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Koala populations and habitat in New South Wales

Report 3

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7



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Koala populations and habitat in New South Wales

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Terms of reference

1. That Portfolio Committee No. 7 – Planning and Environment inquire into and report on actions, policies and funding by government to ensure healthy, sustainable koala populations and habitat in New South Wales, and in particular:
 - (a) the status of koala populations and koala habitat in New South Wales, including trends, key threats, resource availability, adequacy of protections and areas for further research,
 - (b) the impacts on koalas and koala habitat from:
 - (i) the Coastal Integrated Forestry Operations Approvals and Regional Forest Agreements,
 - (ii) the Private Native Forestry Code of Practice,
 - (iii) the old growth forest remapping and rezoning program,
 - (iv) the 2016 land management reforms, including the Local Land Services Amendment Act 2016 and associated regulations and codes
 - (c) the effectiveness of State Environmental Planning Policy 44 - Koala Habitat Protection, the NSW Koala Strategy and the Biodiversity Conservation Act 2016, including the threatened species provisions and associated regulations, in protecting koala habitat and responding to key threats,
 - (d) identification of key areas of koala habitat on private and public land that should be protected, including areas currently at risk of logging or clearing, and the likely impacts of climate change on koalas and koala distribution,
 - (e) the environmental, social and economic impacts of establishing new protected areas to conserve koala habitat, including national parks, and
 - (f) any other related matter.
2. That the committee report by 30 June 2020.¹

The terms of reference were self-referred by the committee on 20 June 2019.²

¹ The original reporting date was 15 June 2020 (*Minutes*, NSW Legislative Council, 6 August 2019, pp 304-305). The reporting date was later extended to 30 June 2020 (*Minutes*, NSW Legislative Council, 2 June 2020, p 962).

² *Minutes*, NSW Legislative Council, 6 August 2019, pp 304-305.

Committee details

Committee members

Ms Cate Faehrmann MLC	The Greens	<i>Chair</i>
The Hon Mark Pearson MLC	Animal Justice Party	<i>Deputy Chair</i>
The Hon Mark Buttigieg MLC	Australian Labor Party	
The Hon Catherine Cusack MLC	Liberal Party	
The Hon Ben Franklin MLC	The Nationals	
The Hon Shayne Mallard MLC	Liberal Party	
The Hon Penny Sharpe MLC	Australian Labor Party	

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Chair's foreword

'This season's significant bushfires have resulted in devastating losses to koala numbers across NSW, so it is imperative that remaining populations and habitat are protected.'

The Hon Matt Kean MP, Minister for Energy and Environment, *The Sydney Morning Herald*, 18 February 2020

This inquiry was established because of significant concern in the community about the future of Australia's most loved animal, the koala. Even before the devastating 2019-2020 bushfires it was clear that the koala in NSW, already a threatened species, was in significant trouble, with the committee finding that the official government estimate of 36,000 koalas contained in the NSW Koala Strategy is outdated and unreliable.

Then came the fires. With at least 5,000 koalas lost in the fires, potentially many more, it was deeply distressing but extremely important for committee members to agree to the finding that koalas will become extinct in NSW before 2050 without urgent government intervention. This was important because during the inquiry it was frustrating to hear from government witnesses that the policies and laws in place to protect koalas and their habitat are adequate. However what became increasingly apparent as the committee held hearings around the state is that they're not.

The ongoing destruction of koala habitat through the clearing of land for agriculture, development, mining and forestry has severely impacted most koala populations in the state over many decades. The committee found that this fragmentation and loss of habitat poses the most serious threat to koala populations and made a number of key recommendations that stronger action must be taken by government to protect and restore koala habitat on both public and private land. I particularly encourage the government to investigate the establishment of the Great Koala National Park on the NSW Mid North Coast without delay.

Many koala populations were suffering terribly through drought conditions that had plagued NSW for years, exacerbated by climate change. The committee heard stories from wildlife carers about high numbers of koalas being brought into their care that were malnourished and dehydrated. Similarly the committee received images of koalas, no longer able to get adequate hydration from the leaves they eat, descending from trees to drink from garden hoses and water bowls.

The committee found that climate change is having a severe impact on koalas, not only by affecting the quality of their food and habitat, but also by compounding the severity and threats of other impacts, such as drought and bushfires

A few months after the inquiry commenced the devastating bushfires hit. Huge swathes of koala habitat were significantly impacted. While the fires were still burning the koala emerged as an international icon for the wildlife lost – feared to be over 1 billion animals. This was perhaps best demonstrated by Port Macquarie Koala Hospital, which, initially seeking to raise \$25,000 to their bushfire appeal, received almost \$8 million in donations from both Australians and the global community.

The high level of engagement with this inquiry by individuals and stakeholders, the overwhelming majority of which expressed concern for the future of the koala, shows how widespread support is for government action to protect koalas.

The committee has made 42 recommendations to help ensure the future of the koala. I urge the government to implement them without delay. There were a number of draft recommendations that unfortunately did not receive majority support from committee members, such as the need for a moratorium on logging in public native forests. However, it was extremely encouraging that the vast majority of recommendations were supported by all committee members.

Following the disastrous 2019-2020 bushfire season, it is undoubtable that the game has changed dramatically for koalas. The evidence could not be more stark. The only way our children's grandchildren will see a koala in the wild in NSW will be if the government acts upon the committee's recommendations.

On behalf of the committee, I would like to thank all participants for their contribution to this important inquiry, including the large number of individuals who took the time to contribute. I would also like to thank both the individuals and community groups who welcomed the committee during its site visits throughout the inquiry. Finally, I extend my thanks to my fellow committee members for their hard work and determination to ensure this report had teeth, as well as to the committee secretariat for their excellent and extremely professional support during this inquiry.



Ms Cate Faehrmann MLC
Committee Chair

Findings

- Finding 1** **12**
That following the 2019-2020 bushfires and the general trend of population decline, the current estimated number of 36,000 koalas in New South Wales is outdated and unreliable.
- Finding 2** **12**
That, given the scale of loss to koala populations across New South Wales as a result of the 2019-2020 bushfires and without urgent government intervention to protect habitat and address all other threats, the koala will become extinct in New South Wales before 2050.
- Finding 3** **35**
That logging in public native forests in New South Wales has had cumulative impacts on koalas over many years because it has reduced the maturity, size and availability of preferred feed and roost trees.
- Finding 4** **51**
That the fragmentation and loss of habitat poses the most serious threat to koala populations in New South Wales.
- Finding 5** **51**
That the future of koalas in the wild in New South Wales cannot be guaranteed unless the NSW Government takes stronger action to prevent further loss of koala habitat.
- Finding 6** **60**
That climate change is having a severe impact on koala populations by affecting the quality of their food and habitat.
- Finding 7** **60**
That climate change is compounding the severity and impact of other threats, such as drought and bushfires, on koala populations.
- Finding 8** **68**
That the current exclusion fence for Appin Road in South Western Sydney is counterproductive and poses a serious danger to koalas.
- Finding 9** **74**
That local koala populations face different threats of varying severity, depending on the region that they are located in.
- Finding 10** **81**
There has been a substantial loss of both suitable koala habitat and koalas across New South Wales as a result of the 2019-2020 bushfires. An estimated 24 per cent of koala habitat on public land has been severely impacted across the State, but in some parts there has been a devastating loss of up to 81 per cent.
- Finding 11** **110**
That the NSW Koala Strategy falls short of the NSW Chief Scientist's recommendation of a whole-of-government koala strategy with the objective of stabilising and then increasing koala numbers.

- Finding 12** 110
That the NSW Koala Strategy fails to prioritise and resource the urgent need to protect koala habitat across all tenures.
- Finding 13** 111
That allocating \$4 million over a 5-year period for the government's Saving Our Species Iconic Koala Project has been important but additional funding and support is required in order for it to achieve its stated aims.
- Finding 14** 117
Translocation is an unproven way of protecting koala populations from the impacts of development and should only be used as a last resort. Further research needs to be undertaken to assess its methodology and effectiveness.
- Finding 15** 134
Approvals by the Department of Planning, Industry and Environment of comprehensive koalas plans of management made by local councils have been too slow. There is an urgent need for them to be approved in a timely and transparent manner.
- Finding 16** 138
Protecting koala habitat is hampered by the inconsistencies and disconnection between the different planning instruments within the NSW planning system, and there is an urgent need to address this.

Recommendations

- Recommendation 1** **17**
That the NSW Government urgently engage the NSW Chief Scientist and Engineer to, in consultation with the NSW Koala Advisory Panel and Forestry Corporation of NSW, consider and determine the most appropriate method of surveying koala numbers, and that this method become the standard across all government authorities.
- Recommendation 2** **31**
That the NSW Government urgently prioritise the protection of koala habitat and corridors in the planning and implementation stages of urban growth areas.
- Recommendation 3** **31**
That the NSW Government fund and support local councils to conserve koala habitat, including by identifying pockets of urban bushland to include in the State's protected area network.
- Recommendation 4** **32**
That the NSW Government and Campbelltown City Council ensure the protection of the koala colony and habitat on the Figtree Hill site before allowing any further development.
- Recommendation 5** **32**
That the NSW Government create a Georges River National Park to provide secure habitat for the South Western Sydney koala population.
- Recommendation 6** **45**
That the NSW Government rule out opening up old growth forests in the state forest reserve for logging.
- Recommendation 7** **45**
That the NSW Government consider the impacts of logging in all public native (non-plantation) forests in the context of enabling koala habitat to be identified and protected by a combination of transferring land to national parks or inclusion in Forest Management Zone 2, where appropriate.
- Recommendation 8** **46**
That the NSW Government establish new plantations on already cleared land of low biodiversity importance to reduce future reliance on native forest logging.
- Recommendation 9** **51**
That the NSW Government ensure the protection of the koala colony and habitat before allowing any further development at the Shenhua Watermark mine site.
- Recommendation 10** **57**
That the NSW Government provide additional funding and support to community groups, so that they can plant trees and regenerate bushland along koala and wildlife corridors and explore mechanisms to protect these corridors in-perpetuity.

- Recommendation 11** **61**
That the NSW Government factor in climate change as a key consideration in the drafting of all relevant legislation and planning strategies and ensure climate change mitigation is a core component of all strategies to save the koala in New South Wales.
- Recommendation 12** **68**
That the NSW Government ensure that the combination of underpasses, overpasses and exclusion fencing along roads is incorporated into both the retrofitting of existing infrastructure and new development in areas of known koala habitat.
- Recommendation 13** **68**
That the NSW Government urgently incorporate an underpass and overpass on Appin Road suitable for koalas and other wildlife with appropriate wildlife corridors at both entrance points.
- Recommendation 14** **68**
That the Roads and Maritimes Services allocate appropriate and sufficient funds for the ongoing maintenance and management of exclusion fencing along roads.
- Recommendation 15** **81**
That the NSW Government urgently investigate the utilisation of core koala habitat on private land and in State forests to replenish koala habitat lost in the bushfires.
- Recommendation 16** **81**
That the NSW Government urgently prioritise the restoration and replenishment of koala habitat lost to bushfire in national parks and publicly release a plan to do this.
- Recommendation 17** **87**
That the NSW Government ensure that in planning for future bushfires, conservation values and the protection of koala habitat is given greater priority.
- Recommendation 18** **87**
That the NSW Government support the establishment of a well-resourced network of wildlife hospitals in key areas of the state, including the North Coast, North-West, Blue Mountains, South West Sydney, Southern Tablelands and South Coast, staffed by suitably qualified personnel and veterinarians, including funding where appropriate.
- Recommendation 19** **91**
That the NSW Rural Fire Service, in conjunction with key wildlife organisations, develop statewide standards for access to fire grounds by wildlife rescuers before the 2020-2021 bushfire season and support wildlife rescue groups in completing fire awareness training.
- Recommendation 20** **91**
That the NSW Government allocate funding to explore the use of drones and koala detection dogs for the rescue of wildlife from fire grounds, to allow both approaches to be employed in the next fire season
- Recommendation 21** **99**
That the NSW Government work collaboratively with Indigenous fire practitioners to document the benefits of cultural burning practices.

- Recommendation 22** 99
That the NSW Government allocate additional funds to the Hotspots Fire Project and the Firesticks Alliance to address resourcing challenges and to allow these projects to undertake more programs with communities across NSW.
- Recommendation 23** 111
That the NSW Government ensure that koala habitat selected for conservation on public land is of high quality and needs protection.
- Recommendation 24** 113
That the NSW Government increase funding to local councils to support the implementation of local koala conservation initiatives.
- Recommendation 25** 135
That the NSW Government urgently approve comprehensive koala plans of management previously submitted to the Department of Planning, Industry and Environment in a timely and transparent manner.
- Recommendation 26** 138
That the NSW Government, in finalising the *State Environmental Planning Policy (Koala Habitat Protection) 2019* framework, strengthen the ability of consent authorities to protect koala habitat.
- Recommendation 27** 138
That all councils with koala populations be required to develop comprehensive koala plans of management in a timely manner.
- Recommendation 28** 138
That the NSW Government publish the final *State Environmental Planning Policy (Koala Habitat Protection) Guideline* as soon as practicable.
- Recommendation 29** 139
That the NSW Government increase resources to local councils to support them in conducting mapping required for comprehensive koala plans of management.
- Recommendation 30** 145
That the NSW Government, in the Private Native Forestry Review:
- require consideration to be given to whether private native forestry plans are consistent with the objects of the Private Native Forestry Codes of Practice before such plans are approved; and
 - require that the objects of Private Native Forestry Codes of Practice be amended to refer to the protection of biodiversity, water quality and soil quality.
- Recommendation 31** 145
That the NSW Government assess the interaction between legacy Private Native Forestry plans and koala plans of management to ensure core koala habitat is protected.
- Recommendation 32** 146
That the NSW Government provide additional funding to the NSW Environment Protection Authority to expand its compliance capabilities in the area of private native forestry.

- Recommendation 33** **155**
That the NSW Government amend the *Local Land Services Act 2013* to reinstate legal thresholds so that its application improves or maintains environmental outcomes and protects native vegetation of high conservation value.
- Recommendation 34** **156**
That the NSW Government review the impact on koala habitat of the application of regulated land and self-assessment frameworks under the *Local Land Services Act 2013*.
- Recommendation 35** **156**
That the NSW Government adopt all of the recommendations made by the Natural Resources Commission in its 2019 Report on Land Management.
- Recommendation 36** **170**
That the NSW Government investigate the cost of purchasing the 18,565 koala species credits currently available in the biodiversity credit market, and facilitate their purchase and retirement from the market over the next two years.
- Recommendation 37** **171**
That the NSW Government review the *Biodiversity Conservation Act 2016* in relation to the Biodiversity Offsets Scheme with particular regard to:
- amending its objectives to ensure all offsets meet the standard of 'no net loss or better'
 - prohibiting the ability to offset high quality koala habitat
 - ensuring all offsets are 'like for like'
 - imposing location restrictions on koala offsets
 - removing the ability to make payments in lieu of offsets
 - removing the ability of mining companies to delay offsets until project completion.
- Recommendation 38** **178**
That the NSW Government ensure the Biodiversity Conservation Trust is adequately resourced to allow it to meet demand for its services within the area of private land conservation.
- Recommendation 39** **178**
That the NSW Government increase incentives available to private landholders under the Conservation Partners Program.
- Recommendation 40** **179**
That the NSW Government work with willing landholders to identify koala habitat that is of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* in order to facilitate more koala habitat on private land being protected.
- Recommendation 41** **191**
That the NSW Government investigate the establishment of the Great Koala National Park.
- Recommendation 42** **196**
That the NSW Government ensure that the NSW Koala Strategy: Bushfire Recovery Plan contains as its key focus, the protection of koala habitat.

Conduct of inquiry

The terms of reference for the inquiry were self-referred by the committee on 20 June 2019.

The committee received 322 submissions and four supplementary submissions.

The committee also received 5,752 responses to seven pro formas.

The committee held nine public hearings: four at Parliament House in Sydney, one at Ballina RSL in Ballina, one at Campbelltown Arts Centre in Campbelltown, one at Smithurst Theatre in Gunnedah, one at Glasshouse in Port Macquarie and one at C.Ex Coffs in Coffs Harbour.

The committee also conducted several site visits. On 25 October 2019 the committee visited Mount Gilead and examined Beulah Homestead, Woodhouse Creek and various sites on the proposed Figtree Hill development location. On 3 February 2020 the committee visited the Port Macquarie Koala Hospital, Port Macquarie where the committee observed a procedure involving an injured koala and was briefed on the work of the hospital. On 4 February 2020 the committee visited the headquarters of the Great Koala National Park's Steering Committee, Urunga and the proposed entrance to the Great Koala National Park at Mailmans Track Road, Repton.

Inquiry related documents are available on the committee's website, including submissions, hearing transcripts, tabled documents and answers to questions on notice.

Chapter 1 **The status of koala populations in New South Wales**

This inquiry began in June 2019 and the evidence received in submissions and initial hearings painted a stark and depressing snapshot of koala populations in New South Wales. The committee was warned of the inevitable decline of koala numbers and trends if the status quo was maintained. Then the unprecedented and intense bushfires of 2019-2020 happened, and left behind a trail of destruction affecting so many people, homes and wildlife. The committee recognises the immense loss experienced and heartbreak felt by the community, their resilience and perseverance in difficult times, along with the devastating impact on our forests and wildlife.

The bushfires produced distressing images of burnt koalas with singed fur and in pain, sitting amongst decimated habitat. The koala united so many in the community, prompting thousands of individuals around the world to donate an extraordinary amount. The committee felt it essential that the direction and scope of this inquiry focus on protecting the remaining koalas in New South Wales, now more at risk than ever, following the devastating fires.

Throughout this inquiry, it was evident to the committee that there is much good intention within the NSW Government to protect the koala. It is the animal that has had the largest amount of government funding directed towards it. However to its detriment, koalas like many of the same things that humans do, such as fertile soils, moderate temperatures and forests.

This chapter begins by reviewing the evidence on State koala numbers before and after the bushfires. It finds that many koala populations were already vulnerable before the summer and reveals that the majority of populations have been experiencing decline. Due to the rapid sequence of events overlapping with this inquiry's timeline, there are significant gaps in the evidence, specifically in relation to more precise figures or statistics that reveal the impacts of the recent bushfires on koala populations and habitat. This chapter includes the evidence the committee did receive, along with the results of some surveys published since the last hearing in March, while acknowledging that it is not a complete picture of the devastation that happened in many places.

The chapter then continues to explore some of the reasons why koala data has been difficult to obtain and maintain, including differences in opinions and methods used. The issue of mapping habitat on private land is also examined.

Koala numbers in New South Wales

- 1.1 The first part of this section relates to koala data available before the bushfires in 2019-2020. The second half will review available information about local koala populations that were affected by the bushfires.
- 1.2 It is important to acknowledge that there are differing views on how many koalas there are across New South Wales. The Minister for Energy and Environment, the Hon Matt Kean MP, noted that because estimates vary, it was 'very hard to quantify the number of koalas'.³ What is

³ Evidence, Hon Matt Kean MP, Minister for Energy and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 19.

clear is that koalas are not uniformly spread across the State, but made up of many individual populations that vary in population size and health.

- 1.3** In its submission to the inquiry, the NSW Government cited research from 2012 that estimated there were approximately 36,000 koalas in New South Wales.⁴ The Chief Scientist and Engineer's 2016 report also cites this research, which estimated a 26 per cent decline in numbers over the past three koala generations (15-21 years) and over the next three generations.⁵
- 1.4** In contrast, multiple other stakeholders suggested that the total number of koalas in New South Wales could be much lower.⁶
- 1.5** Dr Oisin Sweeney, Senior Ecologist at the National Parks Association of NSW (NPA NSW), considered the number to be approximately 15,000 to 20,000 koalas.⁷ Stand Up for Nature Alliance (comprised of key conservation groups such as NPA NSW, the Nature Conservation Council of NSW and WWF Australia), argued that the rate of decline of koala populations from 1990 was between 20.4 and 52.3 per cent.⁸
- 1.6** There were some stakeholders who were reluctant to provide estimates of koala populations at all. Dr Mathew Crowther, Associate Professor of the School of Life and Environmental Sciences, University of Sydney, explained that koala populations are difficult to estimate:

Numbers are very difficult. Again, they range from people who have done very good, localised surveys to people who just make it up. The problem is, I would never want to give an estimate in New South Wales. In most of our research as ecologists, we look at changes, rather than absolutes because it is much easier to take a survey, to take a sample, than to count every individual in the population.

... Again, I would not want to give one for New South Wales because we do not know. Many populations are very low density and very hard to estimate. Many of the methods rely on having so many koalas to count for some accuracy of the estimation.⁹

- 1.7** Dr Crowther continued that another reason why it was difficult to estimate koala numbers was because one could not predict what changes there could be in the future. He advocated being precautionary and commented:

⁴ Submission 259, NSW Government, p 1.

⁵ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, December 2016, p iv.

⁶ Submission 70, Jane Goodall Institute Australia, p 2; Submission 75, Tweed Landcare, p 1; Submission 196, Team Koala, p 1; Submission 251, Port Stephens Koalas and Wildlife Preservation Society, p 6.

⁷ Evidence, Dr Oisin Sweeney, Senior Ecologist, National Parks Association of NSW, 16 August 2019, p 35.

⁸ Submission 155, Stand Up for Nature Alliance, p 3.

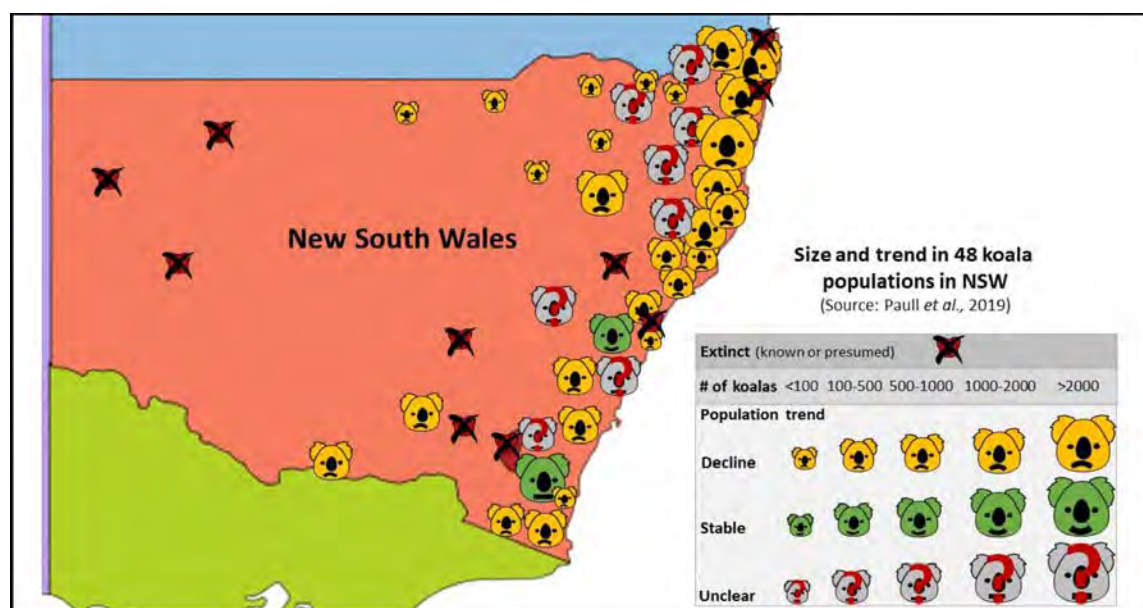
⁹ Evidence, Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, University of Sydney, 16 August 2019, pp 31-32.

There are knowns. The problem is, without knowing these things into the future – not knowing changes that are occurring – all of our estimations, including various climate change estimations, we have to reassess them all the time. There are freak weather events because of these changes.¹⁰

Koala population trends

- 1.8 The Stand Up for Nature Alliance's submission noted that currently there are 37 koala metapopulations in New South Wales. Before the recent bushfires, 25 populations had been in decline, two apparently stable and 11 others showed a presence in recent surveys but had insufficient baseline data to determine trends.¹¹ Stand Up for Nature Alliance also provided a map showing the location, approximate abundance and trend of 48 koala populations in New South Wales (including those that are known or presumed to be extinct), as shown in Figure 1.

Figure 1 Map showing the location, approximate abundance and trend of 48 koala meta- and local populations in New South Wales



Source: Paull, D., Pugh, D., Sweeney, O., Taylor, M., Woosnam, O. and Hawes, W. 2019. Koala habitat conservation plan. An action plan for legislative change and the identification of priority koala habitat necessary to protect and enhance koala habitat and populations in New South Wales and Queensland. Report prepared for WWF-Australia and partner conservation organisations, cited in Submission 155, Stand Up for Nature Alliance, p 4.

- 1.9 Dr Stephen Phillips, Managing Director and Principal Research Scientist of Biolink and author of several koala plans of management, stated that he too was 'always cautious about the numbers game ... because there is always a bit of uncertainty with it'.¹² Dr Phillips argued that the number of koalas itself does not matter and it is more important to examine the trends. In evidence to the committee before the bushfires, he described how his research measures change and how it

¹⁰ Evidence, Dr Crowther, 16 August 2019, p 32.

¹¹ Submission 155, Stand Up for Nature Alliance, p 4.

¹² Evidence, Dr Stephen Phillips, Managing Director and Principal Research Scientist, Biolink, 18 October 2019, p 3.

revealed a rapid and alarming decline of koala abundance and occurrence across New South Wales:

We now have methods and particular techniques for looking at changes in distribution and indeed abundance. When we look at that on a statewide basis in New South Wales or we look at it from a national perspective and we look at the robust size of that data the trend is down. What we tend to measure change in is two parameters. One is called the extent of occurrence which is a broad range parameter connecting the outermost dots of distribution. We already know that the extent of occurrence of koalas in New South Wales has contracted by at least 30 per cent, maybe more.

The next range metric is called the area of occupancy. That is how much of the area within that polygon is being utilised. That is the more alarming metric because what data is telling us is that number is rapidly approaching a 50 per cent to 60 per cent reduction as opposed to the 30 per cent reduction by contraction in range. That measure, 50 per cent to 60 per cent, puts this animal as imminently in danger. Its decline is so fast and happening so quickly now that it does not matter whether you have 5,000, 10,000 or 50,000 the declines are happening that quickly that the rate of change warrants recognition of this animal as endangered at a State level already.¹³

- 1.10** Dr Phillips argued that the trends were very clear and that it was going to become 'a very dangerous situation' for koalas in the next 10 to 15 years.¹⁴
- 1.11** Multiple stakeholders also expressed concern at the rapid rate of population decline and what this meant for the future of New South Wales koalas. Dr Sweeney from NPA NSW cautioned that the trajectory of koala populations was 'undoubtedly one towards extinction'.¹⁵ Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager of WWF Australia, stated that the organisation had used 'the best state-wide authoritative published datasets to project that koalas could become extinct across most or even all of New South Wales by as early as 2050'.¹⁶
- 1.12** The committee was told that some local koala populations have already become extinct, such as the Pilliga koalas. Dr Phillips described that they had once been a thriving koala colony living on public land but experienced rapid decline in numbers due to dry conditions, deteriorating quality of the foliage and lack of water. In 2014, research showed that population had decreased by 80 per cent. By 2019, no koalas could be found¹⁷ and it has been described as a 'completely unviable population'.¹⁸
- 1.13** In contrast to much of the above evidence, the committee heard one counterargument from Mr Vic Jurskis, an ecological historian and a fellow of the Institute of Foresters of Australia, who opposed the idea that koala populations were in decline. Mr Jurskis argued that koala

¹³ Evidence, Dr Phillips, 18 October 2019, p 3.

¹⁴ Evidence, Dr Phillips, 18 October 2019, pp 3-4.

¹⁵ Evidence, Dr Sweeney, 16 August 2019, p 35.

¹⁶ Evidence, Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, WWF Australia, 16 August 2019, p 36.

¹⁷ Evidence, Dr Phillips, 18 October 2019, pp 2-3.

¹⁸ Evidence, Mr David Paull, local koala expert, 13 December 2019, p 17.

populations were 'erupting'. His evidence was that grazing, burning and logging keeps forests healthy and thus, increases koala populations.¹⁹

- 1.14** The NSW Government's submission notes that since May 2018, koala surveys have been completed as part of the NSW Koala Strategy in the following areas and the data will be made available on BioNet - Far North-east Hinterland, Moree Plains, Richmond Valley, Clarence Valley, Warrumbungles and Pilliga, Port Macquarie-Hastings, Dungog Shire, Myall Coast, Bathurst, Blue Mountains, Bungonia, Cooma and Jindabyne. Other recent surveys have been undertaken at Bongil Bongil National Park, Southern Highlands, Campbelltown and the South Coast.²⁰

New England

- 1.15** Mr David Paull, an experienced ecologist and local koala expert, suggested to the committee that as of June 2019 there could be a maximum of 2,000 koalas in the combined Culgoa, Moree and Gunnedah areas. Mr Paull told the committee:

I was unfortunately witness to the decline of the Pilliga population, once one of the largest populations in the State. Numbers vary about how big that was and now it is probably, I would say, a completely unviable population. Populations out here are not only highly exposed to land clearing and habitat change but also to climate change and the lax restrictions in terms of vegetation management on private lands.²¹

- 1.16** Mr Philip Spark, a wildlife ecologist, advised that successive extreme events in the past had reduced the Gunnedah population by 50 per cent and the western population has become locally extinct.²² Mr Spark also expressed serious concern for the future of local koalas in the face of increasing temperatures and climate change. He said:

With the trees dying and the streams drying there is a recipe for disaster. Koalas are really on the brink of not surviving. ... Koalas and other exposed wildlife are on the brink. A crisis can happen with very little warning. We have seen how the cataclysmic events of hot and dry weather and fire have wiped out many koala populations in the last two months.²³

- 1.17** Mr John Lemon who is a local koala researcher, suggested higher numbers of decline. He estimated that the Gunnedah population had declined by 70 to 75 per cent in the last decade, based on his and other people's research, coupled with anecdotes from local farmers. Mr Lemon attributed the decline to a combination of heatwaves, drought and disease, saying that the Pilliga population may have moved towards Gunnedah:

In the 1980s the population increased and probably peaked in the early 2000s. In 2009 it started to crash, with people seeing more koalas on the slopes around Moonbi and places like that. I have done some surveys there and we have talked to landholders. The tablelands could be a potential refuge area, running down the Great Dividing Range.

¹⁹ Evidence, Mr Vic Jurskis, ecological historian, 9 December 2019, p 9.

²⁰ Answers to questions on notice, Department of Planning, Industry and Environment, 16 September 2019, p 1.

²¹ Evidence, Mr Paull, 13 December 2019, p 17.

²² Evidence, Mr Philip Spark, wildlife ecologist, 13 December 2019, p 16.

²³ Evidence, Mr Spark, 13 December 2019, p 16.

But what is happening up there now is really concerning, because that is potential refuge. We have only had a third of our annual rainfall, less than 300 millimetres. Last year was less than two-thirds of our annual rainfall, and there is no rain in sight until May, according to long-term Bureau of Meteorology predictions.

We have to think strategically. We have to really look into the future. Ten years ago I used to say we should have been doing this for 10 years already. We are at least a quarter of a century behind where we should be.²⁴

- 1.18** Ms Cheyne Flanagan, Clinical Director of Port Macquarie Koala Hospital confirmed that she had also heard anecdotal reports that Gunnedah was reporting a further drop in their population and that drought-affected koalas were still coming into care from Moree right down through to the Northern Tablelands of New South Wales.²⁵

Port Stephens

- 1.19** In its submission, the Port Stephens Koala and Wildlife Preservation Society described the 'numerous healthy hubs of koalas' in the area in the past, yet over the thirty years that the organisation has been operating that they have seen a 'dramatic decline in koala rescues, and scientists have recently estimated the koala population has declined from 800 to less than 100 to 200 today'.²⁶ The organisation stressed that these figures are from the NSW Scientific Committee's Preliminary Determination into the local koala population at Port Stephens.

South Western Sydney

- 1.20** Many submissions to the inquiry highlighted the importance of the koala population in South Western Sydney as it is one of the few in the State that is growing and chlamydia-free.²⁷ Evidence to the inquiry indicates that there are at least 500²⁸ and may be up to 1,000 koalas in the South Western Sydney region.²⁹
- 1.21** Dr Steve Phillips, Biolink, estimated that there were approximately 300 to 400 koalas in the Campbelltown area, with a similar number around Wollondilly and Picton. He cautioned that the size of the population was not large enough to give it long-term resilience and that it still remained very vulnerable. However, he also noted that the populations were progressively expanding their ranges and were appearing in pockets where they had not been before.³⁰
- 1.22** The committee did not receive evidence relating to South Western Sydney koalas following the bushfires. This particular population is vulnerable to other threats, such as urban development, and this is discussed in further detail in Chapter 2.

²⁴ Evidence, Mr John Lemon, local koala researcher, 13 December 2019, p 23.

²⁵ Evidence, Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital, 3 February 2020, p 2.

²⁶ Submission 251, Port Stephens Koala and Wildlife Preservation Society, p 3.

²⁷ Submission 28, Name suppressed, p 1; Submission 35, Mrs Eira Battaglia, p 1; Submission 93, Mr Barry Durman, p 1; Submission 97, Mrs Patricia Durman, p 2; Submission 111, Name suppressed, p 1.

²⁸ Submission 150, Total Environment Centre, p 2.

²⁹ Submission 126, National Parks Association of NSW – Macarthur Branch, p 1.

³⁰ Evidence, Dr Phillips, 25 October 2019, p 12.

