



Office of
Environment & Heritage
NSW National Parks & Wildlife Service



**Murrah Flora Reserves
Numbers 187, 188, 189, 190
Interim Working Plan
Mumbulla, Tanja, Murrah and Bermagui State Forests**

Southern Region, NSW

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1. Introduction

Under the *Forestry Act 2012* flora reserves must be managed for the preservation of native flora in accordance with a working plan.

This plan has been prepared in accordance with the terms of section 25 of the *Forestry Act 2012* with the object of providing for the future management of those parts of the following State forests, set aside as flora reserves as shown in Table 1 (herein collectively referred to as the Murrah flora reserves).

Table 1: Flora reserves subject to this plan

State Forest	Part subject to this plan
Mumbulla State Forest No. 605	Mumbulla Flora Reserve No. 187
Tanja State Forest No. 544	Tanja Flora Reserve No. 188
Murrah State Forest No. 140	Murrah Flora Reserve No. 189
Bermagui State Forest No. 142	Bermagui Flora Reserve No. 190

The Murrah flora reserves were dedicated to:

- ensure the long-term conservation of native flora
- manage the recovery of the resident koala population which is considered significant on the South Coast, and
- protect Aboriginal cultural values.

2. Partnerships

Flora reserves offer similar conservation and public use benefits to those offered through the national park estate managed by the National Parks and Wildlife Service (NPWS). The dedication of the Murrah flora reserves provides important connectivity to the neighbouring national park estate and the opportunity to implement integrated management programs to aid the recovery of the koala population and manage other significant ecological and cultural values.

To facilitate this management program the Chief Executive, Office of Environment and Heritage (OEH) has been appointed as land manager of the Murrah flora reserves by the Minister for Primary Industries under section 57(3) of the *Forestry Act 2012*. This will enable NPWS (under the direction of the Chief Executive, OEH) to manage the land in accordance with the working plan.

3. Key values of the reserves

The Murrah flora reserves have the following identified key values requiring protection and management:

- habitat for a range of threatened flora and fauna species
- extensive areas of habitat sustaining the only koala population known to be persisting in coastal forests between Sydney and the Victorian border
- a rich indigenous history including parts of the *Mumbulla Pathway* linking Gulaga and Mumbulla mountains and the *Special Cultural Way*, linking Bunga Head with Mumbulla Mountain, Murrabrine and Gulaga mountains
- coastal lagoon, lake and river catchment values that contribute to some near pristine waterways along the NSW coast
- an integral and important part of the *Australia's Coastal Wilderness* as designated by the Commonwealth Government's National Landscapes program.

4. Description of the reserve

Refer to Appendix 1 for a map of the Murrah flora reserves.

Location

The Murrah flora reserves are located on the South Coast of NSW, west of the Princes Highway and stretch for over 30 kilometres from Bermagui in the north to Tathra in the south. Along with the surrounding national park estate including Bermagui Nature Reserve, Biamanga National Park and Mimosa Rocks National Park they form an area of continuous native forest and provide important links along and between the foothills and coastal forested areas.

Mumbulla Flora Reserve No. 187 lies 15 kilometres north of Tathra. It is bounded in part by Murrah Flora Reserve (north), Biamanga National Park (west) and Mimosa Rocks National Park (south). Private land also neighbours parts of the boundary in the south west, north and east.

Tanja Flora Reserve No. 188 lies 4 kilometres north and north-west of Tathra, immediately south of Mimosa Rocks National Park. It is surrounded to the east, south and west by private land. It comprises two disjunct portions, the smaller portion located just west of the Tathra-Bermagui Road. The larger portion lies about 2 kilometres further west.

Murrah Flora Reserve No. 189 lies 10 kilometres south-west of Bermagui and 4 kilometres east of Quaama. It is bounded to the west, north and south by Biamanga National Park and Mumbulla Flora Reserve. Private land neighbours the reserve to the east and south. The Murrah River forms the boundary between Murrah and Mumbulla flora reserves.

Bermagui Flora Reserve No. 190 lies 3 kilometres west of Bermagui. It is bounded in the south by Bermagui Nature Reserve. To the north, across the Bermagui River, lies Bermagui State Forest. Private property neighbours the western, eastern and parts of the southern boundary.

Exclusions

Nil

Geography

The four flora reserves total 11,811 hectares. The size of each reserve is shown in the table below.

Table 2: Murrah Flora Reserves details

Flora Reserve	Approximate Size (hectares)
Mumbulla	6146
Tanja	868
Murrah	4223
Bermagui	574

Source: NSW Government Gazette

The Murrah flora reserves are located in the South East Corner bioregion within a landscape of coastal foothills and ridges. In the east there are some areas of coastal lowland and floodplain associated with the major river systems and estuaries.

Elevations range from over 350 metres above sea level in areas along the western edge of Murrah and Mumbulla flora reserves to around 50 metres in the eastern sections closest to the coastline. Tanja and Bermagui reserves are generally lower in elevation than Murrah and Mumbulla flora reserves.

The Murrah flora reserves span seven catchment areas including (from north to south) Bermagui River, Baragoot Lake, Cuttagee Lake, Murrah River, Bunga Lagoon, Wapengo Lagoon and Bega River catchments.

The reserves lie within the administrative regions of the Southern Region of the Forestry Corporation of NSW, South East Local Land Services, Merrimans and Bega local Aboriginal land councils, NPWS Far South Coast Region and Bega Valley Shire Council.

Geology and soils

The dominant geology of the Murrah flora reserves is sedimentary and includes slate, siltstone, sandstone, shale and greywacke of the Adaminaby Group. Areas of granite occur as intrusions in association with a number of mountain peaks in the area, including Mumbulla Mountain (Mumbulla Flora Reserve) and Doctor George Mountain (Mumbulla and Tanja flora reserves).

Soils are mostly yellow podzolic soils, moderately deep and well drained. The south west area of Mumbulla Flora Reserve has a mixture of red podzolic soils and yellow earths. Very small areas of red earths occur in both Murrah and Mumbulla flora reserves. Small areas of soloths and solonchaks are associated with the river and estuarine landscapes, particularly in Bermagui Flora Reserve. The steeper slopes are particularly susceptible to erosion if disturbed.

Climate

Climate data for the Bega weather station shows the mean daily maximum temperature as 21.7 °Celsius and the mean daily minimum temperature as 8.8 °Celsius. The hottest month is January and the coldest July. The mean annual rainfall is 614 millimetres, the wettest month being February and the driest September.

Vegetation

A flora list is provided as Appendix 2.

Three threatened flora species are known to occur within the reserves — narrow-leafed wilsonia (*Wilsonia backhousei*), Bega wattle (*Acacia georgensis*) and chef's cap correa (*Correa baeuerlenii*).

Narrow-leafed wilsonia is found in Bermagui Flora Reserve while Bega wattle is found in Tanja Flora Reserve. There are a reasonably large number of records of chef's cap correa in both Murrah and Mumbulla flora reserves.

The predominant forest types (see Baur 1965) include yellow stringybark, yellow stringybark–gum, coastal stringybark, silvertop ash and silvertop ash–stringybark. These dominate Murrah and Mumbulla flora reserves. Rainforest types and bangalay communities occur in some areas, mostly as fringes along creek lines. Coastal stringybark occurs along the north eastern boundary of Murrah Flora Reserve and there are small areas of spotted gum types in the easternmost areas. Coastal grey gum–woollybutt types also occur over parts of Mumbulla Flora Reserve.

Less detailed mapping is available for Bermagui and Tanja flora reserves broadly showing gully types and forest types within the scribbly gum - stringybark - silvertop ash league as the dominant vegetation. An area of mangrove and a small area of spotted gum are located in Bermagui Flora Reserve near the Bermagui River.

Further detail of the vegetation within the reserves is provided through the koala surveys (OEH 2014c) undertaken from 2012-2014 which provide an analysis of the commonly occurring tree species (see Table 3).

Table 3: Proportion of commonly occurring tree species in the Murrah flora reserves (shown as percentage of total sampled)

Species	Common name	Bermagui	Mumbulla	Murrah	Tanja
Eucalypts					
<i>Eucalyptus globoidea</i>	White stringybark	8.8%	9.1%	5.8%	0.8%
<i>Eucalyptus longifolia</i>	Woollybutt	16.1%	11.3%	9.8%	15.1%
<i>Eucalyptus muelleriana</i>	Yellow stringybark	13.0%	16.1%	19.9%	36.7%
<i>Eucalyptus sieberi</i>	Silvertop ash	7.4%	16.0%	10.7%	2.1%
Non-eucalypts					
<i>Allocasuarina littoralis</i>	Black she-oak	5.5%	12.7%	16.7%	4.2%
<i>Acacia sp</i>	wattle	0.8%	6.4%	8.6%	11.0%

Of these species yellow stringybark, woollybutt and black she-oak occur throughout the reserves. White stringybark is also widespread, but has a more localised distribution in Murrah (occurring more in the eastern parts) and Tanja (occurring in the western areas) flora reserves. Silvertop ash is also somewhat localised, with extensive single-species stands in various parts of Mumbulla Flora Reserve contributing to the high percentage recorded for this reserve.

A diversity of wattle species also occur throughout the reserves, with the hickory wattle (*Acacia falciformis*) being the most common.

Other commonly occurring species include monkey gum (*Eucalyptus cypellocarpa*), coastal grey box (*E. bosistoana*) and spotted gum (*Corymbia maculata*). Coastal grey box reaches a higher proportion (9.8%) in Tanja Flora Reserve than elsewhere. Spotted gum generally occurs in predominantly single species stands in the eastern fringe of Bermagui and Murrah flora reserves.

Many grass, sedge and rush species predominate in the understorey throughout the reserves, particularly in areas not dominated by dense regeneration.

Rainforest also occurs in the larger gullies throughout the reserves, with *Backhousia myrtlefolia* usually being the predominant species. This often merges with wet eucalypt forest types that also generally have an understorey of shrubs, vines and herbaceous ground covers.

Communities comprising woollybutt and white stringybark are considered important for koalas as these tree species have been shown to have the highest use. Monkey gum was also shown to have relatively high use.

