [glenda.shelley@environment.gov.au](mailto:glenda.shelley@environment.gov.au)

Or fax to: 02 6274 1600

Or post to: Species Listing Section  
Wildlife Branch

Department of the Environment, Water, Heritage and the Arts  
GPO Box 787  
CANBERRA ACT 2601

NATURAL RESOURCE MANAGEMENT MINISTERIAL COUNCIL

This document is produced for consultation purposes and does not represent a statement of policy by the Australian Government or state and territory governments.

# CONSULTATION DRAFT

## CONTENTS

<b>FOREWORD</b> .....	3
<b>1. OBJECTIVES</b> .....	5
<b>2. IMPLEMENTATION, MONITORING AND REVIEW</b> .....	7
2.1 Implementation Team.....	7
2.2 Evaluation.....	9
2.3 Reporting.....	9
<b>3. GUIDING PRINCIPLES</b> .....	10
<b>4. CONSERVATION STATUS</b> .....	11
4.1 National Context.....	11
4.2 Australia.....	11
4.3 Queensland.....	12
4.4 New South Wales.....	12
4.5 Victoria.....	13
4.6 South Australia.....	13
4.7 International.....	13
<b>5. SPECIES INFORMATION</b> .....	16
5.1 Description.....	16
5.2 Taxonomy.....	16
5.3 Distribution.....	16
5.4 Population.....	18
<b>6. THREATS AND MANAGEMENT ISSUES</b> .....	19
6.1 Habitat loss, fragmentation and degradation.....	19
6.2 Over-browsing.....	19
6.3 Natural disasters.....	19
6.4 Disease.....	20
6.5 Roads.....	20
6.6 Predation by Dogs.....	20
6.7 Climate Change.....	21
<b>Appendix 1 IMPLEMENTATION PLAN</b> .....	22
<b>Appendix 2: ACTIONS SUMMARY</b> .....	31
<b>ACKNOWLEDGMENTS</b> .....	34

# CONSULTATION DRAFT

## FOREWORD

The koala attracts considerable public attention as an Australian icon and, through its appeal to international visitors, contributes significantly to Australia's tourism industry. The koala is also an important component of Australia's biodiversity, and its unique habitat supports a variety of other native species.

The koala has suffered declines due to the extensive habitat clearing and fragmentation which started with European settlement. Other threats to koalas have included hunting, disease, fire, drought and, more recently road deaths and predation by dogs. Despite considerable effort to conserve koalas, only hunting has been effectively eliminated as a threat. A growing additional threat is climate change. Not only will climate change have direct impacts on koala habitat, it may interact with other threats with unpredictable and potentially severe consequences for koalas. While the koala is not yet considered to be threatened with extinction nationally, there is no doubt that it is declining and the time to act, to ensure that this does not happen, is now.

Protecting and managing koalas today is a complex task. Much of their habitat occurs on private land where there are many competing land uses and the range of management issues is as varied and wide as the distribution of the koala. The need for a strategic approach to the management of koalas has become urgent to maximise the effectiveness of conservation efforts.

The 1998 National Koala Conservation Strategy identified the key threats to koalas, and the courses of action to be taken to tackle them. However, a review of the strategy, in October 2008, identified as its major limitation the lack of a clear process for implementing the actions. This new 2009-2014 National Koala Conservation and Management Strategy includes an implementation plan. A national implementation team has been established to coordinate the identified actions.

The new strategy takes into account the considerable amount of koala research, planning and management activity since 1998. For instance, the 1998 strategy makes no reference to the phenomenon of climate change. Recent research has also shown that the relative importance of each threat differs from location to location. This requires local solutions, based on local studies and local plans, to manage individual koala populations across their extensive range. The task of this strategy is to give cohesion to all levels of activity, and acknowledge that there is no one universal solution for managing koalas.

Since 1998, national and state conservation efforts have increasingly focused on multi-species and landscape-scale protection and recovery. Protecting, restoring and managing koalas and their habitat will have significant benefits for a wide range of other species and ecological communities which also share the koala's habitat. This new strategy aims to integrate with, and complement, conservation efforts in all areas where the koala exists. Importantly, the koala can be a flagship with which to generate public support for these broader efforts.

Community ownership of this strategy will be vital for its successful implementation. Accordingly, public comment was sought on the draft revised strategy, and

# CONSULTATION DRAFT

submissions were considered by the National Koala Conservation Strategy review steering committee in preparation of the final revised strategy.

This strategy was developed jointly by the Commonwealth, states and territories through the Natural Resource Management Ministerial Council (NRMMC). It aims to provide a national framework for the conservation of koalas. The success of the strategy will hinge on the participation of the community, conservation groups, local government authorities and researchers, working cooperatively with state and Commonwealth authorities, using the attached implementation plan as a tool for coordinating action and monitoring progress. To help promote ongoing action and engagement of all stakeholders, the implementation team will meet regularly and report annually on progress. The Commonwealth will take an important central role in coordinating and supporting the implementation team.

The new strategy will be formally reviewed after five years, to facilitate an adaptive approach to koala conservation management. The intention is to be proactive in koala conservation, as well as to be of sustained assistance to those who have the expertise, the commitment and the responsibility to manage our koala populations throughout their range.

The issue of culling was considered in the development of the strategy. Culling as a management tool was rejected by Ministers in May 1996 and is not considered further here. Similarly, the deliberate introduction of *Chlamydia* to populations free of *Chlamydia* is not supported as a management tool for population control.

This strategy is an important step in mobilising coordinated action by the Commonwealth, the states, local government, local conservation groups, the rural community, wildlife carers and researchers everywhere.

# CONSULTATION DRAFT

## 1. OBJECTIVES

The National Koala Conservation and Management Strategy aims to conserve koalas by retaining viable populations in the wild throughout their natural range.

As part of this overall goal, the strategy identifies four broad long term goals (1-4 below). The ability of the strategy to meet these outcomes will be demonstrated in the short term by measurable progress towards a number of short term outcomes (5-9 below) that are key to producing the long term outcomes.

### **Desired outcomes – long term (30 – 50 years)**

1. *Koala populations in identified priority areas are stabilised or increasing<sup>1</sup>*
2. *Overabundant koala populations are stabilised or reducing wherever they occur or arise<sup>2</sup>*
3. *Threatened status of the koala at state and regional levels is reduced*
4. *Koala remains nationally abundant and widespread, and is not nationally threatened*

### **Desired outcomes – short term (5 – 10years)**

5. *Increased consideration of koala habitat demonstrated in development planning*
6. *Greater area of high quality koala habitat conserved through legislation, covenants or agreements*
7. *Greater activity by land and resource managers to protect koala populations*
8. *Increased community capacity to drive koala conservation and care*
9. *Productive and integrated partnerships that foster the conservation and welfare of koalas*

To achieve these short and long term outcomes, the strategy will facilitate and coordinate delivery of the following major products and tools between 2009 – 2014:

### **Outputs (Major products and tools to be delivered, 0 – 5 years)**

- A. Provide policy advice to ensure koala habitat is prioritised in land conservation and management initiatives
- B. Provide policy advice to guide the consideration of koala habitat in statutory planning strategies and applications

---

<sup>1</sup> Priority areas will be defined by the Implementation Team during implementation of several actions under the strategy

<sup>2</sup> In 2009 overabundant populations are identified in the following habitat areas: Victoria - Raymond Is, Snake Is, French Is, the Otway Ranges, Framlingham, Mt Eccles National Park, Tower Hill Game Reserve; South Australia - Kangaroo Island and possibly the Adelaide Hills and Mt Lofty Ranges.