Local populations impacted by the 2019-2020 bushfires

- 1.23** The bushfires that devastated much of the State in the summer of 2019-2020 were described by Mr Atticus Fleming, Deputy Secretary of the National Parks and Wildlife Service, as 'unprecedented, not just in terms of scale, but in terms of fire behaviour and the continuity and ongoing nature of the season'.³¹ The Minister of Energy and Environment also described the 'absolutely devastating' impacts on wildlife habitat:

We have lost huge swathes of our natural environment that has had a huge impact on our native animals, on our flora and fauna. Not only have these bushfires impacted people and property but they have had a devastating effect on our environments.³²

- 1.24** Following the bushfires, Biolink ecological consultants prepared a report for the International Fund for Animal Welfare (IFAW) to objectively quantify the impacts of recent fire events on the State's koala populations, in the context of broader population trends in New South Wales. In its report, it found that 28.88 per cent of the entire land surface had burnt in seven combined bioregions – NSW North Coast and South East Queensland, Sydney Basin, New England Tablelands, South East Highlands, South East Corner and Brigalow Belt.³³

- 1.25** Biolink had collected data of the impacts of the fire up until 10 December 2019. In its report, it paints a grim picture of estimated losses to the State's koala populations with nearly 4,000 koalas killed:

Applying a deductive approach qualified by uncertainty regarding the extent of variation in carrying capacity across individual ARKS, we estimate the 2019 fire events as removing a further 9.46% of the remaining NSW koala population, accounting for previous losses (this equates to 8.70% of the initial population estimate). Communicating this latter outcome in terms of koala numbers, if the estimated numbers of koalas occurring in NSW are correct, it implies that nearly 4,000 koalas across NSW were killed by fires between September and mid-December, 2019.³⁴

- 1.26** Biolink suggested that their calculations were 'conservative' as they had not taken into account the impacts of fires that had occurred after December 2019 and that some areas had had deficient or unreliable data even before the fires:

We consider that our calculations on the matter of population change and the impacts of the initial half of the 2019/20 fire season to be conservative and should thus be considered as a minimum effect, from which a maximum bound can be calculated. To inform this upper limit of uncertainty, we utilized knowledge that several mapped

³¹ Evidence, Mr Atticus Fleming, Deputy Secretary, National Parks and Wildlife Service, 9 December 2019, p 36.

³² Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 10.

³³ Lane, A., Wallis K., and Phillips, S., *A review of the conservation status of New South Wales populations of the Koala (Phascolarctos cinereus) leading up to and including part of the 2019/20 fire event* (2020), pp 3-4.

³⁴ Lane, A., Wallis K., and Phillips, S., *A review of the conservation status of New South Wales populations of the Koala (Phascolarctos cinereus) leading up to and including part of the 2019/20 fire event* (2020), p 4.

ARKS were data deficient, meaning that it was not possible to make reliable estimates of population trends in these areas.³⁵

- 1.27** In light of the above, Biolink estimated that the total rate of population decline over the past three koala generations would now be somewhere between the lower bound of 28.52 per cent and the upper bound of 65.95 per cent. However, it reiterated that the data was only reflective of the impacts of fires up until 10 December 2019 and as it was aware that some additional ARKS had been impacted by fire after this date, 'the lower bound will be greater than what we have been able to estimate'.³⁶
- 1.28** During this inquiry, the NSW Government was still determining the specific impacts that the bushfires had had on koala populations. The Minister for Energy and Environment advised the committee that in order to ascertain the full extent of the damage, the department had convened an 'expert panel that exists to support the Koala Strategy and are working with them to do a contemporary estimate of numbers and mortalities using a method that is robust and can be peer reviewed'.³⁷ When questioned on the validity of their methods, the Minister confirmed that the panel would be made up of 'independent scientists and make decisions based on the independent science'.³⁸ The NSW Koala Strategy lists the four members on the expert advisory panel, including the Acting NSW Chief Scientist and Engineer, academics from the University of Sydney and University of Queensland, and the Director of the Australian Museum Research Institute.³⁹ The NSW Government's response to the summer bushfires is detailed in Chapter 5 of this report.
- 1.29** Whilst acknowledging that this work of the expert panel is underway, the committee did receive some evidence from local communities about the status of local koala populations and the impacts of the 2019-2020 bushfires on them, and this is separated by regions below. It is important to highlight and emphasise that the following section is not an exhaustive list of local koala populations nor provides a full picture of the devastation wrought by the bushfires.

North Coast

- 1.30** Mr Dailan Pugh, President of the North East Forest Alliance, told the committee that a 2012 assessment estimated that the North Coast koala population was approximately 8,400, and that the rate of decline over the past 20 years was 50 per cent.⁴⁰ Mr Pugh updated the committee in December 2019 that 24 per cent of the North Coast population had been lost in the fires, which was a minimum of 2,000 koalas losing their habitat and 'probably their lives'.⁴¹

³⁵ Lane, A., Wallis K., and Phillips, S., *A review of the conservation status of New South Wales populations of the Koala (Phascolarctos cinereus) leading up to and including part of the 2019/20 fire event* (2020), p 4.

³⁶ Lane, A., Wallis K., and Phillips, S., *A review of the conservation status of New South Wales populations of the Koala (Phascolarctos cinereus) leading up to and including part of the 2019/20 fire event* (2020), p 4.

³⁷ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 19.

³⁸ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 20.

³⁹ NSW Government, *NSW Koala Strategy*, 6 May 2018, NSW Department of Planning, Industry and Environment, <<https://www.environment.nsw.gov.au/research-and-publications/publications-search/nsw-koala-strategy>>, p 3.

⁴⁰ Evidence, Mr Dailan Pugh, President, North East Forest Alliance, 9 December 2019, p 48.

⁴¹ Evidence, Mr Pugh, 9 December 2019, p 48.

1.31 Dr Blanch told the committee that WWF Australia had commissioned Dr Stephen Phillips and Biolink ecologists to survey three sites in northern New South Wales, for which it had pre-existing data. They found that in two of the three sites, there was a preliminary 80 to 85 per cent reduction in koalas. Dr Blanch stated that it was unclear how many koalas died or how many had moved into gullies or cooler parts of unburnt forest.⁴²

1.32 Mr Mark Graham, Hotspots Ecologist at the Nature Conservation Council, explained that whilst koalas will try to escape fire with any pathways presented to them, this sadly won't always be an option, especially when the fire is particularly quick and intense. He did not hold much hope for survivors in the North Coast:

... we can say with great certainty that the fires have burnt so hot and so fast that there has been significant mortality of the animals in the trees. But there are such big area now that is still on fire and still burning that we will probably never find the bodies.⁴³

Port Macquarie

1.33 Ms Cheyne Flanagan, Clinical Director of the Port Macquarie Koala Hospital, indicated that as many as 350 koalas had been lost and of the potential to lose more due to the ongoing drought:

Currently the amount of koalas lost over the last five weeks due to multiple fires and the strong likelihood of further losses over this coming summer to more fires, to dehydration from the ongoing drought and the lack of available unburnt foliage—this decline could well sit at anywhere up to 85 per cent.⁴⁴

1.34 Ms Flanagan noted that in comparison to previous fires where 30 koalas had been found alive, 30 dead and 30 more were left in the burnt forest, after the recent fires only half a dozen koalas had been found, despite the amount of ground that had been covered in local rescue efforts. She described it as a previously 'well-populated' area and emphasised the sense of loss, 'For the amount of country that they have been on and how many animals we knew were there, that is nothing. Most of them were just incinerated'.⁴⁵

Blue Mountains

1.35 Dr Kellie Leigh, Executive Director of Science for Wildlife, told the committee that before the bushfires, there were large growing populations of koalas being found in historical habitats nestled in the Blue Mountains. These populations were considered important, as they were found to have the highest genetic diversity in a nationwide study and one particular population in Kanangra was chlamydia-free.⁴⁶

⁴² Evidence, Dr Blanch, 18 February 2020, p 6.

⁴³ Evidence, Mr Mark Graham, Hotspots Ecologist, Nature Conservation Council, 9 December 2019, p 5.

⁴⁴ Evidence, Ms Flanagan, 9 December 2019, pp 30 and 35.

⁴⁵ Evidence, Ms Flanagan, 9 December 2019, p 31.

⁴⁶ Evidence, Dr Kellie Leigh, Executive Director, Science for Wildlife, 9 December 2019, p 14. See also, Evidence, Dr Leigh, 18 February 2020, p 33.

- 1.36** Dr Leigh informed the committee that the Blue Mountains populations were growing because their habitat (protected in State forests) had remained intact, although it had been considered of poor quality:

We are certainly finding them existing in reasonable numbers in what we thought was really poor habitat for them. These populations that are in these larger, protected areas, which are traditionally not thought to be rich quality soils for koalas, have been intact. They have higher genetic diversity. [In comparison,] the populations that are on those good soils are also under threat from development and other pressures.⁴⁷

- 1.37** As the Blue Mountains koalas were primarily located in protected areas, the committee was told in December 2019 that the impacts from recent fires were minimal at the time. However Dr Leigh flagged that the burning parts of national parks and fragmented habitat were a cause of concern. She noted that population viability was unknown in the Blue Mountains as more research needed to be done but affirmed that the fires were going to have a 'devastating impact on populations'.⁴⁸

- 1.38** Dr Leigh appeared again before the committee in February 2020 and confirmed that the escalating bushfire situation had had 'huge impacts' across those populations. She told the committee that rescue efforts and access to affected areas were 'fairly limited', and that the full impacts were not yet known:

We do not know how many survivors are out there, basically. We are hoping that there are some refuges. We had one tagged animal that we had to leave out there. We removed some and took them to Taronga Zoo. We had one study animal that we left.⁴⁹

Southern New South Wales

- 1.39** There was a low-density koala population that existed in the Southern Highlands and Snowy-Monaro region before the bushfires. Dr Kara Youngentob, Research Fellow at the Australian National University (ANU)'s Research School of Biology, cited a report that there may have been only 0.005 koalas per hectare and attributed this small number to the low nutritional quality of that landscape, compared to other koala habitats.⁵⁰ This particular population is unique as the koalas eat bark. Dr Youngentob explained that they eat bark for salt, which is not in the leaves that they eat.⁵¹

- 1.40** In February 2020, Dr Youngentob told the committee that the ANU had 25 koalas in its care, some of which had been rescued immediately before the fire fronts. She explained that these rescued koalas were already emaciated and malnourished when they came into care, due to the ongoing effects of the drought and high temperatures.⁵² Ms Flanagan remarked that the moisture in the leaves was below the ability to sustain the koalas' daily needs.⁵³

⁴⁷ Evidence, Dr Leigh, 9 December 2019, p 18.

⁴⁸ Evidence, Dr Leigh, 9 December 2019, p 12.

⁴⁹ Evidence, Dr Leigh, 18 February 2020, p 33.

⁵⁰ Evidence, Dr Kara Youngentob, Research Fellow, Research School of Biology, Australian National University, 18 February 2020, p 12.

⁵¹ Evidence, Dr Youngentob, 18 February 2020, p 12.

⁵² Evidence, Dr Youngentob, 18 February 2020, pp 11-12.

⁵³ Evidence, Ms Flanagan, 3 February 2020, p 4.

- 1.41 Mr James Fitzgerald is the founder of Two Thumbs Wildlife Trust, which is made up of a trio of koala sanctuaries and a rehabilitation centre two hours south of Canberra. Mr Fitzgerald tragically lost not just his home, but also all of his animal enclosures in the January fires. The koalas that he had rescued from the early fires were also lost.⁵⁴ He told the committee that following the fires, he was finding koalas with very low body scores, meaning that they are extremely thin and some had to be euthanised. He acknowledged that surprisingly there were some 'lucky survivors', but was concerned about them as 'their luck is running out because there is just no food across vast areas'.⁵⁵

Committee comment

- 1.42 The committee was extremely saddened to hear of the impact of the fires on Mr Fitzgerald's Two Thumbs Wildlife Trust and the loss of property, precious koalas and the culmination of his hard work over decades. It was heartened to read of recent media reports about the rebuilding of six new purpose built koala enclosures at the Two Thumbs Wildlife Trust. The reports note that there have been 'numerous surviving koalas located in the vicinity'.⁵⁶
- 1.43 The committee acknowledges the inherent difficulty of tracking koala numbers and trends across the state. The committee is extremely concerned that of the few populations that had been growing before the bushfires, namely in the Blue Mountains and South Western Sydney, the Blue Mountains population appear to have been significantly impacted by fires.
- 1.44 The committee is concerned that, even before the fires, the NSW Government relied upon a report from 2012 to ascertain the total New South Wales koala population of approximately 36,000, despite the same report stating an average 26 per cent decline in koalas over a 15 to 21 year period. Further, given evidence from many expert stakeholders regarding drastic declines in several key local populations since 2012, this figure is now outdated and unreliable.
- 1.45 Further, the committee heard convincing evidence that the impact of the 2019-2020 bushfires on many koala populations was devastating, causing potential losses of up to 90 per cent of some local populations in some parts of the State, such as Port Macquarie.
- 1.46 The committee agrees with evidence that koalas were tracking to become extinct by 2050 before the bushfires. The committee expresses its sadness and concern for the once-thriving Pilliga population, which has become extinct over the last decade.
- 1.47 Given the scale of loss as a result of the fires to many significant local populations, the committee believes the koala will become extinct in New South Wales well before 2050 and that urgent Government intervention is required to protect their habitat and address all other threats to their ongoing survival.

⁵⁴ Go Fund Me, *Koala Habitat and Bushfire Research Fundraiser* (24 January 2020), <<https://au.gofundme.com/f/koala-habitat-and-bushfire-research-fundraiser>>.

⁵⁵ Evidence, Mr James Fitzgerald, Founder, Two Thumbs Wildlife Trust, 18 February 2020, p 34.

⁵⁶ Article, 'Koalas are back at Two Thumbs Wildlife Trust', *Monaro Post*, 27 May 2020, p 6.

Finding 1

That following the 2019-2020 bushfires and the general trend of population decline, the current estimated number of 36,000 koalas in New South Wales is outdated and unreliable.

Finding 2

That, given the scale of loss to koala populations across New South Wales as a result of the 2019-2020 bushfires and without urgent government intervention to protect habitat and address all other threats, the koala will become extinct in New South Wales before 2050.

Issues related to koala data and mapping

Inconsistent koala mapping data

- 1.48** There are a variety of research methodologies available to measure and estimate koala populations, each with their strengths and weaknesses. The NSW Government has adopted the methodology devised by Dr Brad Law, Principal Research Scientist, Forest Science Unit, Department of Primary Industries, called Song Meter research, which determines koala occupancy rates based on recordings of male koala bellows that can be picked up within a 300 metre radius. Dr Law described it as:

It is a new method that we have been using to survey koalas, and it basically is new recorders that are available to be deployed in the field that can record for a number of nights. We typically record at a site for seven nights. They can pick up koalas from about a 300-metre radius around that Song Meter. It really capitalises on new methods of recognising calls of different species. We collaborate with the Queensland University of Technology [QUT] to scan all our recordings. In the three-year study that we did, we had over 14,000 hours of recordings. There is an algorithm that QUT have to look for male koala bellows, and so we are able to extract that data and then look at occupancy rates on those sites.⁵⁷

- 1.49** When asked if the research had been supported by koala scat counts, Dr Law responded that they had tried counting in the first year, but that the results were fairly unproductive. He summarised, 'We recorded few trees with scat. We were failing to detect koalas commonly by using the scat method at sites that we were detecting them with Song Meters'.⁵⁸

- 1.50** The Song Meter methodology has attracted criticism. For example, Dr Stephen Phillips of Biolink was particularly critical of the Song Meter method and argued that it did not accurately determine occupancy. He explained that koalas have alpha males, with a different and louder call to the rest of the males in the population, and that the Song Meter approach fails to recognise this:

⁵⁷ Evidence, Dr Brad Law, Principal Research Scientist, Forest Science Unit, Department of Primary Industries, 16 August 2019, p 16.

⁵⁸ Evidence, Dr Law, 16 August 2019, p 17.

Dr Law's work does not partition these calls into deeply resonant male calls, which come from the breeding males, and those of adult males and the younger males who are moving across the landscape. It presents a false picture of occupancy. It is about male koalas only. It is about habitat use, not occupancy. That is why it differs so much. To see that information falsely represented I find disturbing in the koala management context.⁵⁹

- 1.51** Other stakeholders noted some of the difficulties associated with koala research, including how difficult they were to physically spot. Dr Dan Lunney, an independent koala expert, remarked:

Koalas are quite hard to find. The populations are low density. That is the difficulty of koalas: they are small, grey, hard to see. When you look at them in the tree, a person who is good at seeing koalas can see them, but a person who is not good just could tell you they are not there.⁶⁰

- 1.52** Dr Rebecca Montague-Drake, a koala ecologist and President of the Koala Recovery Partnership, stated that any one method of spotting koalas was 'fraught with issues' and that the various detection methods had not yet been formally tested by scientific studies. She recommended that 'good science' first underpin the State approach and then different methods could be used at the local level. Dr Montague-Drake explained that methods should be tailored when searching for koalas in different regions. She explained that for example, in the Southern Highlands, the spotlighting method was effective because the canopies were low and open. In contrast, spotlighting in the North Coast was more difficult as their forests traditionally had large trees and closed canopies.⁶¹

- 1.53** Dr Montague-Drake was also critical of one-off surveys as they produced low rates of detection – only about 10 per cent.⁶² This was because koalas move and partition their home range, so they could occupy one place in the winter and then another place in the summer.⁶³ Dr Mathew Crowther of the University of Sydney also did not consider koala surveys as particularly conclusive. He commented:

People do koala surveys; most surveys are based on koala scats, koala droppings, which you cannot get that sort of [comprehensive] information from. We have looked at that type of data too to see how it correlates. It can correlate with densities but it is not a great correlation. You can get some ideas of whether the population is increasing or declining, but it does not tell you why.⁶⁴

- 1.54** Mr David Paull, an experienced ecologist and local koala expert, also told the committee that because repeat surveys were 'few and far between', they inhibited understanding the current status of koalas.⁶⁵

⁵⁹ Evidence, Dr Phillips, 18 October 2019, p 8.

⁶⁰ Evidence, Dr Dan Lunney, independent koala expert, 9 December 2019, p 20.

⁶¹ Evidence, Dr Rebecca Montague-Drake, Koala Ecologist and President of Koala Recovery Partnership, 3 February 2020, p 5.

⁶² Submission 74, Koala Recovery Partnership, p 9.

⁶³ Evidence, Dr Montague-Drake, 3 February 2020, p 5.

⁶⁴ Evidence, Dr Crowther, 13 December 2019, p 22.

⁶⁵ Evidence, Mr Paull, 13 December 2019, p 17.

- 1.55** Dr Stuart Blanch of WWF Australia, acknowledged the difficulty of modelling koala populations and reflected that 'there are different views amongst koala experts now how you would model or map current koala habitat'.⁶⁶
- 1.56** Dr Blanch advocated the use of newer technologies such as drones. In February 2020, WWF Australia commissioned an American drone photographer and were trialling different types of drones to locate surviving koalas in the fire grounds.⁶⁷ Dr Blanch hoped that these technologies could play a complementary role to people, dogs and other technologies when monitoring koala populations and habitat.
- 1.57** However, inquiry stakeholders suggested to the committee that koala data in New South Wales was inconsistent because the results depended on who conducted the research.

Questioning the integrity of some approaches

- 1.58** The lack of reliable and standardised data could, in part, be attributed to the absence of an established official association or network of scientists and koala experts. The result is that there is often a clash of expert opinions relating to koala populations and mapping of habitat. Dr Stephen Phillips, who is a specialist koala ecologist with more than 40 years of experience, explained that whilst informal networks of scientists and koala conservationists do exist, their opinions often clashed. He revealed that the inconsistency in opinions and methods applied was very frustrating:

I have always said ... "Show me the data".

If someone has an alternative view, I am happy to listen to it, but I want to see the framework around it and how it has been collected and how robust it is. I am becoming increasingly weary of anecdote and a lack of robustness in information.⁶⁸

- 1.59** Dr Phillips further suggested that in some circumstances, vested interests had influenced the decision-making process. He said:

And yet we have people out there making decisions about koala conservation who really are not qualified to do so. They are driven either by bureaucratic demand or employer demand. We have people out there doing assessments who do not know what they are doing.⁶⁹

⁶⁶ Evidence, Dr Blanch, 16 August 2019, p 40.

⁶⁷ Evidence, Dr Blanch, 18 February 2020, p 10.

⁶⁸ Evidence, Dr Phillips, 18 October 2019, p 9.

⁶⁹ Evidence, Dr Phillips, 18 October 2019, p 9.

- 1.60** Dr Phillips expressed his frustration that decisions could be made, not based on the data, but as a result of differing opinions:

... it is an immense source of frustration when you have huge data sets and very detailed and comprehensive ground assessments that provide all the answers they need and then someone comes along and says, "No, I don't agree with that".

... Again you find big data sets that are scientifically robust and that have been collected in an objective and unbiased way simply repudiated or rebutted by someone's idea of what the answer is.⁷⁰

- 1.61** Mr David Milledge, a wildlife ecologist with 30 years of specialist experience in threatened species, affirmed that data collection and mapping processes were not independent, which was particularly problematic in relation to development applications. He stated, "The agency that is promoting this development goes and hires consultants of its choice who it knows will give it the answers it wants. That is the real problem with this type of approach".⁷¹

- 1.62** Mr Dailan Pugh of the North East Forest Alliance, asserted that the NSW Government itself had produced two very different maps of potential koala habitat across New South Wales – one drafted by the former Office of the Environment and Heritage and used by the NSW Koala Strategy, the other drafted by Department of Primary Industries – Forestry and based on Dr Brad Law's research.⁷² Mr Pugh tabled the maps (see Appendix 5) and highlighted that the latter and less conclusive map was used by the NSW Environment Protection Authority for setting out tree retention requirements for koalas when logging.⁷³

- 1.63** Further concerns were raised that many of the BioNet records managed by the Department of Planning, Industry and Environment were not current or accurate. Developers rely on BioNet for koala data when they make development applications. Mr Ricardo Lonza, Co-founder of Help Save the Wildlife and Bushlands in Campbelltown, explained that his group logged koala sightings through BioNet, including of those that had been hurt or killed on Appin Road. He claimed that half of their groups' records were not on the BioNet database and was concerned that 'developers will look at it and think there [are no koalas] there and they can just go ahead with development'.⁷⁴

Issues with collecting koala mapping data on private land

- 1.64** There are significant challenges to mapping koalas on private land. The Environmental Defenders Office NSW (EDO NSW) told the committee that there is no publically available database to estimate how much core koala habitat is on private land in New South Wales, because there is no overarching database tracking mapped core koala habitat in general.⁷⁵ WWF

⁷⁰ Evidence, Dr Phillips, 18 October 2019, p 9.

⁷¹ Evidence, Mr David Milledge, Ecologist, 18 October 2019, p 10.

⁷² Evidence, Mr Pugh, 18 October 2019, p 17.

⁷³ Tabled document, Mr Dailan Pugh, *Comparison of recent koala modelling*, 18 October 2019, p 1.

⁷⁴ Evidence, Mr Ricardo Lonza, Co-founder, Help Save the Wildlife and Bushlands in Campbelltown, 25 October 2019, p 10.

⁷⁵ Answers to questions on notice, Environmental Defenders Office NSW, 10 September 2019, p 1.

Australia used the BioNet data maintained by the NSW Government to estimate that approximately 67 per cent of koala habitat is found on private land.⁷⁶

- 1.65** Forestry Corporation of NSW (Forestry Corp) indicated that 53 per cent of 'high suitability koala habitat' in the North Coast is found on private lands.⁷⁷
- 1.66** One of the issues with mapping koala populations on private land is that it is contingent on private landowners granting surveyors access. In this regard, some stakeholders recounted instances where surveyors were not granted access to significant sections of sample areas on private property. In addition to this, others argued that landholders had a 'massive disinterest' in finding koalas on their land, due to the fact that locating koalas could trigger restrictions on potential development, such as those found in the former *State Environmental Planning Policy No 44* (SEPP 44).⁷⁸
- 1.67** Mr John Turbill, co-author of the Coffs Harbour Koala Plan of Management and currently an employee of the NSW Government, confirmed that the rate of access granted to researchers is low. In a 2019 study of private land in the Coffs Harbour local government area, he recounted that 90 per cent of private landowners did not respond at all when a written request was sent to access their land. Two follow-ups were made by calling and doorknocking and eventually, approximately 30 to 40 per cent of landowners granted access. 60 per cent did not.⁷⁹
- 1.68** However, Mr Turbill did note that koala habitat on private land can still be identified even if access to the land to conduct surveys on it was not granted. Under these circumstances, surveys are often conducted on nearby roadways, travelling stock routes or Crown land to ascertain whether there is habitat there.⁸⁰ Ms Sally Whitelaw, Team Leader of Biodiversity, Coastal and Flooding, Local Planning at Coffs Harbour City Council, confirmed this and also did not consider the lack of access an impediment to mapping. She explained that the Council had 'very good fine-scale vegetation mapping' and that there were other ways to obtain 'a very good indication of koala presence throughout the landscape'.⁸¹
- 1.69** The complex relationship between koala mapping, Comprehensive Koala Plans of Management and the State Environmental Planning Policies is further explored in Chapter 7.

Committee comment

- 1.70** The committee recognises that there are multiple methods currently used to determine koala numbers and trends, and to map their habitat. The committee was concerned to hear that there was a lack of consensus in mapping even within the department that is in charge of koala

⁷⁶ Evidence, Dr Blanch, 16 August 2019, p 40. See also, Submission 163, National Parks Association of NSW, p 1; Submission 297, Bellingen Environment Centre, p 5.

⁷⁷ Submission 161, Forestry Corporation of NSW, p 7.

⁷⁸ Evidence, Ms Fiona Bullivant, Wilton Action Group, 25 October 2019, p 7.

⁷⁹ Evidence, Mr John Turbill, Threatened Species Officer, Department of Planning, Industry and Environment, 4 February 2020, pp 4-5.

⁸⁰ Evidence, Mr Turbill, 4 February 2020, p 9.

⁸¹ Evidence, Ms Sally Whitelaw, Team Leader of Biodiversity, Coastal and Flooding, Local Planning, Coffs Harbour City Council, 4 February 2020, p 29.

conservation. The committee considers that varying methods and approaches to data can create conflict and friction between statutory agencies and compliance.

- 1.71** The committee was also concerned to hear koala experts' criticism of the Government's current preferred method of detecting koalas using Song Meter technology
- 1.72** The committee strongly believes that to ensure the survival of the State's koalas, there needs to be a standardised approach to data collection. This data is crucial moving forward to inform koala strategies and priorities. The committee hence recommends that the NSW Government urgently engage the NSW Chief Scientist and Engineer to, in consultation with the NSW Koala Advisory Panel and Forestry Corporation of NSW, consider and determine the most appropriate method of surveying koala numbers, and that this method become the standard across all government authorities.

Recommendation 1

That the NSW Government urgently engage the NSW Chief Scientist and Engineer to, in consultation with the NSW Koala Advisory Panel and Forestry Corporation of NSW, consider and determine the most appropriate method of surveying koala numbers, and that this method become the standard across all government authorities.

Chapter 2 Threat of habitat fragmentation and loss

This chapter explores habitat fragmentation and loss as the primary threat to the survival and viability of koala populations in New South Wales. Habitat can be fragmented or lost in several ways, and this chapter will examine how it is facilitated specifically by land clearing, private native forestry, urban development, public native forestry and mining. These activities exacerbate and introduce other threats to local koala populations, such as vehicle strike, dog attacks and disease, which are explored in more detail in Chapter 4 of the report.

Habitat fragmentation and loss as the primary threat

- 2.1** The NSW Government noted that the threats to koalas in New South Wales were habitat loss and fragmentation, vehicle strike, disease, dog attack, fire, drought and heatwave. It also acknowledged that threats impacted koalas differently across the State.⁸²
- 2.2** Many stakeholders to the inquiry highlighted that amongst the multiple factors that threaten koala populations in New South Wales, fragmentation and loss of their habitat was perhaps the primary threat to their survival.
- 2.3** Mr Jack Gough, Policy and Research Coordinator of the Nature Conservation Council of NSW, told the committee of the extensive amount of clearing proposed, much of which lies across koala habitat:

Before the new native vegetation clearing codes were introduced in March [2019] the Office of Environment and Heritage [OEH] warned the Government that less than 1 per cent of identified koala habitat in New South Wales is protected from clearing under them. Since then the data shows landholders have given notice of shocking 51,000 hectares of clearing in 17 months and Local Land Services has approved a further 288,000 hectares of clearing for agriculture. Research shows this includes thousands of hectares of koala habitat — and that is just the clearing we know about. The OEH has completed valuable work to identify over 100,000 hectares of core koala habitat—called "koala hubs"—across New South Wales; however, currently only 16 per cent of this land is protected in the National Parks estate.⁸³

- 2.4** The Clarence Environment Centre's submission highlighted that there is evidence from the 1980s that habitat fragmentation and loss was the most serious threat and that other threats to koalas were derived from it:

... the main causes of these declines as habitat loss and fragmentation through urban expansion and infrastructure provision; land-clearing for agriculture; road kills, dog attack and disease. However, if you analyse these causes, they all revert back to habitat loss; less food to eat, fragmentation of habitat forcing koalas to move from one area of habitat to another on the ground, where they are easy prey for dogs, and being hit by motor vehicles. Many of the diseases that plague koalas are also believed to be stress induced following habitat loss.⁸⁴

⁸² Submission 259, NSW Government, p 1.

⁸³ Evidence, Mr Jack Gough, Policy and Research Coordinator, Nature Conservation Council of NSW, 16 August 2019, p 35.

⁸⁴ Submission 127, Clarence Environment Centre, p 1.

- 2.5** In addition, Dr Dan Lunney, an independent koala expert, agreed that habitat loss was the key threat to koalas, and that it then introduced further threats:

I think the most important single thing that has caused the loss of koalas is the loss of koala habitat and the fragmentation of what remains. The secondary effects then start to play in. As the habitat shrinks and fragments, then drought, dogs, fires, roadkill, disease and mining play an increasingly important part. I think climate change, especially drought, is a major pervasive threat.⁸⁵

- 2.6** Evidence to the inquiry indicated that the number of koalas being injured or killed is increasing. Ms Kristie Newton, Campaign Manager for Wildlife Information, Rescue and Education Service (WIRES) told the committee that WIRES held the largest database for wildlife rescue reports and that their data indicated that calls to assist koalas in New South Wales had doubled in the past decade and was indicative of loss or decreased safety of their habitat. Ms Newton said, 'In 2018, 600 reports of koalas needing assistance were reported to WIRES. Of those reports, unsuitable environment accounts for 41 per cent of koala cases, where the cause of the rescue was known'.⁸⁶

- 2.7** Her colleague, Ms Martine Moran, Koalas Coordinator, emphasised that further threats were derived from habitat loss, 'WIRES volunteers attend [to] koalas affected by many things such as disease, dog attacks and vehicle strikes, but all these factors are magnified by habitat loss'.⁸⁷

- 2.8** Inquiry participants also expressed concern that sustained loss of habitat could lead to the eventual extinction of the species. In their submission, Friends of the Koala acknowledged that whilst other threats such as disease, roadkill and attacks were major causes of koala deaths, habitat loss was their key concern for the future sustainability of populations and described it as the 'core driver of the koala's march to potential extinction'.⁸⁸

- 2.9** Dr Mathew Crowther, Associate Professor at the School of Life and Environmental Sciences, University of Sydney, gave evidence that as koala populations need to grow and expand, increasing the amount of habitat was key to their survival:

... you would want to maximise the chance of that population's survival by increasing the habitat, so increasing the carrying capacity of that population, and decreasing the threats to that population. And that is going to guarantee your highest chance of success for future survival.⁸⁹

- 2.10** Dr Crowther went on further to say, that whilst he could not predict the future, 'I would not put a high probability of a population surviving if the threats are increasing and the areas that they have to live in [are] decreasing'.⁹⁰

⁸⁵ Evidence, Dr Dan Lunney, independent koala expert, 9 December 2019, p 11.

⁸⁶ Evidence, Ms Kristie Newton, Campaign Manager, Wildlife Information, Rescue and Education Service (WIRES), 16 August 2019, p 44.

⁸⁷ Evidence, Ms Martine Moran, Koala Coordinator, Wildlife Information, Rescue and Education Service (WIRES), 13 December 2019, p 2.

⁸⁸ Submission 69, Friends of the Koala, p 1.

⁸⁹ Evidence, Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, University of Sydney, 16 August 2019, p 29.

⁹⁰ Evidence, Dr Crowther, 16 August 2019, p 29.

- 2.11** The Environmental Defenders Office NSW also noted that there was a failure to assess the cumulative impacts of habitat loss:

There are no legal mechanisms for addressing and monitoring cumulative habitat loss and impacts on koala populations as a result of competing land uses such as agriculture, industry and development. This can result in 'death by a thousand cuts' where incremental clearing under various legal frameworks can lead to significant cumulative habitat loss.⁹¹

Land clearing

- 2.12** Throughout the inquiry, the issue of land clearing, as a form of habitat fragmentation and loss, emerged as a key concern for many stakeholders. In this regard, Stand Up For Nature Alliance referred to the fact that land clearing is listed as a key threatening process for koalas under the *Biodiversity Conservation Act 2016*,⁹² whilst the National Parks Association of NSW described land clearing as a key threat to accelerated habitat loss, along with logging and urban development.⁹³

- 2.13** The primary cause of concern for many stakeholders was the effect of the 2016 land management reforms on rates of land clearing. The Land Management Framework introduced under these reforms is discussed in detail in chapter 7. Chapter 7 also contains the recommendations of the Natural Resources Commission Report on Land Management – many of which are designed to address concerns raised regarding these reforms.