Fauna

Appendix 3 lists recorded fauna species for each of the four flora reserves.

There are 174 animal species recorded in the Murrah flora reserves. Of these 25 are listed as threatened including 2 amphibians, 13 birds and 10 mammals. Three of the recorded species are listed endangered under the *Threatened Species Conservation Act 1995* — green and golden bell frog (*Litoria aurea*); stuttering frog (*Mixophyes balbus*) and regent honeyeater (*Anthochaera Phrygia*). Four birds recorded in the Murrah flora reserves are listed under the Commonwealth's bilateral migratory bird agreements.

The koala, listed as vulnerable in NSW and nationally under the *Environment Protection and Biodiversity Conservation Act 1999*, is known to occur in the area. There have been a number of extensive koala surveys in the Murrah flora reserves and adjacent areas. The most recent survey conducted in 2012-2014 confirmed many of the outcomes of the 2007-2009 surveys. Most significantly the surveys have confirmed the Murrah flora reserves and adjoining national park estate contain the last significant koala population on the South Coast estimated to be about 50-100 adults.

5. History

Aboriginal cultural heritage

The lands that are the Murrah flora reserves lie within the traditional Country of the Yuin (Djuwin) people. These lands and the surrounding landscape contain many important and sacred sites to the Yuin people.

The Biamanga Aboriginal Place was declared in 1980 over an area which was part of Mumbulla State Forest at the time. The majority of that area is now Biamanga National Park reserved as part of the Eden Regional Forest Agreement process. Biamanga National Park was handed back to the Yuin people in May 2006. The Aboriginal Community, by way of a majority Aboriginal Owner Board of Management, have full care, control and management responsibilities for the Biamanga National Park, under Part 4A of the *National Parks and Wildlife Act 1974*. Today the park is jointly managed through a lease agreement with NPWS. Whilst the majority of the Aboriginal Place is located within the national park a small area of the declared Aboriginal Place remains part of Mumbulla Flora Reserve.

For much of the year Aboriginal people would live along the shores of the coastal lakes and estuaries where food and game were plentiful as evidenced from the many extensive shell middens that line the waterways and estuaries. They would have frequently travelled through the lower altitude coastal forests to reach special hunting and ceremonial areas. These linkages through the coastal forests all form part of the same cultural landscape (OEH 2014b).

Non- Aboriginal cultural heritage

The state forests that comprise the Murrah flora reserves were first dedicated as follows: Mumbulla State Forest – 2 November 1917, Bermagui and Murrah state forests – 4 November 1914 and Tanja State Forest – 28 September 1917.

A detailed history of Mumbulla State Forest (Lunney & Moon 1988), together with many publications detailing results of ecological research in that forest that was undertaken in the 1970s and early 1980s, provides a rich archive of material.

Although the information from other parts of the Murrah flora reserves is more limited and fragmentary, it shows that the long history of timber-cutting for sleepers, sawlogs and pit-props is consistent throughout the area. Timber cutting was well underway by the 1890s with the operation of a large mill at Tanja providing evidence of the commercial use of timber.

A glimpse of the timber-cutting history was also provided by Henry Lawson who wrote when visiting Bermagui in 1910 that there were stacks of sleepers, sleepers, sleepers and sawn timber along the darkening clay road.

Alluvial gold mining occurred in the area particularly around Tanja Flora Reserve until the early 1900s. Reef mining also occurred though most was short lived.

Forest management

Integrated harvesting for sawlogs and pulpwood was commenced in Mumbulla State Forest in the 1970s. Prior to this harvesting consisted of both sleeper-cutting (which ceased in about 1968) and sawlog operations.

Operations involved the harvesting of most of the standing timber within alternate coupes under a regime that aimed to spread the impacts throughout the forest with the intention of returning to harvest the adjoining coupes after a minimum period of regeneration. Generally only the first round of alternate coupe harvesting was undertaken under this management regime, leaving a patchwork of regenerating and mature forest throughout the reserves. Integrated harvesting continued following the abandonment of

alternate coupe harvesting although there have been very few integrated harvesting operations since 1997. The few, more recent harvesting events have been thinning operations.

Fire

Wildfire events in the reserves were largely unrecorded before 1980, though four events have been since recorded. Fire records have been maintained since this time for both wildfire events and controlled burns (post harvesting regeneration or hazard reduction) and fire has been a recurrent and complex management issue in the reserves. Inappropriate fire regimes can have deleterious effects on forest health, including increased risk to threatened flora and fauna and their habitats.

6. Current Usage

The following activities/uses occur in the Murrah flora reserves:

- Wapengo trigonometric station located in Mumbulla Flora Reserve
- Eight bee permits with apiary sites located across all reserves
- Utility occupation permits for three powerlines (Essential Energy) traversing the northern part of Bermagui Flora Reserve and the southern and easternmost sections of Mumbulla Flora Reserve and for a water main in Bermagui Flora Reserve
- An asset protection zone (buffer) within Tanja Flora Reserve covered by an occupation permit
- A NBN tower located in the eastern section of Bermagui Flora Reserve
- A permit providing for access through Mumbulla Flora Reserve to a telecommunications tower located on Mumbulla Mountain in the neighbouring Biamanga National Park
- Seven research plots located within Mumbulla Flora Reserve and a number of areas marked for arboreal mammal survey. These are historic research plots that can be re-measured in future if required in line with activities permitted with conditions.

No recreational facilities exist in the Murrah flora reserves. There has been recent interest in cycling within Tanja and Mumbulla flora reserves and a number of mountain bike race events have been held under a special purpose permit, each involving over 100 participants.

Anecdotal evidence suggests there may have been some illegal firewood cutting and trail bike riding in the reserves.

7. Management

Objectives of management

The management emphasis will be on:

- the conservation of native flora and fauna species, their habitats and populations, and examples of forest ecosystems in the area
- active and adaptive management to assist in the recovery of the resident koala population
- the protection of Aboriginal cultural and archaeological values.

Other objectives of management for the reserves include:

- to meet the expectations of the local community with respect to the management of flora reserves consistent with the requirements of the *Forestry Act 2012*
- to protect the reserves and neighbouring areas from wildfire
- to provide for scientific study.

Management will be undertaken in accordance with OEH's Adaptive Management Position Statement (<http://www.environment.nsw.gov.au/research/adaptive-management.htm>).

Management issues

The following issues will influence future management priorities and the majority of the works program priorities identified in Appendix 4 have been developed in response to these issues.

Koala population

There have been few reports of koalas in coastal and foothill forests of the Eden Region since 1996. This reduction in reporting rate suggests an overall decline in the regional population. Researchers have found a long-term shrinkage in the distribution of the koala across the Eden region with modelling demonstrating that a succession of multiple threats to koalas from land use (human population growth and habitat loss) and environmental change (temperature increase and drought) were significant contributors to this decline (Lunney *et al* 2014).

The koala is listed as 'vulnerable' in NSW and nationally. Extensive surveys since 2007 have confirmed the forests are likely to contain the only known viable koala population on the South Coast of NSW. Habitat loss due to land clearing has exacerbated this situation.

The small size of the population (likely to be between 50-100 adults) makes it inherently vulnerable to local extinction. Small koala populations across the distribution of the species are threatened by multiple factors including fire, disease, predation, permanent and temporary loss or significant modification of habitat and motor vehicles.

Habitat Condition

A number of areas throughout the flora reserves have a modified condition and structure due to past use and disturbance and a more recent absence of fire. In particular there are a number of areas dominated by thick *allocasuarina* and/or silvertop ash (and more rarely stringybark) regrowth which is suppressing the regeneration of other eucalypt species, including some of the more important koala browse species, such as woollybutt.

There is a need to look at habitat restoration and risk mitigation options to promote eucalypt regrowth and return some of the areas to a more natural species composition and structure. Habitat restoration trials will be designed and implemented for a number of areas and if successful may be applied more broadly within the affected areas.

Aboriginal cultural values

The Yuin Aboriginal people continue to have a strong involvement and connection to Country and are the owners of the adjoining Biamanga National Park (also Gulaga National Park further north) managed jointly with NPWS. The area is significant to the Yuin Aboriginal people with part of the Biamanga Aboriginal Place located in Mumbulla Flora Reserve. It is important that Aboriginal heritage values are identified and protected in partnership with the Biamanga Board of Management and local Aboriginal community. There will be ongoing consultation and involvement of the local Aboriginal community in the management of the Murrah flora reserves.

Community engagement

Consultation with the local community, interest groups and key stakeholders is proposed to be undertaken in 2016 to provide opportunities for input regarding management of the Murrah flora reserves.

It is recognised that the community has a high interest in the conservation reserves, and particularly the koala population. Koala survey, monitoring and conservation work in the Murrah flora reserves and adjoining national park has had a significant level of community engagement that has contributed to knowledge about the distribution, habitat preferences and conservation status of the population. This contribution includes volunteer support for the survey, habitat rehabilitation and workshop participation.

Another extensive survey program is planned for the autumn of 2016, reassessing many of the grid-sites that were previously searched for koala evidence as part of a long-term monitoring program. Local people will be encouraged to contribute to this survey program.

Road Access

There are over 200 kilometres of roads and trails in the reserves. An assessment of roads is needed to determine those roads essential for management or needed for public access and the standard to which they should be maintained. A number of quarries are located in the reserves that provide materials for road maintenance operations.

Weeds

There are no significant weed threats in the reserves though there are some areas of minor weed infestation. Blackberry occurs in areas along the Bermagui River. Other weeds recorded include spear thistle, groundsel, fireweed and creeping oxalis.

Feral animals

There have been extensive fox and wild dog baiting programs undertaken by the Forestry Corporation of NSW, Office of Environment and Heritage (OEH) and Local Land Services occurring as part of a permanent landscape-scale predator control program across the reserves and adjoining areas. Ongoing monitoring as part of this program has revealed only scattered occurrences of dogs and foxes. Cats have also been recorded in the reserves though their current extent is unknown. The occasional deer has been observed in Bermagui Flora Reserve.