# CONSULTATION DRAFT

- C. Develop a better understanding of koala population requirements and management responses, and maintain an information network to guide and assist planning, natural resource management processes, and other community and stakeholder activities
- D. Facilitate high standards of care and welfare of koalas in captivity
- E. Recognise, motivate and commemorate koala conservation efforts
- F. Develop and maintain productive, integrated partnerships to influence and achieve greater funding for outcomes

**Appendix 1** outlines the actions that would need to be undertaken to deliver these outputs. Several actions may support more than one output. Appendix 1 also sets out the responsible parties, priority, and timelines for each action.

**Appendix 2** contains a summary of actions.

These outcomes and outputs are not in order of priority. Each jurisdiction should assess the efficacy of the actions listed under each output according to their particular needs and situation. When developing management plans for the koala, each range state should liaise closely with the others to maximise cooperation and avoid duplication. In some cases additional funding and resources may be required to complete actions. Decisions about resourcing need to be made by jurisdictions bearing in mind the priorities identified in the strategy.

The strategy operates at several different geographic scales:

- At the national and state scale, the strategy provides a framework for coordinated cooperation and strategic action amongst the wide range of stakeholders in koala conservation. It sets priorities and focuses attention on the most important issues.
- The strategy also provides for the development of cost-effective tools to guide action at different scales.
- At the local scale, the strategy aims to improve the awareness of communities and authorities who live with koalas, and to provide relevant support and assistance for devising and implementing effective conservation actions.

# CONSULTATION DRAFT

## 2. IMPLEMENTATION, MONITORING AND REVIEW

The successful implementation of the strategy depends on sustained commitment by a variety of stakeholders, ongoing and timely exchange of information between managers, researchers, and community groups, and regular monitoring and reporting on progress to enable managers to alter their plans where required.

Stakeholders who will be involved in or responsible for actions under the plan include:

- Commonwealth, state and local governments
- Research scientists
- Non-government organisations
- Zoos and wildlife parks
- Community groups
- Individual members of the public

Implementation of this strategy will have financial costs and benefits for governments, industry, business and the community:

- Increased costs resulting from enhanced measures to meet the objectives of this strategy
- Lower costs over time because the future costs of koala conservation will be substantially reduced by timely investment in conservation measures
- Benefits from the conservation of our natural and cultural heritage, including conservation of co-occurring species and ecosystems, sustainable land use practices and enhanced opportunities for ecotourism.

Whilst there are already resources directed to koala conservation and management, additional resources may be required to implement this strategy. Outcomes benefiting koalas may also be delivered through conservation activities that are undertaken for other species.

In implementing the strategy, there will be a need to ensure that attention is given to the most effective use of resources.

It is important that this strategy is reviewed in light of experience with its implementation and developing knowledge. A review including public consultation will be appropriate after the strategy has been implemented for a period of five years.

### 2.1 Implementation Team

Given the complexity of the conservation and management requirements of the koala, an implementation team will be established to coordinate action. It will be responsible for promoting and coordinating information and actions identified in the plan to achieve the goals of the strategy.

# CONSULTATION DRAFT

The implementation team will be a group of around 10 people which may consist of representatives from:

- Commonwealth Government
- State Governments (QLD, NSW, VIC, SA, ACT)
- Local Government
- Non-government organisations including conservation groups
- Researchers
- Land and Resource Managers
- Landholders/Industry
- Indigenous communities
- Koala care groups

[numbers and identity of each category to be determined as well as the process for initial and subsequent appointments to the team]

The implementation team will:

- Discuss progress at least every six months by teleconference or in person
- Coordinate and promote action across relevant parties
- Disseminate information, new developments and research findings to interested parties
- Promote ongoing action and engagement of stakeholders
- Report annually to the NRMMC on progress against performance targets

An ongoing role of the implementation team during the life of the strategy will be to monitor its implementation with particular reference to exchange of information on actions across all jurisdictions. It will report on progress annually to the NRMMC.

## *Operational Arrangements*

The implementation team would be established as an advisory body under the NRMMC.

Operating arrangements and composition of the team would be agreed by the NRMMC prior to the implementation team's first meeting.

The implementation team would be supported by a secretariat, provided by the Commonwealth Government.

The secretariat would arrange meetings of the implementation team and coordinate reports to and from the implementation team, including annual performance reporting to NRMMC. On behalf of the team, and in conjunction with members tasked with particular duties, the secretariat would also coordinate many of the actions identified in this strategy, such as arranging workshops, and developing draft national guidelines. The implementation team would finalise papers and reports for approval or endorsement by NRMMC as required.

# CONSULTATION DRAFT

## 2.2 Evaluation

Progress will be monitored and evaluated annually by the implementation team. An independent external reviewer will be contracted to review and evaluate the strategy and its implementation within five years.

In delivering the actions set out in this strategy (such as developing guidelines for carers or research funding), it is anticipated that the implementation team will consider developing simple standard formats to facilitate collection of basic data to assist evaluation of actions and the strategy more generally (e.g. number and health of animals cared for, location of capture etc.)

## 2.3 Reporting

The implementation team will report progress of implementation of the strategy to the NRMCC annually.

DRAFT

# CONSULTATION DRAFT

## 3. GUIDING PRINCIPLES

The objectives and actions which form this strategy were developed in the context of the following guiding principles consistent with the Inter-Governmental Agreement on the Environment:

- the conservation of koalas should, wherever possible, seek to complement existing strategies and to provide multi-species benefits, via integration with other measures to conserve Australia's biological diversity and to maintain ecological systems and processes
- the principles of ecologically sustainable development, including 'the precautionary principle', which in application means that decisions should be 'guided by careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and by an assessment of the risk-weighted consequences of options'
- recognition that community input and involvement is crucial to the conservation of koalas
- there are many existing local approaches and the strategy should build on these
- processes and decision-making at all levels of government should be efficient and transparent and provide for public participation.

DRAFT

# CONSULTATION DRAFT

## 4. CONSERVATION STATUS

### 4.1 National Context

Koalas formerly occurred throughout the broad band of eucalypt forest and woodland communities extending from north-eastern Queensland to the south-eastern corner of South Australia. After European settlement, clearing of habitat for agriculture in combination with hunting, disease, fire and drought resulted in a severe population decline. By the late 1930s they were considered extinct in South Australia and severe declines had occurred in New South Wales, Victoria and Queensland. However, in the late 1930s the fur trade ceased and state governments were introducing protective measures. Reintroduction programs, which moved koalas from colonies established on French Island and Phillip Island in Victoria, were used to re-establish koalas in their former range in Victoria and to a lesser extent in South Australia and the Australian Capital Territory. In South Australia koala populations were reintroduced at various stages of the 20<sup>th</sup> century into regions outside of their original distribution; Kangaroo Island (1920s), Adelaide Hills (including escapees, 1930s to 1970s), Riverland (1960s) and Eyre Peninsula (1969).