- 2.14** Overwhelmingly, stakeholders contended that these reforms had led to an increase in clearing of land. Citing to a 2019 report by the NSW Audit Office, Stand Up For Nature Alliance noted:

The clearing of native vegetation on rural land is not effectively regulated and managed because the processes in place to support the regulatory framework are weak. There is no evidence-based assurance that clearing of native vegetation is being carried out in accordance with approvals. Responses to incidents of unlawful clearing are slow, with few tangible outcomes. Enforcement action is rarely taken against landholders who unlawfully clear native vegetation. There are processes in place for approving land clearing but there is limited follow-up to ensure approvals are complied with.⁹⁴

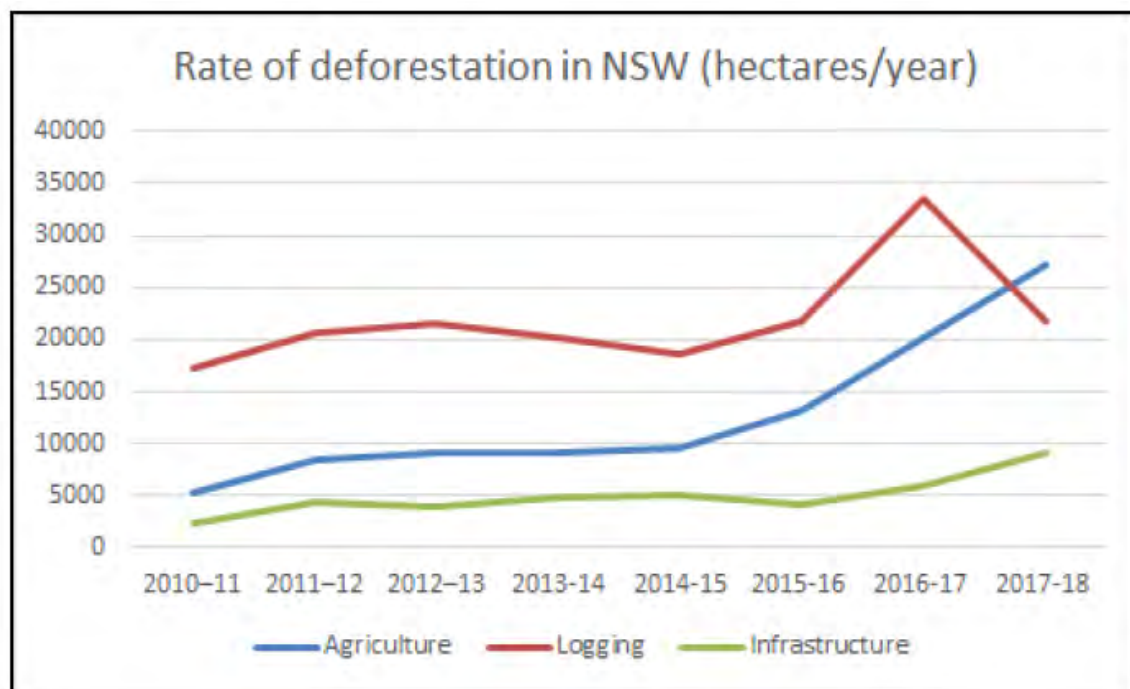
- 2.15** The alliance's submission also cites figures from the NSW Government's *NSW Woody Vegetation Change 2017-18* report, noting that this report 'found a substantial increase in the rate of deforestation following repeal of the *Native Vegetation Act* and its replacement with the *Local Land Services Act* and *Biodiversity Conservation Act*' under the 2016 land management reforms. Figure 2 is extracted from the alliance's submission and shows the rate of deforestation (composed of data for agriculture, forestry and infrastructure) between 2010-11 – 2017-18.

⁹¹ Submission 289, Environmental Defenders Office NSW, p 13.

⁹² Submission 155, Stand Up For Nature Alliance, p 6.

⁹³ Submission 163, National Parks Association of NSW, p 2.

⁹⁴ Submission 155, Stand Up For Nature Alliance, p 18.

Figure 2 Rates of deforestation in NSW 2010-11 – 2017-18

Source: Submission 155, Stand Up For Nature Alliance, p 17.

- 2.16** Notwithstanding the figures mentioned above, the submission of Timber NSW asserted that it was important that changes in methodologies for measuring land clearing be taken into account when measuring the rate of clearing. In this regard, they stated:

Trends in clearing activity (changes from one year to the next) are also commonly misrepresented. For example, in a recent opinion article (Daley 2019) it states that the clearing of native vegetation in NSW has escalated by 800%. What isn't acknowledged is the change in the way that clearing is being measured.

Over the last ten years OEHL has changed its assessment methodology four times ... Comparison of figures generated using different methods is not valid and can be very misleading.⁹⁵

- 2.17** The majority of stakeholders however contended that these reforms had had a particularly detrimental impact on koala habitat. For example, the Wingecarribee Shire Council stated that:

The 2016 land management reforms have led to an increase in clearing of Koala habitat in our Shire. The new land clearing regulations are overly complicated and there appears to be little to no appetite for effective regulatory oversight from State agencies.⁹⁶

- 2.18** Dr Ben Moore from Western Sydney University made similar observations, describing the 2016 reforms as a 'threat to the sustainability of koala populations' based on the fact that they lead to 'an acceleration of land clearing in NSW'.⁹⁷ The submission of a group of koala ecologists,

⁹⁵ Submission 144, Timber NSW, p 5.

⁹⁶ Submission 125, Wingecarribee Shire Council, p 3.

⁹⁷ Submission 149, Dr Ben Moore, p 2.

working out of the School of Life and Environmental Sciences at the University of Sydney echoed these concerns, whilst also referring to the cumulative effort of the introduction of the *Biodiversity Conservation Act 2016* at the same time (discussed at chapter 8):

Like the *Local Land Services Amendment Act 2016*, we consider the *Biodiversity Conservation Act 2016* to be much weaker, in the protection of koalas, than both the former *Threatened Species Conservation Act 1995* and *Native Vegetation Conservation Act 2003*. These newer acts allow for greater land clearance through land-owner self-assessment. History demonstrates clearly that self-regulation, in any sphere, is typically inadequate and ineffective.⁹⁸

- 2.19** In evidence to the committee, Dr Mathew Crowther from the University of Sydney confirmed these sentiments, whilst noting that it was not possible to say definitively whether the reforms had led directly to a decline in koala numbers:

Anything that encourages increased land clearing is not going to be favourable for koalas. I want to preference that by saying we do not have the data as yet, so I do not want to say that these reforms have caused increased decline in koalas, but again increased land clearance is a negative effect for koala populations.⁹⁹

- 2.20** Ms Rachel Walmsley of the EDO expressed frustration at the difficulty in detecting and challenging illegal clearing of koala habitat following the reforms:

A lot of the land clearing that is going to affect koalas is on private land, now under the [*Local Land Services Act 2013*], a lot of that is code based clearing ... One of the big problems now is that the law is so broad, so much actual broad scale clearing is permitted under the codes that there is often no legal avenue to challenge it. Even if it is koala habitat, there may actually be no legal option to challenge that.¹⁰⁰

Committee comment

- 2.21** The committee was extremely concerned to hear evidence from numerous stakeholders that the effect of the 2016 land management reforms was to increase the rate of clearing on private land. Moreover, the committee notes that many stakeholders identified the particularly detrimental effect such clearing has on koala populations.
- 2.22** On the balance of the evidence received, the committee agrees with the statement from Dr Ben Moore that the 2016 reforms are a threat to the sustainability of koala populations as they have facilitated an acceleration of land clearing in NSW. Solutions to this issue are discussed in detail in chapter 7.

Private native forestry

- 2.23** Private native forestry (PNF) refers to the harvesting of timber from native forests on private property. It is regulated under a number of Codes of Practice, within which prescriptions for

⁹⁸ Submission 78, The University of Sydney, p 3.

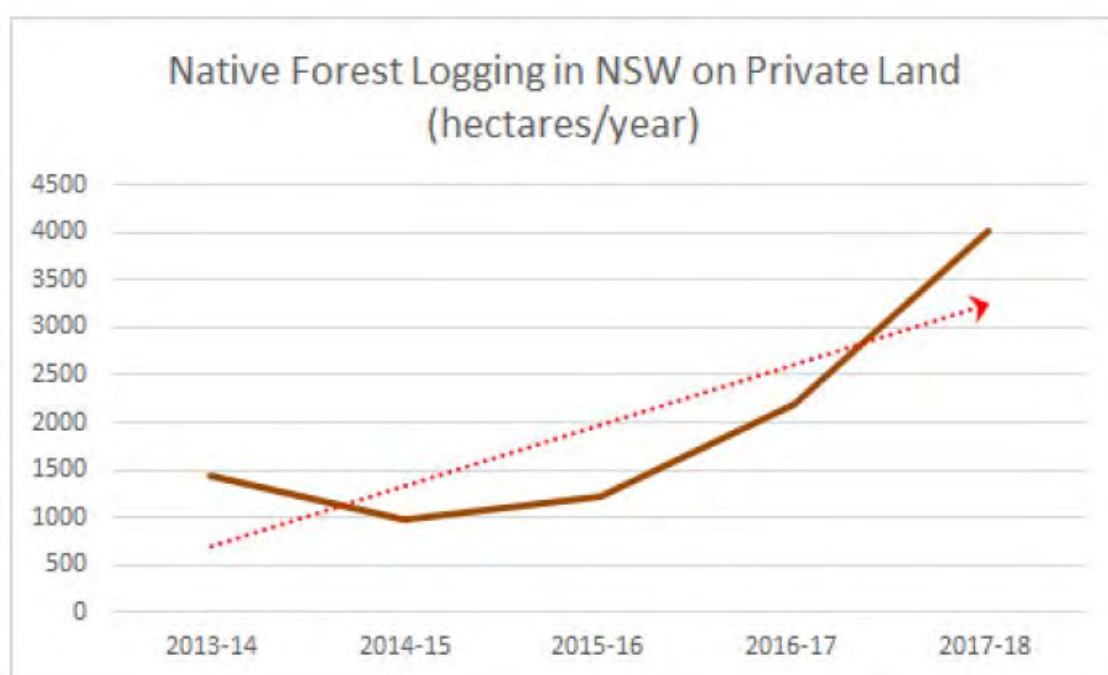
⁹⁹ Evidence, Dr Crowther, 16 August 2019, p 27.

¹⁰⁰ Evidence, Ms Walmsley, 16 August 2019, p 54.

the protection of koala habitat are included. This regulatory framework is discussed in detail in chapter 7.

- 2.24** Along with land clearing and urban development, it is a key cause of koala habitat fragmentation and loss on private property. The submission of Stand Up For Nature Alliance has extracted figures from the *NSW Woody Vegetation Change 2017-18* to produce the figure below, with the unbroken red line indicating the number of hectares of native forest logged on private and leasehold land between 2013-14 and 2017-18.

Figure 3 Native Forest Logging in NSW on Private Land 2013-14 – 2017-18



Source: Submission 155, Stand Up For Nature Alliance, p 12.

- 2.25** This figure graphs data from the first row of the table shown below, which has been extracted from the *NSW Woody Vegetation Change 2017-18* report.

Table 1 Rates of woody vegetation change for forestry land use by tenure and management practice (hectares/year) for SPOT and Sentinel 2 satellite imagery

SPOT and Sentinel 2		2009–10	2010–11	2011–12	2012–13	2013-14	2014-15	2015-16	2016-17	2017-18
Freehold and Leasehold	Native	1,950	980	1,540	1,590	1,430	970	1,230	2,190	4,030
	Plantation pine	3,080	2,260	2,520	1,810	2,690	3,810	6,060	6,540	3,650
	Plantation hardwood	130	0	0	0	110	280	1,730	5,560	1,400
	Plantation harvested - other	-	-	-	-	-	-	-	-	110
	Total	5,160	3,240	4,060	3,400	4,230	5,060	9,020	14,290	9,190

Source: NSW Government, *NSW Woody Vegetation Change 2017-18*, Tab 6: Forestry.

2.26 North East Forest Alliance also provided figures on the quantity of PNF in their submission:

In NSW some 35-38% of the remaining forests are privately owned and 29% are leasehold ... [PNF] is centred on north-east NSW where private forests constitute 46% of the area of commercial forests and provides a third to half of sawlog production in north east NSW ... This means that a large proportion of Koala habitat also occurs on private property and is actively being logged.¹⁰¹

2.27 In contrast, the submission of Timber NSW noted that the scale and intensity of native timber harvesting on private land is much lower than on State forests. It stated that *the NSW Woody Vegetation Change 2017-18* 'reveals that canopy removal from private native forestry averages just 1,770 hectares per year which accounts for less than 0.02% of the native forest trees on NSW private land'.¹⁰²

2.28 A number of stakeholders called for private native forestry to be made 'genuinely selective and low impact'.¹⁰³ The submission of the Forestry Corporation of NSW – which is not involved in private native forestry – also suggested that requirements for PNF are less onerous than those imposed on public forestry:

A large proportion of forests in NSW (39.7 per cent) are on private lands. Native forestry is only conducted on a small sub-set of these forests ... In these circumstances, forestry operations are conducted under the Private Native Forestry code, which in general is less onerous in terms of its environmental and reporting provisions than the [Integrated Forestry Operations Approvals] that apply on State forests.¹⁰⁴

2.29 Other concerns raised by stakeholders included the effect of 'legacy PNF plans', as well as the competition between private native forestry and conservation actions under the *Biodiversity Conservation Act 2016*. These issues are discussed in chapters 7 and 8, respectively.

Urban development

2.30 Urban development was highlighted as one of the primary threats to the State's koala populations, as its contribution to the fragmentation and loss of habitat was immediate and often irreversible. Urban development also introduced new threats to the area, such as dogs, roads, vehicles and swimming pools,¹⁰⁵ creating increasingly inhospitable environments for koalas and putting them at higher risk of injury or death.

2.31 Local government plays a significant role in identifying and protecting areas from local development and this will be explored in more detail in Chapter 7. In its submission, Tweed Shire Council explained how the *Biodiversity Conservation Act 2016* 'charges local government with

¹⁰¹ Submission 154, North East Forest Alliance, p 53.

¹⁰² Submission 144, Timber NSW, p 6.

¹⁰³ Submission 96, Ms Meg Nielsen, p 1; Submission 107, Bangalow Koalas, p 2; Submission 146, New England Greens Armidale Tamworth, p 1.

¹⁰⁴ Submission 161, Forestry Corporation of NSW, p 22.

¹⁰⁵ Submission 69, Friends of the Koala, p 2; Submission 74, Koala Recovery Partnership, p 6; Submission 250, NSW National Parks Association – Coffs Coast Branch, p 10; Submission 276, International Fund for Animal Welfare, p 4; Submission 292, Ms Claire Bettington, p 1.

the assessment of whether a development proposal appropriately avoids or minimises impacts on significant species, including koalas and their habitat'.¹⁰⁶ It further stated:

It is noted that local government plays a significant role in the conservation and recovery of koalas and their habitat. This role is largely unacknowledged and sporadically supported through grant funding at best. Current funding opportunities are generally short term and with an overly onerous administrative burden. Local government should be recognised as highly competent and capable partners in koala conservation and recovery, with a collaborative approach to funding support to match.¹⁰⁷

- 2.32** Save Lot 2 Sawtell Road is a community group who are campaigning to save a large block of urban bushland, which includes seven hectares of core koala habitat from housing development. It wrote in its submission about the ongoing decline in the local koala population around the Coffs Harbour local government area as a result of urban development:

One suspects that the decline in local koala numbers was well underway before the Coffs Harbour Koala Plan of Management (KPOM) was introduced in November 1999 and possibly a response to the massive sub-dividing and urbanisation of the Toormina area in the 1980s and 90s.¹⁰⁸

- 2.33** Similarly, Tilligerry Habitat Association wrote in their submission:

Port Stephens Council's relaxed policy for residential tree removal means that most days we hear trees being felled in the streets around Tanilba Bay and our home in Lemon Tree Passage. This leaves the koala corridors disjointed making it difficult for them to travel freely and find mates and is almost certainly a factor in the change in sighting patterns in the Tilligerry Habitat. Programmes to replace felled trees with new planting do nothing to alleviate the immediate problem as it takes approximately thirty years for a *Eucalyptus Robusta* to reach the size needed to become a koala food tree.¹⁰⁹

Importance of koala corridors

- 2.34** Urban development can impact and interrupt vital wildlife corridors. Stakeholders advised that corridors and providing safe connectivity between habitat areas were essential for the survival of koalas, as they were not social animals and needed habitat to migrate and exchange genetic material.¹¹⁰ By moving on the ground through fragmented patches of habitat, koalas were also put at higher risk of being hit by vehicles or attacked by dogs.¹¹¹

¹⁰⁶ Submission 159, Tweed Shire Council, p 4.

¹⁰⁷ Submission 159, Tweed Shire Council, p 6.

¹⁰⁸ Submission 298, Save Lot 2 Sawtell Road, p 2.

¹⁰⁹ Submission 80, Tilligerry Habitat Association, p 1.

¹¹⁰ Evidence, Dr Crowther, 16 August 2019, p 29; Submission 201, Mr James Fitzgerald, p 6.

¹¹¹ Submission 193, Voice of Woodville and Wallalong, p 4; Submission 195, Campbelltown City Council, p 5; Submission 201, Mr James Fitzgerald, pp 6-7.

- 2.35** In their submission, the Myall Koala and Environment Group reflected that having a wildlife corridor had contributed to the ongoing wellbeing of its local koala population:

Although we only have a small population of koalas in Hawks Nest, they appear to be generally healthy and do not have signs of inbreeding. We believe this is because there is regular migration of some of our koalas between the township and the Myall Lakes National Park to the north resulting in the exchange of diverse genetic material. If this movement corridor was to be severed in the future (e.g. by inappropriate development in North Hawks Nest) it would be a death sentence to our small urban koala community.¹¹²

- 2.36** Additionally, Mr Ricardo Lonza, Co-Founder of Help Save the Wildlife and Bushlands in Campbelltown, provided an example of the potential negative impacts if a corridor was to be removed:

Out at Airds there was a corridor system that went from Ruse all the way out to St Helens Park and the government of the day destroyed that now. It is getting homes all through this corridor system and we have had nothing but koalas coming out into suburbs. ... We are putting them more in danger by pushing them out of the corridor systems into homes which have dogs and obviously cars as well. So we need to connect and keep them connected.¹¹³

- 2.37** There was some contention amongst stakeholders in relation to the preferred width of koala corridors. Dr Stephen Phillips, Managing Director and Principal Research Scientist of Biolink, calculated that the best formula to determine optimal width was to use the square root of the median home range size of female koalas. For example, in Campbelltown the ideal corridor width would be approximately 400 to 425 metres, whereas for populations in the North Coast with higher density, it would be approximately 225 metres.¹¹⁴ He stated that this width was a minimum and was necessary for koalas' safety:

It is because the animals have big home ranges. Koalas have long-term fidelity to their home ranges. They are socially challenged a lot of the time, so they do not like people coming into their home ranges. So you have got to allow slipstreams in that landscape so koalas can pass each other without getting into blues. So tiny allows them to encounter each other and then affliction and aggressions whereas the bigger width, based on understanding of their home range size, allows individual animals to have home ranges. So you are facilitating the movement of genes as well plus the widths are wide enough so the animals can slipstream past each other in a dispersal context without getting into drama.¹¹⁵

- 2.38** Other stakeholders emphasised the importance of well-designed koala corridors, as it could potentially have unintended negative impacts. The Koala Retreat's submission highlighted that koala corridors only work when they are designed well and that inappropriately linking up koala

¹¹² Submission 48, Myall Koala and Environment Group, p 7.

¹¹³ Evidence, Mr Ricardo Lonza, Co-founder, Help Save the Wildlife and Bushlands in Campbelltown, 25 October 2019, p 6.

¹¹⁴ Evidence, Dr Stephen Phillips, Managing Director and Principal Research Scientist, Biolink, 25 October 2019, p 16.

¹¹⁵ Evidence, Dr Phillips, 25 October 2019, p 16.

populations could have negative impacts.¹¹⁶ Dr Kellie Leigh, Executive Director of Science for Wildlife, noted that connecting corridors may spread disease amongst local populations. She noted that corridors were important in the short term as it saved koalas from 'instant mortality', but the linkages were also a critical long term consideration.¹¹⁷

Case study: Lendlease Figtree Hill development

Lendlease's Figtree Hill development is located at Mount Gilead, in the Macarthur Region, which has been identified as having key habitat linkage areas for koalas.¹¹⁸ The South West Sydney koala colony is particularly important as it is one of the few koala populations in the State that is growing and it is also free of chlamydia.

In October 2019, the committee conducted a site visit and held a public hearing in Campbelltown. The committee met with representatives from Lendlease, who advised that in the absence of an approved Koala Plan of Management, it was in the process of preparing its own koala protection plan as per the requirements under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.¹¹⁹ Their individual plan specifically addresses the impact on local koalas during construction and Lendlease has committed \$1,208,300 over five years to support koala conservation.¹²⁰

There were differing views of what the width of koala corridors should be on the development site. Lendlease had proposed that corridors in some areas could only be 200 metres wide. Mr Saul Deane from the Total Environment Centre acknowledged that a variety of corridors with different widths were needed,¹²¹ but that to enhance koala migration and safety, narrow corridors must be built in conjunction with larger ones. Mr Deane argued that corridors needed to be at least 400 metres wide so that koalas could have both habitat and connectivity.¹²²

Lendlease representatives told the committee that they had followed OEH mapping and classification of primary and secondary corridors.¹²³ They also explained to the committee that ensuring all corridors were at least 400 metres wide would detract from the commercial utility of the development as it would reduce the residual amount of land left to develop.¹²⁴

Campbelltown City Council agreed with expert evidence that 450 metres was the ideal width for a koala corridor, but in the absence of an approved KPOM, the council said that it could not mandate landholders or developers to uphold their advice. Committee members pressed council representatives

¹¹⁶ Submission 68, Koala Retreat, p 6.

¹¹⁷ Evidence, Dr Kellie Leigh, Executive Director, Science for Wildlife, 9 December 2019, p 15.

¹¹⁸ Evidence, Dr Phillips, 25 October 2019, p 13; Evidence, Mrs Susan Gay, Public Officer, Save Mount Gilead Inc, 25 October 2019, p 3.

¹¹⁹ Evidence, Ms Ranisha Clarke, General Manager Operations, Communities, Lendlease, 25 October 2019, p 24.

¹²⁰ Answers to questions on notice, Lendlease, 25 November 2019, p 2.

¹²¹ Evidence, Mr Saul Deane, Urban Sustainability Campaigner, Total Environment Centre, 25 October 2019, p 4.

¹²² Evidence, Mr Deane, 25 October 2019, p 8.

¹²³ Evidence, Mr Robert Humphries, Lead – Environmental Offsets and Biobanking, Eco Logical Australia, 25 October 2019, p 22.

¹²⁴ Evidence, Mr Matthew Wallace, Managing Director, Residential Lendlease, 25 October 2019, pp 21-22.

on why they didn't just mandate such a requirement, but council representatives reiterated that ultimately it was the responsibility of the State Government who needed to approve their koala plan.¹²⁵

Should the current development proposal proceed, in the absence of an approved CKPOM, Dr Steve Phillips of Biolink predicted that the South Western Sydney koala population would be the poorer for it as it will further fragment their habitat.¹²⁶ The Total Environment Centre warned that this 'piecemeal rezoning' of the Greater Macarthur area would ensure the 'slow eradication' of local koalas to their possible extinction.¹²⁷

The NSW Government was also aware of the significance of this particular koala colony and the effect that the development could have on them, should it go ahead. When asked by committee members whether funding had been allocated for the acquisition of the land where Figtree Hill has been proposed, the Minister for Energy and Environment responded that he had asked the Chief Scientist to assess whether the development will have an impact on the koalas and their habitat in Mount Gilead.¹²⁸

Proposal of a Georges River National Park

- 2.39** Stakeholders expressed their alarm about the Georges River Parkway which is proposed to be built – a major road corridor that would cut through important koala and wildlife corridors and further interrupt important koala habitat in the area. Mrs Patricia Durman warned in her submission that if the motorway is installed, it would significantly disrupt koala habitat:

... the Campbelltown koala population will be cut in half along the entire length of the Georges River between Glenfield and Appin. Habitat will be lost and although the river backs onto the Holsworthy Military Reserve the woodland communities within the Reserve are not prime koala habitat, and territories within the Reserve have already been taken by resident koalas.¹²⁹

- 2.40** Numerous stakeholders, including the Total Environment Centre and National Parks Association (NPA) of NSW, advocated that the NSW Government dismiss the idea of building the Georges River Parkway and establish a Georges River National Park instead.¹³⁰ Stand Up for Nature Alliance noted that the proposal is comprised of land acquired under the Sydney Regional Development Fund and some small Crown Reserves along the upper Georges River. It said that this area contained a significant population of koalas and other endangered ecological

¹²⁵ Evidence, Mr Fletcher Rayner, Executive Manager, Urban Release and Engagement, Campbelltown City Council, 25 October 2019, p 34.

¹²⁶ Evidence, Dr Phillips, 25 October 2019, p 19.

¹²⁷ Submission 150, Total Environment Centre, p 6.

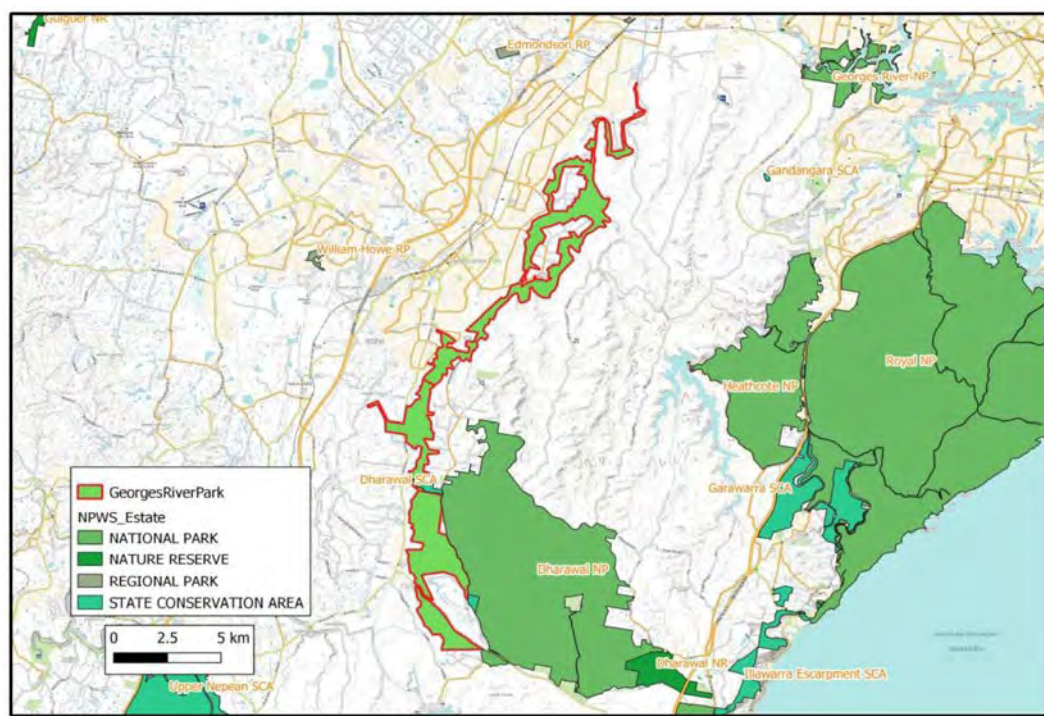
¹²⁸ Evidence, Hon Matt Kean MP, Minister for Energy and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 47.

¹²⁹ Submission 97, Mrs Patricia Durman, p 5.

¹³⁰ Submission 4, Name suppressed, p 1; Submission 120, Mrs Diana Pryde, p 1; Submission 150, Total Environment Centre, p 16; Submission 155, Stand up for Nature Alliance, p 3; Submission 163, National Parks Association of NSW, p 4; Submission 172, Ms Daniela Osiander, p 1; Submission 299, Name suppressed, p 3; Submission 236, Ms Gae Constable, p 2; Submission 276, IFAW, p 9; Submission 314, Cita Murphy, p 1.

communities. It also forms an important link between protected areas and the Holsworthy Military Reserve.¹³¹

Figure 4 Map of the Georges River Koala Park proposal (light green red outlined polygons). The proposal follows the Upper Georges River from Campbelltown south to approximately Appin.



Source: Submission 155, Stand Up for Nature Alliance, p 28.

- 2.41** The Total Environment Centre asserted that by creating a Georges River National Park, it would allow the safe migration of koalas from north to south along the Georges River and protect the West bank of the upper Georges River.¹³²
- 2.42** Media reports in October 2019 noted that the Minister for Energy and Environment had visited the proposed site, acknowledged that habitat loss and fragmentation was the biggest threat to koalas, and that the Minister had said he would raise the issue of establishing a national park with cabinet.¹³³

Is urban development incompatible with koalas?

- 2.43** A number of stakeholders were of the opinion that urban development and koala conservation was not irreconcilable, but required satisfactory design and planning in the early stages of

¹³¹ Submission 155, Stand Up for Nature Alliance, p 28.

¹³² Submission 150, Total Environment Centre, p 16.

¹³³ Timothy Fernandez, 'Koalas may be protected from development with NSW Government "in talks" to set up national park', *ABC Illawarra*, 25 October 2019; Daniel McGookiin, 'Concerns over the future of the Macarthur region's unique disease-free koala colony could be eased, with the state government to consider the creation of a koala national park', *Daily Telegraph*, 9 October 2019.

development planning and suitable areas of habitat set aside.¹³⁴ Dr Phillips agreed that it was possible for urban development and conservation to co-exist:

So you build this development so that it excludes the koalas from the residential component and you make sure that your access roads and regress roads are secured so that koalas cannot get in, dogs cannot get out, all that sort of stuff, so you keep those two elements separate. Again the tools and the techniques are available to make that happen.¹³⁵

- 2.44** These issues will be further explored in Chapter 7, particularly the role played by the State Environmental Planning Policies.

Committee comment

- 2.45** The committee recognises the inherent tension between a growing population and koala habitat conservation. Koalas and people like to live in the same areas, so it is a matter of resolving how people can co-exist alongside a national icon. However, it is apparent to the committee that if protection of habitat and corridors is prioritised in the planning stages, the level of harm can be minimised to local koala populations and other species. The committee thus recommends that the NSW Government urgently prioritise the protection of koala habitat and corridors in the planning and implementation stages of urban growth areas.

Recommendation 2

That the NSW Government urgently prioritise the protection of koala habitat and corridors in the planning and implementation stages of urban growth areas.

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- 2.46** The committee was moved by the efforts of many regional communities to protect and restore koala habitat in their local areas. It also recognises that many local councils often have little choice but to prioritise housing development over protecting koala habitat. In this regard, the committee believes more needs to be done by the Government to support local councils to conserve and manage koala habitat in their Local Government Areas including by identifying pockets of urban bushland to include in the State's protected area network.

Recommendation 3

That the NSW Government fund and support local councils to conserve koala habitat, including by identifying pockets of urban bushland to include in the State's protected area network.

¹³⁴ Submission 68, Koala Retreat, p 7; Submission 126, National Parks Association of NSW Macarthur Branch, p 5; Submission 148, New England Greens Armidale Tamworth, p 2; Submission 154, North East Forest Alliance, p 77; Submission 195, Campbelltown City Council, p 5.

¹³⁵ Evidence, Dr Phillips, 25 October 2019, p 19.

- 2.47** Specifically in relation to Lendlease's proposed development, Figtree Hill, the committee strongly believes that the current planning conditions spell out lasting and irreparable damage to the local koala population. This particular population is unique as it is not just growing, but also is one of the few in the State that is free of chlamydia. After visiting the proposed development site and hearing from Lendlease, council and community members, the committee has come to the conclusion that the development proposal, in its current form, is problematic. The committee therefore recommends that the NSW Government and Campbelltown City Council first ensure the protection of the koala colony and habitat on the Figtree Hill site before allowing any further development.
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Recommendation 4

That the NSW Government and Campbelltown City Council ensure the protection of the koala colony and habitat on the Figtree Hill site before allowing any further development.

- 2.48** Furthermore, the committee believes that in light of the increased development activity in the South Western Sydney area, it is essential to protect the koala habitat that is left as well as key wildlife corridors. The committee supports the creation of a Georges River National Park and rejects the notion of the construction of the Georges River Parkway. The committee therefore recommends that the Government create a Georges River National Park to provide secure habitat for the South Western Sydney koala population.
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Recommendation 5

That the NSW Government create a Georges River National Park to provide secure habitat for the South Western Sydney koala population.

Public native forestry

- 2.49** Numerous inquiry participants identified public and private forestry as another key threat to koala populations and habitat in New South Wales. This section explores specific issues pertaining to public native forestry, such as the State forestry estate and habitat assessments. The chapter also considers how recent changes to the Coastal Integrated Forestry Operations Approval (IFOA) and remapping of old growth forests have affected koala populations.
- 2.50** The committee recognises that there are high numbers of koalas located on private land and private native forestry is a significant threat to them. Private native forestry in the context of its legislative and planning frameworks is explored in detail in Chapter 7 of this report.