Fire

OEH, in consultation with the NSW Rural Fire Service and Forestry Corporation of NSW, is working with the University of Melbourne to evaluate options for fuel reduction management scenarios across the forested landscape between the Bermagui and Bega Rivers using the Phoenix Rapidfire Fire Simulator package.

The fire simulation events, commencing from a range of ignition locations during extreme fire weather days, will evaluate the effectiveness of these scenarios using The University of Melbourne Fire Regime model. This will be used to examine and provide advice as to the risk to the koala population and people and property under each scenario.

The project results will be evaluated by a joint agency steering committee and input sought from local Rural Fire Service brigades, the Biamanga National Park Board of Management and landholder participants on the Hotspots program. The resulting fuel reduction program will be finalised by the Bega Valley Bush Fire Management Committee and incorporated into the Bega Valley Bushfire Risk Management Plan.

In consultation with, and the approval of, the Biamanga National Park Board of Management the reserve fire management strategy for Biamanga National Park will be reviewed to incorporate the recommended programs and approaches. These will then also be applied to the Murrah flora reserves.

Future management

The Murrah flora reserves will be managed by NPWS as land manager in accordance with the principles, objectives and legislative framework of the *Forestry Act 2012*. Proactive management focusing on fire and predators and also habitat restoration will involve integration with programs on the neighbouring tenures including national park estate areas.

The following management priorities will be adopted:

- active and adaptive management (including monitoring) to enhance koala habitat
- the maintenance of the road and trail network to support fire and other management activities

- the enhancement of linkages with the existing management plans and programs for the adjoining Biamanga National Park in consultation with the Biamanga National Park Board of Management
- the maintenance of a healthy forest condition to protect key values
- the management of fire and fuel that involves the Bega Valley Bush Fire Management Committee and cooperative arrangements with local Rural Fire Service brigades, other fire authorities and surrounding landowners
- the issuing of forest permits for activities only where it is consistent with the objectives for the reserves.

Activities not permitted

The following activities are not permitted:

- Commercial timber harvesting
- Removal of forest products and materials
- Grazing by domestic stock
- Fossicking

Activities permitted with conditions

All other activities will generally be permitted subject to assessment and, if granted, subject to conditions approved by the land manager and consistent with the *Forestry Act 2012*, and relevant policies and guidelines:

- Scientific studies (e.g. fauna surveys including trapping)
- Maintenance of existing roads and fire trails, including the operation of existing quarries for road maintenance purposes
- Limited tree removal for safety reasons, reserve management and infrastructure needs, habitat restoration or weed control
- Feral animal and noxious weed control
- General access for activities such as bush walking, cycling and photography
- Group recreational activities
- Wildfire suppression operations including the construction of emergency fire control trails where needed and the rehabilitation of areas disturbed by fire suppression operations
- Prescribed burning
- Other fire management operations in accordance with the reserve fire management strategy
- Habitat restoration and risk mitigation work to promote eucalypt regrowth and return some of the areas to a more natural species composition and structure
- Beekeeping (renewal, transferral or reallocation of existing permits (sites) only, no new sites to be approved)
- Cultural activities by the local Aboriginal community
- Continuation of other existing permits.

Permits can only be issued for flora reserves with Ministerial approval (s61(1) of the *Forestry Act 2012*).

Construction of new roads and trails

It is unlikely that the construction of new roads will be required as it is expected the roads assessment will show the existing road network provides more than adequate access to the Murrah flora reserves. Construction of new roads will be permitted only in exceptional circumstances and consistent with the following principles:

- no practical alternative is available
- the values of the Murrah flora reserves will not be significantly affected
- opportunity is provided for public comment on any proposal.

8. Monitoring, reporting and review

A scientifically designed and robust koala monitoring, habitat management and research program will be developed. There will be ongoing monitoring and reporting on the status of the koala population, to enable a rigorous assessment of population trends over time to confirm if the objectives are being met.

Monitoring and reporting of outputs of the roads assessment, habitat restoration programs and any other scientific research and management programs (such as fire and vegetation management) will also be undertaken as required and will be provided where needed to meet the requirements for ESFM reporting.

It is intended that this working plan will be reviewed during 2016 to incorporate further detail about the Murrah flora reserves and the proposed management programs and to address the outcomes of the community consultation. The provisions of this working plan will also be amended if necessary in light of the results of the monitoring and assessment programs.

9. Acknowledgements

This plan has been jointly prepared by NPWS, Forestry Corporation of NSW and the Department of Primary Industries.

10. References

Commonwealth of Australia (2015) Bureau of Meteorology Climate Data. [Climate Data Online](#)

Baur G.N (1965) Research Note 17 Forest Types in New South Wales. Forestry Commission of NSW, Sydney

DECCW (2010) Koala surveys in the coastal forests of the Bermagui-Mumbulla Area: 2007-09 – an interim report. Department of Environment, Climate Change and Water NSW

NSW Dept Mineral Resources (2001-11) NSW Statewide Geological Database (Geology 250k)

Elias, S. (undated) Tales of the Far South Coast Vol. 4. Bridge Primary B/L. Bega Valley Shire History Project.

Lunney D, Stalenberg E, Santika T and Rhodes J R (2014) *Extinction in Eden: identifying the role of climate change in the decline of the koala in south-eastern NSW*. Wildlife Research, 2014, **41**, 22–34, CSIRO Publishing

Lunney D and Moon C, (1988) *An Ecological View of the History of Logging and Fire in Mumbulla State Forest on the South Coast of New South Wales*. Australia's ever-changing forests: Proceedings of the First National Conference on Australian forest history. Published by University of New South Wales, University College, Australian Defence Force Academy

NPWS (2011) Biamanga National Park and Bermaguer Nature Reserve Fire Management Strategy. Office of Environment and Heritage, Merimbula. www.environment.nsw.gov.au/firemanagement/fmsbiamungabermaguer.htm

OEH (2012) Regional Pest Management Strategy 2012-17: Far South Coast Region. A new approach for reducing impacts on native species and park neighbours. Office of Environment and Heritage, Sydney. www.environment.nsw.gov.au/pestsweeds/RegionPestManagement.htm

OEH (2014a) *Atlas of NSW Wildlife*, Office of Environment and Heritage, Sydney (verified 2014).

OEH (2014b) Plan of Management Yuin Bangguri (Mountain) Parks Incorporating Gulaga National Park and Biamanga National Park. [Plan of Management Yuin Bangguri \(Mountain\) Parks | NSW Environment & Heritage](#)

OEH (2014c) Report on surveys conducted in 2012-2014 for Koalas in the coastal forests of the Bermagui/Mumbulla area, NSW Office of Environment and Heritage

Tulau, M.J. (1997) Soil Landscapes of the Bega - Goalen Point 1:100 000 Sheet, map and report. NSW Department of Land and Water Conservation.

11. Appendices

Appendix 1: Map

Appendix 2: Flora List

Appendix 3: Fauna List

Appendix 4: Works Priorities

Appendix 2 Flora List

Family/Species	Common name	Bermagui	Mumbulla	Murrah	Tanja
Acanthaceae					
<i>Brunoniella pumilio</i>	Dwarf blue trumpet		Y	Y	
<i>Pseuderanthemum variabile</i>	Pastel flower	Y	Y	Y	Y
Adiantaceae					
<i>Adiantum aethiopicum</i>	Common maidenhair	Y	Y	Y	Y
<i>Adiantum formosum</i>	Giant maidenhair		Y	Y	
<i>Adiantum hispidulum</i>	Rough maidenhair		Y		
<i>Cheilanthes austrotenuifolia</i>	Rock fern		Y	Y	Y
<i>Pellaea falcata</i>	Sickle fern	Y	Y	Y	Y
<i>Pellaea nana</i>	Dwarf sickle fern	Y			
Adoxaceae					
<i>Sambucus australasica</i>	Native elderberry		Y		
Anthericaceae					
<i>Arthropodium spp.</i>			Y		
<i>Caesia parviflora var. parviflora</i>		Y			
<i>Thysanotus tuberosus</i>	Common fringe-lily		Y		
<i>Thysanotus tuberosus subsp. tuberosus</i>		Y			
Aphanopetalaceae					
<i>Aphanopetalum resinosum</i>	Gum vine		Y	Y	Y
Apiaceae					
<i>Apium prostratum var. prostratum</i>		Y			
<i>Centella asiatica</i>	Indian pennywort		Y		
<i>Daucus glochidiatus</i>	Native carrot		Y		
<i>Hydrocotyle acutiloba</i>		Y		Y	Y
<i>Hydrocotyle geraniifolia</i>	Forest pennywort		Y		
<i>Hydrocotyle hirta</i>	Hairy pennywort		Y	Y	
<i>Hydrocotyle laxiflora</i>	Stinking pennywort	Y	Y	Y	
<i>Hydrocotyle sibthorpioides</i>			Y		
<i>Hydrocotyle tripartita</i>	Pennywort		Y		
<i>Platysace lanceolata</i>	Shrubby platysace	Y	Y	Y	Y
<i>Xanthosia atkinsoniana</i>		Y			
<i>Xanthosia pilosa</i>	Woolly xanthosia		Y	Y	
Apocynaceae					
<i>Marsdenia rostrata</i>	Milk vine	Y	Y	Y	Y
<i>Marsdenia suaveolens</i>	Scented marsdenia	Y	Y		
<i>Parsonsia straminea</i>	Common silkpod	Y	Y	Y	
<i>Tylophora barbata</i>	Bearded tylophora	Y	Y	Y	Y
Araliaceae					
<i>Polyscias murrayi</i>	Pencil cedar		Y	Y	
<i>Polyscias sambucifolia</i>	Elderberry panax	Y	Y	Y	Y
<i>Polyscias sambucifolia subsp. sambucifolia</i>		Y			
Arecaceae					
<i>Livistona australis</i>	Cabbage palm		Y	Y	