Today the regional conservation status of the koala varies from secure in some areas to vulnerable or extinct in others. In Queensland, they occur throughout most of their natural range, although the overall koala population is declining mostly due to continued clearing and fragmentation of woodland and forest. There is significant pressure on the koala in South East Queensland where it is listed as vulnerable by the state government. In New South Wales, trends across the state are mixed – some populations on the New South Wales coast are declining, whilst some populations west of the Great Dividing Range have expanded. There are generally only transient animals occurring in the ACT, with very little of the area within the territory containing forest vegetation that is considered to be koala habitat. Koalas in Victoria occur over much of the southern and eastern lowlands and population densities are high in some areas (Raymond Is, Snake Is, French Is, the Otway Ranges, Framlingham, Mt Eccles National Park, Tower Hill Game Reserve). Densities are lower in the dry forests and woodlands in northern parts of Victoria where the habitat is of lower quality. However much of the habitat remaining in the state is fragmented and many populations are isolated. In South Australia, because of introductions both within the koala's natural range and to areas where it did not occur naturally, the koala is now found over a greater range and abundance than at the time of European settlement.

### 4.2 Australia

The legal status of the koala varies across Australia from secure to vulnerable, with different states affording the species different levels of significance and protection (Table 1).

The koala is not listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The most recent assessment in 2006 by the Commonwealth Threatened Species Scientific Committee found that, while the species was subject to a variety of threats and that some regional populations had declined significantly, the koala did not meet the criteria for listing at

# CONSULTATION DRAFT

the national level under the EPBC Act. However, the conservation status of the koala under the EPBC Act is due to be reassessed by 30 September 2010.

## 4.3 Queensland

In Queensland the koala is listed as vulnerable throughout the South East Queensland Bioregion, and 'least concern' (common) elsewhere in the state under the *Nature Conservation Act 1992*. The koala is a protected species in Queensland and cannot be taken, used or kept without a permit. In addition, the legislation acknowledges the cultural significance of the koala and requires that government agencies consider the management measures necessary to conserve existing koala populations. In 2006 the Queensland government implemented the *Nature Conservation (Koala) Conservation Plan 2006 and Management Program 2006–2016* (Koala Plan) in accordance with section 112 of the *Nature Conservation Act 1992*. The main purpose of the Koala Conservation Plan is to:

- promote the continued existence of viable koala populations in the wild
- prevent the decline of koala habitats, including by providing for the rehabilitation of cleared or otherwise disturbed koala habitats
- promote future land use and development that is compatible with the survival of koala populations in the wild.

The operation of the Koala Plan was reviewed by the Queensland Government in late 2008. As a consequence a temporary regulatory instrument in the form of State Planning Regulatory Provision was commenced to provide additional protection for existing mapped habitat within the urban footprint in South East Queensland while a new Koala State Planning Policy (SPP) is developed (due in late 2009). The *Draft South East Queensland Koala State Planning Regulatory Provisions* (SEQ Koala SPRP) and regulatory maps, came into effect on 12 December 2008. The draft SEQ Koala SPRP replaces the former koala protection measures under the Koala Plan in relation to development assessment in the urban footprint and provides specific protective mechanisms for habitat areas already identified.

All planning and regulatory controls relevant to koalas that existed outside the urban footprint (for example the Environmental Protection Agency's concurrence role in relation to Koala Conservation Areas and Koala Sustainability Areas outside the footprint) are unchanged by this interim measure.

The introduction of the draft Koala SPRP is an interim measure, one of a number of initiatives in response to the recommendations of the Premier's Koala Taskforce. The draft Koala SPRP provides additional protection on the clearing of koala habitat in the SEQ region while habitat is extensively mapped over a six month period in 2009. These provisions allow the State government to take immediate action to address the decline in the koala population during this interim period.

## 4.4 New South Wales

In New South Wales the koala is listed as vulnerable under the *Threatened Species Conservation Act 1995*, which aims 'to conserve threatened species, populations and ecological communities of animals and plants'. Two populations are listed as

# CONSULTATION DRAFT

endangered; one in the Hawks Nest and Tea Gardens area of Great Lakes local government area, and one in the Pittwater area of Warringah local government area. As with all native animals, the koala is a protected species in New South Wales under the *National Parks and Wildlife Act 1974*. The Department of Environment and Climate Change NSW released a state-wide Recovery Plan for the Koala in November 2008. The recovery plan outlines actions necessary to aid the recovery of koala populations and provides a framework for local koala recovery efforts throughout the state.

## 4.5 Victoria

In Victoria, the koala is listed as Other Protected Wildlife under the *Wildlife Act 1975* which controls the possession of, trade in and research into native fauna through licensing and permits. The koala is not listed under the *Victorian Flora and Fauna Guarantee Act 1988* which provides schedules of threatened species, communities and potentially threatening processes and has the conservation of Victoria's native flora and fauna as its main objective. The Victorian Department of Sustainability and Environment released Victoria's Koala Management Strategy in September 2004. The strategy was intended to sit under the 1998 National Koala Conservation Strategy and to provide guidance towards achieving the aim of the national strategy and meeting its objectives in Victoria.

## 4.6 South Australia

In South Australia, the koala is protected under the *National Parks and Wildlife Act 1972* which allows for the protection of habitat and wildlife and provides for the use of wildlife through a system of permits allowing certain actions (i.e. keeping, selling, trading, harvesting, farming, hunting and the destruction of native species). The koala was listed as rare, but was de-listed in 2008.

## 4.7 International

The koala is listed as 'of least concern' on the *2008 IUCN Red List of Threatened Species* (IUCN 2008).

The United States (US) Fish and Wildlife Service listed the koala as threatened on the US *Endangered Species Act* in May 2000. In their ruling, the US Fish and Wildlife Service stated that 'the eucalyptus forest and woodland ecosystems on which this arboreal mammal depends have been greatly reduced [and] the limited koala habitat continues to deteriorate'. The listing requires that US Federal agencies consider the impact of their actions on the koala and prohibits commercial activity or trade in koalas by the US, except under a threatened species permit. The listing of the koala on the US *Endangered Species Act* does not influence the legislative responsibilities of the Australian federal or state governments with respect to koala management and conservation. However, it does demonstrate the international interest in, and concern for, the koala.

The NKCMS provides a national coordinating framework for many of the plans and actions that are already being undertaken by state and local governments to

## CONSULTATION DRAFT

conserve and manage koalas. The NKCMS does not replace them, though in many cases it goes beyond what is already being done or provides a framework for incorporating current activities into broader national action. In addition to implementing the actions identified by the NKCMS relevant to the jurisdiction, all states will implement their state plans in a way that is consistent with the national strategy.