State forestry estate

- 2.51** The Forestry Corporation of NSW (Forestry Corp) is a State owned statutory corporation that is responsible for the sustainable management of two million hectares of commercial native and plantation forests in New South Wales. There are more than 22 million hectares of native forest in New South Wales. Around a quarter of this land, 5.6 million hectares, is set aside in the formal
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reserve network, close to two thirds (14.6 million hectares) is private land or leasehold forest and 9.1 per cent (two million hectares) is multiple-use native forest, meaning State forest managed by Forestry Corp.¹³⁶

- 2.52** Forestry Corp made a clear distinction between its business of timber harvesting and logging, and land clearing. Its submission cited studies that had found sustainable timber harvesting was not a significant threat to koalas¹³⁷ and that koalas occupied harvested forests at the same rate as unharvested forests.¹³⁸ Key reasons provided included the small scale of timber harvesting in the landscape context, regulations around forestry activities ensuring that trees were retained in each operation and how new trees continued to grow in harvested forests.¹³⁹
- 2.53** Whilst the Forestry Corp submission acknowledged that habitat loss was an issue for koala populations, it noted that 'habitat conservation will not resolve the issue of koala conservation' as there were other key threats, such as large scale urbanisation, agricultural development, mining and climate change.¹⁴⁰
- 2.54** The committee heard that logging has a cumulative impact on koala habitat by removing mature and larger feed trees that koalas rely on. Dr Mathew Crowther from the University of Sydney confirmed that koalas need older trees for food and shelter:

We found that they always go back to larger trees because they get protection, whether it is protection from things on the ground, but particularly protection from the elements. Older trees provide better shelter, they are much better for the koalas to regulate their temperatures. For example, on very, very hot days they need substantial cover that is often provided by older trees, and sometimes they can even hug the trunks and get rid of heat, dissipate heat you could say, via those methods. The problem is especially during the day and especially when they are not eating, they need the larger trees, and larger trees are older trees, and they need those trees for shelter.¹⁴¹

- 2.55** Stand Up for Nature Alliance cited an EPA study from 2016 that '[l]ogging areas of forest that have been long unlogged, regardless of definition, will negatively impact koalas because of the species' preference for mature forest age classes'.¹⁴² The EPA study also found a positive correlation between higher koala activity and forest structure of a more mature size class with little disturbance.¹⁴³

¹³⁶ Submission 161, Forestry Corporation of NSW, pp 3-4.

¹³⁷ Submission 161, Forestry Corporation of NSW, p 3, citing Kavanagh et al, 'Distribution of Nocturnal Forest Birds and Mammals in North-Eastern New South Wales: Relationships With Environmental Variables and Management History' (1995) 22(3) *Wildlife Research* 359-377; Kavanagh et al, 'Koalas continue to occupy their previous home-ranges after selective logging in *Callitris-Eucalyptus* forest' (2007) 34 *Wildlife Research* 94-107.

¹³⁸ Submission 161, Forestry Corporation of NSW, p 3, citing Law et al, 'Passive acoustics and sound recognition provide new insights on status and resilience of an iconic endangered marsupial (koala *Phascolarctos cinereus*) to timber harvesting' (2018) 13 *PLOS One* 3.

¹³⁹ Submission 161, Forestry Corporation of NSW, p 3.

¹⁴⁰ Submission 161, Forestry Corporation of NSW, p 23.

¹⁴¹ Evidence, Dr Crowther, 16 August 2019, p 27.

¹⁴² Submission 155, Stand Up for Nature Alliance, p 14, citing NSW Environment Protection Authority, *Koala Habitat Mapping pilot: NSW State Forests* (2016).

¹⁴³ NSW Environment Protection Authority, *Koala Habitat Mapping pilot: NSW State Forests* (2016), p iv.

- 2.56** The North East Forest Alliance further referenced a Biolink study conducted for Port Macquarie-Hastings Council in 2013, which commented that the long term logging of tree species is having an effect on koala carrying capacity in forests:

... koala activity was recorded less commonly from areas of State forest where field data and other knowledge strongly points to cumulative impacts of logging over time resulting in significantly lower size classes of preferred food trees which in turn results in a lower koala carrying capacity. ... data arising from this survey supports an assertion that the long-term logging of tree species preferred by koalas is having an effect on koala carrying capacity in these forests ...¹⁴⁴

- 2.57** Dr Oisin Sweeney, Senior Ecologist of the National Parks Association (NPA) of NSW described the current forestry practices as 'unconscionable'¹⁴⁵ and warned of the long lasting and significant impacts that logging will have on koalas:

Logging of that form will simply wipe out all the koalas in the area, whether it is because they move away or are killed during logging operations. As to whether they can recolonise, it is going to make it terrible habitat for koalas and other forest wildlife for a long, long time—many decades if not centuries.¹⁴⁶

- 2.58** In the Mid North Coast, Ms Lyn Orrego, Committee Member of the Nambucca Valley Conservation Association, explained that 'increasingly intensive and near clear-fell logging in State forests had severely impacted [the local koala] populations' over the past two decades, as was evidenced by the 50 per cent decline in koala numbers.¹⁴⁷

- 2.59** Mr Frank Dennis, local resident and koala activist, also raised that the intensive logging of trees made koalas more susceptible to the impacts of climate change:

We must face up to the new realities exposed by the intensive logging regimes and their failings, and now the bushfires, with the impacts not yet fully understood or even known and the imperatives of global heating. My argument is simple: Stop logging and clearing koala habitat trees. They act as important carbon sinks.¹⁴⁸

Committee comment

- 2.60** The committee fundamentally disagrees with Forestry Corp's view that habitat conservation will not resolve the issue of conserving koala populations in New South Wales. The committee is well aware that there are other serious threats to be considered and these will be explored in more detail in this chapter. However, the committee wishes to emphasise its view that habitat fragmentation and loss remains the primary threat facing koala populations and has been for decades. The committee accepts that if the ongoing clearing or interruption of koalas' habitat had not occurred, secondary threats would also be less prominent.

¹⁴⁴ Submission 154, North East Forest Alliance, p 26.

¹⁴⁵ Evidence, Dr Oisin Sweeney, Senior Ecologist, National Parks Association of NSW, 16 August 2019, p 37.

¹⁴⁶ Evidence, Dr Sweeney, 16 August 2019, p 37.

¹⁴⁷ Evidence, Ms Lyn Orrego, Committee Member, Nambucca Valley Conservation Association, 4 February 2020, p 12.

¹⁴⁸ Evidence, Mr Frank Dennis, local resident and koala activist, 3 February 2020, p 12.

- 2.61** The committee accepts that, whilst koalas can shelter in and obtain feed from younger trees, evidence indicates that higher koala activity correlates with more mature and larger trees. The committee is concerned that increased logging activity in areas of quality koala habitat has reduced the availability of such trees for koalas. The committee believes that over many years, logging in public native forests in New South Wales has had cumulative impacts on koalas because it has reduced the maturity, size and availability of preferred feed and roost trees.

Finding 3

That logging in public native forests in New South Wales has had cumulative impacts on koalas over many years because it has reduced the maturity, size and availability of preferred feed and roost trees.

State forestry habitat assessment

- 2.62** Mr Dean Kearney, Senior Manager of Planning, Hardwood Forests Division, Forestry Corp explained to the committee that they conduct habitat assessment and identify what areas needed to be protected before logging contractors began their work:

We have teams of people dedicated to walking through the forest, doing habitat assessments, marking out the trees and areas that need to be protected. There is a whole team of people dedicated to that ... they are called forest technicians and there are about 25 of them across the State for whom this is their full-time job—is they traverse the forests ahead of harvesting.¹⁴⁹

- 2.63** Mr Kearney further explained that these habitat assessments are now recorded electronically, so that this data can be matched up with the GPS log of harvesting machines, which assists in both compliance of logging contractors and releasing data to the public:

They record everything they find on an iPad so you can see where the trees are. We can pass that on to the timber harvesting contractors. We can make all that data publicly available. We put GPS in the harvesting machines so we can see exactly where they have and have not been. We can look at that to determine our compliance as an organisation with the rules, in terms of tree retention and the habitat provisions. We can also use it to look at the compliance of the contractors we engage as well and we can make that all publicly available.¹⁵⁰

¹⁴⁹ Evidence, Mr Dean Kearney, Senior Manager of Planning, Hardwood Forests Division, Forestry Corporation of NSW, 26 February 2020, p 9.

¹⁵⁰ Evidence, Mr Kearney, 26 February 2020, p 9.

2.64 When asked whether Forestry Corp's operations needed to change in order to save koalas, Mr Kearney responded that he was 'comfortable with what we do now' but that Forestry Corp would follow advice if monitoring and management suggested changes to their operations.¹⁵¹ Ultimately though, Mr Kearney was satisfied that Forestry Corp's assessment procedures were sound, as evidenced by the level of koala occupation:

... what we do is, I think, sensible and sound. The evidence I see in terms of koala use and koala occupation of our forests suggests that it is. I am happy that we continue to monitor that and take a whole of landscape approach to the issue, particularly around koalas. We know where they are. We know where the threats are and what we are doing about that. We know what the population trends are.¹⁵²

2.65 In relation to compliance, Mr Kearney confirmed that compliance assessments were conducted by an internal team as well as the NSW Environment Protection Authority. Furthermore, he said that Forestry Corp is exposed to routine auditing under the Australian Forestry Standard, where systems and approaches are checked to ensure that they are sound.¹⁵³

2.66 However, multiple stakeholders questioned the integrity of Forestry Corp and its practices considering its proven history of noncompliance. Mr Jack Gough, Policy and Research Coordinator of the Nature Conservation Council, informed the committee that in 2014-2015, Forestry Corp had been found with 245 non-compliances, with the majority of those in relation to the requirement to protect and retain a certain number and type of tree:

A lot of them show that the Forestry Corporation has damaged trees that it is supposed to retain to the point that they probably will not be retained; it has put too much vegetation up close to the trees that are meant to be retained, which means they are susceptible to fire; or it has failed to retain the trees.¹⁵⁴

2.67 Regional conservation organisations confirmed that this has been their experience on the ground. In its submission, the North Coast Environment Council (NCEC) cited areas identified in Wang Wauk State Forest, near Wootton, by the former Office of Environment and Heritage, as 'koala hubs' or Areas of Local Koala Significance and Areas of Regional Koala Significance (ARKS) as examples. It noted that these areas were extensively logged in 2018 and provided two satellite images below of the Wang Wauk State Forest koala hubs before and after the logging.¹⁵⁵

¹⁵¹ Evidence Mr Kearney, 26 February 2020, pp 8-9.

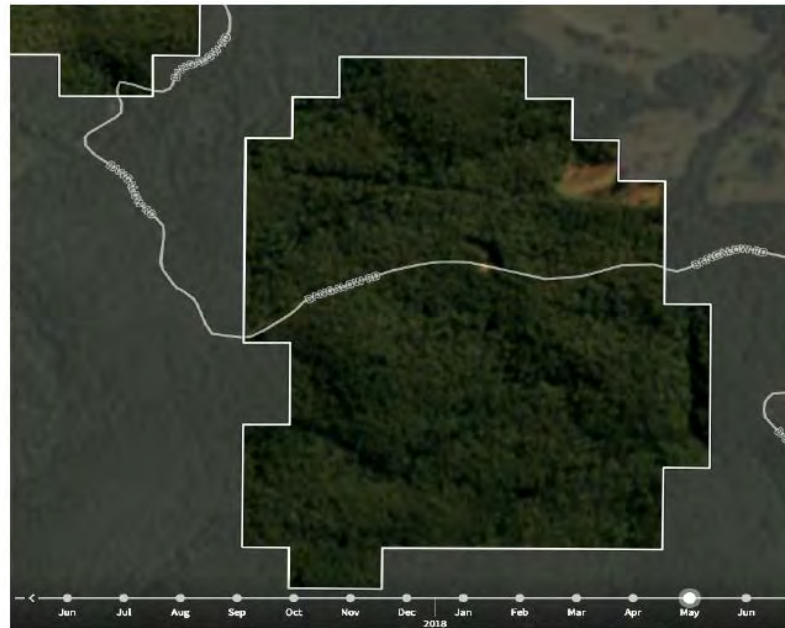
¹⁵² Evidence Mr Kearney, 26 February 2020, p 9.

¹⁵³ Evidence, Mr Kearney, 26 February 2020, p 9.

¹⁵⁴ Evidence, Mr Jack Gough, Policy and Research Coordinator, Nature Conservation Council NSW, 16 August 2019, pp 37-38.

¹⁵⁵ Submission 142, North Coast Environment Council, p 6.

Figure 5 Image of koala hub in Wang Wauk State Forest in May 2018



Source: Submission 142, North Coast Environment Council, p 6.

Figure 6 Image of koala hub in Wang Wauk State Forest after extensive logging in December 2018



Source: Submission 142, North Coast Environment Council, p 6.

- 2.68** Ms Rachel Walmsley, Policy and Law Reform Director, at the Environmental Defenders Office NSW (EDO NSW), also echoed concerns regarding Forestry Corp's compliance record:

If you look at judgements in the Land and Environment Court, Justice Pepper has noted consistent and repeated breaches by the Forestry Corporation. There is evidence. It has to be fairly egregious by the time there is a prosecution. Certainly there are client groups of the EDO on the North Coast that have consistently pointed out where there are breaches. These are scientists who have gathered evidence of evidence-based breaches.¹⁵⁶

- 2.69** An environmental lawyer, Ms Sue Higginson, also suggested that Forestry Corp's record raised questions about their ability to be a 'good corporate citizen':

... the Land and Environment Court, not too long ago made a legal finding that the Forestry Corp is guilty of systemic failures of forest management ... that the evidence of their past convictions for environmental offences does not demonstrate that Forestry NSW has been a good corporate citizen with respect to environmental statutory compliance.¹⁵⁷

- 2.70** Ms Higginson also suggested that the fines issued to Forestry Corp had not been commensurate with the level of their offending.¹⁵⁸

Review of the Coastal Integrated Forestry Operations Approval

- 2.71** In 2018, the NSW Government introduced a new Coastal Integrated Forestry Operations Approval (IFOA). The Coastal IFOA regulates the carrying out of certain forestry operations in State Forest and other Crown-timber land in the coastal region. According to an EPA factsheet, the Coastal IFOA sets the environment protection and forest management rules for how Forestry Corp undertakes native forestry operations in public forests in the coastal areas of New South Wales. It also sets out rules in relation to protection of native plants and animals, habitat and ecosystems, soils and water during native forestry operations.¹⁵⁹
- 2.72** In relation to koala conservation, stakeholders argued that the Coastal IFOA's prescriptions relating to which trees can be logged in koala habitat, were flawed. Stakeholders highlighted that research showed koalas preferred larger trees and shelter,¹⁶⁰ but the recent changes had reduced the number and size of trees that must be retained in quality koala habitat.

¹⁵⁶ Evidence, Ms Rachel Walmsley, Director of Policy and Law Reform, Environmental Defenders Office NSW, 16 August 2019, p 56.

¹⁵⁷ Evidence, Ms Sue Higginson, environmental lawyer, 18 October 2019, p 17.

¹⁵⁸ Evidence, Ms Higginson, 18 October 2019, p 18.

¹⁵⁹ Coastal Integrated Forestry Operations Approval, *New rules for native forestry in state forests* (November 2018), p 1, NSW Environment Protection Authority, <<https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/forestagreements/coastal-ifo-2018/18p1266-factsheet-new-rules-for-native-forestry-in-state-forests.pdf>>.

¹⁶⁰ Evidence, Dr Crowther, 16 August 2019, p 27; Evidence, Mr Dailan Pugh, President, North East Forest Alliance, 18 October 2019, pp 13 and 18; Evidence, Mr Mark Graham, Hotspots Ecologist, Nature Conservation Council, 9 December 2019, p 4; Evidence, Ms Orrego, 4 February 2020, p 13.

- 2.73** Further, the requirement for pre-logging surveys of koala populations has been removed and replaced with tree retention prescriptions based upon modelled habitat. This has been identified as a 'retrograde step' by the Stand Up for Nature Alliance, referring to a 2016 study by the EPA which found that habitat modelling was inaccurate to regulate the scale of forestry operations in koala habitat.¹⁶¹ The North East Forest Alliance detailed what it described as a 'long history' of Forestry Corp 'avoiding its legal obligations to identify and protect Koala High Use Areas'. It also expressed its disappointment that the need to survey for koalas has been replaced by 'retaining token feed trees in modelled habitat'.¹⁶²
- 2.74** The Natural Resources Commission (NRC) is the Government's independent expert advisory body on natural resources matters and provides advice on forest management matters. In 2016, it was asked to provide advice on a suite of proposed Coastal IFOA settings and additional measures to assist the NSW Government in meeting its commitments to wood supply and environmental values.¹⁶³ The NRC stated in this advice that 'the commitments around wood supply and environmental values are not mutually achievable'.¹⁶⁴ This will be explored in more detail in the section covering remapping of old growth forests.
- 2.75** The NRC's review found that the proposed Coastal IFOA settings would create an 'estimated shortfall of 7,600 to 8,600 cubic metres of high quality timber per year, as a result of mapping threatened ecological communities and koala protections'.¹⁶⁵ However, the North East Forest Alliance stated that the wood supply agreement commitments of high quality logs were based on yields from both native forests and hardwood plantations and that therefore one outcome of the Regional Forest Agreement was that 10,000 hectares of new hardwood plantations were established to meet this commitment. The North East Forest Alliance therefore described it as 'perplexing' that the NRC excluded hardwood plantations from their assessment.¹⁶⁶
- 2.76** A number of stakeholders also raised serious concerns that in the NRC's 2016 review, Forestry Corp and the EPA had markedly different recommendations regarding recommended diameter of trees and the distance to be maintained between trees.
- 2.77** The new Coastal IFOA has also seen the introduction of an 'Intensive Harvesting Zone' in north-east New South Wales, which effectively clear-fells up to 45 hectares of forest at a time. These techniques are similar to those that have been employed in the Eden area and cited as one of the primary drivers of koala declines in that region.¹⁶⁷ The Stand Up for Nature Alliance submission notes:

¹⁶¹ Submission 155, Stand Up for Nature Alliance, p 10.

¹⁶² Submission 154, North East Forest Alliance, p 30.

¹⁶³ NSW Environment Protection Authority, *Frequently Asked Questions: Commencement of the Coastal IFOA* (November 2018), p 2, <<https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/forestagreements/18p1269-faq-commencement-of-the-coastal-ifo.pdf>>.

¹⁶⁴ Natural Resources Commission, *Advice on Coastal Integrated Forestry Operations Approval Remake* (November 2016), p 2, <https://www.nrc.nsw.gov.au/_literature_240607/Final%20report>.

¹⁶⁵ Natural Resources Commission, *Supplementary Advice on Coastal Integrated Forestry Operations Approval Remake: Old Growth Forests and Rainforests – North Coast State Forests* (March 2018), p 1, <https://www.nrc.nsw.gov.au/_literature_240609/Supplementary%20advice>.

¹⁶⁶ Submission 154, North East Forest Alliance, p 73.

¹⁶⁷ Daniel Lunney et al, 'Extinction in Eden: identifying the role of climate change in the decline of the koala in south-eastern NSW' (2014) 41 *Wildlife Research* 22-34.

The Intensive Harvesting Zone contains approximately one-third of all koala hubs in state forests in north-east NSW. Knowingly implementing intensive logging techniques that have been shown to impact koalas in southern NSW in an area known to be of such great significance to koalas will see us repeat the mistakes of the past.¹⁶⁸

2.78 The North East Forest Alliance noted that whereas the EPA recommended retaining at least 25 trees per hectare in high quality habitat. The NRC supported Forestry Corp's retention proposals and determined that in high quality habitat, the requirement was to retain up to 10 browse trees with a minimum of 20 centimetre diameter at breast height (DBH). The number was less for moderate quality habitat – the proposed requirement was to retain up to 5 browse trees with a minimum of 20 centimetre DBH and 50 per cent of primary browse species retained where available.¹⁶⁹ The committee notes that this information is publicly available on the NRC website.¹⁷⁰

2.79 Stakeholders also referenced the Office of Environment and Heritage's response in 2018 (obtained by a GIPAA request) to the Coastal IFOA reform, as proof that these prescriptions were inadequate.¹⁷¹ The OEH highlighted:

The scientific basis for proposed tree retention rates in the Draft Coastal IFOA is not clear, and the rates are less than half of those originally proposed by the Expert Fauna Panel.

While Koalas will use small trees, research has shown that they selectively prefer larger trees. In our experience, the proposed minimum tree retention size of 20cm [DBH] will be inadequate to support koala populations and should be increased to a minimum of 30cm [DBH]. Many Koala food trees are also desired timber species, so there is a high likelihood that larger trees will be favoured for harvesting, leaving small retained trees subject to the elevated mortality rates experienced in exposed, intensively-logged coupes.¹⁷²

2.80 Forestry Corp argued that the retention of appropriate trees needed to be 'desirable and workable' and explained:

There is a number of considerations when you look at what prescription might be desirable and workable. Part of the consideration is the logistics around it. Part of the consideration was what combination of measures. Tree retention specifically for koala trees was one, but then there are others and, in particular, clumps is one where there is both tree retention for koalas across the harvest area plus discrete clumps set aside. We ended up with a combination of different things.

We did not override the EPA, we simply had a difference of opinion about what would be the optimal mix of those conditions.¹⁷³

¹⁶⁸ Submission 155, Stand Up for Nature Alliance, p 10.

¹⁶⁹ Submission 154, North East Forest Alliance, p 47. See also, Evidence, Dr Oisín Sweeney, Senior Ecologist, National Parks Association of NSW, 16 August 2019, p 37.

¹⁷⁰ Natural Resources Commission, *Advice on Coastal Integrated Forestry Operations Approval Remake* (November 2016), p 41, <https://www.nrc.nsw.gov.au/_literature_240607/Final%20report>.

¹⁷¹ Evidence, Mr Gough, 16 August 2019, p 38; Submission 154, North East Forest Alliance, pp 47-48.

¹⁷² Submission 154, North East Forest Alliance, pp 47-48.

¹⁷³ Evidence, Mr Kearney, 26 February 2020, pp 17-18.

2.81 Mr Kearney said that he was not surprised by the results of the review and that the final decision had been made by the Government, and not Forestry Corp, after reviewing the different options and expert advice. Mr Kearney further explained that there were sections in the reforms that Forestry Corp had not wanted included and that these posed continual challenges to their team when implementing the IFOA.¹⁷⁴

Impact of remapping old growth forests on koala populations

2.82 Old growth forests provide valuable habitat for many threatened species, including koalas. Logging is not permitted in old growth forests on both private and public land in New South Wales.¹⁷⁵ However, in 2016 the NRC was asked to remap and rezone old growth forest in state forest informal reserves, some of which have been protected from logging for up to 20 years. When asked about it at a hearing in August 2019, Ms Jacquelyn Miles, Acting Director of Forestry at the EPA, responded that the NSW Government had not yet made a decision about logging in remapped old growth forests. When probed further on why the remapping had occurred in the first place and whether it was because there was a lacking timber supply, Ms Miles conceded that some of the new IFOA settings 'could have a wood supply impact'.¹⁷⁶

2.83 Inquiry participants were sceptical that there were other reasons as to why old growth forests had been remapped and opened. Dr Oisin Sweeney of NPA NSW suggested that allowing logging in old growth forests was an indication that Forestry Corp had not practised sustainable logging. He posited, 'If it is such a sustainable, well-managed industry why are we talking about opening up protected areas to get at big timber?'¹⁷⁷

2.84 In her report on declining koala populations, the Chief Scientist had recommended further research into the impacts of regeneration harvesting, where it has occurred, to determine its impact on koala populations. The Chief Scientist also recommended further assessment of the effectiveness of current and proposed IFOA prescriptions designed to mitigate the impacts of harvesting on koala populations.¹⁷⁸

2.85 Mr Ashley Love, a member of the Bellingen Environment Centre, also told the committee that the NRC's decision to remap and reassess both old growth forests and rainforests (which had been part of the informal reserves) was because of a 'perceived shortfall in timber supply'.¹⁷⁹

¹⁷⁴ Evidence, Mr Kearney, 26 February 2020, pp 17-18.

¹⁷⁵ NSW Environment Protection Authority, *Old growth forest and rainforest* (29 November 2018), <<https://www.epa.nsw.gov.au/your-environment/native-forestry/about-private-native-forestry/old-growth-forest-rainforest>>.

¹⁷⁶ Evidence, Ms Jacquelyn Miles, Acting Director – Forestry, NSW Environment Protection Authority, 16 August 2019, p 5.

¹⁷⁷ Evidence, Dr Sweeney, 16 August 2019, p 39.

¹⁷⁸ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW* (December 2016), p 17.

¹⁷⁹ Evidence, Mr Ashley Love, Member, Bellingen Environment Centre, 4 February 2020, p 23.

- 2.86** The NSW Government's suggestion that there would be 'no harm to koala populations with no reduction in wood supply' was described as a 'magic pudding approach' by stakeholders. Mr Gough of the Nature Conservation Council explained, 'There does need to be some level of choice between our existing levels of native forest destruction and the protection of koalas',¹⁸⁰ which also extended to the conservation of other important wildlife.
- 2.87** Media reports in September 2019 noted that the remapping of old growth forests had been put on hold as the NRC waited for Forestry Corp to confirm the existence of a timber shortage.¹⁸¹

Salvage logging

- 2.88** Following the summer 2019-2020 bushfires, the issue of salvage logging became a major issue for the timber industry and conservation groups. The committee notes that depending on the source, the terms 'salvage logging' or 'selective harvesting' have been interchangeably used. Both terms have been used throughout this chapter, with its use dependant on who the author or speaker was.
- 2.89** Mr Kearney from Forestry Corp updated the committee in February 2020 that following the bushfires, there had been some selective harvesting across the State:

At this stage—if I start on the South Coast—there has not been any timber harvesting since around November in Eden, Batemans Bay, the South Coast area or the Tumbarumba area. That has not happened yet. On the North Coast we resumed operations early in January. We have largely moved those operations into timber plantations to avoid harvesting broadly across the forest while we assess the level of damage. On the North Coast it is very variable in terms of the geography of where the fires occurred. The further north and further west you are the more coverage the fires had. In those areas something in the order of 60 per cent of the forests have been burnt. We are not harvesting in those areas at all at the moment.

Further south, where it is only 20 per cent to 30 per cent of the forests that have been burnt, we are harvesting in some areas at the moment. But, as I said, 70 per cent of our capacity for harvesting at the moment is in timber plantations while we work through a process with other government agencies about how to best reengage in harvesting in burnt areas.¹⁸²

- 2.90** When asked whether salvage logging had been undertaken in hardwood plantations, Mr Kearney further explained that selective harvesting had only occurred in the softwood plantations and that harvesting had begun immediately after the fires around Tumut because '[t]hose logs need to be recovered very quickly, otherwise they are not going to be usable'.¹⁸³ He noted that Forestry's Corp focus has been to manage timber supply in order to continue servicing businesses and economies.¹⁸⁴

¹⁸⁰ Evidence, Mr Gough, 16 August 2019, p 39.

¹⁸¹ Peter Hannam, 'NSW plan to remap old-growth forests put on hold amid supply probe', *Sydney Morning Herald*, 12 September 2019.

¹⁸² Evidence, Mr Kearney, 26 February 2020, p 3.

¹⁸³ Evidence, Mr Kearney, 26 February 2020, p 3.

¹⁸⁴ Evidence, Mr Kearney, 26 February 2020, pp 3-4.

2.91 Mr Kearney further confirmed that only sections of State forests would be harvested, for specified amounts of time:

What we are talking about doing is selective harvesting only, and doing it with at least the conditions and the IFOAs that currently stand, with additional conditions put on top of that to deal with the exacerbated issues from the fires.

The other thing is that we will not be going in and taking every tree. That is not something we do. We will just be focusing on servicing the important markets for timber for things like poles, bridge timbers and other building products. We are not going to be going in and grabbing hundreds of thousands of tonnes of pulp wood or anything like that. That is not what we will be doing.¹⁸⁵

2.92 In addition, Mr Kearney said that the duration of harvesting would be informed by the rate of recovery of tree species in the forest.¹⁸⁶

2.93 In contrast, stakeholders raised concerns about the extent of devastation caused by the summer bushfires and urged that all salvage logging cease during the recovery efforts. Ecologist Mr David Milledge told the committee that the three State forests in the Ballina area - Royal Camp, Carwong and Braemar State Forests – that were particularly important for koala conservation, had been all but recently devastated by bushfire.¹⁸⁷

2.94 Dr Steve Phillips, Managing Director and Principal Research Scientist at Biolink, supported Mr Milledge's assessment of these areas as being of high conservation value.¹⁸⁸ He also expressed concern that rather than focusing on animal rescue efforts, it appeared that the area was being considered for salvage logging, despite the detrimental effect such operations would have on any surviving koalas.¹⁸⁹ Elaborating on the inappropriateness of this salvage logging, Dr Phillips agitated, 'This is an area that does not need salvage logging. It needs a detailed assessment and the remaining populations need to be located, identified and protected with the greatest vigour'.¹⁹⁰

2.95 Ms Rachel Walmsley from the Environmental Defenders Office NSW warned of previous 'knee-jerk reactions' where salvage logging had occurred in burned areas to meet timber contracts. She advocated for laws to be 'climate-ready' and to plan for future resilience against the impacts of climate change:

Those kind of knee-jerk reactions would actually put more stress on species like koalas and in the burned areas. In terms of forestry what we do not need is the salvage logging or the knee-jerk reactions like that. We need to actually sit down and make laws climate-ready and plan for resilience because we are not going to have healthy and productive landscapes if we do not start planning for resilience now.¹⁹¹

¹⁸⁵ Evidence, Mr Kearney, 26 February 2020, p 3.

¹⁸⁶ Evidence, Mr Kearney, 26 February 2020, p 4.

¹⁸⁷ Evidence, Mr David Milledge, Ecologist, 18 October 2019, p 6.

¹⁸⁸ Evidence, Dr Phillips, 18 October 2019, p 6.

¹⁸⁹ Evidence, Dr Phillips, 18 October 2019, p 6.

¹⁹⁰ Evidence, Dr Phillips, 18 October 2019, p 7.

¹⁹¹ Evidence, Ms Walmsley, 18 February 2020, p 8.

Logging in burnt forests

- 2.96** Many other stakeholders voiced serious concern about logging in burnt or fire-affected forests so soon after the bushfires, and called for a moratorium on logging koala habitat in State forests, until more was known about the extent of damage caused and what the impacts were on local koalas and habitat.¹⁹²
- 2.97** After observing the amount of land that had been burnt and how this was affecting the koala, Mr Oliver Costello, Chief Executive Officer of the Firesticks Alliance Indigenous Corporation, urged:
- ... any pressure on koala habitats right now that we can make a decision about, if we can do anything we should be doing it because there are things out of our control but there are things in our control, and a moratorium on logging in koala habitats is one thing we can control.¹⁹³
- 2.98** Ms Cheyne Flanagan of the Port Macquarie Koala Hospital also emphasised that it was an 'emergency situation' and advocated for burnt forests to be assessed as a priority:
- We need to just stop everything until we can take a breath and get independent people to come in and reassess this whole thing, because there is minimal habitat left. Let's hang onto it until we can work out the best way forward. That is what the Government needs to do in the immediate.¹⁹⁴
- 2.99** Others insisted that forests needed a chance at recovery before logging could take place. Ms Paula Flack, member of the Great Koala National Park Steering Committee, also highlighted that burnt forests could still be providing shelter for surviving koalas and that these koalas were already facing other threats stemming from the fires:
- Once those forests open up and they have lost their understorey, the feral dogs have free access. Those animals [koalas] are already stressed nutritionally in terms of their hydration, loss of habitat and then to have those remaining potential shelters and refuges for them removed without considering what might actually be trying to survive in there, I think would be entirely inappropriate.¹⁹⁵
- 2.100** There have subsequently been reports in the media (May 2020) that Forestry Corp has resumed logging in native forests affected by bushfires. One article notes that EPA mapping shows about 92 per cent of the area set for logging was burnt in the bushfires. A Forestry Corp spokesperson is quoted to have said that it is working with the EPA to develop 'appropriate mitigation

¹⁹² Evidence, Dr Blanch, 18 February 2020, p 6; Evidence, Ms Loane, 18 February 2020, p 7; Evidence, Ms Orrego, 4 February 2020, p 13; Evidence, Mr Dennis, 3 February 2020, pp 14-15.

¹⁹³ Evidence, Mr Oliver Costello, Chief Executive Officer, Firesticks Alliance Indigenous Corporation and Deputy Chair, Indigenous Reference Group, Threatened Species Recovery Hub, 9 December 2019, p 29.

¹⁹⁴ Evidence, Ms Flanagan, 9 December 2019, p 32.

¹⁹⁵ Evidence, Ms Paula Flack, Member, Great Koala National Park Steering Committee, 4 February 2020, p 16.

measures' for post-fire logging, including conditions specific to each site, which 'substantially increases the area of habitat protected'.¹⁹⁶

Committee comment

- 2.101** The committee understands that the recent changes to the Coastal IFOA agreements relating to tree retention in koala habitat were contentious, even amongst the NSW Government's agencies. The committee is of the opinion that the current regulations are insufficient to conserve large intact areas of koala habitat and corridors.
- 2.102** The committee is also concerned about the remapping of old growth forests, which has led to some important areas of koala habitat open and vulnerable to logging for the first time in 20 years. The committee cautions that these areas are highly valued for their biodiversity and that the logging of old growth forests will cause significant and potentially irreparable damage to the affected ecosystems. The committee therefore recommends that the NSW Government rule out opening up old growth forests in the state forest reserve for logging.

Recommendation 6

That the NSW Government rule out opening up old growth forests in the state forest reserve for logging.

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- 2.103** In light of the above evidence and the ongoing recovery efforts in burnt forests, the committee acknowledges that the forests are essential habitats for not just koalas, but other threatened species, and need to be monitored for recovery before any further decisions about salvage logging are made. The committee thus recommends that the Government consider the impacts of logging in all public native (non-plantation) forests in the context of enabling koala habitat to be first identified and then protected by a combination of transferring land to national parks or inclusion in Forest Management Zone 2 – Special Management, where appropriate.