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Aspleniaceae					
<i>Asplenium australasicum</i>	Bird's nest fern		Y	Y	
<i>Asplenium flabellifolium</i>	Necklace fern		Y		
<i>Asplenium</i> spp.			Y		
Asteraceae					
<i>Arrhenechthites mixta</i>	Purple fireweed	Y	Y	Y	
<i>Bedfordia arborescens</i>	Blanket leaf		Y	Y	Y
<i>Brachyscome angustifolia</i> var. <i>heterophylla</i>		Y			
<i>Calomeria amaranthoides</i>	Incense plant		Y	Y	
<i>Cassinia aculeata</i>	Dolly bush		Y	Y	Y
<i>Cassinia longifolia</i>			Y	Y	
<i>Cassinia trinerva</i>		Y	Y	Y	Y
<i>Cassinia uncata</i>	Sticky cassinia		Y		
<i>Coronidium elatum</i>		Y	Y	Y	Y
<i>Coronidium scorpioides</i>	Button everlasting		Y		
<i>Euchiton involucratus</i>	Star cudweed		Y	Y	
<i>Euchiton japonicus</i>		Y	Y		
<i>Lagenifera stipitata</i>	Blue bottle-daisy	Y	Y	Y	
<i>Lagenophora gracilis</i>	Slender lagenophora		Y		
<i>Lagenophora stipitata</i>	Common lagenophora	Y			
<i>Olearia argophylla</i>	Native musk		Y	Y	Y
<i>Olearia lirata</i>	Snowy daisy-bush			Y	
<i>Olearia ramulosa</i>	Twiggy daisy-bush		Y	Y	Y
<i>Olearia</i> spp.			Y		
<i>Olearia stellulata</i>			Y	Y	Y
<i>Olearia tomentosa</i>	Toothed daisy-bush		Y	Y	Y
<i>Ozothamnus argophyllus</i>		Y	Y	Y	Y
<i>Ozothamnus cuneifolius</i>	Wedge everlasting		Y		
<i>Ozothamnus diosmifolius</i>	White dogwood	Y	Y	Y	Y
<i>Ozothamnus ferrugineus</i>	Tree everlasting		Y	Y	Y
<i>Ozothamnus obcordatus</i>			Y		
<i>Ozothamnus obcordatus</i> subsp. <i>major</i>	Grey everlasting		Y		
<i>Picris angustifolia</i> subsp. <i>angustifolia</i>			Y		
<i>Senecio bipinnatisectus</i>		Y			
<i>Senecio linearifolius</i>	Fireweed groundsel		Y	Y	Y
<i>Senecio minimus</i>			Y		
<i>Senecio prenanthoides</i>		Y			
<i>Senecio velleioides</i>			Y	Y	Y
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	Indian weed		Y	Y	Y
<i>Vernonia cinerea</i> var. <i>cinerea</i>			Y	Y	
<i>Xerochrysum bracteatum</i>	Golden everlasting		Y	Y	Y
Athyriaceae					
<i>Diplazium australe</i>	Austral lady fern		Y		
Bignoniaceae					
<i>Pandorea pandorana</i>	Wonga wonga vine	Y	Y	Y	Y
Blechnaceae					
<i>Blechnum cartilagineum</i>	Gristle fern		Y	Y	Y

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<i>Blechnum nudum</i>	Fishbone water fern		Y		
<i>Blechnum patersonii</i>	Strap water fern		Y	Y	
<i>Doodia aspera</i>	Prickly rasp fern	Y	Y	Y	Y
Boraginaceae					
<i>Austrocynoglossum latifolium</i>			Y		
<i>Ehretia acuminata</i> var. <i>acuminata</i>	Koda		Y		
Callitrichaceae					
<i>Callitriche muelleri</i>					Y
Campanulaceae					
<i>Wahlenbergia gracilis</i>	Sprawling bluebell		Y	Y	
<i>Wahlenbergia littoricola</i>				Y	
<i>Wahlenbergia</i> spp.	Bluebell		Y		Y
<i>Wahlenbergia stricta</i>	Tall bluebell			Y	
<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	Tall bluebell			Y	
Caryophyllaceae					
<i>Stellaria flaccida</i>		Y	Y	Y	Y
Casuarinaceae					
<i>Allocasuarina littoralis</i>	Black she-oak	Y	Y	Y	Y
<i>Allocasuarina</i> spp.			Y		
<i>Casuarina</i> spp.				Y	
Chenopodiaceae					
<i>Sarcocornia quinqueflora</i> subsp. <i>quinqueflora</i>		Y			
<i>Suaeda australis</i>		Y			
Clusiaceae					
<i>Hypericum gramineum</i>	Small St John's wort		Y	Y	
<i>Hypericum japonicum</i>		Y			
Colchicaceae					
<i>Burchardia umbellata</i>	Milkmaids	Y			
Convolvulaceae					
<i>Calystegia marginata</i>			Y		
<i>Dichondra repens</i>	Kidney weed	Y	Y	Y	Y
<i>Wilsonia backhousei</i> *	Narrow-leafed wilsonia	Y			
Cunoniaceae					
<i>Bauera rubioides</i>	River rose			Y	
<i>Schizomeria ovata</i>	Crabapple			Y	
Cyatheaceae					
<i>Cyathea australis</i>	Rough treefern	Y	Y	Y	Y
Cyperaceae					
<i>Carex appressa</i>	Tall sedge		Y	Y	
<i>Carex longibrachiata</i>			Y	Y	Y
<i>Carex polyantha</i>			Y		
<i>Cyperus lucidus</i>	Leafy flat sedge		Y		
<i>Eleocharis sphacelata</i>	Tall spike rush	Y			
<i>Gahnia aspera</i>	Rough saw-sedge			Y	Y
<i>Gahnia clarkei</i>	Tall saw-sedge		Y	Y	Y
<i>Gahnia melanocarpa</i>	Black Fruit saw-sedge	Y	Y	Y	Y
<i>Gahnia radula</i>			Y	Y	

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<i>Gahnia sieberiana</i>	Red-fruit saw-sedge		Y		
<i>Lepidosperma filiforme</i>			Y		
<i>Lepidosperma gunnii</i>		Y			
<i>Lepidosperma laterale</i>	Variable sword-sedge	Y	Y	Y	Y
<i>Lepidosperma neesii</i>				Y	
<i>Lepidosperma urophorum</i>			Y	Y	Y
<i>Schoenus maschalinus</i>			Y		
<i>Schoenus melanostachys</i>			Y		
<i>Schoenus spp.</i>			Y		
Davalliaceae					
<i>Arthropteris tenella</i>					Y
<i>Rumohra adiantiformis</i>				Y	
Dennstaedtiaceae					
<i>Dennstaedtia davallioides</i>	Lacy ground fern		Y	Y	
<i>Histiopteris incisa</i>	Bat's wing fern		Y		
<i>Hypolepis glandulifera</i>	Downy ground fern		Y		
<i>Hypolepis muelleri</i>	Harsh ground fern	Y		Y	
<i>Pteridium esculentum</i>	Bracken	Y	Y	Y	Y
Dicksoniaceae					
<i>Calochlaena dubia</i>	Rainbow fern	Y	Y	Y	Y
<i>Dicksonia antarctica</i>	Soft tree fern		Y	Y	
Dilleniaceae					
<i>Hibbertia aspera</i>	Rough guinea flower	Y	Y	Y	Y
<i>Hibbertia dentata</i>	Twining guinea flower		Y	Y	Y
<i>Hibbertia empetrifolia subsp. empetrifolia</i>		Y	Y	Y	
<i>Hibbertia obtusifolia</i>	Hoary guinea flower	Y	Y		
Droseraceae					
<i>Drosera auriculata</i>		Y	Y		
Dryopteridaceae					
<i>Lastreopsis acuminata</i>	Shiny shield fern		Y		
<i>Lastreopsis decomposita</i>	Trim shield fern		Y		
<i>Lastreopsis microsora subsp. microsora</i>	Creeping shield fern		Y	Y	Y
Elaeocarpaceae					
<i>Elaeocarpus reticulatus</i>	Blueberry ash		Y	Y	Y
<i>Tetralochea thymifolia</i>	Black-eyed Susan	Y	Y	Y	Y
Ericaceae					
<i>Epacris impressa</i>	Common heath	Y	Y	Y	Y
<i>Leucopogon juniperinus</i>	Prickly beard-heath		Y	Y	Y
<i>Leucopogon lanceolatus</i>		Y	Y	Y	Y
<i>Leucopogon lanceolatus var. lanceolatus</i>		Y	Y	Y	
<i>Monotoca scoparia</i>			Y	Y	
Euphorbiaceae					
<i>Amperea xiphoclada</i>			Y		Y
<i>Amperea xiphoclada var. xiphoclada</i>		Y			
<i>Beyeria lasiocarpa</i>			Y	Y	Y
<i>Claoxylon australe</i>	Brittlewood		Y	Y	Y