DRAFT

# CONSULTATION DRAFT

**Table 1** Legal status of the koala throughout its range in Australia.

State/Territory	Legislation	Status of koala
Commonwealth	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Not listed
Queensland	<i>Nature Conservation Act 1992</i>	Vulnerable in South East Queensland Bioregion Least concern (common) elsewhere
New South Wales	<i>Threatened Species Conservation Act 1995</i>	Vulnerable Two populations listed as endangered
	<i>National Parks and Wildlife Act 1974</i>	Protected
Australian Capital Territory	<i>Nature Conservation Act 1980</i>	Not listed
Victoria	<i>Wildlife Act 1975</i>	Protected wildlife
	<i>Flora and Fauna Guarantee Act 1988</i>	Not listed
South Australia	<i>National Parks and Wildlife Act 1972</i>	Protected
		Not listed as threatened

DRAFT

# CONSULTATION DRAFT

## 5. SPECIES INFORMATION

### 5.1 Description

The koala *Phascolarctos cinereus* is the sole member of the family Phascolarctidae. It is an arboreal marsupial with large furry ears and a vestigial tail. Its fur colour varies from pale grey in the northern parts of its range to grey-brown in the south. The koala also varies in size across its latitudinal range, from an average 6.5 kg in Queensland to 12 kg in Victoria. Male koalas can weigh up to 50% more than females. Detailed accounts of the koala can be found in Cronin (1987), Lee and Martin (1988), Phillips (1990), Martin and Handasyde (1999), Jackson (2007) and Moyal (2007).

### 5.2 Taxonomy

Three 'races' or subspecies of *Phascolarctos cinereus* were proposed by early taxonomists, based on differences in the species' morphology across its geographic range: *Phascolarctos cinereus adjustus* (Thomas 1923) in Queensland, *P. c. cinereus* (Goldfuss 1817) in New South Wales and *P. c. victor* (Troughton 1935) in Victoria. However, analyses by Houlden et al. (1999) found relatively low levels of genetic differentiation among the proposed subspecies, which suggests that physical variations across the species' range may reflect adaptations to different climates, rather than separate subspecies.

### 5.3 Distribution

The koala occurs in eastern Australia, from north-eastern Queensland to south-eastern South Australia and to the west of the Great Dividing Range. Historically, koalas had a largely continuous distribution throughout much of coastal and inland Queensland and New South Wales, throughout the majority of Victoria and in the south-eastern portion of South Australia. However, as a result of habitat loss, drought, hunting and disease, koala numbers rapidly declined and by the 1930s koalas were present in less than 50% of their previous distribution. There was a decline in Queensland and observers at the time considered that small remnant populations remained in New South Wales, few animals remained in Victoria, and in South Australia koalas were considered extinct.

Koalas have since returned to many parts of their former distribution; in Queensland from a natural recovery, and in Victoria and South Australia as part of active re-introduction programs from island populations. In the latter states the species now occurs in areas where it was not recorded historically, such as Kangaroo Island, Adelaide and Mount Lofty Ranges, Eyre Peninsula and the Riverland. The apparent success of these re-established population is tempered by unforeseen problems of over-browsing and of low genetic diversity leading to inbreeding depression.

The koala now has a fragmented distribution throughout eastern Australia, from north-eastern Queensland to the Eyre Peninsula in South Australia, and inland into the eastern margins of the arid zone of New South Wales and Queensland. In South Australia there remains a small breeding population on the Eyre Peninsula, from koalas introduced in the 1960s. There are also introduced and breeding populations

# CONSULTATION DRAFT

in the Adelaide Hills / Mt Lofty Ranges, the Riverlands, and in the lower South East. Some of these were established from koalas relocated from Kangaroo Island and have been demonstrated to have high levels of inbreeding associated with morphological abnormalities.

Approximately 300 local government areas and over 30 catchment management authorities/regional natural resource management bodies are responsible for planning decisions affecting koalas within their geographic range. The map below provides a general indication of the range of the koala and demonstrates that many jurisdictions need to be involved in koala conservation and management. This map is not intended to reflect the exact distribution of the koala.



Figure 1: Range of Koalas in 2005 (Source: Planning Guidelines for koala conservation and recovery – McAlpine et al 2007)

# CONSULTATION DRAFT

## 5.4 Population

Deriving reliable broad-scale koala population estimates remains very difficult so the national population of the koala remains unclear at this stage.

Reliable population estimates are possible for specific areas at smaller scales, but usually come at significant cost. As such, the level of survey effort and precision should be evaluated on a case-by-case basis relative to the management need for precision and the priority of decisions or actions based on those data. A range of suitable sites from different regions could be selected for ongoing monitoring purposes in conjunction with the strategy. At a national level, it may be more realistic to estimate the extent of habitat loss, fragmentation and modification and declines in distribution as indicators of koala population declines rather than population size *per se*.

DRAFT

# CONSULTATION DRAFT

## 6. THREATS AND MANAGEMENT ISSUES

### 6.1 Habitat loss, fragmentation and degradation

Loss of habitat is the major threat to the koala in Queensland and New South Wales and is the primary factor responsible for declining populations in those states. This continuing problem, which results mainly from clearing or fragmentation of forest and woodland, must be addressed.

Clearing is mainly associated with urban development in coastal regions and agricultural development (cropping and pastures) in inland regions, resulting in incremental loss and fragmentation of remaining koala habitat. Habitat loss is the most significant cause of koala population declines and reductions in long term population viability. Under the strategy it is a high priority to identify important habitat areas and protect them from clearing, through planning and legislative tools and other measures such as covenanting. Where clearing is unavoidable, it is vital to put in place meaningful conservation offsetting measures to effectively protect and restore other suitable habitat areas. It is also important to consider that there is a significant lag-time before successfully replanted habitat can support koalas.

Degradation of habitat can result from some logging regimes, thinning of timber during property development, destruction of undergrowth and mid-storey shelter trees and other disturbances such as regular burning, excessive nutrient input or the introduction of weeds. Degraded habitats are capable of supporting fewer koalas than undisturbed habitats.

Healthy ecosystems provide a broad range of biodiversity benefits, so protecting and restoring natural habitat is essential not just for koalas but also for a wide range of other species that depend on these habitats. Habitat conservation efforts often take place at a multi-species or landscape scale, and efforts to address koala habitat should be integrated into these approaches wherever possible to achieve maximum benefit for koalas and other species and ecological communities.

### 6.2 Over-browsing

Where koalas have been introduced to islands, small pockets of habitat, or outside their natural range such as has occurred in areas of Victoria and South Australia, koalas may reach high densities and over-browse their food trees. Severe reductions in available food resources can in turn lead to starvation, suffering and death. Unsustainable over-browsing can also lead to ecosystem damage and jeopardise vegetation conservation. The impacts of over-browsing have been an important issue at some Victorian sites for over 70 years and continue to be an on-going problem in parts of Victoria and South Australia (see sections 4.1 and 5.3).

### 6.3 Natural disasters

Natural disasters such as fire and drought affect koala populations both directly and indirectly. Hot crown fires can cause high numbers of koala mortalities as well as destroy habitat or reduce it to remnant patches. However, if there are unburnt refuge areas, nearby populations may survive fires and recolonise habitat as vegetation

# CONSULTATION DRAFT

recovers. Droughts can also cause high rates of mortality and may have a greater impact on young koalas, especially in semi-arid and arid regions. If a natural disaster such as a drought occurs over an extended time the impact on the population will be even greater. The impact of natural disasters such as fire and drought is exacerbated by fragmentation of habitat and may also be influenced by climate change.