Recommendation 7

That the NSW Government consider the impacts of logging in all public native (non-plantation) forests in the context of enabling koala habitat to be identified and protected by a combination of transferring land to national parks or inclusion in Forest Management Zone 2, where appropriate.

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- 2.104** Considering the importance of retaining koala habitat in protected areas, the committee believes that the NSW Government should establish new plantations on land that has already been cleared and holds low biodiversity importance to reduce future reliance on native forest logging.

¹⁹⁶ Miki Perkins and Mike Foley, 'Logging returns to native forests hit by bushfires', *Sydney Morning Herald*, 1 May 2020, p 2.

Recommendation 8

That the NSW Government establish new plantations on already cleared land of low biodiversity importance to reduce future reliance on native forest logging.

Mining

- 2.105** The construction of a mine in areas of koala habitat and wildlife corridors can lead to the significant fragmentation or immediate loss of that habitat. Similarly to urban development, the construction of a mine can introduce new threats to the area such as roads, cars, power lines and fencing. This creates a hostile landscape for koalas and results in higher numbers of injury and death.¹⁹⁷
- 2.106** Mr David Paull, an ecologist in the Gunnedah region, highlighted that mining had caused extensive clearing on private land and State forests. For example, the White-Box-Yellow Box-Red Gum Woodland, which originally occurred over 3,700,000 hectares of New South Wales has been subject to ongoing clearing, particularly for mining. Its area has now declined by 93 per cent of its former extent, which has significantly reduced prime areas of habitat for koalas and other threatened wildlife.¹⁹⁸ Mr Paull also verified that over 1,000 hectares of koala habitat had been lost in the Leard Forest by mining companies and expressed concern for the current Shenhua Watermark mine proposal.¹⁹⁹
- 2.107** Further to the immediate loss and fragmentation of habitat, mining and its extraction of water can reduce the abilities of trees to survive drought, which in some areas, could have severe and prolonged effects on koala feed resources.²⁰⁰ In light of the extremely dry conditions in recent years, certain koala populations are increasingly at risk of dehydration as koalas receive most of their moisture from the leaves they eat. The Maules Creek Branch of the Country Women's Association (CWA) of NSW highlighted that immense amounts of surface water was being harvested by large landholders and coal mining companies and thus restricting water that would otherwise sustain the local environment. Highlighting that some mining companies held 'high priority' water licences which allowed them to extract water from river systems, the Maules Creek Branch of the CWA explained that this led to a greater loss of water over the landscape contributing to trees that were dying or already dead.²⁰¹

Shenhua Watermark mine

- 2.108** Shenhua Watermark has been approved to build a mine in the Gunnedah region. When the committee travelled to Gunnedah, the self-professed 'koala capital', for a site visit and public hearing in December 2019, it met with and heard from Mr Andrew Pursehouse, whose property overlooks the proposed mine site. Mr Pursehouse explained that there had been a slow decrease in the local koala population as they migrate towards the east and south as a result of an

¹⁹⁷ Submission 155, Stand Up for Nature Alliance, pp 6-7.

¹⁹⁸ Submission 231, Mr David Paull, p 5.

¹⁹⁹ Submission 231a, Mr David Paull, p 4.

²⁰⁰ Submission 149, Dr Ben Moore, p 4.

²⁰¹ Submission 97, Maules Creek Branch of the Country Women's Association of NSW, pp 2 and 7.

increasingly hotter, drier climate. Mr Pursehouse expressed extreme concern at the proposed mine and its impact on an already fragile koala population. He said, 'If the Shenhua mining development goes ahead 2,500 hectares of land will be clear felled and made into three big open-cut pits. That will stop that natural migration process happening'.²⁰²

- 2.109** Stressing the importance of this population to the committee, Mr Pursehouse noted that a Federal Government initiative had planted a tree line to the west of the Mooki River, which had resulted in increased koala sightings over the past 15 years. He warned that a mine would turn it into an industrial area and reverse these attempts at koala conservation. He said, 'It does not matter how many offsets you have or how many areas you put aside for koalas; they will not survive'.²⁰³
- 2.110** The committee also heard evidence from Mr John Trotter, the Environment Manager at Shenhua Watermark Coal (Shenhua) at the hearing in Gunnedah. Mr Trotter stated that preconstruction work for the mine had commenced, including 'environmental geotechnical surveys, effectively a series of test pits to environmentally test ground conditions at certain key locations, basically coinciding where infrastructure will be for the mine'.²⁰⁴
- 2.111** Mr Trotter explained that Shenhua was meeting all of its requirements under the current policy and legislative frameworks, including its Environmental Impact Statement (EIS). If they wished to deviate from the commitments and obligations under the EIS, Mr Trotter advised that it would require a conversation with the Department of Planning, Industry and Environment (DPIE) and potentially the OEH, for consent.²⁰⁵ Mr Trotter acknowledged that some modifications have already been made to their EIS and there was a possibility of more in the future.²⁰⁶
- 2.112** At the time of the hearing, Shenhua was in the early stages of organising an individual KPOM and Mr Trotter pointed out that there were opportunities for experts at the government level to provide comment on their plan. Shenhua would then be obligated to adequately address their comments. Mr Trotter also said that construction could only commence after receiving approval from the DPIE.²⁰⁷ Another interim Koala Habitat Plan was also being prepared, as per the requirement under the development consent. Mr Trotter said that the purpose of the plan was to construct a key koala corridor:

... to link stands of remnant woodland that contain koala habitat between an area known as Long Mountain and Breeza State Forest. The plan gives the detail around dimensions for that corridor and the species mix of the plantings and spatial arrangement, and the plannings of that work commenced in the first week of December and it is a two-year program to plant out that linking corridor.²⁰⁸

²⁰² Evidence, Mr Andrew Pursehouse, local resident, 13 December 2019, p 12.

²⁰³ Evidence, Mr Pursehouse, 13 December 2019, pp 12-13.

²⁰⁴ Evidence, Mr John Trotter, Environment Manager, Shenhua Watermark, 13 December 2019, pp 24-25.

²⁰⁵ Evidence, Mr Trotter, 13 December 2019, p 27.

²⁰⁶ Evidence, Mr Trotter, 13 December 2019, p 27.

²⁰⁷ Evidence, Mr Trotter, 13 December 2019, p 27.

²⁰⁸ Evidence, Mr Trotter, 13 December 2019, p 28.

2.113 However, ecologist Mr David Paull questioned the efficacy of KPOMs drafted by mining companies. Whilst acknowledging that Shenhua's consultants had done a lot of 'koala work', he explained that there were historical gaps with mining companies and koala research. Mr Paull recalled that an unofficial plan of management had been implemented for the Leard Forest but ultimately, clearing was allowed without 'any prior assessment'.

2.114 Shenhua also has a plan to controversially establish a series of biodiversity offset areas to release koalas into – some on the mine site, some adjacent to the mine and some remotely. Mr Trotter stated that Shenhua's biodiversity management plan would review and improve these areas so that they were appropriate for release:

But it is quite a large spatial area with various ecosystems in terms of their condition and whether they are degraded or not degraded. There are requirements to enhance those areas, hence the biodiversity management plan. That plan will have quite a degree of detail around that enhancement.²⁰⁹

2.115 The committee also heard that mining companies had more relaxed legislative requirements in relation to koala conservation. Clause 6.2 (2)(d) of the Biodiversity Conservation Regulation 2017 specifies that mining projects under a mining lease have 'an obligation to undertake ecological rehabilitation of the impacted site that has the same credit value (determined in accordance with the ancillary rules) as the retirement of like-for-like biodiversity credits'.²¹⁰ Whereas all other developers have to retire offsets at the point in time of the development, clause (d) allows mining companies to agree to rehabilitate the site in the future once they've finalised their operations. Ms Rachel Walmsley of the EDO NSW, warned that this section could prove redundant for long term koala conservation:

... mining rehabilitation can get offset credits up front. Say you have a mine up in Gunnedah and a koala population there, you can get up-front offset credits for that. You can say, "Okay, at the end of the mine, we'll rehabilitate that koala habitat". But if that is 30 or 40 years ahead, that might be too late for that population of koalas living in that mine.²¹¹

2.116 Shenhua has proposed translocating the koalas found on their mining site. Mr Trotter was optimistic that there was 'sufficient opportunity' for displaced koalas to be provided an adequate release point and promised that they will be tracked and monitored over time. He said, 'So there will be a lot of assessment and evaluation of that whole process. But if you ask me my opinion, I think that process, as long as it is well structured, well managed, well monitored, well reported on, will be successful'.²¹²

2.117 Ms Wendy Hawes, Director and Ecologist of the Enviro Factor, was concerned that research had been insufficient for Shenhua's proposed translocation, including whether the new habitat contained a pre-existing koala population. She said:

They had not done any surveys in the area they proposed to move the koalas to. You do not know whether there is an extant koala population in that area. Moving your koalas from this area to that—it is not empty habitat. There are animals there. It is akin

²⁰⁹ Evidence, Mr Trotter, 13 December 2019, p 27.

²¹⁰ Biodiversity Conservation Regulation 2017 cl 6.2.

²¹¹ Evidence, Ms Walmsley, 16 August 2019, p 58.

²¹² Evidence, Mr Trotter, 13 December 2019, p 28.

to moving the population of Inverell to Armidale and just putting them there and going, "You'll be alright. You can share your resources and things with these people without any problems".

For species that are already under stress, you are not only potentially killing the koalas you are relocating, you are killing the extant population that you are moving them to.²¹³

- 2.118** Dr Crowther acknowledged that while he did not know the details of Shenhua's proposed translocation, he did know that there were koalas throughout that specific region because the Liverpool Plains had very fertile soils, which made very good habitat.²¹⁴
- 2.119** The issue of translocation of koalas is further explored in Chapter 6. The merits of the offsets scheme under the *Biodiversity Conservation Act 2016* is looked into in more detail in Chapter 8.

Maules Creek Coal Project

- 2.120** The Maules Creek Coal Project, also known as Whitehaven Coal Mine, is an open cut coal mine located 45 kilometres south east of Narrabri. Project approval was granted in 2012 on several conditions, including the implementation of a Biodiversity Offset Strategy to compensate for the loss of native vegetation and habitat for threatened species caused by the clearing of the Leard State Forest. Whitehaven was also required to enter into conservation agreements to secure these offsets in the long term.²¹⁵
- 2.121** The ecological value of what was being cleared in the Leard State Forest to make way for the mine was outlined by the Maules Creek Branch of the Country Women's Association:
- Our local district is seeing firsthand how Leard State Forest and its small Koala population has been impacted. This State Forest was rezoned in 2012, to allow mining. The three open cut coal mines will ultimately bulldoze more than half of the 8,000ha in Leard State Forest that was considered 'irreplaceable' Old Growth Forest with Critically Endangered Whitebox grassy woodlands and under a Tier One classification.²¹⁶
- 2.122** In addition, the Wando Conservation and Cultural Centre claimed to have identified locations of high use koala habitat within the Leard Forest with a surviving population despite the ecological destruction caused by the Maules Creek Coal Project.²¹⁷

²¹³ Evidence, Ms Wendy Hawes, Director and Ecologist, The Enviro Factor, 18 February 2020, p 4.

²¹⁴ Evidence, Dr Crowther, 16 August 2019, p 30.

²¹⁵ Evidence, Ms Anna Christie, Research Officer, Wando Conservation and Cultural Centre, Maules Creek, 13 December 2019, p 2; Evidence, Mr Paul Elton, Chief Executive Officer, Biodiversity Conservation Trust, 18 February 2020, pp 48-49; Submission 87, Maules Creek Branch of the Country Women's Association of NSW, p 9.

²¹⁶ Submission 87, Maules Creek Branch of the Country Women's Association of NSW, p 9.

²¹⁷ Submission 192, Wando Conservation and Cultural Centre, p 2.

- 2.123** The committee also heard that in the Leard Forest, the Maules Creek mine had filled in Lawler well, which was not only a sacred Indigenous site, it was also the primary water source for all animals in the area, including koalas. Ms Martine Moran, WIRES' Koalas Coordinator told the committee that as part of that offset, water was made available eight kilometres away and that 'koalas have to somehow get themselves to that point' while dealing with lack of food, water and the heat.²¹⁸
- 2.124** Some of the offsets that Whitehaven Coal had secured for its Maules Creek coal project were not approved by the Biodiversity Conservation Trust due to mapping discrepancies and this is explored in more detail in a case study in Chapter 8.

Port Stephens sand mine

- 2.125** Some stakeholders flagged that the demand for building materials had led to an increase in sand mining activity across the State, which was negatively affecting the size and quality of koala habitat in those areas. As examined in Chapter 1, the Port Stephens koala population has experienced a dramatic decline in numbers over the past thirty years – from 800 to less than 200. In its submission to the inquiry, EcoNetwork – Port Stephens cited a 2017 report from the NSW Scientific Committee, which listed some of the reasons for the significant decrease and found that 'habitat had become highly fragmented due to clearing for agriculture, housing sand mining and roads. New developments proposed in the area would take in more than 1200 hectares of koala habitat'.²¹⁹
- 2.126** The Stand Up for Nature Alliance argued that in Port Stephens, sand mining had been permitted in areas of known and mapped koala habitat under *State Environmental Planning Policy No 44*. It highlighted, 'Even in Council areas where plans with mapped koala habitat exist, koala habitat may be destroyed. To illustrate, sand mining is permitted to destroy mapped koala habitat in Port Stephens Local Government Area [LGA]'.²²⁰

Committee comment

- 2.127** Notwithstanding Shenhua's comments that it is meeting all of its legislative requirements regarding koala conservation, the committee is not at all convinced that the building of the mine will have minimal impacts on the local koala population. After hearing the evidence, the committee is very concerned about the New England koala population, which is already suffering from sustained heatwaves and lack of water. The committee believes that building the Shenhua Watermark mine will have an irrevocable and devastating impact on the New England koala population. In this regard, the committee recommends that the Government ensure the protection of the local koala colony and habitat before allowing any further development at the Shenhua Watermark mine site.

²¹⁸ Evidence, Ms Martine Moran, Koalas Coordinator, WIRES, 13 December 2019, p 8.

²¹⁹ Submission 156, EcoNetwork – Port Stephens, p 2. See also, Submission 190, Port Stephens Greens, p 3.

²²⁰ Submission 155, Stand Up for Nature Alliance, p 23.

Recommendation 9

That the NSW Government ensure the protection of the koala colony and habitat before allowing any further development at the Shenhua Watermark mine site.

- 2.128** The committee strongly believes that the fragmentation and loss of habitat poses the most serious threat to koala populations in New South Wales. The committee recognises that the effect of this habitat fragmentation and loss is felt more acutely by certain koala populations.
- 2.129** Land clearing, private and public native forestry, urban development and mining activities facilitate the destruction of large swathes of important koala habitat. Whilst acknowledging the initiatives at play to counteract this loss of habitat, such as tree planting, the committee believes that they are not enough to counterbalance the huge amounts of habitat that has been lost. The committee believes that these are Band-Aid measures to a much greater problem.
- 2.130** Habitat is integral to the survival of the koala in New South Wales. The committee believes that unless the Government acts urgently to prevent the further loss of any more koala habitat, the future of the State's wild koalas cannot be guaranteed.
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Finding 4

That the fragmentation and loss of habitat poses the most serious threat to koala populations in New South Wales.

Finding 5

That the future of koalas in the wild in New South Wales cannot be guaranteed unless the NSW Government takes stronger action to prevent further loss of koala habitat.

Chapter 3 Impact of climate change on koala populations

Following the previous chapter that explored the primary threat of habitat fragmentation and loss, this chapter explores the impact of climate change on koala populations and habitat in New South Wales. The chapter also reviews the effects of the ongoing drought and preexisting dry conditions on koalas.

As evidenced by the recent 2019-2020 bushfires, fire is a major threat to koalas in New South Wales. The devastating impacts of the bushfires warranted a deeper examination and is explored in Chapter 5 of this report.

Climate change

The overarching effects of climate change

- 3.1** The issue of climate change was a consistent theme throughout this inquiry. Indeed, at every hearing, the committee received evidence that climate change was having an extremely detrimental effect on koala populations. In submissions, many stakeholders referred to the International Union for Conservation of Nature, which recognised the koala as one of ten species most likely to be adversely impacted by climate change.²²¹
- 3.2** A more nuanced explanation was given by some stakeholders including Dr Dan Lunney, independent koala expert, who reported that 'there are multiple interacting factors that will determine koalas' vulnerability to climate change'.²²² For example, Dr Lunney identified climate change as playing a 'significant part' in the decline of the koala in the Eden region but noted that populations in Coffs Harbour were declining at a much lower rate.²²³ Similarly, Mr David Paull, local koala expert, referred to research that stated that koala populations in north-west NSW 'are likely to experience most adverse impacts from climate-change within the next 20 years'.²²⁴ The committee also heard from witnesses that the Ballina area – which includes significant coastal floodplain, known for higher soil fertility, moisture and koala feed trees – was also not immune to the effects of climate change. In this regard, Ms Maria Matthes, a koala expert from Ballina told the committee:

We have had warmer winters. Breeding season has been so much shorter. So females are not getting the chance to recover before the next breeding season. Compiled with the temperatures, the quality of the food out there, the moisture in them, the nutrients

²²¹ Submission 69, Friends of the Koala, p 1; Submission 70, Jane Goodall Institute Australia, p 3; Submission 252, National Parks Association Armidale Branch, p 4; Submission 276, International Fund for Animal Welfare, p 2.

²²² Correspondence from Dr Dan Lunney, Independent koala expert, to the committee, received 5 January 2020 – Attachment 4, Clive McAlpine et al, 'Conserving koalas: A review of the contrasting regional trends, outlooks and policy challenges' (2015) 192 Biological Conservation, 232.

²²³ Correspondence from Dr Dan Lunney, Independent koala expert, to the committee, received 5 January 2020 – Attachment 2, Dan Lunney et al, 'Extinction in Eden: identifying the role of climate change in the decline of the koala in south-eastern NSW (2014) 41 Wildlife Research, 232.

²²⁴ Submission 231, Mr David Paull, p 5.

in them, the digestibility—it is a huge issue that we have to address. It is not good enough just to say that it is an issue for our west koalas because it is affecting all our coastal ones as well.²²⁵

3.3 The International Fund for Animal Welfare noted koalas were particularly vulnerable to climate change as it forces them out of their tree-dwelling lifestyle to search for new habitat and water, which put them at risk of predators and traffic.²²⁶

3.4 Overall, the committee received a significant amount of evidence that referred to climate change having an overarching detrimental effect on the State's koala populations. For example, a number of stakeholders told the committee that climate change was affecting koala habitat, primarily by reducing the nutritional quality of koala feed trees. Dr Ben Moore, who is a senior lecturer at the Western Sydney University's Hawkesbury Institute for the Environment, stated that 'both temperature and increasing atmospheric concentrations of CO₂ can act independently and in concert to alter the physiology of plants and the quality of plant tissues as food for herbivores'.²²⁷ In particular, he described the effect of elevated levels of carbon dioxide as reducing the nutritional quality of leaves, leading to a decline in protein concentrations and decrease in digestibility, particularly in young leaves.²²⁸ Dr Moore also suggested that atmospheric and climatic changes may favour the establishment and growth of certain eucalypt (or non-eucalypt) trees and disfavour others, with uncertain consequences for koalas.²²⁹

3.5 North East Forest Alliance raised similar concerns, arguing that 'climate change will also have increasing effects on leaf nutrients and toxins, reducing their palatability, and the distribution of eucalypts themselves'.²³⁰ Likewise, Mr James Fitzgerald, Founder of 'Two Thumbs Wildlife Sanctuary, described climate change as 'turbocharging our weather' resulting in the 'drying out' of forests and koala feed trees, to the detriment of koalas.²³¹

3.6 In addition to its effect on koala habitat, stakeholders identified climate change as a contributing factor to heat stress in koalas. For example, Dr Moore said:

During extreme heatwaves, which are increasing in frequency and severity, koalas can be killed directly by heat stress ... [as it] constrain[s] the ability of koalas to feed and thus obtain the water they need. This is because, first, eating and digesting generates heat, and animals avoid the production of heat when they are already heat-stressed, and second, because high temperatures impact liver function and reduce the ability of koalas to tolerate the toxins found in eucalypt foliage.²³²

3.7 Other stakeholders were less specific when describing the effects, but acknowledged an overarching connection between climate change and increased temperatures, along with more erratic rainfall. In many ways, an underlying theme of the evidence received by the committee

²²⁵ Evidence, Ms Maria Matthes, Ballina koalas expert, 18 October 2019, p 27.

²²⁶ Submission 276, International Fund for Animal Welfare, p 8.

²²⁷ Submission 149, Dr Ben Moore, p 3.

²²⁸ Submission 149, Dr Ben Moore, p 3.

²²⁹ Submission 149, Dr Ben Moore, p 4.

²³⁰ Submission 154, North East Forest Alliance, p 10.

²³¹ Evidence, Mr James Fitzgerald, Founder, Two Thumbs Wildlife Sanctuary, 18 February 2020, p 35.

²³² Submission 149, Dr Ben Moore, p 4.

was that climate change was exacerbating the effects of these natural occurrences.²³³ For example, the National Parks Association (NPA) Macarthur Branch remarked:

The effects of global warming are likely to be serious. Higher temperatures might decrease rainfall, increase evaporation and lower water tables. These factors could lower the water content of the dietary leaves and cause the death or decline of the principal dietary species, [eucalyptus] punctata, and diminish their nutrient levels or raise their toxin levels. Fungal infections of the eucalypts such as Myrtle disease could also become more problematic.²³⁴

3.8 However, the NPA branch also noted that 'koalas have survived millions of years of climate change', suggesting that 'the wider the distribution that koalas can survive in today, the more likely that there will be some places that will survive climate changes in the future'.²³⁵

3.9 Stand Up For Nature Alliance asserted that 'climate change is making Australia's normally challenging weather for koalas more extreme by exacerbating droughts, heat stress and bushfires',²³⁶ whilst the Forestry Corporation of NSW (Forestry Corp) suggested that the impacts of climate change, including the higher occurrence of droughts and extreme heat days, will continue to place future pressure on some koala populations.²³⁷

3.10 A number of stakeholders also identified a causal link between climate change and the increased intensity and incidence of large scale bushfires. In this regard, Mr Dailan Pugh, President of the North East Forest Alliance asserted:

... We are getting increased dry periods and all the modelling predictions are that we are going to get increased severe fire weather across Australia, particularly in southern Australia, but to an extent as well in eastern Australia. I do not think there is any doubt that climate change is playing a significant part in the increase in severe fire weather.²³⁸

3.11 Dr Mathew Crowther, Associate Professor of the University of Sydney's School of Life and Environmental Sciences, made similar comments, also highlighting the negative effect on koalas:

Bushfires, again, are predicted to increase in intensity and frequency with climate change. And, certainly, that is not good for koalas or many other fauna. And that is not just on the coast; that is inland, too. Inland is even worse because we are feeling it. Forty-five degrees is not a good temperature for anyone, including koalas.²³⁹

²³³ Submission 276, International Fund for Animal Welfare, p 8.

²³⁴ Submission 126, National Parks Association Macarthur Branch, p 4.

²³⁵ Submission 126, National Parks Association Macarthur Branch, p 4.

²³⁶ Submission 155, Stand Up For Nature Alliance, p 7.

²³⁷ Submission 161, Forestry Corporation of NSW, p 23.

²³⁸ Evidence, Mr Dailan Pugh, President, North East Forest Alliance, 9 December 2019, p 51.

²³⁹ Evidence, Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, University of Sydney, 13 December 2019, p 32.

- 3.12** Finally, Dr Lunney provided the committee with evidence that neatly summarised the 'compounding' effect of climate change, particularly for southeastern Australia:

Climate change is expected to act synergistically with existing threats to produce novel 'threat syndromes' ... drought frequency is projected to increase over most of Australia, and substantial increases in fire weather risk and catastrophic wildfire are predicted in southeastern Australia.²⁴⁰

Corridors and climate refugia

- 3.13** Many stakeholders raised the urgent need to identify and protect corridors of koala habitat and regenerate cleared areas to increase connectivity, or 'climate refugia' as climate change has forced animals to move through the landscape in search of more tolerable environments.
- 3.14** Ms Lynne Hosking, President of the Armidale branch of the National Parks Association, stated that with 60 per cent of koala habitat found on private land, it was important to establish protected areas of koala habitat across 'western slopes and plains linking east-west and north-south'. Ms Hosking suggested that this could be achieved by a range of strategies to create connectivity between travelling stock routes and reserves, as well as forested areas on private land.²⁴¹
- 3.15** In addition, Ms Rachel Walmsley, Director of Policy and Law Reform at the Environmental Defenders Office NSW, argued that the new Koala State Environmental Planning Policy should require the identification and protection of koala habitat as climate refugia and corridors for koalas and other wildlife.²⁴²
- 3.16** Similarly, Port Stephens Koala and Wildlife Preservation Society noted the importance of koala corridors:

Koala corridors, and wildlife corridors generally, allow the movement of animals without undue stress or interference, from one safe haven of habitat to another. We need accurate information about where these corridors are and then they need to be protected and maintained by law.

Research allows mapping of known koala habitat and movement corridors that would be included in the Local Council Koala Plan of Management, available for developers to see. Without accurate information, and mapping, we have a situation where 2 housing developments in Port Stephens have a common border which has cut off a known koala corridor.²⁴³

²⁴⁰ Correspondence from Dr Dan Lunney, Independent koala expert, to the committee, received 5 January 2020 – Attachment 4, Clive McAlpine et al, 'Conserving koalas: A review of the contrasting regional trends, outlooks and policy challenges' (2015) 192 *Biological Conservation*, 232.

²⁴¹ Evidence, Ms Lynne Hosking, President, National Parks Association – Armidale Branch, 13 December 2019, p 3.

²⁴² Evidence, Ms Rachel Walmsley, Director of Policy and Law Reform, Environmental Defenders Office NSW, 18 February 2020, pp 7-8.

²⁴³ Submission 251, Port Stephens Koala and Wildlife Preservation Society, p 6.

Committee comment

- 3.17** The committee recognises that koalas and other wildlife are impacted by a warming climate and increasingly severe weather events, and are thus needing to search for more tolerable environments. The committee believes that corridors between areas of koala habitat are essential and that climate refugia will become increasingly important for the protection and survival of the koala in New South Wales. The committee is also conscious that once planted, these corridors must be protected in the future, especially if the land changes ownership. The committee thus recommends that the NSW Government provide additional funding and support to community groups, so that they can plant trees and regenerate bushland along koala and wildlife corridors and explore mechanisms to protect these corridors in-perpetuity.

Recommendation 10

That the NSW Government provide additional funding and support to community groups, so that they can plant trees and regenerate bushland along koala and wildlife corridors and explore mechanisms to protect these corridors in-perpetuity.

Drought

- 3.18** It is clear that the longstanding drought conditions New South Wales has endured for many years have been compounded by the effects of climate change. In addition to this, drought conditions were also cited as paramount reasons behind the severity and devastation of the 2019-2020 bushfire season. Koala populations in New South Wales have suffered with below average rainfall and increased temperatures, which has significantly impacted the quality of their feed trees and nutrition. The committee was told that many koalas were already dehydrated and emaciated before the bushfires.

Effect on koalas

- 3.19** Stakeholders referred to the increasing rate of drought dieback prior to the bushfires, whereby koala feed trees failed to provide koalas with adequate hydration and in many cases, meant that koalas simply did not survive. Many suggested that this lack of hydration increased the stress on koalas in the lead up to the fires, so that many koalas were already severely weakened by the time the fires started.
- 3.20** In this regard, Mr John Lemon, a local koala researcher noted that feed trees in certain areas are dead due to the drought with dire consequences for koalas, and contended in a December 2019 hearing that it is an ecological emergency:

We are in uncharted territory. Trees are dying in huge numbers, especially on the slopes and ridge tops. I will give a very brief example. I collected two dead koalas on the way down here today from Uralla. The carer who brought one of those koalas in has been

going to the same paddock for 30 years and the trees where she collected browse leaves are dead. We are in uncharted territory and I would say it is an ecological emergency.²⁴⁴

- 3.21** Ms Wendy Hawes, Director and Ecologist of The Enviro Factor made similar observations about the amount of koala feed trees dying:

... as we have seen in the existing drought, the lack of moisture in the tree leaves ... we have actually had large areas of trees die and just pack up.²⁴⁵

- 3.22** On the drought's effect in the Port Macquarie region, Dr Rebecca Montague-Drake, Koala Ecologist and President of Koala Recovery Partnership, also expressed concern at the rate of dieback, suggesting that the region's 'lush forests' had passed a tipping point in the past summer:

I am deeply concerned about the dieback that I am seeing across our region. We have not done any analysis of that. I know that out in the Gunnedah area they have and they are seeing very sobering statistics from dieback out there. I think we have not quite caught up with it yet because it has literally been this past summer that we have just seen a tipping point from watching it get quite dry through to the eucalypts just starting to tip.²⁴⁶

- 3.23** Whilst many trees were dying, many others were no longer able to provide koalas with adequate hydration, due to a lack of moisture in their leaves. The committee heard evidence as early as August 2019 – well before the commencement of the fire season – that this was increasing the risks to koala populations. For example, Ms Kristie Newtown, Campaign Manager at WIRES informed the committee:

As the leaves are so dry there is no moisture in them so koalas were coming down from the trees and then they would be faced with threats, predation, all of those things.²⁴⁷

- 3.24** Along with increasing the risk of predation, Ms Cheyne Flanagan, Clinical Director of the Port Macquarie Koala Hospital, argued that drought also exacerbated the effect of underlying diseases as 'when animals get dehydrated, it tends to express diseases such as chlamydia far more'.²⁴⁸

- 3.25** With this preceding evidence in mind, it became clear to the committee that many koala populations in NSW had not entered the 2019 fire season in a good state, due to these compounding effects. According to independent koala researcher Dr Dan Lunney, 'from an ecological viewpoint, it is the compounding of factors that is so important, even though only one factor may be visible'.²⁴⁹ Mr Phil Spark, a wildlife ecologist, further emphasised to the committee in December:

²⁴⁴ Evidence, Mr John Lemon, Local koala researcher, 13 December 2019, p 16.

²⁴⁵ Evidence, Ms Wendy Hawes, Director and Ecologist, The Enviro Factor, 18 February 2020, p 4.

²⁴⁶ Evidence, Dr Rebecca Montague-Drake, Koala Ecologist and President of Koala Recovery Partnership, 3 February 2020, pp 2 and 4.

²⁴⁷ Evidence, Ms Kristie Newtown, Campaign Manager, WIRES, 16 August 2019, p 51.

²⁴⁸ Evidence, Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital, 9 December 2019, p 4.

²⁴⁹ Tabled document, Dr Dan Lunney, Independent koala researcher, *Statement by Dan Lunney for the Inquiry into koala populations and habitat in New South Wales*, 9 December 2019, p 2.

... without rain this summer we will see the worst decline in history. Never before has the landscape and vegetation been so dry. These, coupled with a heatwave, will deliver koalas and all exposed wildlife a fatal blow.²⁵⁰

- 3.26** Mr Phil Spark, wildlife ecologist, also warned the committee about the increasing threat that heatwaves will pose on koala populations:

Worse is yet to come. Going by this year's increased global emissions we are on track for two degrees of warming by 2050. The IPCC predicts the climate of 2050 to include extreme one-in-100-year events every year. We can expect 50 degree heatwaves in the next 20 years. To be prepared for the future we need to prioritise the needs of wildlife carers and secure the genetic diversity of koalas in captive breeding programs. Unfortunately the wild is no longer the safe place it used to be.²⁵¹

- 3.27** Similar observations were made by Dr Kara Youngentob, Research Fellow at the Australian National University's Research School of Biology, who told the committee in February that the drought and extreme heat had already 'taken a big toll' on the koalas in her care. Describing the lead up to the fire season, Dr Youngentob stated:

... extreme heat or prolonged heat reduces the amount that koalas can eat, leaving them malnourished and dehydrated. Many of the animals that have come into care at ANU were severely malnourished and some of these were rescued ahead of the fire front. This suggests that ongoing drought and extreme heat had already taken a big toll, well before this fire season arrived.²⁵²

- 3.28** Ms Flanagan from the Port Macquarie Koala Hospital echoed these observations:

We are finding these animals coming in that are not burnt, but they are so dehydrated that they just drink for days. I had one I watched the other day, and she drank for an hour. Even if you give them intravenous fluids, they are still drinking. They are just so dehydrated. Then you have got all these side effects that can happen from that. There is renal failure, of course and now we are finding ones that are getting blocked bile ducts because they are so dehydrated their bile is becoming quite sluggish.²⁵³

- 3.29** Similar comments were made by Mr Pugh from the North East Forest Alliance, who raised concerns that drought was 'compounding the impacts of the fire',²⁵⁴ along with Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager from WWF Australia, who stated 'we all do koala conservation a disservice by just talking about bushfires ... it really should be the drought and increased temperatures in bushfires together'.²⁵⁵

- 3.30** Following the bushfires, stakeholders expressed concern that the remaining koala populations will be subject to the further compounding and intensifying effects of climate change. Biolink's

²⁵⁰ Evidence, Mr Phil Spark, Wildlife ecologist, 13 December 2019, p 16.

²⁵¹ Evidence, Mr Philip Spark, Wildlife ecologist, 13 December 2019, p 16.

²⁵² Evidence, Dr Kara Youngentob, Research Fellow, Research School of Biology, Australian National University, 9 December 2019, p 12.

²⁵³ Evidence, Ms Flanagan, 9 December 2019, p 33.

²⁵⁴ Evidence, Mr Pugh, 9 December 2019, p 49.