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<i>Homalanthus populifolius</i>			Y	Y	
Eupomatiaceae					
<i>Eupomatia laurina</i>	Bolwarra		Y	Y	Y
Fabaceae (Caesalpinioideae)					
<i>Cassia</i> spp.			Y		
Fabaceae (Faboideae)					
<i>Bossiaea obcordata</i>	Spiny bossiaea	Y	Y	Y	Y
<i>Bossiaea prostrata</i>			Y		
<i>Bossiaea scolopendria</i>		Y			
<i>Daviesia mimosoides</i>			Y	Y	Y
<i>Daviesia mimosoides</i> subsp. <i>mimosoides</i>		Y	Y	Y	
<i>Daviesia</i> spp.			Y	Y	Y
<i>Daviesia ulicifolia</i>	Gorse bitter pea		Y	Y	Y
<i>Desmodium gunnii</i>	Slender tick-trefoil		Y	Y	
<i>Desmodium varians</i>	Slender tick-trefoil	Y	Y	Y	
<i>Glycine clandestina</i>	Twining glycine	Y	Y	Y	Y
<i>Gompholobium latifolium</i>	Golden glory pea		Y		
<i>Goodia lotifolia</i>		Y	Y	Y	Y
<i>Hardenbergia violacea</i>	False sarsaparilla	Y	Y	Y	Y
<i>Hovea longifolia</i>	Rusty pods		Y	Y	
<i>Hovea purpurea</i>			Y		
<i>Hovea</i> spp.			Y		
<i>Indigofera australis</i>	Australian indigo	Y	Y	Y	Y
<i>Kennedia rubicunda</i>	Dusky coral pea	Y	Y	Y	Y
<i>Platylobium formosum</i>			Y		
<i>Platylobium formosum</i> subsp. <i>formosum</i>		Y			
<i>Podolobium ilicifolium</i>	Prickly shaggy pea	Y	Y	Y	Y
<i>Pultenaea daphnoides</i>	Large-leaf bush-pea		Y	Y	Y
<i>Pultenaea retusa</i>			Y	Y	
<i>Pultenaea villifera</i>				Y	
Fabaceae (Mimosoideae)					
<i>Acacia cognata</i>	Narrow-leaf bower wattle		Y	Y	
<i>Acacia falcata</i>			Y		
<i>Acacia falciformis</i>	Broad-leaved hickory	Y	Y	Y	Y
<i>Acacia floribunda</i>	White sally	Y	Y	Y	Y
<i>Acacia georgensis</i> *	Bega wattle				Y
<i>Acacia implexa</i>	Hickory wattle	Y	Y	Y	Y
<i>Acacia irrorata</i> subsp. <i>irrorata</i>	Green wattle	Y		Y	
<i>Acacia longifolia</i>			Y	Y	Y
<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		Y	Y	
<i>Acacia mabellae</i>	Mabel's wattle		Y		
<i>Acacia maidenii</i>	Maiden's wattle				Y
<i>Acacia mearnsii</i>	Black wattle	Y	Y	Y	Y
<i>Acacia melanoxylon</i>	Blackwood		Y	Y	
<i>Acacia myrtifolia</i>	Red-stemmed wattle		Y	Y	
<i>Acacia obtusata</i>	Blunt-leaf wattle		Y	Y	

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<i>Acacia obtusifolia</i>			Y	Y	
<i>Acacia pedina</i>			Y		
<i>Acacia penninervis</i>	Mountain hickory			Y	
<i>Acacia rubida</i>	Red-stemmed wattle		Y		
<i>Acacia silvestris</i>	Bodalla silver wattle			Y	
<i>Acacia stricta</i>	Straight wattle		Y	Y	
<i>Acacia suaveolens</i>	Sweet wattle	Y	Y		
<i>Acacia subporosa</i>	River wattle		Y	Y	
<i>Acacia subtilinervis</i>	Net-veined wattle	Y			
<i>Acacia terminalis</i>	Sunshine wattle	Y	Y	Y	Y
<i>Acacia terminalis subsp. angustifolia</i>				Y	
<i>Acacia ulicifolia</i>	Prickly moses	Y	Y	Y	Y
Geraniaceae					
<i>Geranium homeanum</i>			Y	Y	
<i>Geranium potentilloides var. potentilloides</i>			Y		
<i>Pelargonium inodorum</i>			Y		
Gleicheniaceae					
<i>Sticherus lobatus</i>	Spreading shield fern			Y	
Goodeniaceae					
<i>Cooperhooikia barbata</i>	Purple goodenia		Y	Y	Y
<i>Goodenia hederacea</i>	Ivy goodenia		Y		
<i>Goodenia ovata</i>	Hop goodenia	Y	Y	Y	Y
<i>Goodenia spp.</i>			Y		
<i>Scaevola ramosissima</i>	Purple fan-flower		Y	Y	Y
Haloragaceae					
<i>Gonocarpus tetragynus</i>	Poverty raspwort		Y		Y
<i>Gonocarpus teucrioides</i>	Germander raspwort	Y	Y	Y	
<i>Haloragis exalata subsp. exalata var. exalata</i>				Y	
Iridaceae					
<i>Libertia paniculata</i>	Branching grass-flag		Y	Y	Y
<i>Patersonia glabrata</i>	Leafy purple-flag	Y	Y	Y	
Juncaceae					
<i>Juncus kraussii subsp. australiensis</i>	Sea rush	Y			
<i>Juncus pauciflorus</i>			Y		
<i>Juncus planifolius</i>			Y		
Lamiaceae					
<i>Plectranthus parviflorus</i>			Y	Y	Y
<i>Prostanthera incana</i>	Velvet mint-bush		Y		
<i>Prostanthera incisa</i>	Cut-leaved mint-bush	Y		Y	
<i>Prostanthera lasianthos</i>	Victorian christmas bush		Y	Y	Y
<i>Prostanthera spp.</i>			Y	Y	
<i>Scutellaria mollis</i>	Soft skullcap		Y		
Lauraceae					
<i>Cassytha pubescens</i>	Downy dodder-laurel	Y	Y	Y	Y
Lindsaeaceae					
<i>Lindsaea linearis</i>	Screw fern		Y		

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<i>Lindsaea microphylla</i>	Lacy wedge fern		Y	Y	
Lobeliaceae					
<i>Pratia purpurascens</i>	Whiteroot	Y	Y	Y	Y
Loganiaceae					
<i>Logania albiflora</i>					Y
<i>Logania pusilla</i>		Y	Y	Y	
<i>Mitrasacme polymorpha</i>		Y			
Lomandraceae					
<i>Lomandra confertifolia</i>	Mat-rush		Y		
<i>Lomandra confertifolia subsp. leptostachya</i>			Y		
<i>Lomandra confertifolia subsp. rubiginosa</i>			Y	Y	Y
<i>Lomandra confertifolia subsp. similis</i>		Y	Y	Y	Y
<i>Lomandra cylindrica</i>		Y		Y	
<i>Lomandra filiformis</i>	Wattle matt-rush		Y	Y	
<i>Lomandra filiformis subsp. coriacea</i>	Wattle matt-rush		Y		
<i>Lomandra filiformis subsp. filiformis</i>		Y			
<i>Lomandra filiformis subsp. flavior</i>	Wattle matt-rush		Y		
<i>Lomandra glauca</i>	Pale mat-rush		Y	Y	
<i>Lomandra longifolia</i>	Spiny-headed mat-rush	Y	Y	Y	Y
<i>Lomandra multiflora subsp. multiflora</i>	Many-flowered mat-rush	Y	Y	Y	Y
Loranthaceae					
<i>Amyema congener subsp. congener</i>			Y	Y	Y
<i>Amyema pendula</i>			Y	Y	Y
Luzuriagaceae					
<i>Eustrephus latifolius</i>	Wombat berry	Y	Y	Y	Y
<i>Geitonoplesium cymosum</i>	Scrambling lily	Y	Y	Y	Y
Malvaceae					
<i>Brachychiton populneus</i>	Kurrajong		Y	Y	Y
<i>Commersonia fraseri</i>	Brush kurrajong		Y	Y	Y
<i>Lasiopetalum ferrugineum</i>			Y	Y	
<i>Lasiopetalum macrophyllum</i>	Shrubby velvet-bush		Y		
<i>Lasiopetalum spp.</i>			Y		
Meliaceae					
<i>Synoum glandulosum subsp. glandulosum</i>	Scentless rosewood		Y	Y	
Menispermaceae					
<i>Sarcopetalum harveyanum</i>	Pearl vine		Y	Y	Y
<i>Stephania japonica</i>	Snake vine				Y
<i>Stephania japonica var. discolor</i>	Snake vine		Y	Y	Y
Monimiaceae					
<i>Doryphora sassafras</i>	Sassafras		Y	Y	Y
<i>Hedycarya angustifolia</i>	Native mulberry		Y	Y	
Moraceae					
<i>Ficus coronata</i>	Creek sandpaper fig		Y	Y	Y
<i>Ficus rubiginosa</i>	Port Jackson fig				Y
Myoporaceae					
<i>Myoporum bateae</i>			Y	Y	

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<i>Myoporum insulare</i>	Common boobialla		Y	Y	
Myrsinaceae					
<i>Myrsine howittiana</i>	Brush muttonwood		Y	Y	Y
Myrtaceae					
<i>Acmena smithii</i>	Lilly pilly		Y	Y	Y
<i>Angophora floribunda</i>	Rough-barked apple	Y	Y	Y	Y
<i>Backhousia myrtifolia</i>	Grey myrtle		Y	Y	
<i>Callistemon citrinus</i>	Crimson bottlebrush		Y		
<i>Corymbia gummifera</i>	Red bloodwood	Y			
<i>Corymbia maculata</i>	Spotted gum	Y		Y	
<i>Darwinia camplostylis</i>			Y		
<i>Eucalyptus agglomerata</i>	Blue-leaved stringybark		Y	Y	Y
<i>Eucalyptus baueriana</i>	Blue box	Y	Y	Y	Y
<i>Eucalyptus bosistoana</i>	Coast grey box		Y	Y	Y
<i>Eucalyptus botryoides</i>	Bangalay	Y	Y	Y	
<i>Eucalyptus cypellocarpa</i>	Monkey gum	Y	Y	Y	Y
<i>Eucalyptus elata</i>	River peppermint	Y	Y	Y	
<i>Eucalyptus globoidea</i>	White stringybark	Y	Y	Y	Y
<i>Eucalyptus longifolia</i>	Woollybutt	Y	Y	Y	Y
<i>Eucalyptus maidenii</i>	Maiden's gum		Y		
<i>Eucalyptus muelleriana</i>	Yellow stringybark	Y	Y	Y	Y
<i>Eucalyptus pilularis</i>	Blackbutt		Y		
<i>Eucalyptus pseudoglobulus</i>	Bastard eurabbie		Y		
<i>Eucalyptus radiata subsp. radiata</i>		Y		Y	
<i>Eucalyptus sieberi</i>	Silvertop ash	Y	Y	Y	Y
<i>Eucalyptus smithii</i>	Ironbark peppermint		Y	Y	Y
<i>Eucalyptus spp.</i>			Y	Y	Y
<i>Eucalyptus tereticornis</i>	Forest red gum		Y		
<i>Eucalyptus tricarpa</i>		Y	Y	Y	Y
<i>Kunzea ambigua</i>	Tick bush		Y		
<i>Leptospermum continentale</i>	Prickly tea-tree		Y		
<i>Leptospermum emarginatum</i>	Twin-flower tea-tree		Y		
<i>Leptospermum juniperinum</i>	Prickly tea-tree		Y		
<i>Leptospermum polygalifolium subsp. polygalifolium</i>				Y	
<i>Leptospermum trinervium</i>	Slender tea-tree	Y	Y	Y	
<i>Melaleuca ericifolia</i>	Swamp paperbark		Y		
<i>Melaleuca squarrosa</i>	Scented paperbark		Y		
<i>Sannantha pluriflora</i>			Y	Y	
<i>Tristaniopsis collina</i>	Mountain water gum			Y	
<i>Tristaniopsis laurina</i>	Kanooka		Y	Y	
Oleaceae					
<i>Notelaea venosa</i>	Veined mock-olive	Y	Y	Y	Y
Orchidaceae					
<i>Acianthus exsertus</i>	Mosquito orchid		Y		
<i>Calochilus paludosus</i>	Red beard orchid	Y			
<i>Cymbidium suave</i>	Snake orchid		Y	Y	Y
<i>Dendrobium pugioniforme</i>	Dagger orchid		Y		