## 6.4 Disease

The most significant diseases in wild koalas are associated with chlamydial infections. Many koalas appear to carry *Chlamydia* without showing clinical symptoms. Eye or urinary tract infections due to *Chlamydia* may become apparent as overt diseases when an animal is subject to additional stress such as nutritional deficiency following habitat loss or loss of territory. Infection of the reproductive tract by *Chlamydia* may lead to female infertility, which may reach sufficiently high levels to cause a marked depression of the reproductive rate in the population. This may be an issue of particular concern for small, isolated populations. However, some populations with *Chlamydia* also reach over-abundant levels. For example, koala populations at Raymond Island, Snake Island and Mt Eccles National Park are *Chlamydia* positive but have grown to such an extent that they have out-stripped their food supplies.

The frequency of severe cases of disease in healthy koala populations is usually low and thus does not normally threaten the survival of koala populations. Vulnerability to disease may itself be an indicator of problems such as nutritional or environmental stress.

The low genetic variation found in koalas in some locations may exacerbate the risk of disease. If a new disease risk arises in such populations, low genetic variation means that a high proportion of individuals may be vulnerable to the disease.

## 6.5 Roads

Injury and death of koalas due to road vehicle collisions is a problem throughout their range, particularly in urbanised areas where roads intersect koala habitat. The extent of the problem depends on the abundance of the population in the area, the frequency with which koalas cross roads, provisions for koalas to cross and on the traffic volume, road width and other attributes of the road. The problem is accentuated when koala populations occur close to roads that carry high volumes of traffic travelling at high speeds. The problem of vehicle collisions is usually a result of poor planning and road design (e.g. placing new roads too close to koala habitat) but may also result when koalas are resident in urban areas, or disperse into them from adjacent forest.

## 6.6 Predation by Dogs

Dog attacks occur where koalas use habitat in urban areas, on small rural holdings close to urban centres and in semi-urban and rapidly urbanising areas. The problem is exacerbated when dogs have the opportunity to form pairs or packs, when dogs can roam widely outside their home properties and where large and aggressive breeds are common. Dog attacks commonly result in stress, injury or death to koalas.

# CONSULTATION DRAFT

## 6.7 Climate Change

The impacts of climate change on koalas are already apparent, particularly in Western Queensland and New South Wales. They include:

- changes in the structure and chemical composition of koala food trees
- changes in the composition of plant communities and the range of important habitat species, including food and shelter trees
- increased frequency and intensity of drought
- increased frequency and intensity of wildfire
- sea level changes which may impact upon the habitats of coastal and island populations
- changes in average temperature, rainfall and humidity levels with consequent impacts on the extent of areas capable of sustaining koalas
- contractions in the distribution of koala populations

Climate change is likely to compound existing stresses of habitat loss and fragmentation, leading to higher risks from disease, and may also increase the risk of injury by dog attacks and vehicles as koalas move across the landscape in search of food.

DRAFT

# CONSULTATION DRAFT

## Appendix 1 IMPLEMENTATION PLAN

The following implementation plan sets out the key actions that would need to be carried out to deliver the major products and tools (Outputs) under the Strategy. Some actions contribute to more than one output.

The koala has received significant attention from managers, conservation groups, the general public and from the research community. Consequently, many of the problems facing koalas are well known, and critical actions at a coarse scale are readily identified, if not always easily implemented. For example, while the loss of habitat is widely accepted as the major threat to koalas and the broad solution, prevention of further clearing, is clear. However, this has been difficult to achieve in the past given the diverse and substantial pressures from human activity. Further action is required and innovative solutions need to be developed, requiring action by stakeholders from all sectors.

Given the diversity of the potential actions, it is important to develop national priority areas and decision-making tools early in the life of the strategy to guide its further development and implementation. Enacting these will require building or further strengthening partnerships between government and other stakeholders in landscape conservation, and with the community. We will also need to continue to acquire new knowledge about koalas and their problems via research and monitoring to monitor trends, extend knowledge of lower priority areas and improve feedback between management, monitoring and research to further develop capacity for adaptive management.

### **Category 1      Habitat protection and identification**

Habitat loss and fragmentation is the primary threat to koalas in key parts of their range (e.g. SE Queensland). In such key areas there exists enough information to enact quickly measures to conserve koalas and these should be taken as a matter of urgency. The pressure is immediate and the context well enough known that the opportunity cost of waiting for more research is too high and appropriate direct action can be taken. However, monitoring may still prove valuable, as a means to evaluate the success of steps taken with a view to adapting management to changing circumstances. Similarly, as these populations may constitute a significant proportion of the national population, such monitoring will prove valuable to future assessments of the koala's status at all levels (regional to national).

In other parts of their range, such as where human population and development pressure is lower, there has not been the impetus to collect the data on distribution of koalas and their habitats. In these cases it is appropriate to undertake further survey effort in anticipation of the development of habitat protection actions.

These actions also need to incorporate the multi-species approach to habitat protection. Koalas occur in a variety of habitats and usually require large areas of contiguous habitat to sustain viable populations. Consequently, incorporation of koala habitats into planning for conservation of other species, and vice versa, can be

# CONSULTATION DRAFT

beneficial for both. We identify this as a specific action as it is a recognised priority approach to reserve planning and conservation action at all levels of government.

## **Action 1.01 Incorporate koala habitat conservation into existing multi-species or landscape scale conservation programs**

- DEWHA and states to conduct GIS analysis of overlap of koala distribution with known distributions of other threatened species and communities to identify areas where maximum conservation value can be achieved via land protection.
- Discuss above analysis with managers of relevant national and state organisations and programs to develop priorities for land acquisition/assignment to benefit koalas and other species, consistent with the principles of those organisations and programs.
- Revision after 5 years to incorporate new knowledge of species and community distributions.
- Should refer to outcomes of Action 1.04

Relates to: Outputs A, B, C

Responsible Parties: Commonwealth/state/territory govts, CMAs, regional bodies, local govts

Priority: 1

Time scale: 1-2 years; review after 5 years.

## **Action 1.02 Assess and develop options for protecting priority koala habitat on public lands using legislation, covenants or agreements**

- Includes working with local government to incorporate koala conservation into planning processes.

Relates to: Outputs A,B, C

Responsible Parties: State and territory governments, local government

Priority: 1

Time scale: 18 months for guidelines/process to be rolled out, 5 years for implementation, then review.

## **Action 1.03 Assess and develop options for protecting koala habitat on private lands**

- Develop incentive-based mechanisms for koala conservation on private lands.
- Implement incentive-based mechanisms for koala conservation on private lands
- Establish covenants over koala habitat via cooperation with local govt, community and business.

Relates to: Outputs A, C, E, F

Responsible Parties: Commonwealth Government, local government, individuals

Priority: 1-2

Time scale: 1-5 years, then review.

## **Action 1.04 Prioritise conservation of populations under immediate pressure**

- Workshop of experts to identify where there are existing koala populations already experiencing significant loss of habitat and to identify immediate and short term actions to secure their status.

Relates to: Outputs A, B, C

Responsible Parties: Commonwealth/state/territory govts.