²⁵⁵ Evidence, Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, World Wildlife Fund Australia, 18 February 2020, p 7.

report produced in March 2020 cautioned that koalas were at extremely high risk of the impacts of a hotter and drier climate in the near future:

The likelihood of a continuation of significant ongoing decline in the NSW population of the koala continuing to be driven by the preceding factors is considered to be extremely high, if not unavoidable. Climate model projections for the coming decades indicate an increasing risk of below average rainfall for southern and eastern mainland Australia, higher temperatures and evaporation, and below average runoff, with a significant projected increase in frequency of extremely hot years and extremely dry years (CSIRO 2018). Such projections will in turn exacerbate the potential for high frequency fires to become more widespread across the landscape.²⁵⁶

Committee comment

- 3.31** The committee shares the deep concerns of the many stakeholders who observed that climate change was having overarching detrimental effects on koalas and their habitat. The committee received distressing evidence that increasing temperatures and ongoing drought have reduced the nutrient quality and moisture in koala feed trees. As koalas receive their hydration from leaves, many koalas were malnourished, dehydrated and stressed before the bushfires. The committee is particularly concerned for the health and survival of inland populations.
- 3.32** The ongoing drought and climate change had already put koalas in a precarious position before the 2019-2020 summer. The committee believes that the severity and intensity of the summer bushfires were compounded by climate change and is extremely concerned about the predictions for the frequency, scale and intensity of bushfires to increase in New South Wales and what the impact of these fires will be on koalas.
- 3.33** The committee was convinced by the evidence it received that the impact of a heating climate, such as longer and more severe droughts and bushfire seasons, are having a devastating impact on koala populations across New South Wales and had contributed to their significant decline in recent years. The committee therefore finds that, unless urgently acted upon, climate change impacts will cause the extinction of the koala in New South Wales.

Finding 6

That climate change is having a severe impact on koala populations by affecting the quality of their food and habitat.

Finding 7

That climate change is compounding the severity and impact of other threats, such as drought and bushfires, on koala populations.

²⁵⁶ Lane, A., Wallis K., and Phillips, S., *A review of the conservation status of New South Wales populations of the Koala (Phascolarctos cinereus) leading up to and including part of the 2019/20 fire event* (2020), p 31.

- 3.34** Given the impact of climate change on koalas, it is important that the Government includes climate change mitigation as a core component of its strategy to save koalas in New South Wales. Hence the committee recommends that the Government strengthen its response to climate change and by doing so, factor in climate change as a key consideration in the drafting of all relevant legislation and planning strategies.

Recommendation 11

That the NSW Government factor in climate change as a key consideration in the drafting of all relevant legislation and planning strategies and ensure climate change mitigation is a core component of all strategies to save the koala in New South Wales.

Chapter 4 Other threats to koala populations

In addition to the threats of climate change and habitat fragmentation and loss, koala populations in New South Wales face a number of other serious and ongoing threats. These include vehicle strikes, attack by feral and domestic animals, and chlamydia and disease. Each of these are explored in the sections below. This chapter also recognises that local koala populations face different types of threats depending on their location, and thus require tailored conservation approaches.

Vehicle strikes

- 4.1** Throughout the inquiry, many stakeholders told the committee that a key threat to local koala populations were roads, traffic and vehicle strikes. The committee was told that threats to koala populations vary depending on where they are located in the State. Certain local populations with higher rates of urban development, such as those in Ballina²⁵⁷ or on the coast,²⁵⁸ are more vulnerable to roadkill.
- 4.2** Even though some populations experienced vehicle strike as a major threat, Dr Dan Lunney, an independent koala expert, who has studied roadkill in koalas across New South Wales, stated that it was essentially an issue anywhere with roads because 'wherever you have got a koala population and roads, then you have got koala roadkill'.²⁵⁹
- 4.3** Koala carers and conservation groups told the committee that they were caring for increasing numbers of injured koalas who had been hit by a car. Mr Ricardo Lonza, who co-founded the Help Save the Wildlife and Bushlands in Campbelltown, advised that since 2012 there have been 27 reported koala deaths on Appin Road. He mused that the statistics were probably higher as not all deaths were reported and some injured koalas may have run off and died in the bush.
- 4.4** Mr Lonza painted a picture of the relentless and distressing nature of the work involved with rescuing koalas from roads:

Last night I went out to one in east Campbelltown, then there were two today in Linwood Park, right where they want to put the Georges River Parkway. There was also one down in Glenfield today which is very dehydrated in suburbia, because they cannot find any water sources. Along with me and a lot of other dedicated rescuers out there from WIRES and Sydney Wildlife, we are out there on an almost daily basis and nightly basis rescuing koalas. It is absolutely heartbreaking.²⁶⁰

Opportunities to reduce vehicle strikes

- 4.5** The NSW Government highlighted that vehicle strike was a key threat to koalas and has committed \$3.3 million to fix priority hotspots where koalas have been hit by vehicles across

²⁵⁷ Evidence, Ms Maria Matthes, Ballina koalas expert, 18 October 2019, p 31.

²⁵⁸ Evidence, Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, University of Sydney, 16 August 2019, p 31.

²⁵⁹ Evidence, Dr Dan Lunney, Independent koala expert, 9 December 2019, p 17.

²⁶⁰ Evidence, Mr Ricardo Lonza, Co-founder, Help Save the Wildlife and Bushlands in Campbelltown, 25 October 2019, p 5.

New South Wales.²⁶¹ The committee heard of various methods to reduce roadkill, such as installing signs and speed cameras, fencing, overpasses and underpasses. These are reviewed below.

Signage, reducing speed and speed cameras

- 4.6** Stakeholders suggested that a short term solution to reduce koalas being hit by vehicles was to increase the number of road signs and speed cameras in areas of high koala use. Dr Roslyn Irwin, President of Friends of the Koala, noted that the local council had recently painted signs on the road and also installed vehicle activated signs in the Tweed and Lismore areas. After two weeks of monitoring, the results found a ten per cent drop in fatalities, but also that in spite of the increased signage, some cars had increased their speed in that area. Thus, Dr Irwin did not believe that signage was the answer to reducing roadkill, but a short term solution.²⁶²
- 4.7** Ms Linda Sparrow, President of Bangalow Koalas, told the committee that by installing flashing road signs and raising awareness that koalas were in the area, five less koalas had been killed in a roadkill hotspot within the first year of installation.²⁶³
- 4.8** Local councils also gave evidence in relation to what specific measures they had undertaken to reduce roadkill. Mr Scott Hetherington, Senior Program Leader of Biodiversity at Tweed Shire Council said that council logged sightings of injured koalas and used those records to identify high priority areas. The Tweed area has designated 'koala zones', similar to school zones, where variable message signs, pavement treatments and community education were used to inform drivers that there was a particular hazard in the area. Their data indicated that following these measures, there had been an increase of 12 per cent in drivers who were travelling at or below the road speed.²⁶⁴
- 4.9** Ms Virginia Seymour, Environmental Strategies Officer at Lismore City Council reflected that in her area, drivers did not vary or reduce their speed even if they were aware of wildlife. She said that in order to reduce road impact and fatalities, Biolink was currently conducting more research on the least cost pathways so that council could be informed as to where the hotspots were and could include them in their koala management strategies.²⁶⁵

²⁶¹ Submission 259, NSW Government, p 14.

²⁶² Evidence, Dr Roslyn Irwin, President, Friends of the Koala, 18 October 2019, pp 31-32.

²⁶³ Evidence, Ms Linda Sparrow, President, Bangalow Koalas, 18 October 2019, p 32.

²⁶⁴ Evidence, Mr Scott Hetherington, Senior Program Leader – Biodiversity, Tweed Shire Council, 18 October 2019, p 34.

²⁶⁵ Evidence, Ms Virginia Seymour, Environmental Strategies Officer, Lismore City Council, 18 October 2019, pp 34-35.

Fencing

4.10 There were varying stakeholder responses to the utility of fencing as a mitigation measure against vehicle strike. For example, Ms Matthes, a koala expert in the Ballina region, suggested that small sections of fencing could be useful to redirect koalas away from low visibility crests and curves in the roads.²⁶⁶ Dr Steve Phillips, Managing Director and Principal Research Scientist of Biolink also informed the committee that if designed and installed correctly, fencing could be a very effective measure. He said that he had tracked 11 different types of fencing across 52 kilometres of highway and that 'everywhere there was a fence, it did not matter what the fence was, there was no vehicle strike'.²⁶⁷ He explained that 90 per cent of vehicle strike occurred in areas without fencing, intersections and interchanges.²⁶⁸

4.11 Additionally, Dr Phillips emphasised the importance of closing off any exclusion zones in fencing and described how koalas would respond to a current fencing proposal for Appin Road in south western Sydney:

The animals hit the fence, go to either end, onto the road – dead. ... What is going to happen to these animals that disperse eastwards from the west? They are again going to hit this fence and – bang! – they are dead. This is a road trap. This can become a black spot and a death spot for koalas ...²⁶⁹

4.12 Ms Fiona Bullivant of the Wilton Action Group, echoed this concern that fencing must consider where the animals were being directed to. She said that the poor design of the fencing on her street had seen a tripling in roadkill.²⁷⁰

4.13 Several stakeholders also raised that fencing could lead to the removal of koala habitat and connectivity, which impacted other species.²⁷¹ Mr Lonza from Help Save the Wildlife and Bushlands in Campbelltown described the fencing along Picton Road as a 'sham' because it took away wildlife corridors. He said:

There is no point having this side with all the koalas in and then wipe it out and filter them into housing development. We need to keep their corridor systems so they can get from A to B. It is like if I put a wall up in your corridor so you cannot get to your bathroom or your bedroom. You need to get there. So we need to keep the corridor systems, the connectivity, open.²⁷²

²⁶⁶ Evidence, Ms Matthes, 18 October 2019, p 32.

²⁶⁷ Evidence, Dr Stephen Phillips, Managing Director and Principal Research Scientist, BioLink, 25 October 2019, p 14.

²⁶⁸ Evidence, Dr Phillips, 25 October 2019, pp 14-15.

²⁶⁹ Evidence, Dr Phillips, 25 October 2019, p 13.

²⁷⁰ Evidence, Ms Fiona Bullivant, Wilton Action Group, 25 October 2019, p 2.

²⁷¹ Evidence, Mr Matthew Wood, Director – Planning and Environmental Health, Ballina Shire Council, 18 October 2019, p 35; Submission 160, Wilton Action Group, p 2.

²⁷² Evidence, Mr Lonza, 25 October 2019, p 5.

Overpasses and underpasses

- 4.14** Multiple stakeholders supported the use of overpasses and underpasses to protect koalas from roads and traffic. Mr Kevin Evans, President of the Coffs Harbour branch of the NSW National Parks Association, advocated that some overpasses could be extremely beneficial for wildlife if they were well designed and maintained.²⁷³
- 4.15** Mr Saul Deane, Urban Sustainability Campaigner of the Total Environment Centre, advocated that before making any decisions to subdivide land, 'enclaving' overpasses and underpasses should be built as koala corridors particularly around roadkill hotspots.²⁷⁴

Combination of overpasses, underpasses and fencing

- 4.16** Inquiry participants recommended that the best method of reducing roadkill was to use a combination of overpasses and underpasses, with fencing.²⁷⁵ Dr Phillips of Biolink said, 'We know that fencing works very well when used in conjunction with underpasses. The two of them can work very well but one cannot work without the other'.²⁷⁶
- 4.17** Highlighting again the notion of local populations requiring local solutions, Dr Phillips stated that the makeup of the combination would depend on the quality of the habitat that the road was going through and whether the mitigation measures were being retrofitted or progressively being built in. When asked how far apart underpasses or overpasses should be, Dr Phillips responded that it depended on the average home range sizes of the koalas in that area. He suggested an overpass or underpass be built every 250 to 300 metres in high-carrying capacity country, whereas in low-carrying capacity country, his recommendation was one every 500 metres to a kilometre.²⁷⁷
- 4.18** Mr John Turbill, a current NSW Government employee and co-author of the original Coffs Harbour CKPOM, agreed that a combination of overpasses, underpasses and fencing worked best to reduce roadkill. He said, 'fencing directs animals off the road, allows them to climb back off the road if they do get on there and also funnels them to underpasses and overpasses'.²⁷⁸
- 4.19** Mr Chris Moon, co-author, Coffs Harbour KPOM, had worked closely with the former Roads and Transport Authority to monitor underpasses and helped design impact mitigation measures on the highway. He told the committee that fences have been very effective in his area (Taree to Coffs Harbour) and stopped roadkill for over a decade. Underpasses too were effective and by monitoring them using cameras, had seen koalas go through every underpass. Mr Moon noted that koalas did not use the overpasses.²⁷⁹ Mr Turbill stated that overpasses were used by

²⁷³ Evidence, Mr Kevin Evans, President, NSW National Parks Association – Coffs Harbour Branch, 4 February 2020, p 24.

²⁷⁴ Evidence, Mr Saul Deane, Urban Sustainability Campaigner, Total Environment Centre, 16 August 2019, p 46; Evidence, Mr Deane, 25 October 2019, p 9.

²⁷⁵ See also, Evidence, Mr Lonza, 25 October 2019, p 5.

²⁷⁶ Evidence, Dr Phillips, 25 October 2019, p 15.

²⁷⁷ Evidence, Dr Phillips, 25 October 2019, p 15.

²⁷⁸ Evidence, Mr John Turbill, Co-author of Coffs Harbour Koala Plan of Management, 4 February 2020, p 5.

²⁷⁹ Evidence, Mr Chris Moon, Co-author of Coffs Harbour Koala Plan of Management, 4 February 2020, p 6.

other wildlife, such as possums and gliders, and that the Roads and Maritime Services (RMS) had evidence that they work.²⁸⁰ Dr Phillips noted that the overpasses that were constructed on the North Coast, at high cost, could take a while to mature and develop but insisted that they did work.²⁸¹

- 4.20** Mr Turbill explained how this combination of fencing, underpasses and overpasses had resulted in a marked decrease in the numbers of koalas killed on roads:

Most of the Pacific Highway through the LGA has now been upgraded and fenced with koala tunnels and overpasses. That has taken out a lot of the major threat that was roadkill, where we used to get something like 18 koalas killed a year in and around the Bongil Bongil National Park area where the road went through the forest.²⁸²

Need for ongoing maintenance of infrastructure

- 4.21** Stakeholders also emphasised the importance of having an ongoing budget allocated to the maintenance of fencing, underpasses and overpasses, noting that if they became derelict, it would reduce their overall functionality and effectiveness. Mr Turbill said:

The major issue over time is the management of the fencing, because a lot of trees and vines grow up and the road gets built. Managing the fence to make it effective and stop koalas being able to climb over the fence or trees falling onto the fence will be an ongoing big issue of maintenance.²⁸³

- 4.22** Mr Moon also confirmed that maintenance and neglect were serious issues with fencing. He said, 'Yesterday I went to have a look at [fences on Lindsays Cutting] and I could walk across the fences without taking a step up because trees had fallen across'.²⁸⁴ Mr Turbill stated that the maintenance of roads, including the pavement and fencing, was the RMS' responsibility.²⁸⁵

Committee comment

- 4.23** The committee acknowledges the importance and value of building complete exclusion fencing so that koalas do not wander on to roads. The committee agrees with stakeholders that best practice is to build exclusion fencing in conjunction with underpasses and overpasses to mitigate road harm to koalas. This also provides safe connectivity and migration between habitat areas.
- 4.24** Whenever there is a proposal for development in areas of known koala habitat, the committee recommends the NSW Government ensure that the combination of underpasses, overpasses and exclusion fencing along roads is incorporated into both the retrofitting of existing infrastructure and new development in areas of known koala habitat.

²⁸⁰ Evidence, Mr Turbill, 4 February 2020, p 6.

²⁸¹ Evidence, Dr Phillips, 25 October 2019, p 15.

²⁸² Evidence, Mr Turbill, 4 February 2020, p 4.

²⁸³ Evidence, Mr Turbill, 4 February 2020, p 5.

²⁸⁴ Evidence, Mr Moon, 4 February 2020, p 6.

²⁸⁵ Evidence, Mr Turbill, 4 February 2020, p 6.

Recommendation 12

That the NSW Government ensure that the combination of underpasses, overpasses and exclusion fencing along roads is incorporated into both the retrofitting of existing infrastructure and new development in areas of known koala habitat.

- 4.25** With the above knowledge, the committee was very concerned to hear about the issues with the fencing on Appin Road in South Western Sydney. The committee believes that there was good intention in constructing the fence, but the inadequate design has led to koalas being tragically struck by vehicles and killed. Thus the committee believes that the fencing for Appin Road is counterproductive and in its current form, poses serious danger to local koalas. The committee recommends that the NSW Government urgently incorporate an underpass and overpass on Appin Road that is suitable for koalas and other wildlife, with appropriate wildlife corridors at both entrance points.
-

Finding 8

That the current exclusion fence for Appin Road in South Western Sydney is counterproductive and poses a serious danger to koalas.

Recommendation 13

That the NSW Government urgently incorporate an underpass and overpass on Appin Road suitable for koalas and other wildlife with appropriate wildlife corridors at both entrance points.

- 4.26** The committee believes that any positive effects of exclusion fencing to protect koalas and other wildlife will be limited if its maintenance is neglected. Therefore the committee recommends that appropriate and sufficient funds are allocated for the ongoing maintenance and management of exclusion fencing along roads.
-

Recommendation 14

That the Roads and Maritimes Services allocate appropriate and sufficient funds for the ongoing maintenance and management of exclusion fencing along roads.

Feral and domestic animals

- 4.27** The threat of dog attack has been mentioned several times throughout this chapter, particularly in relation to it being introduced as a secondary threat by urban development, mining and translocation.
-

4.28 Stakeholders told the committee that when koala habitat is fragmented or degraded, koalas need to travel across the ground, which puts them at significantly higher risk of being attacked by feral and domestic animals, especially dogs. Dr Rebecca Montague-Drake, koala ecologist and President of the Koala Recovery Partnership, explained that removing trees reduced the connectivity in the tree canopy, which koalas would normally use to travel, and thus left them particularly vulnerable to dog attack especially in urban and peri-urban settings.²⁸⁶

4.29 Dr Lunney, independent koala expert, commented that koalas are able to travel long distances on the ground with considerable ease. He explained that koalas would not be seen on the ground if there was continuous forest without roads or fragmented agricultural landscapes.²⁸⁷ The North East Forest Alliance's submission noted that koalas are having to move across increasing distances of unsuitable habitat to find food and maintain social interactions. This has made them more vulnerable to vehicle strikes, and predation by dingoes or dogs.²⁸⁸

4.30 Following the 1994 fires in Port Stephens, Dr Lunney studied and radio tracked koalas for three years and found that dogs were the biggest killer, more so than fire or roadkill:

... I was studying on the Grahamstown reservoir. Part of it is on the ground because it is a mining area, beach sand mining, and the road is quite wide, which left it wide open for dogs. We thought of fire and roadkill because there is koala roadkill all around Port Stephens. Fires had been raging all through that piece of forest and it was a crown fire but it turns out that the biggest killer was dogs by far. Most of the koalas that were killed after the fire were killed by dogs.²⁸⁹

4.31 In relation to the recent summer bushfires, Mr Atticus Fleming, Deputy Secretary of the National Parks and Wildlife Service, acknowledged that surviving koalas could be affected by feral animals roaming the firegrounds. Mr Fleming said, 'I think without going into detail there is fairly clear scientific consensus that the impact of feral animals is exacerbated by these fires'.²⁹⁰

4.32 The NSW Government is aware of the threat feral animals pose to koalas and other wildlife, and has been delivering baiting programs for wild dogs and foxes over the past two decades. Mr Atticus indicated that their focus was on native animal conservation and without 'comprehensive landscape scale' feral animal control programs many native animals, including koalas, were facing extinction:

For dingoes or wild dogs, what we are doing is ensuring that the aerial baiting is targeting the interface areas—that is the areas where we have a statutory obligation to control wild dogs. We will not be baiting in some of the core, more remote wild areas. So in that way we will be avoiding impacts on wild dogs and dingoes in those locations. We are trying to get the balance right. We are taking into account the best available science but it is driven by a very, very strong conservation need. If we do not deliver landscape-

²⁸⁶ Evidence, Dr Rebecca Montague-Drake, Koala ecologist and President of Koala Recovery Partnership, 3 February 2020, p 7.

²⁸⁷ Evidence, Dr Lunney, 9 December 2019, p 17.

²⁸⁸ Submission 154, North East Forest Alliance, p 9.

²⁸⁹ Evidence, Dr Lunney, 9 December 2019, p 17.

²⁹⁰ Evidence, Mr Atticus Fleming, Deputy Secretary, National Parks and Wildlife, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates, 6 March 2020, p 40.

scale feral animal control then the impact on our wildlife, which is already massive, is going to be much larger.²⁹¹

4.33 Forestry Corp summarised their commitment to the management of wild dogs, under the collaborative Wild Dog Management Plans, which are coordinated on a regional basis by Local Land Services (LLS) and includes the National Parks and Wildlife Service. Forestry Corp stated that these plans addressed both conservation and control objectives and were approved by the LLS. In addition to strategic baiting, aerial baiting and trapping projects, Forestry Corp uses the full suite of available techniques to manage wild dogs.²⁹²

4.34 The DPIE has also funded a wild dog impact study in the north east of the State, looking at the interaction between koalas and wild dogs. Ms Trish Harrup, Director of Parks and Conservation Policy, Environment, Energy and Science Group, DPIE advised that the research was ongoing:

Through the process of consultation and the research we did to develop the NSW Koala Strategy, we found that there was no expert consensus on whether wild dogs are a key threat to koalas. There is clear evidence that free-roaming domestic dogs are, but whether or not wild dogs are is still up for question.²⁹³

Chlamydia

4.35 This section examines the standalone threat of disease, particularly chlamydia, in more detail. Disease is currently a serious threat to certain koala populations across New South Wales. Chlamydia causes infertility and eventually death in koalas.²⁹⁴ Dr Crowther, Associate Professor at the University of Sydney's School of Life and Environmental Sciences, told the committee that the strains of chlamydia found in koalas were the same strains found in sheep and cattle. Dr Crowther advised that transmission can occur in a number of ways:

It is koalas crossing landscapes, they are probably exposed to the faeces of cattle and sheep and that is probably how they get it. Within koalas they are spreading it themselves because it is also a sexually transmitted disease and it can also be transferred from mother to offspring. It could have come in, and it looks like multiple times, multiple crossover events from sheep and cattle.²⁹⁵

4.36 Dr Crowther stated that his research has yet to establish a firm link between stress in koalas with an increased vulnerability of contracting disease. However, he did acknowledge that stress, heatwaves and lack of water could contribute to immune deficiency.²⁹⁶ Ms Cheyne Flanagan of the Port Macquarie Koala Hospital agreed that animals were more likely to contract disease, including chlamydia, when they were dehydrated.²⁹⁷

²⁹¹ Evidence, Mr Fleming, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 41.

²⁹² Answers to questions on notice, Forestry Corporation of NSW, 6 September 2019, p 1.

²⁹³ Evidence, Ms Trish Harrup, Director Parks and Conservation Policy, Environment, Energy and Science Group, Department of Planning, Industry and Environment, 16 August 2019, p 8.

²⁹⁴ Evidence, Dr Crowther, 16 August 2019, p 28.

²⁹⁵ Evidence, Dr Crowther, 16 August 2019, p 28.

²⁹⁶ Evidence, Dr Crowther, 16 August 2019, p 28; Evidence, Dr Crowther, 13 December 2019, p 19.

²⁹⁷ Evidence, Ms Flanagan, 3 February 2020, p 4.

- 4.37** Inquiry participants highlighted that similarly to other threats, disease disproportionately affects some koala populations. Dr Irwin who is the President of Friends of the Koala, said that the number one cause of koala deaths in the Lismore area was due to disease.²⁹⁸ Dr Kellie Leigh, Executive Director of Science for Wildlife, is currently conducting research into expanding koala populations in protected areas in the Blue Mountains and had observed that for them, habitat fragmentation was not the major threat but fire and disease were. She reported that there was no chlamydia in the Kanangra population but it had been found in the Hawkesbury area, yet it had not prevented the growth of that population.²⁹⁹ Dr Leigh suggested that as the koalas were located in protected areas, they may have not yet encountered the particular strain of chlamydia found in domestic livestock living in fragmented landscapes.³⁰⁰
- 4.38** Dr Leigh noted that some populations could be 'naïve' and greatly impacted by the disease, whereas other populations could be more resistant and able to carry it.³⁰¹ Mr James Fitzgerald, founder of Two Thumbs Wildlife Trust, observed that he had koalas in his care that had tested positive for chlamydia, but they did not have 'active disease', which he also attributed to having large amounts of non-fragmented habitat.³⁰²
- 4.39** Dr Crowther was also of the opinion that chlamydia affected koala populations differently and that it did not spell out the end for all infected populations:
- I do not want to say that it is definitely the problem in all populations. ... Sometimes the populations can cope with that type of thing—there is a process whereby sometimes diseases within populations are kept at a very low level. It sends some animals infertile but it does not necessarily have a population effect: animals can become infected and still have offspring; infertility works over time. So, it is not necessarily a death knell for all populations in New South Wales; it is for some.³⁰³
- 4.40** In terms of the longevity and good health of a population, Dr Leigh emphasised the importance of genetic diversity. She described genetic diversity as what allows a species to persist over time, overcome disease and adapt to selection pressures:
- If you have a lot of diversity and a disease goes through then you might have a few individuals that will resist it because they have different genes. If those animals then survive they will breed up and then that population will be resistant to that disease and that is how populations evolve over time under various selection pressures.³⁰⁴
- 4.41** As different koala populations responded differently to disease, stakeholders suggested that the threats of disease be assessed and mitigated according to each population and by the different strains present. The threat was urgent for some populations including the Liverpool Plains koalas, where there were different strains of chlamydia with genetic differences between them. Dr Crowther noted:

²⁹⁸ Evidence, Dr Irwin, 18 October 2019, p 31.

²⁹⁹ Evidence, Dr Kellie Leigh, Executive Director, Science for Wildlife, 9 December 2019, p 11.

³⁰⁰ Evidence, Dr Leigh, 9 December 2019, p 14.

³⁰¹ Evidence, Dr Leigh, 9 December 2019, p 15.

³⁰² Evidence, Mr James Fitzgerald, Founder, Two Thumbs Wildlife Trust, 18 February 2020, p 36.

³⁰³ Evidence, Dr Crowther, 16 August 2019, pp 30-31. See also, Evidence, Dr Leigh, 9 December 2019, p 14.

³⁰⁴ Evidence, Dr Leigh, 9 December 2019, p 14.

We have been working here since 2008 and [chlamydia] was about 10 per cent when we first came here. Now it is hovering around the 70 per cent mark. That will eventually kill the animals, but what is probably even worse from a population point of view is that it causes sterility. Within one of the populations we were looking at on the Liverpool Plains only 18 per cent of the females of a reproductive age were having young at any stage. That figure was 23 per cent in another population. That cannot replenish the population when you put that into a model. Even if we tackle the issues around water, habitat and adult survivorship, the koalas will be gone in 30 years. They cannot replenish their numbers at such a low reproductive rate. It is just impossible. Those figures should be above 60 per cent, with about 80 per cent fertility. There are a few reasons why that may be happening. The climate may be interacting with it, but if we do not address the fertility question, even if we do get a large amount of rainfall, the koalas will be gone from this region.³⁰⁵

Research and funding into koala diseases

- 4.42** Inquiry participants emphasised the need for more research into how disease affects and can be treated in koalas. Dr Crowther emphasised that despite the costs, research needed to be conducted into the sources and methods of disease transmission and demographic modelling (looking at a population's age structure and how many koalas were having young). Dr Crowther's own research involved a full veterinary team that not only focused on the prevalence of chlamydia, but also of every other disease found in the population. Dr Crowther said that additional funding for research in other populations would 'tell you exactly what is happening' and could pinpoint the causes of population decline.³⁰⁶
- 4.43** The committee is also aware of a vaccination trial taking place in Gunnedah, facilitated by the University of Sunshine Coast and Dr Crowther's colleagues at the University of Sydney. Media reports noted that researchers hoped the vaccine would prevent, cure or alleviate the symptoms of chlamydia in koalas. The vaccine was to be customised to the strains of chlamydia found in the region and administered to 60 healthy and sick koalas, who would then be monitored for three years.³⁰⁷

Localised threats

- 4.44** The committee heard that koala populations and the threats that affected them markedly differed across the State, depending on where they were located. Dr Crowther from the University of Sydney compared the different threats facing koala populations based on their locations:

It is not done for every population in New South Wales but it seems to be a population by population type effect. The Liverpool Plains' populations have very different threats to populations on the coast. The one we are talking about in the Campbelltown region—very different threats, again: there is no chlamydia but there is much higher population density, much higher road traffic; there is development along the north

³⁰⁵ Evidence, Dr Crowther, 13 December 2019, pp 18-19.

³⁰⁶ Evidence, Dr Crowther, 13 December 2019, p 22.

³⁰⁷ Vanessa Hohnke, 'Gunnedah koala chlamydia vaccine trial planned for 2020', *Namoi Valley Independent*, 5 August 2019.

coast. That is not really a big problem on the Liverpool Plains. On the Liverpool Plains the really big problem is that there is disease and it is getting days upon days of 45 degrees with no relief. Again, it seems to be a population by population threat. You cannot just say, "This is the main threat". We have done many workshops of many scientists to show that the main threat to the koala populations depends on where you are in the State.

... The threats on the coast are because there is a lot of development that also brings along impacts such as road traffic; there are more roads being constructed so there is more traffic on those roads, which has a higher impact on a population. So, on the coast, deforestation and the impacts that go along with deforestation, which include increased traffic and increased risk of dog attacks—includes all of these things that are connected to each other. Again, inland it seems to be much more to do with climate and disease.³⁰⁸

4.45 Therefore as state koala populations varied in composition and local environments, stakeholders told the committee that threats needed to be addressed on a 'population by population' basis.³⁰⁹ Ms Maria Matthes, a koala expert in the Ballina region, told the committee, 'Every landscape that they exist in is different and the threats that they face require individual, holistic and integrated management recommendations'.³¹⁰

4.46 Dr Lunney, independent koala expert, explained that certain koala populations were declining at different rates, and had seen a marked difference between locations. For example, his studies revealed that the Coffs Harbour population had experienced very little decline over the past two decades, whereas in contrast, the drought ridden area of Gunnedah was experiencing rapid population decline.³¹¹

4.47 Using the recent bushfires as an example, Dr Lunney explained how threats can overlap and how each population required its own conservation plan for survival:

The fires also demonstrate the important fact that each population needs its own management approach—its own conservation plan. We might have drought in one area, drought and fire in another, fire without drought—we can have combinations of conditions. Each area needs its own sequence of events; one blanket answer is not sufficient.³¹²

4.48 Mr Dailan Pugh, President of the North East Forest Alliance also emphasised the importance of protecting local populations to ensure the viability of the entire species in the face of future threats:

... because we have fragmented the landscape, and the koala population has been naturally fragmented, they occur in populations across the landscape, it is not one big koala population, there are a number of separate, individual populations and they are becoming more fragmented over time. They are becoming smaller and smaller.

³⁰⁸ Evidence, Dr Crowther, 16 August 2019, p 31.

³⁰⁹ Evidence, Mr David Milledge, ecologist, 18 October 2019, p 2; Evidence, Ms Sue Higginson, environmental lawyer, 18 October 2019, p 22.

³¹⁰ Evidence, Ms Matthes, 18 October 2019, p 23.

³¹¹ Evidence, Dr Lunney, 9 December 2019, p 16.

³¹² Evidence, Dr Lunney, 4 February 2020, p 3.

Really, if we want to save those populations we make sure that each of those is viable. Otherwise they reach the point where the numbers drop so much that they get wiped out in a bushfire or if they get disease outbreak and there is no way to recolonise them.³¹³

- 4.49** Mr Pugh further warned against the 'cascading effect' of losing local populations, because 'extinction is the loss of numerous local populations one at a time across the landscape. If you lose them, then you lose your overall population'.³¹⁴
- 4.50** The committee notes that with the repeal of the *Threatened Species Conservation Act 1995*, the status of koala populations can only be listed at the State level and the status of local populations can no longer be individually determined. The effects of these reforms are examined in Chapter 8.

Committee comment

- 4.51** The committee recognises that further to habitat loss, there are serious and ongoing threats that local koala populations face, which will vary depending on where the population is located. For example, the committee notes the evidence that koalas found in popular coastal areas are subject to a higher threat of injury or harm from dogs and vehicles, whereas in contrast, inland koalas are at more at risk of dehydration and disease.
- 4.52** The committee strongly believes that in the face of decreasing numbers of koalas in the State, survival and protection of local populations is vital. As the threats differ across local populations, so too should conservation approaches, on a population by population basis.

Finding 9

That local koala populations face different threats of varying severity, depending on the region that they are located in.

³¹³ Evidence, Mr Dailan Pugh, President, North East Forest Alliance, 18 October 2019, p 21.

³¹⁴ Evidence, Mr Pugh, 18 October 2019, p 22.

Chapter 5 Response to the 2019-2020 bushfire season and its effect on koalas

This chapter explores the aftermath of the extreme weather event that was the 2019-2020 bushfire season in NSW, with a close examination of the immediate and post-fire response. The extent of the damage resulting from the fires was staggering – with a total of 5.5 million hectares burnt in the State. Many stakeholders noted that with the government response focused on saving lives and property, koalas and other threatened species were tragically affected.

As earlier chapters of this report have shown, koalas have been on a downward trajectory as a species for many years. As a result, when the fires of 2019-2020 began, they wrought havoc on a species already in peril. This chapter highlights that the blow these fires dealt to the survival of koalas in New South Wales was overwhelming and highlights the need for drastic measures in order to save them.