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<i>Dendrobium speciosum</i>	Rock lily		Y	Y	Y
<i>Dipodium punctatum</i>			Y		
<i>Dipodium variegatum</i>			Y		
<i>Plectorrhiza tridentata</i>	Tangle orchid		Y	Y	
<i>Pterostylis parviflora</i>	Tiny greenhood		Y		
<i>Sarcochilus australis</i>	Butterfly orchid		Y		
<i>Sarcochilus falcatus</i>	Orange blossom orchid		Y		
<i>Sarcochilus parviflorus</i>	Lawyer orchid		Y		
<i>Thelymitra ixioides</i> var. <i>ixioides</i>	Dotted sun orchid	Y			
Oxalidaceae					
<i>Oxalis chnoodes</i>				Y	
<i>Oxalis exilis</i>			Y	Y	
<i>Oxalis perennans</i>			Y	Y	
<i>Oxalis</i> spp.			Y		Y
Passifloraceae					
<i>Passiflora cinnabarina</i>	Red passionfruit		Y	Y	
Phormiaceae					
<i>Dianella caerulea</i>	Blue Flax-lily	Y	Y	Y	Y
<i>Dianella caerulea</i> var. <i>caerulea</i>		Y	Y	Y	
<i>Dianella revoluta</i>	Blueberry lily			Y	Y
<i>Dianella revoluta</i> var. <i>revoluta</i>	A blue flax lily			Y	
<i>Stypandra glauca</i>	Nodding blue lily		Y	Y	
Phyllanthaceae					
<i>Breynia oblongifolia</i>	Coffee bush		Y	Y	Y
<i>Phyllanthus gunnii</i>			Y	Y	Y
<i>Phyllanthus hirtellus</i>	Thyme spurge		Y		
<i>Poranthera microphylla</i>	Small poranthera	Y	Y		
Pittosporaceae					
<i>Billardiera scandens</i>	Hairy apple berry	Y	Y	Y	Y
<i>Bursaria spinosa</i>	Native blackthorn		Y	Y	Y
<i>Bursaria spinosa</i> subsp. <i>lasiophylla</i>	Native blackthorn			Y	
<i>Pittosporum multiflorum</i>	Orange thorn		Y	Y	
<i>Pittosporum revolutum</i>	Rough fruit pittosporum	Y	Y	Y	Y
<i>Pittosporum undulatum</i>	Sweet pittosporum	Y	Y	Y	Y
<i>Rhytidosporum procumbens</i>		Y	Y		
Plantaginaceae					
<i>Plantago debilis</i>	Shade plantain		Y		
<i>Veronica calycina</i>	Hairy speedwell				Y
<i>Veronica notabilis</i>	Forest speedwell			Y	
<i>Veronica plebeia</i>	Trailing speedwell		Y		Y
Plumbaginaceae					
<i>Limonium australe</i>	Native sea lavender	Y			
Poaceae					
<i>Anisopogon avenaceus</i>	Oat speargrass		Y		
<i>Austrostipa pubescens</i>			Y		
<i>Austrostipa stipoides</i>	Coast Spear-grass	Y			
<i>Austrostipa verticillata</i>	Slender bamboo grass	Y			

Family/Species	Common name	Bermagui	Mumbulla	Murrah	Tanja
<i>Cymbopogon refractus</i>	Barbed wire grass			Y	
<i>Deyeuxia monticola</i> var. <i>monticola</i>		Y			
<i>Dichelachne micrantha</i>	Shorthair plumegrass			Y	
<i>Dichelachne rara</i>		Y	Y		
<i>Echinopogon caespitosus</i>	Bushy Hedgehog-grass			Y	
<i>Echinopogon ovatus</i>	Forest hedgehog grass		Y	Y	
<i>Entolasia marginata</i>	Bordered panic	Y	Y	Y	
<i>Entolasia stricta</i>	Wiry panic	Y	Y	Y	
<i>Hierochloa rariflora</i>	Scented holygrass		Y		
<i>Imperata cylindrica</i>	Blady grass		Y	Y	
<i>Microlaena stipoides</i>	Weeping grass		Y	Y	Y
<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping grass	Y	Y	Y	
<i>Oplismenus aemulus</i>			Y		
<i>Oplismenus imbecillis</i>		Y	Y	Y	Y
<i>Panicum simile</i>	Two-colour panic			Y	
<i>Poa affinis</i>			Y		
<i>Poa ensiformis</i>	Purple-sheathed tussock-grass	Y	Y	Y	
<i>Poa labillardierei</i> var. <i>labillardierei</i>	Tussock	Y	Y	Y	Y
<i>Poa meionectes</i>		Y	Y	Y	Y
<i>Poa sieberiana</i> var. <i>sieberiana</i>	Snowgrass		Y		
<i>Poa tenera</i>	Slender tussock-grass			Y	
<i>Rytidosperma longifolium</i>	Long-leaved wallaby grass		Y	Y	
<i>Rytidosperma pallidum</i>	Silvertop wallaby grass	Y	Y	Y	Y
<i>Rytidosperma pilosum</i>	Smooth-flowered Wallaby grass	Y	Y		
<i>Rytidosperma racemosum</i>	Wallaby grass		Y		
<i>Sporobolus virginicus</i>		Y			
<i>Tetrarrhena juncea</i>	Wiry ricegrass		Y	Y	
<i>Themeda triandra</i>		Y	Y	Y	Y
<i>Zoysia macrantha</i>	Prickly couch				Y
Polygalaceae					
<i>Comesperma volubile</i>			Y	Y	
Polygonaceae					
<i>Rumex brownii</i>	Swamp dock		Y		
Polypodiaceae					
<i>Microsorium pustulatum</i>	Kangaroo fern		Y		
<i>Microsorium scandens</i>	Fragrant fern		Y	Y	
<i>Pyrrosia rupestris</i>	Rock felt fern		Y	Y	Y
Proteaceae					
<i>Banksia serrata</i>	Old-man banksia	Y	Y		
<i>Banksia spinulosa</i> var. <i>spinulosa</i>		Y		Y	
<i>Hakea eriantha</i>				Y	
<i>Hakea macraeana</i>	Willow needlewood		Y	Y	Y
<i>Hakea sericea</i>	Needlebush		Y		
<i>Hakea</i> spp.			Y		
<i>Lomatia ilicifolia</i>	Holly lomatia	Y	Y	Y	
<i>Lomatia myricoides</i>	River lomatia		Y	Y	

Family/Species	Common name	Bermagui	Mumbulla	Murrah	Tanja
<i>Persoonia linearis</i>	Narrow-leaved geebung	Y	Y	Y	Y
Pteridaceae					
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	Rock fern	Y			
<i>Pteris tremula</i>	Tender brake		Y		Y
<i>Pteris umbrosa</i>	Jungle brake		Y		
Ranunculaceae					
<i>Clematis aristata</i>	Old man's beard		Y	Y	Y
<i>Clematis glycinoides</i>	Headache vine	Y	Y	Y	Y
<i>Clematis glycinoides</i> var. <i>glycinoides</i>			Y	Y	
<i>Ranunculus plebeius</i>	Forest buttercup		Y		
Rhamnaceae					
<i>Pomaderris aspera</i>	Hazel pomaderris		Y	Y	Y
<i>Pomaderris cinerea</i>			Y	Y	Y
<i>Pomaderris elliptica</i> subsp. <i>elliptica</i>			Y	Y	Y
<i>Pomaderris ferruginea</i>			Y	Y	Y
<i>Pomaderris intermedia</i>			Y		
<i>Pomaderris lanigera</i>	Woolly pomaderris		Y	Y	
<i>Pomaderris ligustrina</i>	Privet pomaderris			Y	
Ripogonaceae					
<i>Ripogonum album</i>	White supplejack		Y		Y
Rosaceae					
<i>Acaena novae-zelandiae</i>	Bidgee-widgee		Y		
<i>Rubus moluccanus</i> var. <i>trilobus</i>	Molucca bramble		Y	Y	
<i>Rubus parvifolius</i>	Native raspberry	Y	Y	Y	Y
<i>Rubus rosifolius</i>	Rose-leaf bramble	Y	Y	Y	Y
Rubiaceae					
<i>Coprosma quadrifida</i>	Prickly currant bush	Y	Y	Y	Y
<i>Galium binifolium</i>			Y	Y	
<i>Galium leiocarpum</i>		Y	Y		
<i>Galium liratum</i>			Y		
<i>Morinda jasminoides</i>	Sweet morinda	Y	Y	Y	Y
<i>Opercularia aspera</i>	Coarse stinkweed	Y	Y		
<i>Opercularia diphylla</i>	Stinkweed			Y	
<i>Opercularia hispida</i>	Hairy stinkweed		Y		
<i>Opercularia varia</i>	Variable stinkweed	Y	Y	Y	
<i>Pomax umbellata</i>	Pomax	Y	Y	Y	
<i>Psychotria loniceroides</i>	Hairy psychotria		Y	Y	Y
Rutaceae					
<i>Acronychia oblongifolia</i>	White aspen		Y	Y	Y
<i>Correa baeuerlenii</i> *	Chef's cap correa		Y	Y	
<i>Correa reflexa</i>	Native fuschia	Y	Y	Y	Y
<i>Correa reflexa</i> var. <i>reflexa</i>	Native fuschia	Y	Y	Y	
<i>Crowea exalata</i> subsp. <i>exalata</i>			Y		Y
<i>Leionema carruthersii</i>			Y		
<i>Leionema coxii</i>			Y		
<i>Philotheca trachyphylla</i>	Rock waxflower		Y	Y	Y
<i>Zieria smithii</i>	Sandfly zieria		Y	Y	Y