# CONSULTATION DRAFT

Priority: 1

Time scale: 6-12 months.

## **Action 1.05 Revegetate habitat to facilitate natural dispersal and reduce fragmentation effects**

Fragmentation, or the loss of connection between habitats, exacerbates the overall problem of habitat loss. A single large patch is likely to support more animals than two smaller patches with the same total area. This is particularly the case when the smaller patches are slightly below the threshold size required to maintain a viable population. Thus re-connection of existing habitat fragments via revegetation may enable recolonisation and persistence of koalas where this is currently not possible.

We note that such actions may not be appropriate where koalas are beyond their natural range (e.g. parts of South Australia) such that dispersal may extend their range further into habitats never previously occupied by koalas.

- Assess and develop options to revegetate priority habitat areas.
- Implement revegetation programs.

Relates to: Outputs A, B, C, E, F

Responsible Parties: Commonwealth/state/territory govts, local government, community groups, individual landholders.

Priority: 1-2

Time scale: 1 year to develop, 5 years to implement, then review.

## **Action 1.06 Develop standard monitoring/habitat assessment protocols**

There is some inconsistency and disagreement over how koala populations should be surveyed and mapped.

- Develop consistent protocols that enable population numbers or density to be compared between the same place at different times and between different habitats.

Relates to: Outputs A-C

Responsible Parties: Commonwealth/state/territory govts, researchers

Priority: 1

Time scale: 6-18 months.

## **Action 1.07 Establish a national database of koala population distribution and density and habitat mapping data**

To facilitate appropriate planning at all scales, it is most appropriate that all data reside in a central repository that can be accessed by relevant authorities for their needs, bearing in mind confidentiality of some unpublished data.

- Coordinate and analyse results and report to improve management strategies.

Relates to: Outputs A-C

Responsible Parties: Commonwealth/state/territory govts, researchers

Priority: 2

Time scale: 1-5 years.

## **Action 1.08 Establish or continue surveying and monitoring programs**

Monitoring fulfils two important functions: evaluating population status so that the relative need for management can be assessed; and evaluating population trends so

# CONSULTATION DRAFT

that the efficacy of management actions can be assessed. The scale at which these are undertaken must be appropriate to the scale of management.

- Continue monitoring of populations for which there are existing long term data. In many cases these are large or important populations, so provide information on their own individual status, but in combination are also useful for evaluating status at a larger scale.
- Extensive less-detailed monitoring. At the scale of the koala's range, intensive monitoring is too expensive and laborious to be feasible. Thus for matters at larger scales survey intensity may be reduced.

Relates to: Outputs A-C

Responsible Parties: Commonwealth/state/territory govts, researchers.

Priority: 1

Time scale: Identify programs for continued support or additional work - 2 years.

## **Action 1.09 Incorporate causes of habitat loss or degradation, other than land clearing, into planning for koala habitat conservation**

While land clearing clearly leads to the unambiguous loss of koala habitat, a range of other processes may lead to the loss, or severe degradation, of habitat. Developing an understanding of how these will develop in the future, and incorporating this in reserve planning will be critical to long term success. These include, but are not limited to:

- Climate change
- Fire
- Drought

While the impacts of these threats are by their nature unpredictable, some immediate actions can be taken, as the impacts will manifest by reducing habitat quality, the effects of which will be strongest at the margins of their range. This places additional emphasis on the need to identify and protect high quality habitat (Actions 1.01-1.05) in all parts of the range (e.g. riparian zones in arid areas). Future research can help to refine this precautionary approach (addressed at Category 6).

Relates to: Outputs A-C, E, F

Responsible Parties: State/territory govts, local govt, community groups.

Priority: 1-3

Time scale: 1 year to integrate, review after 5 years.

## **Action 1.10 Identify additional research needs for koala habitat**

- Additional research can be undertaken to improve our ability to address the above Actions. However, research is necessarily time-consuming and precludes timely action for urgent issues. Appropriate research that is valuable but not essential for the above actions is identified below at Category 6.

Relates to: Outputs A-C, F

Responsible Parties: Commonwealth/state/territory govts, researchers.

Priority: 1

Time scale: 2-5 years.

## **Category 2 Over-browsed habitats**

In parts of their range, notably in locations in Victoria and South Australia, koala populations have reached very high densities, and have exceeded the carrying capacity of their habitats. At the extreme, this can lead to loss of browse trees and

# CONSULTATION DRAFT

consequent habitat degradation and to suffering or death of individual koalas. To date efforts to address this problem have included: removal and translocation of individuals to new areas; and attempts to prevent populations exceeding habitat carrying capacity by using sterilisation to reduce reproductive capacity of the population. Each of these carries with it its own problems. Translocation is expensive and there can be no guarantees that individual koalas will adjust well to a new habitat. Additionally, translocation may mean the establishment of new populations that suffer from the above problems. These are exacerbated by the tendency for such populations to be derived from only a few individuals, and thus have very low genetic variation.

## **Action 2.01 Continue and refine management programs to regulate koala density to a level below that which causes severe tree defoliation.**

Relates to: Outputs A-C

Responsible Parties: Commonwealth/state/territory govts, local govt, community groups.

Priority: 1

Time scale: 1-5 years

## **Action 2.02 Identify potential problems at an early stage through regular assessment of koala abundance and the extent of crown defoliation of preferred food tree species.**

Relates to: Outputs A-C, E, F

Responsible Parties: State/territory govt, community groups, individual landholders.

Priority: 1

Time scale: 1-3 years

## **Action 2.03 Develop and adopt national translocation guidelines for translocation of koalas for introduction, reintroduction and restocking, and for management of overabundant populations.**

The development of new national guidelines would need to take account of any existing guidelines such as those adopted by state governments, and those prepared by the International Union for the Conservation of Nature.

Relates to: Outputs A-C, E

Responsible Parties: Commonwealth/state/territory governments, local govt, carers.

Priority: 5

Time scale: 1 year.

## **Category 3 Direct mortality of individual koalas**

Even in areas where high quality habitat is available, koalas may be threatened by factors that cause the death of individuals, and which may threaten the viability of a population if this mortality exceeds the reproductive capacity of the population. These factors include death by vehicle collisions, predation by dogs and disease.

Unfortunately, habitat loss and degradation often coincide with the above factors, and

# CONSULTATION DRAFT

each may exacerbate the other. As these threats are more specific, they can also be addressed more specifically.

## **Action 3.01 Develop appropriate national guidelines for road design in koala habitat.**

Relates to: Outputs A-C, F

Responsible Parties: State/territory govts, local govt, community groups, individuals.

Priority: 1-3 (varies by region)

Time scale: 5 years, then review.

## **Action 3.02 Implement strategies which minimise the impacts of dogs on koala populations in both urban and peri-urban areas.**

Relates to: Outputs B-F

Responsible Parties: State/territory govts, local govt, community groups, individuals.

Priority: 1-3 (more important in urban areas)

Time scale: 5 years, then review.

## **Action 3.03 Assess and develop appropriate methods to reduce vulnerability of populations to disease**

Relates to: Outputs C-F

Responsible Parties: Research agencies, universities, Commonwealth/state/territory govts

Priority: 1

Time scale: 5 years.