In the aftermath of the fires, people – many who had experienced profound loss themselves – opened their homes to animals suffering from these fires. The work of both formally trained and ad hoc wildlife carers was fundamental to the survival of many animals who had had their habitat destroyed and been injured in the fires, particularly koalas. Challenges experienced by these carers are explored towards the end of the chapter, along with an examination of the adequacy of government funding provided for wildlife rescue and rehabilitation.

Impact of the 2019-2020 bushfire season

Level of devastation across New South Wales

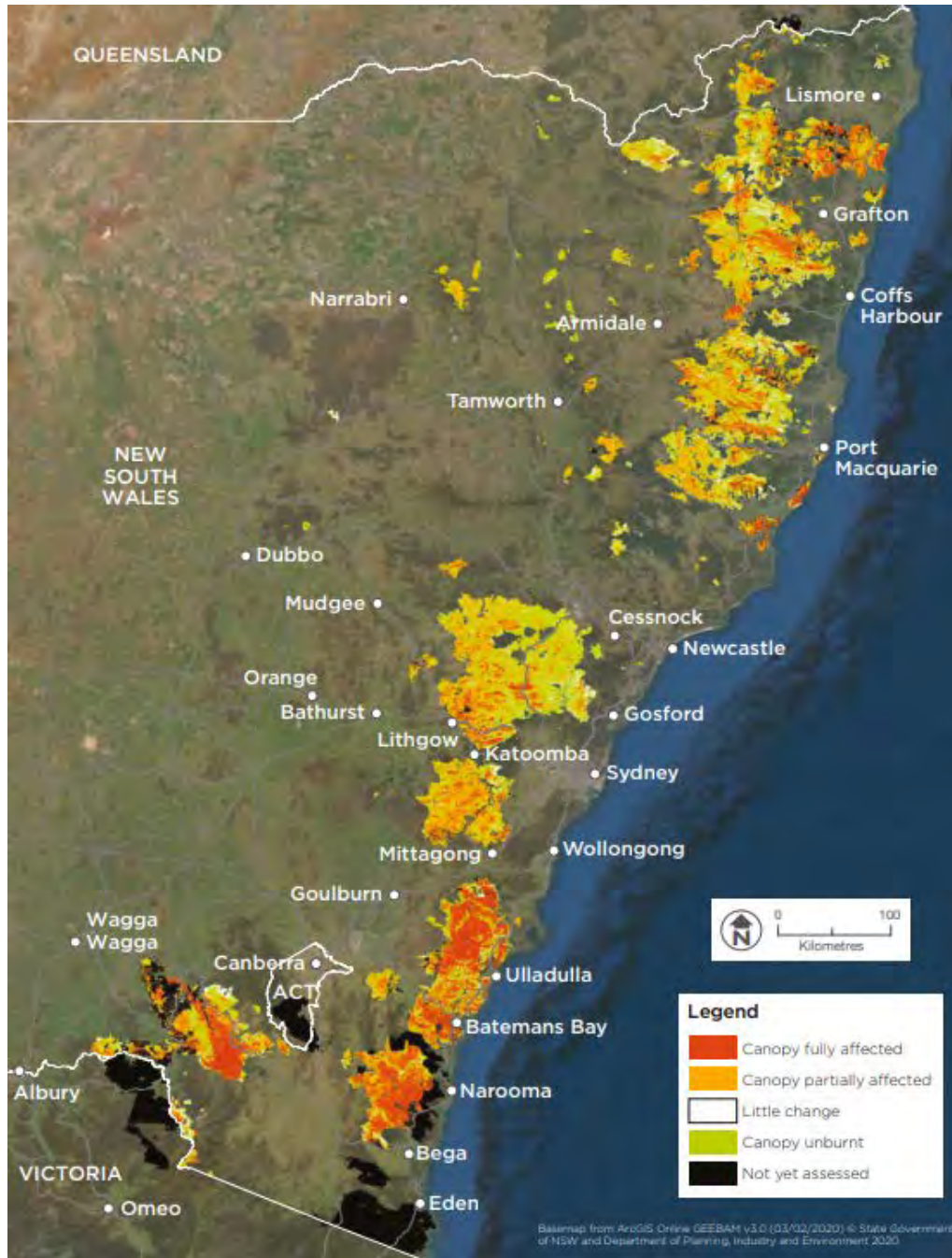
- 5.1** New South Wales had experienced ongoing serious drought before the bushfires and these pre-existing dry conditions set the scene for the severity of the summer bushfires. Whilst fires have been part of the Australian landscape for tens of thousands of years³¹⁵ stakeholders agreed that the length and severity of the fire season was 'unprecedented'.³¹⁶ Ms Cheyne Flanagan, Clinical Director of the Port Macquarie Koala Hospital soberly remarked that 'nothing would have stopped these fires—nothing'.³¹⁷
- 5.2** The *Fire and the Environment 2019–20 Summary* was released by the NSW Government in May 2020 and uses data from the NSW Rural Fire Service (RFS) Incident Control Online system to determine the type and proportion of land of different tenures that was contained within the RFS fire ground. Figure 7 shows the relative fire severity of areas within the RFS fire ground based on how much of the canopy appears to have been affected by fire.

³¹⁵ Evidence, Mr Robert Quirk, Executive Director, Park Programs, National Parks and Wildlife Service, 31 October 2019, p 17.

³¹⁶ Evidence, Dr Kellie Leigh, Executive Director, Science for Wildlife, 9 December 2019, p 12. Evidence, Mr Atticus Fleming, Deputy Secretary, National Parks and Wildlife Service, 9 December 2019, p 39.

³¹⁷ Evidence, Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital, 9 December 2019, p 31.

Figure 7 Relative fire severity of areas within RFS fire grounds



Source: NSW Government, *Fire and the Environment 2019–20 Summary*, May 2020, p 4.

5.3 By March 2020, the bushfires had burnt through 5.5 million hectares across New South Wales.³¹⁸ This included 2.7 million hectares of national parks, which makes up 36 to 37 per cent of the

³¹⁸ Evidence, Hon Matt Kean MP, Minister for Energy and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 10.

total estate³¹⁹ and four per cent of freehold land was also impacted by the fires.³²⁰ Within the national parks estate, 55 parks or reserves had more than 99 per cent of their area affected by fire, 70 parks or reserves had 75–99 per cent of their area affected and 29 parks or reserves have 50–74 per cent of their area affected.³²¹ Approximately 670,000 hectares (approximately 50 per cent) of coastal forests in the State were burnt – around half of that amount severely.³²² Mr Dean Kearney, Senior Manager of Planning, Hardwood Forests Division in Forestry Corporation of NSW (Forestry Corp), informed the committee that as of February 2020:

- North Coast – 49 per cent of State forest burnt
- South Coast – 75 per cent of State forest burnt
- Eden – 60 per cent of State forest burnt
- Tumut – 46 per cent of State forest burnt.³²³

5.4 Approximately 50 per cent of hardwood forests had been subject to some form of fire, and of this figure, 25 per cent had been subject to severe fire.³²⁴ Approximately 25 per cent of softwood plantations were also impacted by fire.³²⁵

5.5 In the Blue Mountains, 80 per cent of the World Heritage area was impacted by fire.³²⁶

5.6 Table 2 is taken from the *Fire and the Environment 2019–20 Summary* and shows the severity of the fire across different tenure types, including national parks, State forests, Crown land, freehold and other land.

³¹⁹ Evidence, Mr Fleming, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 10.

³²⁰ Evidence, Ms Tracey Mackey, Chief Executive Officer, NSW Environment Protection Authority, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 10.

³²¹ NSW Government, Wildlife and Conservation Bushfire Recovery – Immediate Response January 2020, p 5.

³²² Evidence, Mr Dean Kearney, Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW, 26 February 2020, p 3.

³²³ Evidence, Mr Kearney, 26 February 2020, p 6.

³²⁴ Evidence, Mr Kearney, 26 February 2020, p 2.

³²⁵ Answers to questions on notice, Mr Kearney, 26 March 2020, p 1.

³²⁶ Evidence, Dr Leigh, 18 February 2020, p 39.

Table 2 Fire severity in major NSW tenures within the RFS fire ground

Tenure	Fire severity class (percentage of tenure area within the RFS fire ground)				
	Percent canopy fully affected	Percent canopy partially affected	Percent little change	Percent canopy unburnt	Percent not yet assessed
National park	23	36	8	27	6
State forest	17	32	7	21	24
Other Crown land	19	32	10	27	12
Freehold	13	35	7	24	12
Other	12	30	12	23	24

Source: NSW Government, *Fire and the Environment 2019–20 Summary*, May 2020, p 12.

Loss of koala habitat due to the bushfires

- 5.7 In December 2019, the NSW Government provided initial figures that 15 per cent of higher quality koala habitat within national parks had been affected (but not lost³²⁷) by the fires.³²⁸
- 5.8 By March 2020, the Department of Planning, Industry and Environment identified that one quarter of the State's total koala habitat had been 'scorched'.³²⁹ Ms Tracey Mackey, Chief Executive Officer, NSW Environment Protection Authority (EPA), reported that they were still reviewing the impacts of the fires:

We did the initial work around the severity of the fires to overlay it with where refuge areas for animals were, and that was released as part of the immediate response plan. We have now done further work to find out what is actually happening in all of the areas of the State that have been impacted.³³⁰

³²⁷ Evidence, Mr Fleming, 9 December 2019, p 39.

³²⁸ Evidence, Mr Fleming, 9 December 2019, p 38.

³²⁹ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 11.

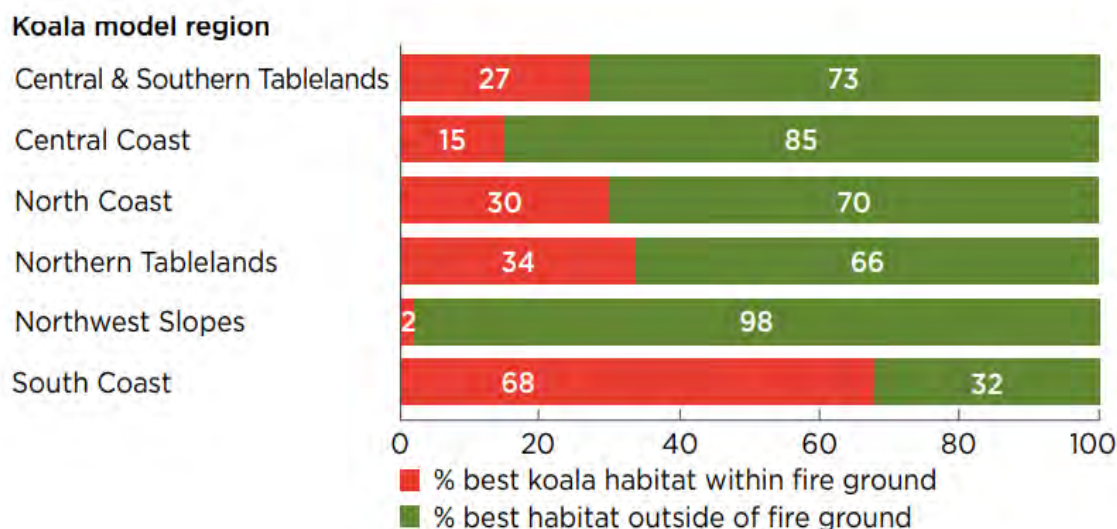
³³⁰ Evidence, Ms Mackey, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 11.

5.9 The *Fire and the Environment 2019–20 Summary* contained much of the further work discussed by the Department in March. According to the revised figures in this document:

- over 3.5 million hectares, or 25 per cent, of the most suitable koala habitat in eastern New South Wales was in the RFS fire ground
- over 1.9 million hectares of high or very high suitability koala habitat in eastern New South Wales were within the fire ground. This represents 22 per cent of the best koala habitat in eastern New South Wales
- koala model regions with the greatest percentage of the best koala habitat in the fire ground are the North Coast, Central and Southern Tablelands, Central Coast and the South Coast
- only three koala model regions have little or no areas in the fire ground: Darling Riverine Plains, Riverina and Far West.

5.10 The percentage of high and very high suitability koala habitat inside and outside of the RFS fire ground in each koala model region is shown in Figure 8.

Figure 8 Percentage of high and very high suitability koala habitat inside and outside of the RFS fire ground in each koala model region



Source: NSW Government, *Fire and the Environment 2019–20 Summary*, May 2020, p 18.

5.11 Stakeholders also gave varying estimates of how much koala habitat was thought to be lost as a result of the bushfires. In the North Coast, Port Macquarie-Hastings Council measured that 29.3 per cent (7,295.6 hectares) of high priority koala habitat had burnt in the area mapped under their Urban Growth Management Strategy.³³¹

³³¹ Answers to questions on notice, Ms Blayne West, Natural Resources Manager, Port-Macquarie Hastings Council, 6 March 2020, p 2.

- 5.12** Similarly, Dr Rebecca Montague-Drake, Koala Ecologist and President of the Koala Recovery Partnership attested that more than a third of the koala habitat in the North Coast had been lost to bushfire, including some of their highest carrying capacity populations.³³² Mr Graham, Hotspots Ecologist, confirmed that the fires on the North Coast had led to the destruction of the entire McLeods Creek area, which contained a number of koala hubs and some of the best koala habitat connectivity.³³³ He also noted that significant crown fires had gone through a forest in the Upper Bellingen and Upper Kalang area, known to support a healthy, breeding population of koalas.³³⁴
- 5.13** Mr Dailan Pugh, President of the North East Forest Alliance, calculated that 24 per cent of koala habitat north of the Hunter River in north-eastern New South Wales has been lost. He said that of the 29 koala populations in the North Coast identified by the former Office of Environment and Heritage, eight of these had somewhere between 73 per cent and 90 per cent of the modelled koala habitat within them burnt.³³⁵
- 5.14** In relation to the Banyabba fire ground, Mr Pugh found that 59,000 hectares or 81 per cent of potential koala habitat had burnt. He contended that most of the burnt area had thus lost its capacity to carry koalas, and was also distressed for any survivors:
- Most of those areas are now empty or have few koalas in them. Even where some trees have survived koalas in them seem to be declining over time. There is no new growth and the ones that have survived do not have water. That is a nutrient problem for surviving koalas.³³⁶
- 5.15** In the Blue Mountains, Dr Leigh from Science for Wildlife, advised that in December 2019, one fire had gone through two-thirds of the mapped koala habitat in a study site, and fires from Kanangra were going through their second study site. Her remaining three study sites were under threat too.³³⁷ In February 2020, Dr Leigh updated the committee that 75 to 100 per cent of four of her koala study sites had been impacted by fire and that she did not know how many survivors were left.³³⁸

Committee comment

- 5.16** It is clear to the committee that the 2019-2020 bushfire season was unprecedented. The ferocity, size and speed of many of the individual fires combined to produce a cumulative result of devastation across New South Wales. The committee acknowledges the tragic losses suffered during the bushfire season and extends its condolences to those affected.

³³² Evidence, Dr Rebecca Montague-Drake, Koala Ecologist and President, Koala Recovery Partnership, 3 February 2020, p 2.

³³³ Evidence, Mr Graham, 9 December 2019, p 3.

³³⁴ Evidence, Mr Graham, 9 December 2019, p 5.

³³⁵ Evidence, Mr Dailan Pugh, President of the North East Forest Alliance, 9 December 2019, p 48.

³³⁶ Evidence, Mr Pugh, 9 December 2019, p 49.

³³⁷ Evidence, Dr Leigh, 9 December 2019, p 11.

³³⁸ Evidence, Dr Leigh, 18 February 2020, p 35.

- 5.17** Notwithstanding the overall devastation, the committee acknowledges that some areas of NSW were impacted more severely than others in terms of overall impact on koala habitat and populations. Port Macquarie is one of these areas, where more than a third of koala habitat is considered to have been lost. This is particularly concerning, given that koalas in this area had been identified as highest carrying capacity populations. On the North Coast, particularly the Banyabba State Forest, the reported loss of 81% of potential koala habitat is staggering. Similar concern exists for koala habitat in the Blue Mountains, where the committee heard that a number of important koala study sites had had between 75 to 100 per cent of their area impacted by fire.
- 5.18** The committee was pleased to learn that the State's north west had little or no areas of koala habitat in the fire ground. However, given the broader challenges facing populations in this area – particularly as a result of climate change and drought – this does not particularly help the species as a whole recover from these fires.

Finding 10

There has been a substantial loss of both suitable koala habitat and koalas across New South Wales as a result of the 2019-2020 bushfires. An estimated 24 per cent of koala habitat on public land has been severely impacted across the State, but in some parts there has been a devastating loss of up to 81 per cent.

- 5.19** In the face of such loss to koala habitat and koalas, the committee believes that the protection of remaining koala habitat is crucial. The committee notes that it has received a significant amount of evidence regarding that koala are increasingly located on private land. Similarly, the levels of koala habitat lost in State forests cannot be ignored. For this reason, the committee recommends that the NSW Government urgently investigate the utilisation of koala habitat on private land and State forests to replenish habitat lost during the bushfires.

Recommendation 15

That the NSW Government urgently investigate the utilisation of core koala habitat on private land and in State forests to replenish koala habitat lost in the bushfires.

- 5.20** For koala habitat within national parks, the level of loss was similarly overwhelming. In order to address this, the committee recommends the NSW Government urgently prioritise the restoration and replenishment of koala habitat lost to bushfire in national parks and publicly release a plan to do this.

Recommendation 16

That the NSW Government urgently prioritise the restoration and replenishment of koala habitat lost to bushfire in national parks and publicly release a plan to do this.

The response

The immediate response

- 5.21** The committee received a substantial amount of evidence on the immediate response to the summer bushfires, both from government representatives and from individuals whose communities had been affected. Overwhelmingly, this evidence showed that the immediate response was focused on fighting the fires, with the primary aim of protecting people and property. For example, at a hearing held during the December 2019 bushfires, Mr Atticus Fleming from National Parks and Wildlife Service told the committee:

... our resources are overwhelmingly dedicated to fighting the fires right now. That is not to say we are not absolutely aware of the need for a strategy that is all about recovery and restoration of these areas and that part of that is by fire management strategies into the future and how we deliver them, including through cultural burning. We are overwhelmingly focused right now on fighting the fires ...³³⁹

... we have 400 staff right now fighting the fires either on the ground or in the incident control teams so the immediate priority—and it is the overriding immediate priority—is lives and property.³⁴⁰

- 5.22** Dr Kellie Leigh, Executive Director of Science for Wildlife told the committee that the focus of these agencies on fighting the fires made it difficult for any consideration to be given to the protection of wildlife in the immediate sense, particularly koalas. Whilst it was clear that Dr Leigh was not criticising agencies for this approach, her evidence suggested a despondency surrounding the plight of native animals:

When you are trying to deal with a situation like this and you are making lots of phone calls to National Parks and Rural Fire Service and they are all busy fighting these fires, you are just helpless and there is nothing that you can do ... There are no resources at the moment and we have over 100 fires across the State. Rightly so, the focus is on property and lives at the moment, but that means there is really little going into wildlife.³⁴¹

- 5.23** There was some discussion amongst stakeholders about approaches taken by statutory bodies such as Forestry Corp and National Parks and Wildlife Service during the fires. In particular, the committee heard a variety of evidence on the firefighting measures taken by these bodies, along with the level of oversight given to these measures. Some stakeholders, such as Mr Mark Graham, Hotspots Ecologist at the Nature Conservation Council, suggested that the actions of these bodies had taken place without checks or balances and even went so far as to attribute the loss of critical koala habitat to decisions made.³⁴²

- 5.24** In this regard, Mr Graham told the committee of a particularly concerning issue regarding Forestry Corp's operations on the NSW North Coast. In his evidence, he referred to a series of broad back-burn operations undertaken on the Dorrigo plateau to protect plantations – one of

³³⁹ Evidence, Mr Fleming, 9 December 2019, p 42.

³⁴⁰ Evidence, Mr Fleming, 9 December 2019, p 38.

³⁴¹ Evidence, Dr Leigh, 9 December 2019, p 12.

³⁴² Evidence, Mr Graham, 9 December 2019, p 3.

which 'escaped and gave the backing heat to the fire that practically destroyed Nymboida'.³⁴³ Along with the loss of over 100 properties, Mr Graham described the fire as destroying 'some of the best koala habitat connectivity' in the area.³⁴⁴ His frustration appeared to be amplified by the fact that in conducting this back-burn, 'risks to life and property and risks to biodiversity were absolutely ignored and the local concerns completely ridden roughshod over' by Forestry Corp, in order to protect valuable plantations.³⁴⁵ Moreover, he referred to repeated calls from the Tyringham local fire brigade upon Forestry Corp 'not to undertake such broad back-burning strategies' as being 'absolutely ignored'.³⁴⁶

5.25 Other stakeholders referred to the strict oversight of the NSW Rural Fire Service (RFS) Commissioner on all decisions made, indicating that whilst some decisions were taken with the knowledge that they 'might not work' they represented the only opportunity 'to stop the fire getting 10 times bigger than what it otherwise would'.³⁴⁷

5.26 The committee heard strongly opposing views on the level of oversight provided on actions taken under section 44 of the Rural Fire Act 1997. This provision provides:

- (1) The Commissioner is to take charge of bush fire fighting operations and bush fire prevention measures and to take such measures as the Commissioner considers necessary to control or suppress any bush fire in any part of the State if, in the opinion of the Commissioner:
 - (a) a bush fire has assumed or is likely to assume such proportions as to be incapable of control or suppression by the fire fighting authority or authorities in whose area or locality it is burning, or
 - (b) the prevailing conditions are conducive to the outbreak of a bush fire likely to assume such proportions, or
 - (c) a bush fire is not being effectively controlled or suppressed by the fire fighting authority or authorities in whose area or locality it is burning, or
 - (d) a bush fire is burning in a place that is not the responsibility of any fire fighting authority.³⁴⁸

5.27 For example, Mr Graham referred to 'section 44 bushfire operations' as 'highly opaque'.³⁴⁹ In his opinion, this section granted corporations such as Forestry Corp 'significant powers to do as it sees fit without any checks and balances', making it difficult to know 'what decisions are being made by whom in these operations'.³⁵⁰

³⁴³ Evidence, Mr Graham, 9 December 2019, p 4.

³⁴⁴ Evidence, Mr Graham, 9 December 2019, p 3.

³⁴⁵ Evidence, Mr Graham, 9 December 2019, p 3.

³⁴⁶ Evidence, Mr Graham, 9 December 2019, p 3.

³⁴⁷ Evidence, Mr Kearney, 26 February 2020, p 11.

³⁴⁸ *Rural Fire Act 1997*, s 44. References to the Commissioner refer to the Commissioner of the NSW Rural Fire Service.

³⁴⁹ Evidence, Ms Naomi Stephens, Executive Director, Park Operations, National Parks and Wildlife Service, 9 December 2019, p 36.

³⁵⁰ Evidence, Mr Graham, 9 December 2019, p 3.

- 5.28** In a hearing following this evidence, the committee sought to understand how Forestry Corp conducted its back-burning operations. In particular, it took up issues of oversight and the effect of section 44, putting such questions to Mr Dean Kearney from Forestry Corp in a hearing in late February. When asked in particular about oversight during Forestry Corp back-burning operations, Mr Kearney confirmed:

Back-burning operations, particularly in the season that has just happened, are something that has to be approved by the incident controller and potentially even higher up through to State operations.

The incident controller is always someone from the RFS ... and it is not just anybody, it is somebody who has very deep experience and qualifications.³⁵¹

- 5.29** Whilst accepting that some back burns did get out of control, Mr Kearney insisted that such burns are 'not something that just happens on the spur of the moment'.³⁵²

- 5.30** National Parks and Wildlife Service also commented on the operation of section 44, as it related to national parks. Like Forestry Corp, the evidence of Ms Naomi Stephens, Executive Director, Park Operations, supported the view that the Commissioner of the RFS is the final determiner of actions to be taken:

Section 44s are declared under the Rural Fires Act and then they come under the control of the commissioner. National Parks and Wildlife Service officers will be firefighters on the ground and we will also serve in key roles in the incident management teams. But the fire is under the control of the [RFS] commissioner and priorities around activities and strategies like back-burning and which assets are being protected as a priority ... [are] decisions made by the Rural Fire Service in consultation with other agencies, but with them as the lead and as the determining authority.³⁵³

- 5.31** Notwithstanding the final sign-off coming from the Rural Fire Service, Ms Stephens confirmed that National Parks and Wildlife Service will always be consulted, with 'the values of the park, or any other community values and assets ... taken into account in the planning'.³⁵⁴

The effect of an absence of strategy

- 5.32** The committee heard conflicting evidence on the existence of a strategic approach to wildlife protection during the immediate bushfire response.

- 5.33** For example, Dr Kellie Leigh, Executive Director of Science for Wildlife, suggested that the immediate response showed a lack of preparation, stating that 'there are no procedures or protocols in place to manage doing anything before fire or even after fire'.³⁵⁵ Dr Leigh also told the committee that, in the absence of an immediate strategy response, her organisation had

³⁵¹ Evidence, Mr Kearney, 26 February 2020, p 11.

³⁵² Evidence, Mr Kearney, 26 February 2020, p 11.

³⁵³ Evidence, Ms Stephens, 9 December 2019, p 36.

³⁵⁴ Evidence, Ms Stephens, 9 December 2019, p 47.

³⁵⁵ Evidence, Dr Leigh, 9 December 2019, p 12.

considered going in to rescue koalas from the path of fires burning in the Blue Mountains.³⁵⁶ This approach is included as a case study below:

Case study: Rescue of koalas in the Greater Blue Mountains Heritage Area

Dr Kellie Leigh, Executive Director of Science for Wildlife, has been working with koalas in the Greater Blue Mountains Heritage Area since 2013. According to Dr Leigh, data has shown that these koala populations are important for species conservation, as they hold the highest genetic diversity of koala populations sampled in NSW.³⁵⁷ Data also suggested that these populations are growing and, unlike many other koala populations in NSW, are free from chlamydia.

On 9 December 2019, Dr Leigh told the committee there was potential for her team to do an 'urgent intervention in Kanangra [Boyd National Park], where we could potentially find some koalas', ahead of approaching bushfires.³⁵⁸ However, she also noted that this raised issues of where to put these koalas, as wildlife carers around the area were 'already full'.³⁵⁹ Notwithstanding these challenges, Science for Wildlife later confirmed that on 17 December 2019, twelve koalas were rescued from the area and sent to Taronga Zoo, the organisation's conservation partner.³⁶⁰ A number of national media outlets also reported on the rescue of these animals,³⁶¹ as well as on their subsequent release.³⁶² All rescued koalas were returned to their habitat in late March.³⁶³

- 5.34** Other evidence from stakeholders also described the determination of local wildlife experts and volunteers to rescue koalas before fire fronts hit, with Dr Kara Youngentob describing to the committee the lengths that locals were prepared to go to in the Cooma region:

Some of the animals were rescued just immediately before the fire fronts—there were apparently fire volunteers who would see the fire coming and there would be a koala in a tree and then they would cut the tree down and rescue that koala because it would perish otherwise.³⁶⁴

³⁵⁶ Evidence, Dr Leigh, 9 December 2019, p 13.

³⁵⁷ Tabled document, Dr Kellie Leigh, Executive Director, Science for Wildlife, 9 December 2019, p 1.

³⁵⁸ Evidence, Dr Leigh, 9 December 2019, p 13.

³⁵⁹ Evidence, Dr Leigh, 9 December 2019, p 13.

³⁶⁰ Science for Wildlife, *Koalas Saved Ahead of Bushfire in the Blue Mountains* (17 December 2019), <<http://scienceforwildlife.org/koalas-saved-ahead-of-bushfire-in-the-blue-mountains/>>.

³⁶¹ Matt Bungard, 'Handful of Blue Mountains koalas successfully relocated to Taronga Zoo', *Sydney Morning Herald*, 17 December 2019; Nick Baker, 'Koalas saved just ahead of Blue Mountains bushfires in 'daring rescue'', *SBS News*, 17 December 2019.

³⁶² *9News*, Nine, 'Four baby koalas and joey released into the bush after being rescued from bushfires', 23 March 2020; *Blue Mountains Gazette*, 'With the bushfire season officially over, critical Mountains koalas have been returned to their habitat', 2 April 2020.

³⁶³ Science for Wildlife, *Koalas Return to Blue Mountains!* (27 March 2020), Science for Wildlife, <<http://scienceforwildlife.org/koalas-return-to-the-blue-mountains/>>.

³⁶⁴ Evidence, Dr Kara Youngentob, Research Fellow, Research School of Biology, Australian National University, 18 February 2020, p 12.

- 5.35** On the topic of pre-fire rescues, stakeholders including Ms Cheyne Flanagan from Port Macquarie Koala Hospital commended the approach in principle but also questioned the feasibility of rescuing entire populations at threat from fire, stating:

... that is an incredibly big task. Koalas, at the best of times, are hard to spot; catching them is not that easy. If they are 40 metres up a tree, that would take weeks and weeks. Where do you put them? Where do you put a whole population of animals? That would be lovely in another world but I do not think that is feasible.³⁶⁵

- 5.36** Dr Youngentob acknowledged similar practical issues in housing rescued koalas in ANU's research animal housing, stating 'we are not really set-up to receive that many animals [and the] animal housing that we use for the research that we do ... is not really made for that size—for that many koalas'.³⁶⁶ On how immediate response strategies could be adapted to include consideration of koalas, Dr Leigh called for 'more resources so that wildlife can be more of a priority in these fires', particularly given that bushfires often occur around December and January, 'when people are on leave'. She elaborated:

I think we really need to resource, for example, retained employees within the Rural Fire Service ...

If you have more paid employees out that are managing these fires and doing prescribed burns, then you have this ability to plan properly under climate change to achieve a lot more ... including ... trying to maintain refuges for koalas.³⁶⁷

Committee comment

- 5.37** The committee received evidence on the oversight and approval of operations carried out under section 44 of the *Rural Fire Act 1997*. On the balance of this evidence, the committee believes that oversight by the incident controller from the Rural Fire Service remains adequate. Notwithstanding this, the committee notes that maintaining transparency throughout all operations remains crucial.
- 5.38** The committee has also given careful consideration to the issue of the immediate response to the bushfires. The committee is aware that, with an understandable focus on lives and property, saving wildlife and protecting their habitat became a secondary concern. The committee acknowledges that the unprecedented nature of the fires meant that many strategies that had been in place prior to the fires had to be abandoned out of a need to protect people and their homes. The committee also believes that future fire seasons are likely to increase in both frequency and severity. In this regard, it is important that conservation values and the protection of koala habitat are given greater recognition in planning documents for future fire seasons.

³⁶⁵ Evidence, Ms Flanagan, 9 December 2019, p 31.

³⁶⁶ Evidence, Dr Youngentob, 18 February 2020, p 13.

³⁶⁷ Evidence, Dr Leigh, 9 December 2019, p 19.

Recommendation 17

That the NSW Government ensure that in planning for future bushfires, conservation values and the protection of koala habitat is given greater priority.

- 5.39** The committee notes that some facilities for the rescue of koalas and wildlife do not appear to be fit-for purpose. Notwithstanding the excellent work of those tasked with their care, it is clear that many of the facilities in which rescued koalas were kept during the fires were less than ideal. For this reason, the committee recommends that the NSW support the establishment of a well-resourced network of wildlife hospitals in key areas of the state, including the North Coast, North-West, Blue Mountains, South West Sydney, Southern Tablelands and South Coast, staffed by suitably qualified personnel and veterinarians, including funding where appropriate.

Recommendation 18

That the NSW Government support the establishment of a well-resourced network of wildlife hospitals in key areas of the state, including the North Coast, North-West, Blue Mountains, South West Sydney, Southern Tablelands and South Coast, staffed by suitably qualified personnel and veterinarians, including funding where appropriate.

The role of wildlife carers in the rescue and rehabilitation of koalas

Post-fire access to fire grounds

- 5.40** This section explores access to fire grounds both during and post-fire, with a focus on arrangements between wildlife carers and the Rural Fire Service. It also explores the crucial role of wildlife carers, and examines the appropriate levels of financial support provided to them in the aftermath of the fires.
- 5.41** The issue of access to fire grounds post-fire was first brought to the committee's attention in its second hearing, held on 18 October 2019, in Ballina. This issue proved to be a key area of focus for the committee during the inquiry as it sought to understand the framework for allowing access to fire grounds to better protect koalas from fire.
- 5.42** At the hearing in Ballina, Mr Dailan Pugh, President of the North East Forest Alliance told the committee of his attempts to enter the Busby Flats fireground in the week following a bushfire. On being told he could not enter the fireground, Mr Pugh expressed outrage, stating:

[Koalas] are in there starving at the moment, and we cannot get anyone to go in there and look. It is like, they have nothing to eat and they are going to die but the Government says, "It's not our problem. The RFS controls fire grounds. We are not going to have anyone in there to have a look because it is too unsafe". I just find that

outrageous. Why are we condemning those koalas to die because we cannot be bothered having a look?³⁶⁸

5.43 Members of the committee were so concerned by evidence received during this hearing that a letter was sent from the Chair to the Premier, Minister for Energy and Environment, Minister for Agriculture and Western New South Wales and Minister for Police and Emergency Services. In this letter, the committee 'urgently request[ed] that the relevant agencies allow wildlife carers immediate access to these forests to assess, provide support and rescue injured or stressed animals'.³⁶⁹ In addition to this, the committee also requested that the immediate care of injured animals and the development of a recovery plan for these koala populations be prioritised over wood salvage operations.³⁷⁰ Copies of this correspondence have been included as an Appendix to the report.