Family/Species	Common name	Bermagui	Mumbulla	Murrah	Tanja
Santalaceae					
<i>Exocarpos cupressiformis</i>	Cherry ballart		Y	Y	Y
<i>Exocarpos strictus</i>	Dwarf cherry		Y	Y	Y
<i>Leptomeria acida</i>	Sour currant bush			Y	
<i>Santalum obtusifolium</i>	Sandalwood		Y		
Sapindaceae					
<i>Alectryon subcinereus</i>	Wild quince		Y		Y
<i>Dodonaea triquetra</i>	Large-leaf hop-bush	Y	Y	Y	Y
<i>Dodonaea truncatiales</i>	Angular hop-bush		Y	Y	
Scrophulariaceae					
<i>Gratiola peruviana</i>	Australian brooklime		Y		
Smilacaceae					
<i>Smilax australis</i>	Lawyer vine	Y	Y	Y	Y
Solanaceae					
<i>Solanum aviculare</i>	Kangaroo apple		Y	Y	Y
<i>Solanum brownii</i>	Violet nightshade		Y		
<i>Solanum prinophyllum</i>	Forest nightshade		Y	Y	Y
<i>Solanum pungetium</i>	Eastern nightshade		Y	Y	Y
<i>Solanum stelligerum</i>	Devil's needles		Y	Y	
Symplocaceae					
<i>Symplocos thwaitesii</i>	Buff hazelwood		Y		
Thymelaeaceae					
<i>Pimelea axiflora</i>			Y	Y	Y
<i>Pimelea axiflora</i> subsp. <i>axiflora</i>			Y	Y	Y
<i>Pimelea linifolia</i> subsp. <i>linifolia</i>		Y		Y	
Ulmaceae					
<i>Trema tomentosa</i> var. <i>aspera</i>	Native peach		Y	Y	Y
Urticaceae					
<i>Dendrocnide excelsa</i>	Giant stinging tree		Y		
<i>Urtica incisa</i>	Stinging nettle		Y	Y	
Uvulariaceae					
<i>Schelhammera undulata</i>		Y	Y	Y	Y
Violaceae					
<i>Melicytus dentatus</i>	Tree violet		Y	Y	
<i>Viola banksii</i>			Y		Y
<i>Viola hederacea</i>	Ivy-leaved violet	Y	Y	Y	
Vitaceae					
<i>Cissus antarctica</i>	Water vine			Y	
<i>Cissus hypoglauca</i>	Giant water vine		Y	Y	Y
Xanthorrhoeaceae					
<i>Xanthorrhoea concava</i>		Y	Y	Y	
<i>Xanthorrhoea resinosa</i>		Y	Y	Y	Y
Zamiaceae					
<i>Macrozamia communis</i>	Burrawang	Y	Y	Y	
Zosteraceae					
<i>Zostera muelleri</i> subsp. <i>capricorni</i>		Y			

Highlighted cells indicate the most (>8% of total sampled) commonly occurring tree species according to outcomes of the koala surveys 2012-2014 (OEH 2014c)

Appendix 3 Fauna List

Class/Species	Common Name	Bermagui	Mumbulla	Murrah	Tanja
Amphibia					
<i>Crinia signifera</i>	Common eastern froglet		Y	Y	
<i>Limnodynastes dumerilii</i>	Eastern banjo frog			Y	
<i>Limnodynastes peronii</i>	Brown-striped frog		Y	Y	
<i>Limnodynastes tasmaniensis</i>	Spotted grass frog		Y		
<i>Litoria aurea</i>	Green and golden bell frog*		Y		
<i>Litoria caerulea</i>	Green tree frog		Y		
<i>Litoria citropa</i>	Blue mountains tree frog		Y	Y	
<i>Litoria ewingii</i>	Brown tree frog		Y		
<i>Litoria fallax</i>	Eastern dwarf tree frog		Y		
<i>Litoria lesueuri</i>	Lesueur's frog		Y	Y	
<i>Litoria peronii</i>	Peron's tree frog		Y	Y	
<i>Litoria phyllochroa</i>	Leaf-green tree frog		Y	Y	
<i>Litoria verreauxii</i>	Verreaux's frog		Y	Y	
<i>Mixophyes balbus</i>	Stuttering frog*		Y		
Aves					
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped thornbill		Y	Y	
<i>Acanthiza lineata</i>	Striated thornbill	Y	Y	Y	Y
<i>Acanthiza pusilla</i>	Brown thornbill	Y	Y	Y	Y
<i>Acanthiza reguloides</i>	Buff-rumped thornbill		Y	Y	Y
<i>Acanthorhynchus tenuirostris</i>	Eastern spinebill	Y	Y	Y	Y
<i>Accipiter cirrocephalus</i>	Collared sparrowhawk		Y	Y	
<i>Accipiter fasciatus</i>	Brown goshawk		Y		
<i>Aegotheles cristatus</i>	Australian owl-nightjar		Y	Y	Y
<i>Alisterus scapularis</i>	Australian king-parrot		Y	Y	Y
<i>Anas castanea</i>	Chestnut teal		Y		
<i>Anthochaera carunculata</i>	Red wattlebird		Y	Y	Y
<i>Anthochaera phrygia</i>	Regent honeyeater*		Y		
<i>Aquila audax</i>	Wedge-tailed eagle		Y	Y	Y
<i>Ardea ibis</i>	Cattle egret^		Y		
<i>Artamus cyanopterus</i>	Dusky woodswallow		Y	Y	
<i>Cacatua galerita</i>	Sulphur-crested cockatoo		Y		
<i>Cacomantis flabelliformis</i>	Fan-tailed cuckoo	Y	Y	Y	Y
<i>Cacomantis variolosus</i>	Brush cuckoo		Y		Y
<i>Caligavis chrysops</i>	Yellow-faced honeyeater	Y	Y	Y	Y
<i>Callocephalon fimbriatum</i>	Gang-gang cockatoo*		Y	Y	Y
<i>Calyptorhynchus funereus</i>	Yellow-tailed black-cockatoo		Y		
<i>Calyptorhynchus lathamii</i>	Glossy black-cockatoo*		Y	Y	
<i>Chalcites basalis</i>	Horsfield's bronze-cuckoo		Y		
<i>Chalcites lucidus</i>	Shining bronze-cuckoo		Y	Y	Y
<i>Chenonetta jubata</i>	Australian wood duck		Y		
<i>Chroicocephalus novaehollandiae</i>	Silver gull		Y		
<i>Cincoloma punctatum</i>	Spotted quail-thrush			Y	Y
<i>Climacteris erythropis</i>	Red-browed treecreeper		Y	Y	
<i>Climacteris picumnus victoriae</i>	Brown treecreeper (eastern)		Y		

Class/Species	Common Name subspecies)*	Bermagui	Mumbulla	Murrah	Tanja
<i>Colluricincla harmonica</i>	Grey Shrike-thrush		Y	Y	Y
<i>Coracina novaehollandiae</i>	Black-faced cuckoo-shrike		Y	Y	Y
<i>Coracina papuensis</i>	White-bellied cuckoo-shrike			Y	Y
<i>Coracina tenuirostris</i>	Cicadabird		Y	Y	
<i>Cormobates leucophaea</i>	White-throated treecreeper	Y	Y	Y	Y
<i>Corvus coronoides</i>	Australian raven		Y	Y	Y
<i>Cracticus torquatus</i>	Grey butcherbird		Y	Y	
<i>Dacelo novaeguineae</i>	Laughing kookaburra		Y	Y	Y
<i>Daphoenositta chrysoptera</i>	Varied sittella*		Y	Y	Y
<i>Dicaeum hirundinaceum</i>	Mistletoebird		Y	Y	Y
<i>Eopsaltria australis</i>	Eastern yellow robin	Y	Y	Y	Y
<i>Eurostopodus mystacalis</i>	White-throated nightjar		Y	Y	Y
<i>Falco peregrinus</i>	Peregrine falcon		Y		
<i>Falcunculus frontatus frontatus</i>	Eastern shrike-tit		Y	Y	
<i>Gallinago hardwickii</i>	Latham's snipe^		Y		
<i>Gerygone mouki</i>	Brown gerygone	Y	Y	Y	
<i>Glossopsitta pusilla</i>	Little lorikeet*		Y		
<i>Grallina cyanoleuca</i>	Magpie-lark		Y		
<i>Haliaeetus leucogaster</i>	White-bellied sea-eagle^		Y		Y
<i>Haliastur sphenurus</i>	Whistling kite		Y	Y	
<i>Hieraetus morphnoides</i>	Little eagle		Y		
<i>Hirundapus caudacutus</i>	White-throated needletail^		Y	Y	
<i>Hirundo neoxena</i>	Welcome swallow		Y	Y	
<i>Leucosarcia melanoleuca</i>	Wonga pigeon	Y	Y	Y	Y
<i>Lophoictinia isura</i>	Square-tailed kite*		Y		
<i>Macropygia amboinensis</i>	Brown cuckoo-dove		Y	Y	
<i>Malurus cyaneus</i>	Superb fairy-wren		Y	Y	Y
<i>Manorina melanophrys</i>	Bell miner	Y	Y	Y	
<i>Meliphaga lewinii</i>	Lewin's honeyeater	Y	Y	Y	
<i>Melithreptus brevirostris</i>	Brown-headed honeyeater		Y	Y	Y
<i>Melithreptus lunatus</i>	White-naped honeyeater	Y	Y	Y	Y
<i>Menura novaehollandiae</i>	Superb lyrebird	Y	Y	Y	Y
<i>Microcarbo melanoleucos</i>	Little pied cormorant		Y		
<i>Microeca fascinans</i>	Jacky winter		Y	Y	
<i>Monarcha melanopsis</i>	Black-faced monarch	Y	Y	Y	Y
<i>Myiagra cyanoleuca</i>	Satin flycatcher		Y		
<i>Myiagra rubecula</i>	Leaden flycatcher		Y	Y	Y
<i>Neochmia temporalis</i>	Red-browed finch	Y	Y	Y	Y
<i>Nesoptilotis leucotis</i>	White-eared honeyeater		Y	Y	
<i>Ninox novaeseelandiae</i>	Southern boobook		Y	Y	Y
<i>Ninox strenua</i>	Powerful owl*		Y	Y	Y
<i>Nycticorax caledonicus</i>	Nankeen night heron		Y		
<i>Oriolus sagittatus</i>	Olive-backed oriole		Y	Y	Y
<i>Pachycephala pectoralis</i>	Golden whistler	Y	Y	Y	Y
<i>Pachycephala rufiventris</i>	Rufous whistler		Y	Y	Y
<i>Pardalotus punctatus</i>	Spotted pardalote		Y	Y	Y