## **Category 4 Community involvement**

The koala is an Australian icon and engenders much public support for conservation effort. This enthusiasm for the species can be harnessed to provide a powerful tool to bolster many of the actions listed elsewhere in this implementation plan. The public can provide information useful for monitoring, be active in on-ground action for both habitat maintenance and restoration, assist in rescue of injured or sick animals and lobby government and industry groups to support koala conservation measures.

## **Action 4.01 Provide extension and advisory services to encourage retention and restoration of koala habitat and to encourage management practices on private land which are not harmful to koalas or koala habitat.**

Relates to: Outputs A,C, E, F

Responsible Parties: Commonwealth/state and territory governments, local government and community groups

Priority: 2

Time scale: 1-3 years.

## **Action 4.02 Develop and distribute educational material.**

Relates to: Outputs C, E, F

Responsible Parties: Commonwealth, state/territory govts, local govt, zoos, ecotourist operators

Priority: 3

Time scale: 2-3 years

# CONSULTATION DRAFT

## **Action 4.03 Continue involving community in koala conservation and engagement with government.**

Relates to: Outputs C, E, F

Responsible Parties: Commonwealth/state/territory govts, local govt.

Priority: 1

Time scale: Ongoing: 1-3 years to establish.

## **Category 5 Caring for koalas in captivity**

Koalas may be held in captivity for a number of reasons. They may be held for short periods following rescue from injury or disease, or for research. They may be held for long periods for public display or because post-rehabilitation they are unlikely to be able to survive in the wild. In any case, it is important to ensure they are cared for in an appropriately humane manner.

### **Action 5.01 Develop national guidelines with states for all aspects of care, handling and management of captive, sick, injured or orphaned koalas, including guidance about where care and rehabilitation should and should not be used, including the rehabilitation for release of reproductively capable koalas.**

The development of new national guidelines would need to take account of any existing guidelines such as those adopted by state governments.

Relates to: Outputs D, E, F

Responsible Parties: Commonwealth/state/territory govts (in particular, NRMCC), Australasian Regional Association of Zoological Parks and Aquaria (ARAZPA) and associations of wildlife exhibitors and voluntary koala care groups.

Priority: 2-3

Time scale: 1-2 years.

### **Action 5.02 Review as necessary conditions and agreements under the *Environment Protection and Biodiversity Conservation Act 1999 (Part 13A)* for export of koalas.**

Relates to: Outputs D

Responsible Parties: Commonwealth Government

Priority: 5

Time scale: 3-4 years or as required.

## **Category 6 Research**

Understanding both the biology of an animal, and the nature of the problems it faces, are critical to the design of appropriate management responses. The koala has been the subject of extensive research and some of the threats to populations are well understood, as indicated by the actions described above. Nevertheless, koalas live in a changing world, and our understanding of them and their environment will continue to improve as research results accrue. These new insights will allow us to refine the actions described above, and to identify new management actions to benefit koalas.

We note here too, the statement made earlier, under Category 1. To do research well takes time, for the design and execution of the data collection program and for the analysis and interpretation of the data. Then the significance of the results for

# CONSULTATION DRAFT

management must be evaluated and management actions initiated. Nevertheless, some of the threats to koalas are current and pressing and require immediate action. Some research will directly refine or complement the knowledge, and associated high priority actions, identified above and thus will be of high priority. Other research may be more indirect and its value to management less explicit, and thus may be afforded lower priority given the resource limitations inherent in any conservation plan.

## **Action 6.01 Develop techniques for, and undertake, broad-scale remote sensing to identify areas for further exploration**

- The koala's range is extensive and survey of its distribution over this scale is extremely laborious and time-consuming. Remote sensing offers a method by which viable habitat can be accessed over appropriate scales. However, this requires development of techniques that can either discern tree species and/or measure nutritional or other attributes important to koalas. This is technically possible, but requires further research and development.
- Incorporate into the above measures to assess the condition of koala habitat.

Relates to: Outputs A-C

Responsible Parties: Research agencies, universities

Priority: 1

Time scale: 1 year per state.

## **Action 6.02 Identify knowledge gaps in koala research**

- for conservation of habitat or improving design of programs for habitat and population monitoring and establish research projects to fill in the gaps

Relates to: Outputs A-C

Responsible Parties: Research agencies, universities, Commonwealth/state/territory govts, local govt, NGOs, community groups

Priority: 1

Time scale: 1-2 years; commence in year 3 and run for 3-5 years.

## **Action 6.03 Identify directions for research on effects of climate change on koalas**

As noted at 1.09 climate change is a complex process that carries with it significant implications for koalas. These effects may be in the form of altered drought and fire regimes, and more directly through the effects of carbon dioxide on eucalypt leaf chemistry. The additional stresses imposed may further exacerbate existing problems of habitat loss etc. Due to the complexity of the problem we must both enact short term precautionary and anticipatory measures, but also conduct research to better understand, and adjust, these management approaches.

Relates to: Outputs A-C

Responsible Parties: Research agencies, universities, Commonwealth/state/territory govts, local govt, NGOs, community groups

Priority: 1

Time scale: 1-2 years; commence in year 3 and run for 3-5 years.

## **Action 6.04 Facilitate development of a network to support koala research**

- State governments could maintain research units/expertise including conservation biologists/teams with koala conservation expertise.

Relates to: Outputs A-C

# CONSULTATION DRAFT

Responsible Parties: Research agencies, universities, Commonwealth/state/territory govts, local govt, NGOs, community groups

Priority: 1

Time scale: 5-10 years; Distribution network established by end of 2009.

## **Action 6.05 Develop methods for enabling comparison of disparate data on koala distribution and abundance**

- There are some existing dataset that are valuable in their own right, but that would become more valuable were they able to be incorporated in analyses at a broader spatial or temporal scale. To do so requires the development of measures by which one method can be calibrated against another. Links to Action 1.06

Relates to: Outputs A-C

Responsible Parties: Research agencies, universities, Commonwealth/state/territory govts, local govt, NGOs, community groups

Priority: 1

Time scale: 1-2 years.

## **Action 6.06 Develop mechanisms to support access to funding, or conduct and disseminate dedicated research**

Research actions or directions identified above may be too expensive for direct funding by the agencies party to this strategy. However, these agencies may facilitate the conduct of that research by identifying avenues whereby funding can be secured from other sources and support consequent applications.

Relates to: Outputs F

Responsible Parties: Research agencies, universities, Commonwealth/state/territory govts, local govt, NGOs, community groups

Priority: 2

Time scale: 1-2 years.