Class/Species	Common Name	Bermagui	Mumbulla	Murrah	Tanja
<i>Pardalotus striatus</i>	Striated pardalote		Y	Y	Y
<i>Petrochelidon ariel</i>	Fairy martin		Y	Y	
<i>Petrochelidon nigricans</i>	Tree martin		Y		
<i>Petroica boodang</i>	Scarlet robin*		Y	Y	Y
<i>Petroica phoenicea</i>	Flame robin*		Y		
<i>Petroica rosea</i>	Rose robin		Y	Y	Y
<i>Phaps elegans</i>	Brush bronzewing		Y		
<i>Philemon corniculatus</i>	Noisy friarbird			Y	Y
<i>Phylidonyris novaehollandiae</i>	New holland honeyeater	Y	Y	Y	
<i>Phylidonyris pyrrhoptera</i>	Crescent honeyeater	Y	Y	Y	Y
<i>Platycercus elegans</i>	Crimson rosella		Y	Y	Y
<i>Podargus strigoides</i>	Tawny frogmouth		Y	Y	
<i>Psophodes olivaceus</i>	Eastern whipbird	Y	Y	Y	
<i>Ptilonorhynchus violaceus</i>	Satin bowerbird	Y	Y	Y	
<i>Pycnoptilus floccosus</i>	Pilotbird		Y	Y	
<i>Rhipidura albiscapa</i>	Grey fantail	Y	Y	Y	Y
<i>Rhipidura rufifrons</i>	Rufous fantail	Y	Y	Y	
<i>Sericornis frontalis</i>	White-browed scrubwren	Y	Y	Y	Y
<i>Sericornis magnirostra</i>	Large-billed scrubwren	Y	Y		
<i>Sericulus chrysocephalus</i>	Regent bowerbird			Y	
<i>Smicronis brevirostris</i>	Weebill		Y		
<i>Strepera graculina</i>	Pied currawong		Y	Y	Y
<i>Todiramphus sanctus</i>	Sacred kingfisher		Y	Y	Y
<i>Trichoglossus haematodus</i>	Rainbow lorikeet		Y	Y	
<i>Tyto novaehollandiae</i>	Masked owl*	Y	Y	Y	
<i>Tyto tenebricosa</i>	Sooty owl*		Y	Y	Y
<i>Zoothera lunulata</i>	Bassian thrush		Y		
<i>Zosterops lateralis</i>	Silvereye		Y	Y	Y
Mammalia					
<i>Acrobates pygmaeus</i>	Feathertail glider		Y		
<i>Antechinus agilis</i>	Agile antechinus			Y	
<i>Antechinus stuartii</i>	Brown antechinus			Y	
<i>Antechinus swainsonii</i>	Dusky antechinus		Y		
<i>Austronomus australis</i>	White-striped freetail-bat		Y	Y	Y
<i>Cercartetus nanus</i>	Eastern pygmy-possum*		Y		Y
<i>Chalinolobus morio</i>	Chocolate wattled bat		Y	Y	Y
<i>Falsistrellus tasmaniensis</i>	Eastern false pipistrelle*		Y		
<i>Isoodon/Perameles sp.</i>	Unidentified bandicoot		Y	Y	Y
<i>Kerivoula papuensis</i>	Golden-tipped bat*		Y		
<i>Macropus giganteus</i>	Eastern grey kangaroo		Y	Y	
<i>Macropus rufogriseus</i>	Red-necked wallaby			Y	
<i>Miniopterus australis</i>	Little bentwing-bat*		Y		
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat*		Y	Y	
<i>Nyctophilus geoffroyi</i>	Lesser long-eared bat		Y	Y	
<i>Nyctophilus gouldi</i>	Gould's long-eared bat		Y	Y	
<i>Ornithorhynchus anatinus</i>	Platypus	Y			Y
<i>Perameles nasuta</i>	Long-nosed bandicoot		Y	Y	Y

Class/Species	Common Name	Bermagui	Mumbulla	Murrah	Tanja
<i>Petauroides volans</i>	Greater glider		Y	Y	Y
<i>Petaurus australis</i>	Yellow-bellied glider*	Y	Y	Y	Y
<i>Petaurus breviceps</i>	Sugar glider		Y	Y	Y
<i>Phascolarctos cinereus</i>	Koala*	Y	Y	Y	Y
<i>Potorous sp.</i>	Potoroo		Y		
<i>Potorous tridactylus</i>	Long-nosed potoroo*		Y	Y	
<i>Pseudocheirus peregrinus</i>	Common ringtail possum		Y	Y	Y
<i>Pteropus sp.</i>	Flying-fox	Y	Y		Y
<i>Rattus fuscipes</i>	Bush rat		Y	Y	
<i>Rattus lutreolus</i>	Swamp rat		Y	Y	
<i>Rhinolophus megaphyllus</i>	Eastern horseshoe-bat		Y	Y	
<i>Scoteanax rueppellii</i>	Greater broad-nosed bat*		Y		
<i>Scotorepens orion</i>	Eastern broad-nosed bat		Y		
<i>Sminthopsis crassicaudata</i>	Fat-tailed dunnart		Y		
<i>Sminthopsis leucopus</i>	White-footed dunnart*			Y	
<i>Tachyglossus aculeatus</i>	Short-beaked echidna	Y			Y
<i>Trichosurus sp.</i>	Brush-tail possum	Y	Y		Y
<i>Trichosurus vulpecula</i>	Common brushtail possum		Y	Y	Y
<i>Vespadelus darlingtoni</i>	Large forest bat		Y		
<i>Vespadelus regulus</i>	Southern forest bat		Y		
<i>Vespadelus vulturnus</i>	Little forest bat		Y	Y	Y
<i>Vombatus ursinus</i>	Common wombat		Y	Y	
<i>Wallabia bicolor</i>	Swamp wallaby		Y	Y	
Reptilia					
<i>Acanthophis antarcticus</i>	Common death adder		Y		Y
<i>Acritoscincus platynota</i>	Red-throated skink		Y		
<i>Amphibolurus muricatus</i>	Jacky lizard		Y		
<i>Cryptophis nigrescens</i>	Eastern small-eyed snake		Y		
<i>Drysdalia rhodogaster</i>	Mustard-bellied snake		Y	Y	
<i>Egernia saxatilis</i>	Black rock skink		Y		
<i>Egernia saxatilis intermedia</i>			Y		
<i>Eulamprus heatwolei</i>	Yellow-bellied water-skink		Y		
<i>Eulamprus tenuis</i>	Barred-sided skink		Y		
<i>Intellagama lesueurii howitti</i>	Gippsland water dragon		Y		
<i>Lampropholis delicata</i>	Dark-flecked garden sunskink		Y		
<i>Lampropholis guichenoti</i>	Pale-flecked garden sunskink		Y		
<i>Notechis scutatus</i>	Tiger snake		Y		
<i>Saproscincus mustelinus</i>	Weasel skink		Y		
<i>Tiliqua scincoides</i>	Eastern blue-tongue		Y		Y
<i>Varanus varius</i>	Lace monitor		Y		

Appendix 4 Works Program Priorities

	Proposed Works	Priority
1	Roads: Undertake an assessment of roads to determine those roads essential for management or needed for public access and the standard to which they should be maintained. Maintain the roads and trails to the agreed standards.	
2	Habitat Restoration: Assess areas dominated by thick <i>allocasuarina</i> regrowth to determine habitat restoration options. Implement habitat restoration trials over a number of the sites. If successful these may be applied more broadly within the affected areas.	
3	Fire Management: Work with the University of Melbourne to develop fire management strategies for the Murrah flora reserves and surrounding national park estate with the aim to develop fuel management approaches to best support koala recovery.	
4	Fire Management: Review the reserve fire management strategy for the neighbouring Biamanga National Park so that it also applies to the Murrah flora reserves and to incorporate any newly developed strategies. Undertake hazard reduction and fire suppression operations as required.	
5	Aboriginal Cultural Values: Undertake consultation with relevant Aboriginal groups regarding their involvement in the management of the flora reserves. Consult with the Biamanga National Park Board of Management regarding integrated management programs.	
6	Community Involvement: Undertake community consultation regarding the management of the Murrah flora reserves and to investigate opportunities for volunteer work, particularly for survey and monitoring programs.	
7	Koala Program: Develop a scientifically designed and robust koala monitoring, habitat management and research program including measures to assess whether management is having a positive impact on the koala population.	
8	Monitoring: Continue the long-term koala monitoring program with the next extensive survey program planned for the autumn of 2016, reassessing many of the grid-sites that were previously searched for koala evidence.	
9	Reporting: Reporting will be undertaken to meet agreed requirements.	
10	Plan Review: This plan will be revised during 2016 to provide for more detailed planning and community input.	