## CONSULTATION DRAFT

### Appendix 2: ACTIONS SUMMARY

Category	Action	Description	Contributes to outputs	Responsibility	Priority	Time scale
1 - Habitat protection and identification	1.01	Incorporate koala habitat conservation into existing multi-species or landscape scale conservation programs	A-C	Commonwealth/state/territory govts, CMAs, regional bodies, local govts	1	1-2 years
	1.02	Assess and develop options for protecting priority koala habitat on public lands using legislation, covenants or agreements	A-C	State and territory governments and local government	1	18 months for guidelines/process to be rolled out; 5 years for implementation; then review
	1.03	Assess and develop options for protecting koala habitat on private lands	A, C, E, F	Commonwealth Government, local government and individuals	1-2	1-5 years; then review
	1.04	Prioritise conservation of populations under immediate pressure	A-C	Commonwealth/state/territory govts	1	6-12 months
	1.05	Revegetate habitat to facilitate natural dispersal and reduce fragmentation effects	A-C, E, F	Commonwealth Government, state and territory governments, local government, community groups and individual landholders	1-2	1 year to develop; 5 years to implement; then review
	1.06	Develop standard monitoring/habitat assessment protocols	A-C	Commonwealth/state/territory govts, Researchers	1	6-18 months
	1.07	Establish a national database of koala population distribution and density and habitat mapping data	A-C	Commonwealth/state/territory govts, Researchers	2	1-5 years
	1.08	Establish or continue survey and monitoring programs	A-C	Commonwealth/state/territory govts, Researchers	1	2 years to identify programs for continued support or additional work
	1.09	Incorporate causes of habitat loss or degradation, other than land clearing, into planning for koala habitat conservation	A-C, E, F	State and territory governments, local government and community groups	1-3	1 year to integrate; review after 5 years
	1.11	Identify additional research needs on koala habitat	A-C, F	Commonwealth/state/territory govts, Researchers	1	2-5 years

## CONSULTATION DRAFT

Category	Action	Description	Contributes to outputs	Responsibility	Priority	Time scale
2 - Overbrowsed habitats	2.01	Continue and refine management programs to regulate koala density to a level below that which causes severe tree defoliation.	A-C	Commonwealth Government, state and territory governments, local government and community groups	1	1-5 years
	2.02	Identify potential problems at an early stage through regular assessment of koala abundance and the extent of crown defoliation of preferred food tree species.	A-C, E, F	State and territory government, community groups and individual landholders	1	1-3 years
	2.03	Develop and adopt national translocation guidelines for translocation of koalas for introductions, reintroduction and restocking, and for management of overabundant populations	A-C, E	Commonwealth, state and territory governments, and local government, carers.	5	1 year
3 - Direct mortality of individual koalas	3.01	Develop appropriate national guidelines for road design in koala habitat	A-C, F	State and territory governments, local government, community groups and individuals	1-3	5 years; then review
	3.02	Implement strategies which minimise the impacts of dogs on koala populations in both urban and peri-urban areas.	B-F	State and territory governments, local government, community groups and individuals	1-3	5 years; then review
	3.03	Assess and develop appropriate methods to reduce vulnerability of populations to disease	C-F		1	5 years
4 - Community involvement	4.01	Provide extension and advisory services to encourage retention and restoration of koala habitat and to encourage management practices on private land which are not harmful to koalas or koala habitat.	A, C, E, F	Commonwealth, state and territory governments, local government and community groups	2	1-3 years
	4.02	Develop and distribute educational material.	C, E, F	Commonwealth, state and territory governments, local government, zoos, ecotourist operators	3	2-3 years
	4.03	Continue involving community in koala conservation and engagement with government.	C, E, F	Commonwealth, state and territory governments, local government	1	1-3 years to establish

## CONSULTATION DRAFT

Category	Action	Description	Contributes to outputs	Responsibility	Priority	Time scale
5 - Caring for koalas in captivity	5.01	Develop national guidelines with states for all aspects of care, handling and management of captive, sick, injured or orphaned koalas, including guidance about where care and rehabilitation should and should not be used, including the rehabilitation for release of reproductively capable koalas	D-F	Commonwealth, state and territory governments (in particular, NRMMC), Australasian Regional Association of Zoological Parks and Aquaria (ARAZPA) and associations of wildlife exhibitors and voluntary koala care groups	2-3	1-2 years
	5.02	Review as necessary conditions and agreements under the Environment Protection and Biodiversity Conservation Act 1999 (Part 13A) for export of koalas.	D	Commonwealth Government	5	3-4 years or as required
6 - Research	6.01	Develop techniques for, and undertake, broad-scale remote sensing to identify areas for further exploration	A-C	Research agencies, universities	1	1 year per state
	6.02	Identify knowledge gaps in koala research	A-C	Research agencies, universities, Commonwealth Government, state and territory governments, local government, NGOs and community groups	1	1-2 years; commence in year 3 and run for 3-5 years
	6.03	Identify directions for research on effects of climate change on koalas	A-C	Research agencies, universities, Commonwealth Government, state and territory governments, local government, NGOs and community groups	1	1-2 years; commence in year 3 and run for 3-5 years
	6.04	Facilitate development of a network to support koala research	A-C	Research agencies, universities, Commonwealth Government, state and territory governments, local government, NGOs and community groups	1	5-10 years; distribution network established by end of 2009
	6.05	Develop methods for enabling comparison of disparate data on koala distribution and abundance	A-C	Research agencies, universities, Commonwealth Government, state and territory governments	1	1-2 years
	6.06	Develop mechanisms to support access to funding, or conduct and disseminate dedicated research	F	Research agencies, universities, Commonwealth Government, state and territory governments, local government, NGOs and community groups	2	1-2 years

# CONSULTATION DRAFT

## ACKNOWLEDGMENTS

This draft strategy was revised by the National Koala Conservation Strategy Steering Committee on behalf of the Natural Resource Management Ministerial Council.

The National Koala Conservation Strategy Steering Committee members are:

Mr David Baker (Environment Protection Agency, QLD)  
Dr Daniel Lunney (Department of Environment and Climate Change, NSW)  
Dr Belinda McGrath-Steer (Department of Environment and Heritage, SA)  
Dr Natasha McLean (Department of Sustainability and Environment, VIC)  
Mr Saravan Peacock (Department of the Environment, Water, Heritage and the Arts, Australian Government)  
Ms Deborah Tabart OAM (Australian Koala Foundation)

The Australian Koala Foundation has expressed concern about some aspects of the draft strategy.

Other contributors were:

Ms Glenda Shelley (Department of the Environment, Water, Heritage and the Arts, Australian Government).  
Dr Ivan Lawler (Department of the Environment, Water, Heritage and the Arts, Australian Government)

Expert reference group

A reference group of experts provided input to the draft strategy during a workshop in December 2008. Members of the reference group were:

Mr John Callaghan (Gold Coast City Council)  
Dr Frank Carrick (University of Queensland)  
Dr Greg Gordon (previously Environment Protection Authority, Queensland, now retired)  
Dr Kathrine Handasyde (University of Melbourne)  
Ms Alison Matthews (Charles Sturt University)  
Dr Clive McAlpine (University of Queensland)  
Dr Alistair Melzer (University of Queensland)  
Mr Rolf Schlagloth (Australian Koala Foundation)  
Dr Desley Whisson (Deakin University)

During the evaluation of the 1998 National Koala Conservation Strategy, public comment was sought through interviews and written submissions from a broad range of interested parties including state and local governments, universities, non-government organisations, community groups and individuals.

Queries about the strategy or its implementation can be directed to:

National Koala Conservation and Management Secretariat  
Department of Environment, Water, Heritage and the Arts  
GPO Box 787  
Canberra ACT 2601