5.44 In contrast to this evidence, Ms Cheyne Flanagan, Port Macquarie Koala Hospital, told the committee in December that her organisation had no issues accessing fire grounds in the Port Macquarie area post-fire. Indeed, when asked by the committee if rescuers faced any barriers or difficulties, Ms Flanagan responded positively:

Not at all. We work very closely with the Rural Fire Service. All our teams are out today. They do a course with Rural Fire Service in fire awareness. They wear full personal protective equipment [PPE]. We do exactly as Rural Fire Service tells us to do. We can get in pretty quickly because we have such a good relationship. So there are no problems at all.³⁷¹

5.45 Ms Flanagan attributed this ease of access to a number of factors. This included the existence of a relationship with the Rural Fire Service that had developed over many years, along with the fact that many of the Koala Hospital volunteers had completed fire awareness training with the RFS.³⁷² On the nature of the training provided by RFS, Ms Flanagan confirmed that it was conducted free-of-charge by the RFS, but that there was 'an online course as well ... only half a day [which] it teaches you fire awareness—what to actually look for: burning embers and burning trees'.³⁷³

5.46 Ms Flanagan also confirmed that all koala rescue operations were undertaken with the consent of the incident controller and 'we do not enter a fire ground unless they deem it safe',³⁷⁴ explaining:

If they say we can only have a two-hour window, then all we get is a two-hour window. We never put a foot wrong because we have developed trust over many years. If they say get out, we get out; and if we cannot go, we cannot go.³⁷⁵

³⁶⁸ Evidence, Mr Pugh, 18 October 2019, p 14.

³⁶⁹ Correspondence from Chair to Hon Gladys Berejiklian, 18 October 2019.

³⁷⁰ Correspondence from Chair to Hon Gladys Berejiklian, 18 October 2019.

³⁷¹ Evidence, Ms Flanagan, 9 December 2019, p 30.

³⁷² Evidence, Ms Flanagan, 9 December 2019, p 31.

³⁷³ Evidence, Ms Flanagan, 9 December 2019, p 31.

³⁷⁴ Evidence, Ms Flanagan, 3 February 2020, p 11.

³⁷⁵ Evidence, Ms Flanagan, 3 February 2020, p 11.

- 5.47 Similar evidence on the ease of access to fire grounds was given by Mr James Fitzgerald of Two Thumbs Wildlife Trust. Like Ms Flanagan, Mr Fitzgerald – who had been a member of the Rural Fire Service for 15 years – emphasised the importance of a good relationship with RFS:

[In the aftermath of the fire] I went into the Cooma incident control centre and spoke to both the Rural Fire Service and the deputy incident controller, who is the National Parks person ... the head of the fire service down my way ... is on the council's koala committee and I am on the council's koala committee. I think the fact that they know us helps ... they know that we are not silly.³⁷⁶

- 5.48 It was also noted by Dr Leigh that the tenure of the land which Mr Fitzgerald was trying to access, being his own property, likely played a part in access being granted with relative ease.³⁷⁷ Conversely, Dr Leigh spoke of her experience of encountering challenges in accessing public lands such as national parks following the fires. In her opinion, these challenges could be attributed to a lack of standardised approach between government agencies, combined with the sheer workload of those responsible for granting access in the aftermath of the fires. Dr Leigh also spoke of the effect of an absence of qualified 'make safe teams' – that is, persons who go in and assess whether an area is safe to enter – telling the committee that she had resorted to hiring subcontractors from out of state to complete these roles.³⁷⁸

- 5.49 In relation to access to national parks, Ms Naomi Stephens, Executive Director, National Parks and Wildlife Service, in December noted that despite still being in an operational phase, the agency was attempting to facilitate access to active fire grounds for rescuers.³⁷⁹ She also confirmed NPWS was itself 'assisting with the search for injured wildlife with both dedicated searchers and also as part of our fire operations' and had provided firefighters with incident action plans, outlining procedures if injured wildlife are found.³⁸⁰

The need for statewide standards

- 5.50 Based on the evidence received by the committee, it became apparent that whilst some stakeholders had been able to access fire grounds with relative ease, this was certainly not true for all. Instead, factors such as pre-existing relationships – particularly with the RFS – played a big role in determining how quickly these fire grounds could be accessed. Furthermore, it was evident that this lack of standardised response had frustrated many individuals who sought to rescue koalas from fire grounds post fire. To rectify these issues, Dr Leigh told the committee of her attempts to create a 'safe work method' that could be employed in future fire grounds, stating:

... we have been working closely with National Parks and Wildlife ... to [come] up with safe work method statements and protocols. We have written something up and it is probably going to be used as a template in this area at least, with Blue Mountains national parks going through post-fire at the moment. We have got all our normal remote area safety stuff. We have got emergency communication plans. We have a specific post-fire response safe work method statement as well. We do an induction at

³⁷⁶ Evidence, Mr James Fitzgerald, Founder, Two Thumbs Wildlife Trust, 18 February 2020, p 41.

³⁷⁷ Evidence, Dr Leigh, 18 February 2020, p 42.

³⁷⁸ Evidence, Dr Leigh, 18 February 2020, p 39.

³⁷⁹ Evidence, Ms Stephens, 9 December 2019, p 39.

³⁸⁰ Evidence, Ms Stephens, 9 December 2019, p 39.

the start of the day with all of our team and take them through all of that, make sure we have got everything in place, have all the PPE with helmets and high vis and that sort of thing.³⁸¹

- 5.51** Dr Leigh strongly recommended that an approach such as this be implemented consistently across the state, to avoid further delays after future fires:

I think there is a need for statewide standards and consistency. That has been another delay for us because that paperwork is not in place and nobody knows those procedures. That is why we have not been able to get in so soon, because we have had to invent the wheel, so to speak. Yes. That is a real need.³⁸²

- 5.52** Ms Michelle Dumazel, Department of Planning, Industry and Environment informed the committee that a key area for action is to create trained wildlife response teams:

A key action [of the Bushfire Relief Fund for Wildlife Rehabilitators] will be to create wildlife response teams consisting of appropriately trained wildlife rehabilitation volunteers in strategic locations across NSW. The response teams will be provided with face to face training in Bushfire Awareness and the capture, handling and provision of first aid to injured wildlife.³⁸³

- 5.53** As noted in chapter 1, in early 2020 WWF Australia commissioned an American drone photographer to assist with locating koalas which had survived a bushfire. Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager with WWF Australia, told the committee that there was scope to expand the use of drones post-bushfire, which was a work health and safety benefit as it would reduce the need for people to enter dangerous post-fire forests to locate surviving koalas.³⁸⁴ However, he asserted that more funding was needed so that the efficacy of this approach could be properly evaluated and refined so that it could be used on a widespread scale.

- 5.54** Dr Blanch also told the committee of the complementary use of koala detection dogs. In this regard, he noted that they could not be used on a broad scale to detect koalas in national parks, State forests, crown lands or private land because of the risk they would ingest baits left for feral animals. However, he also suggested that where they were able to be used, these detection dogs were 'more efficient than people'.³⁸⁵ Mr James Fitzgerald of Two Thumbs Wildlife Trust also spoke of the value of koala detection dogs, noting that two koalas were found post-fire as a result of a 'phenomenal' koala detection dog.³⁸⁶

³⁸¹ Evidence, Dr Leigh, 18 February 2020, p 42.

³⁸² Evidence, Dr Leigh, 18 February 2020, p 42.

³⁸³ Answers to questions on notice, Ms Michelle Dumazel, Executive Director Policy, Environment, Energy and Science Group, Department of Planning, Industry and Environment, 10 January 2020, p 4.

³⁸⁴ Evidence, Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, 18 February 2020, p 11.

³⁸⁵ Evidence, Dr Blanch, 18 February 2020, p 11.

³⁸⁶ Evidence, Mr Fitzgerald, 18 February 2020, p 40.

Committee comment

- 5.55** The committee acknowledges that post-fire access to fire grounds is dangerous and that the safety of human life remains the most important consideration.
- 5.56** The committee notes that access to fire grounds appears to be easiest in situations where wildlife rescuers have a pre-existing relationship with the Rural Fire Service. The committee also supports Ms Cheyne Flanagan's evidence on the importance of the Rural Fire Service in overseeing all access to fire grounds and commends the work of the agency in facilitating access to wildlife carers. In this regard, the committee recommends that the NSW Rural Fire Service, in conjunction with key wildlife organisations, develop statewide standards for access to fire grounds by wildlife rescuers before the 2020-2021 bushfire season and support wildlife rescue groups in completing fire awareness training.

Recommendation 19

That the NSW Rural Fire Service, in conjunction with key wildlife organisations, develop statewide standards for access to fire grounds by wildlife rescuers before the 2020-2021 bushfire season and support wildlife rescue groups in completing fire awareness training.

- 5.57** Notwithstanding the importance of granting rescuers access to these fire grounds, the committee also believes there is scope for alternative rescue approaches – such as drones and koala detection dogs – to be further explored. Given that such approaches can reduce the need or length of time required for people to enter fire grounds, their use should be explored due to their safety benefits. For this reason, the committee recommends that the NSW Government allocate funding to explore the use of drones and koala detection dogs for the rescue of wildlife from fire grounds, to allow both approaches to be employed in the next fire season.

Recommendation 20

That the NSW Government allocate funding to explore the use of drones and koala detection dogs for the rescue of wildlife from fire grounds, to allow both approaches to be employed in the next fire season

Wildlife and Conservation Bushfire Recovery – Immediate Recovery Strategy

- 5.58** The Minister for Energy and the Environment, the Hon Matt Kean MP, advised the committee in February that the Government was finalising an immediate response plan for wildlife rescue and conservation, setting out the emergency actions it is taking to 'accelerate and support the natural recovery process that is already taking place in some areas'.³⁸⁷ The Minister also stated that this plan would be accompanied by a medium to long term plan to restore wildlife and habitat and be supported by the NSW Koala Strategy Expert Advisory Panel.

³⁸⁷ Correspondence from Hon Matt Kean MP, Minister for Energy and the Environment, to the Chair, 3 February 2020, p 1.

- 5.59** Following the release of this plan, titled the Wildlife and Conservation Bushfire Recovery – Immediate Recovery Strategy ('Immediate Recovery Strategy'), the committee sought to learn more about its components in Budget Estimates hearings held in March. In response to questions from the committee, the Minister noted that 'the New South Wales Government has delivered an additional \$1 million for wildlife carers'.³⁸⁸
- 5.60** In supplementary questions following these hearings, the committee requested further information on how this \$1 million would be allocated. In response, the Minister told the committee that \$500,000 would be spent on Departmental initiatives. This included funding two wildlife coordinators within the National Parks and Wildlife Service to 'develop new procedures with fire combat agencies to ensure wildlife rehabilitators can access fire grounds quickly and safely in future'.³⁸⁹
- 5.61** In addition these coordinators would:
- assist and coordinate efforts to search for and rehabilitate injured wildlife
 - coordinate fire supplementary feeding and breeding programs
 - work with vets to support rescue and rehabilitation efforts, including deploying triage teams
 - develop training for rehabilitators and fire-fighting personnel, so they can assist wildlife quickly and safely on fire-grounds
 - deliver information about how community members can assist wildlife affected by fires or other disasters.³⁹⁰
- 5.62** On how the *Immediate Recovery Strategy* was funded, the Minister told the committee that 'resources already within existing budgets' were sufficient without additional funding from Treasury being required, but that they had to be 'shuffled around' to meet immediate needs.³⁹¹ The Minister did not elaborate on how these budgets were adjusted.

Support for wildlife carers

- 5.63** Throughout this inquiry, the committee received a significant amount of evidence on the role of wildlife carers in the rescue and rehabilitation of koalas. Before the fires began, the strain on carers rescuing and caring for koalas was clear to the committee, as it received both submissions and evidence that highlighted the challenges associated with the increasing number of koalas coming into care. At the inquiry's Ballina hearing, witnesses told the committee of the burden being carried by rescuers before the fires had even started. For example, Dr Roslyn Irwin, President of Friends of the Koala explained:

³⁸⁸ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 63.

³⁸⁹ Answers to supplementary questions, Minister for Energy and the Environment, 21 April 2020, p 57.

³⁹⁰ Answers to supplementary questions, Minister for Energy and the Environment, 21 April 2020, p 55.

³⁹¹ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 9.

The difficulty is that everything that is being done in terms of wildlife is being carried out by volunteers—many of them with my coloured hair. They are getting tired ...³⁹²

- 5.64** Whilst commending the work of these volunteers, a submission from an individual also referred to the mental toll rescuing koalas took on these carers:

The incredible and completely soul destroying work being done by many dedicated and passionate wildlife carers and organisations on a voluntary basis such as Friends of the Koala, and the Currumbin Wildlife Hospital, who sadly more often than not see koalas having to be euthanased, need to be recognised, supported and financed. Amazing volunteers who give so much of their time (often throughout the night), energy, funds, fuel, expertise, love and care and suffer huge personal loss at the same time as so many koalas that are rescued do not make it and they often have to deal with tragic scenes and overwhelming loss.³⁹³

- 5.65** Witnesses at the inquiry's hearing in Gunnedah also spoke of increasing challenges in returning rescued koalas to the wild, based on a shrinking availability of good habitat. When asked directly by the committee how she found releasing rescued koalas post-rehabilitation, Ms Martine Moran of WIRES described it as 'extremely difficult'.³⁹⁴

- 5.66** Noting the challenges already facing wildlife carers, the committee sought further information from representatives of the NSW Government on how carers were being supported during the fires in December. In answers to questions on notice, Mr Fleming of National Parks stated:

Requests for funding under the Bushfire Relief Fund are made through a simple application process on the Foundation for National Parks and Wildlife (FNPW) Backyard Buddies website. FNPW has contacted all groups operating in areas impacted by the fires. All groups, and the NSW Wildlife Council, also received information through the National Parks and Wildlife Service in late November 2019. The application process was designed to minimise the administrative burden on the rehabilitation sector and assistance was provided where necessary. Most respondents described the process as 'very easy', or 'easy'.

As at 4 January 2020, \$150,000 had already been allocated to licensed groups and individuals in the wildlife rehabilitation sector to assist with their immediate needs for items such as fuel vouchers, cages, tents, tables, animal feed, wraps, pouches and first aid. All groups receiving funding have been notified.

In addition, FNPW has made up to \$35,000 available through the Wildlife Heroes initiative (Emergency Grants) to cover emergencies that are not bushfire related (such as heat stress, flood and drought). These funds will help build further capacity in the sector to support the rehabilitation of injured wildlife.³⁹⁵

- 5.67** Following the release of the *Immediate Recovery Strategy*, the committee was provided with further information in answers to supplementary questions from Budget Estimates hearings in March. The Minister for Energy and Environment stated that:

³⁹² Evidence, Dr Roslyn Irwin, President, Friends of the Koala, 18 October 2019, p 27.

³⁹³ Submission 202, Ms Susie Header, p 5.

³⁹⁴ Evidence, Ms Martine Moran, WIRES, 13 December 2019, p 8.

³⁹⁵ Answers to questions on notice, Mr Atticus Fleming, Deputy Secretary, National Parks and Wildlife Service, 10 January 2020, p 4.

From 2018/19, a total of \$6.5 million was pledged to support the wildlife rehabilitation sector. This includes \$1 million emergency funding, \$4.05 million committed under the NSW Koala Strategy and \$1.47 million Wildlife Heroes initiative managed by the Foundation for National Parks and Wildlife.³⁹⁶

- 5.68** The Minister also confirmed that his response in April 2020 that of the \$1 million emergency funding, \$220,000 funding had been provided to wildlife organisations.³⁹⁷
- 5.69** Despite the amount of evidence received from government representatives on this funding, the committee received very limited evidence from stakeholders in the wildlife rescue industry on its effectiveness. Indeed, the only discussion of funding occurred in the context of the Port Macquarie Koala Hospital which, having raised almost \$8 million in private donations, was described as being 'covered quite well' due to an influx of donations from members of the public.³⁹⁸
- 5.70** While no specific evidence was heard by the committee, media reports throughout January and February 2020 detailed the extraordinary outpouring of donations from individuals and organisations all around the world and Australia as a result of the fires, including to wildlife organisations. In particular, many of the more well-known wildlife organisations were the beneficiaries of many millions of dollars in donations because of the devastating stories of the toll the fires took on our wildlife, especially koalas. Organisations that benefited from these donations along with the Port Macquarie Koala Hospital include WIRES which received at least \$60 million³⁹⁹, along with the WWF and International Fund for Animal Welfare.

Committee comment

- 5.71** The committee is of the view that, through no fault of their own, wildlife carers in NSW entered the 2019-2020 summer bushfire season overworked and under supported. It is also clear that these carers bore the burden in both rescuing and rehabilitating koalas taken from fire grounds, often at their own expense.
- 5.72** Whilst the committee was encouraged by the release of the NSW Government's *Wildlife and Conservation Bushfire Recovery – Immediate Recovery Strategy* and the commitment of \$6.5 million in funding to support wildlife carers, it is still apparent that wildlife carers are facing significant resourcing issues.
- 5.73** The committee also acknowledges that during the 2019-2020 bushfire season donations from individuals and organisations all around the world poured into Australia, many towards wildlife organisations to assist in the rescue and care of injured wildlife. The committee recognises that the work of wildlife carers was critical in saving many animals in the aftermath of the fire season and commends their work.

³⁹⁶ Answers to supplementary questions, Minister for Energy and the Environment, 21 April 2020, p 59.

³⁹⁷ Answers to supplementary questions, Minister for Energy and the Environment, 21 April 2020, p 56.

³⁹⁸ Evidence, Ms Flanagan, 3 February 2020, p 9.

³⁹⁹ Amy Greenbank, Why animal charity that got \$60m during Australia's bushfire crisis was 'loath to spend it', *ABC News*, 26 February 2020.

Potential future fire management

- 5.74** This last section of the chapter explores the practices of cultural and ecological burning. It examines the extent to which such practices are incorporated into current approaches, and explores whether it is worthwhile to extend the practices more deeply into contemporary fire management.

Cultural burning

- 5.75** Cultural burning is the term used to describe fire management as that used by indigenous people. Mr Oliver Costello, CEO of the Firesticks Alliance, told the committee of the 'critical part' fire plays in managing koala country.⁴⁰⁰ However, in Mr Costello's opinion, current practices failed to engage the 'right fire' to appropriately manage this country. In his opinion, this was part of the reason why the recent fires were so catastrophic:

The right fire for koala country is maintaining the health of the system. That includes protecting the canopy where the koalas live ...

A lot of the hazard reduction work to me is actually causing problems. I have been to lots of prescribed burns from agencies and they are quite proud of the burning until we point out all the things that they have done wrong culturally by the lore ...

... they have applied the wrong fire. That is why a lot of the fires are so bad, because we have seen a lack of fire in lots of areas and we have seen the wrong fire and when that comes together you get mega fires and they get bigger every year. A lot of these fires are not new; they have just popped up here and there and the country has all gone sick. Now they are connecting up and they are all burning together.⁴⁰¹

- 5.76** In addition, Mr Costello described the benefits of reading country and of burning 'the right way' through a cultural fire regime, arguing that such an approach has a positive impact on both the type and behaviour of any subsequent wildfires:

When you practice it the right way, when wildfires come they are good fires. It is okay because the fire will change its behaviour. It will not burn the canopy, there will not be much fuel on the ground and it will not do a lot of damage. If you burn the right way you will also get the next generations of food, habitat and trees.⁴⁰²

⁴⁰⁰ Evidence, Mr Oliver Costello, CEO, Firesticks Alliance Indigenous Corporation and Deputy Chair, Indigenous Reference Group, Threatened Species Recovery Hub, 9 December 2019, p 23.

⁴⁰¹ Evidence, Mr Costello, 9 December 2019, p 29.

⁴⁰² Evidence, Mr Costello, 9 December 2019, p 23.

... If we are managing the country the right way, those fires that the lightning creates do not become catastrophic landscape fires. They just trickle around. Sometimes they might have a bit of a negative impact here and there but largely it is not as significant. If we are able to get that—not just a burn here or a burn there but a cultural fire regime, a mosaic across tenure, across the landscape, that actually has successional burning, every year, we are out there for months and months, young and old people out there burning country, walking their pathways, learning their stories, managing that land—when these fires happen, and they are going to keep happening, the behaviour of the fire is different.⁴⁰³

- 5.77** The National Parks and Wildlife Service told the committee that cultural burning practices – particularly the concept of mosaic burning – already formed part of the agency's response to prescribed burning. According to Ms Naomi Stephens:

[National Parks and Wildlife Service] tend to undertake our burning on a mosaic pattern. The principles of the mosaic pattern are actually quite similar to cultural burning in that it helps stop the run of the fire, but it also provides area at different growth stages and ecological stages that enables refugia for the animals to move out of the path of the burn into the unburnt areas and then for different parts of the park to be at different stages and be providing appropriate habitat for different species, including koalas, along the way. That is certainly the underlying principles of the work that we do.⁴⁰⁴

- 5.78** Like Mr Costello, Mr Victor Steffensen, a Tagalaka descendent also identified 'modern management practices' as requiring a reconfiguration to incorporate cultural practices.⁴⁰⁵ In this regard, he argued that determining when to conduct preventative burns should be done so by spending time on country, rather than 'by making decisions from an office or by looking at maps'.⁴⁰⁶ He also agreed with the assertion of the committee that current practices were 'reactive, rather than proactive' – an approach that, in his opinion, was incorrect.⁴⁰⁷

- 5.79** On how a proactive approach might be employed, Mr Steffensen told the committee that in certain areas, immediate post-fire burning was crucial to reducing the severity of future seasons' fires:

... the right burning is based on getting rid of ... flammable plants and putting back the plants that belong in those soils. We need to do that immediately. After wildfires they leave it for another 10 years and do nothing and those flammable plants are way past your head height ...

We need recovery teams out there right now after these burns in the next season burning leaf litter to breakdown and kill the young invasive flammable ones and start with the right temperatures to bring up the right plants and the right grasses to come back in that country ...⁴⁰⁸

⁴⁰³ Evidence, Mr Costello, 9 December 2019, p 26.

⁴⁰⁴ Evidence, Ms Stephens, 9 December 2019, p 45.

⁴⁰⁵ Evidence, Mr Steffensen, Tagalaka Descendant from North Queensland and Indigenous fire practitioner, 9 December 2019, p 24.

⁴⁰⁶ Evidence, Mr Steffensen, 9 December 2019, p 28.

⁴⁰⁷ Evidence, Mr Steffensen, 9 December 2019, p 28.

⁴⁰⁸ Evidence, Mr Steffensen, 9 December 2019, p 27.

- 5.80** Mr Costello echoed these comments, telling the committee that land recently burnt in the fires was already in need of re-burning:

We want to go and burn some of the country already because we know that if we do not get in there and burn it when the moisture comes when it is ready to burn that we are going to have 20, 30, 100 years of problems because we did not follow the lore.⁴⁰⁹

- 5.81** By contrast, Mr Dailan Pugh of the North East Forest Alliance urged caution with this approach, noting that if forests are burnt too frequently, valuable seedlings could be wiped out.⁴¹⁰

- 5.82** In addition to variations in approach, Mr Costello and Mr Steffensen also told the committee of challenges experienced when working with NSW government agencies. In particular, whilst praising the initiative and approaches of individual people within these agencies, Mr Costello referred to 'big structural gaps in the way that the agencies engage us'.⁴¹¹ Mr Steffensen identified similar structural impediments to the implementation of cultural practices, stating:

If you would ask me what is the most difficult part of applying Indigenous fire management back on country or any Indigenous management, it has to be people. And it all boils down to different agencies, different mindsets, arguing with each other, not working together ... It is so hard to get simple management on country and start doing something practically when we have disillusioned mindsets that are not even working together in this nation. It is something that really has to be identified because, if we are not working together, how are we going to deal with this problem of looking after our environment the way it is today?⁴¹²

- 5.83** Mr Costello also noted that a lack of resources prevented the organisation from carrying out much of the immediate re-burning of country required post-fire:

We have hardly any access to land, we have no resources ... All that country, so much land has been burnt over the last couple of months. It is really devastating ... When we see these negative things it is really quite draining. We can do stuff about it. There is things we want to start doing in the next weeks and months. If we have resources we will be out there doing it.⁴¹³

- 5.84** On how these issues could be resolved, both Mr Costello and Mr Steffensen advocated for an Indigenous-led approach, whereby agencies deferred to cultural landholders. In this regard, Mr Costello asserted that 'we are getting support and there are good people there but, to be honest, I do not think a lot of these things can be led by government'.⁴¹⁴

⁴⁰⁹ Evidence, Mr Costello, 9 December 2019, p 26.

⁴¹⁰ Evidence, Mr Pugh, 9 December 2019, p 50.

⁴¹¹ Evidence, Mr Costello, 9 December 2019, p 24.

⁴¹² Evidence, Mr Costello, 9 December 2019, p 25.

⁴¹³ Evidence, Mr Costello, 9 December 2019, pp 26-27.

⁴¹⁴ Evidence, Mr Costello, 9 December 2019, p 25.

Ecological burning

5.85 Along with evidence on cultural burning practices, the committee received some evidence from a representative of Hotspots Fire Project on the role of ecological burning. The Hotspots Fire Project is delivered through a coordinated partnership between the Rural Fire Service and the Nature Conservation Council of NSW. It also has a number of program delivery advisory partners, including National Parks and Wildlife Service, Department of Planning, Industry and Environment, Forestry Corporation of NSW, NSW Farmers, Local Land Services and Local Government NSW.

5.86 Mr Jeff Lucas, Director Planning and Environment, Rural Fire Service (Hotspots Fire Project) gave the committee an overview of the ecological burning practise employed by Hotspots:

Hotspots Fire Project ... is a community engagement program that supports individuals and communities to better understand the role of fire within the environment. The project provides landholders and land managers with the skills and knowledge needed to actively and collectively participate in fire management planning for the protection and enhancement of biodiversity conversation, while also looking at protection of life and property.⁴¹⁵

5.87 Mr Lucas noted that the Hotspots project team typically holds six educational programs a year, which includes a demonstration burn in an area. Given their success, when asked how the Project could be better supported to carry out these programs, Mr Lucas noted the small number of people directly employed to run the programs at the moment:

I suppose one of the limitations of our project is resourcing—human resourcing, in particular. I mentioned earlier that we have an officer in Batemans Bay, one in Sydney and one in Coffs Harbour. Typically, this project is done on the eastern half of New South Wales, so far. One of our limitations is about the ability to resource requests to carry this out. The Nature Conservation Council also provides an ecologist and without necessarily speaking on its behalf, it is typically challenged by resourcing needs as well. We tend to find that the market for this is quite strong and we just need to prioritise that based on our resourcing.⁴¹⁶

5.88 Regarding this resourcing, Mr Lucas stressed the need to balance any additional support for the Rural Fire Service limb of the project with resources for the Nature Conservation Council, asserting that 'if we doubled our Rural Fire Service resources, for example, that would put a huge pressure on those ecologists from [the Nature Conservation Council's] end to be able to carry out the role they carry out with the workshops'.⁴¹⁷

Committee comment

5.89 The committee acknowledges the long history of fires being a part of the Australian landscape, as well as a part of koala country. The committee believes more research needs to be done to document the benefits of cultural and ecological burning practices. In this regard, the committee

⁴¹⁵ Evidence, Mr Jeff Lucas, Director Planning and Environment, Rural Fire Service (Hotspots Fire Project), 18 February 2020, p 17.

⁴¹⁶ Evidence, Mr Lucas, 18 February 2020, p 21.

⁴¹⁷ Evidence, Mr Lucas, 18 February 2020, p 22.

was pleased to hear from Mr Atticus Fleming of the National Parks and Wildlife Service that aspects of cultural burning practices already formed part of the agency's response to prescribed burning. Hence the committee recommends that the NSW Government work collaboratively with Indigenous fire practitioners to document the benefits of cultural burning practices.

Recommendation 21

That the NSW Government work collaboratively with Indigenous fire practitioners to document the benefits of cultural burning practices.

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- 5.90** The committee also believes the work of the Hotspots Fire Project as well as the Firesticks Alliance to be extremely valuable in educating communities about managing fire for better ecological outcomes and notes the resourcing limitations these projects face. Therefore, the committee recommends that the NSW Government allocate additional funds to these projects to address resourcing challenges and to allow them to better respond to requests from the community for access to the program.

Recommendation 22

That the NSW Government allocate additional funds to the Hotspots Fire Project and the Firesticks Alliance to address resourcing challenges and to allow these projects to undertake more programs with communities across NSW.

Chapter 6 The NSW Government approach to koala conservation

This chapter explores the NSW Government's approach to koala conservation. It starts with an overview of koala conservation under the *Threatened Species Conservation Act 1995*, with a focus on the *Recovery Plan for the Koala* released in 2008. Prior to the biodiversity reforms of 2016, - which saw the repeal of the *Threatened Species Conservation Act 1995* and associated *Recovery Plan* – the NSW Government commissioned the NSW Chief Scientist to undertake a review into the decline of koala populations in key areas of NSW.

The *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW* was released at the end of 2016 and called for the establishment of a 'whole of government koala strategy'. The response to this recommendation, the NSW Koala Strategy, was released in 2018 and together with the *Saving Our Species Iconic Koala Project 2017–21* (SOS Koala Project), is the current means by which the NSW Government is responding to a decreasing koala population. This majority of this chapter explores the content of these responses, along with stakeholder views on the success of their initiatives.

History of recent approaches of the NSW Government to koala conservation

- 6.1** The *Recovery Plan for the Koala (Phascolarctos cinereus)* was the approved recovery plan for the koala, as required by the former *Threatened Species Conservation Act 1995* (TSC Act). Under Part 4 of this Act, a recovery plan was required to be prepared for any endangered species (other than a species presumed extinct), population and ecological community in NSW. Koalas had been listed as 'vulnerable' under the TSC Act since 1992.
- 6.2** The object of a recovery plan was to promote the recovery of a threatened species to a position of viability in nature over a five year period. As noted in the Executive Summary of the *Recovery Plan for the Koala*, for the koala, this was to be achieved through a number of recovery actions, including:
- conserving koalas in their existing habitat
 - rehabilitating and restoring koala habitat and populations
 - developing a better understanding of the conservation biology of koalas
 - ensuring that the community has access to factual information about the distribution, conservation and management of koalas at a national, state and local level
 - managing captive, sick or injured koalas and orphaned wild koalas to ensure consistent and high standards of care
 - managing overbrowsing to prevent both koala starvation and ecosystem damage in discrete patches of habit
 - coordinating, promoting the implementation, and monitoring the effectiveness of the NSW Koala Recovery Plan across New South Wales.
- 6.3** The most recent *Recovery Plan for the Koala* was released in November 2008 and remained in operation until the repeal of the *Threatened Species Conservation Act 1995*, as part of the 2016 biodiversity reforms.

The NSW Chief Scientist's Report

- 6.4** Prior to the 2016 biodiversity reforms, the NSW Minister for the Environment commissioned the NSW Chief Scientist and Engineer to undertake a review into the decline of koala populations in key areas of NSW. The product of this review – the *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW* (NSW Chief Scientist's report) was released in December 2016. Its main recommendation was that the NSW Government adopt a whole-of-government 'koala strategy'. This strategy was to seek to stabilise and then start to increase koala numbers. Eleven recommendations were included in the Chief Scientist's Koala Report, designed to inform the development of this approach. It is these recommendations that shaped the NSW Government's current approach to koala conservation.
- 6.5** Along with these recommendations, the report gave an overview of the concerns and challenges for koala conservation. In this regard, it noted the existence of 'a wide range of interest groups and stakeholders that publicly express their concerns regarding threats to koalas and their conservation'.⁴¹⁸ Of these concerns, the Report noted the following were the primary focus of stakeholder groups:
- ongoing habitat loss – the Report stated that 'conservation groups regard the removal of vegetation as the greatest threat to koala populations. Some groups aim to restore as much habitat as possible through revegetation projects ... [others] seek to strengthen legislation and regulatory processes around forestry and land clearing'⁴¹⁹
 - resource developments and the perceived impacts they have on koalas and their habitat
 - the impacts of extreme weather events and climate change on koalas.
- 6.6** The report also noted that stakeholders such as local councils, 'view[ed] koalas as an important asset for their communities and for local tourism', but that they also sought to 'balance conservation outcomes with development activities'. In this regard, the *State Environmental Planning Policy (Koala Habitat Protection) 1994* and comprehensive koala plans of management made under it were highlighted as critical.⁴²⁰
- 6.7** On how the strategy should be implemented, the NSW Chief Scientist's Report noted that any approach chosen would be required to implement actions to 'protect rehabilitate and connect koala habitat, as well as a range of actions to manage and mitigate threats to koalas'.⁴²¹ In setting out why a strategy should be at the 'whole of government' level, the Chief Scientist explained that the strategy should 'identify key koala populations and analyse the state of and threats to those populations', with the expectation that this analysis will set:
- specific on-ground actions that government agencies, in combination with the private sector and the community, can take now at a local, regional and state-wide scale

⁴¹⁸ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, p 3.

⁴¹⁹ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, p 4.

⁴²⁰ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, p 4.

⁴²¹ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, p 34.

- the direction for policy reform, such as considering specific changes to the planning framework and working with the Federal government to align assessment and monitoring methods.⁴²²

6.8 Notwithstanding that the strategy was to be implemented at a State-wide level, the Report also recommended that the approach to threats be considered holistically, as whilst 'some threats will require statewide action ... others need to be addressed on the ground regionally or locally'.⁴²³ In this regard, any future strategy would need to:

... make it clear which agency or agencies are responsible for which actions, set timeframes for those actions and specify how their success will be measured. A strong model for local and regional level inter-agency collaboration is already used in relation to how agencies work together to implement Bush Fire Risk Management Plans. A similar approach could be established to support implementation of identified local and regional management and mitigation actions.

In establishing the need to act, the strategy should also make it clear where there is a need for policy reform. The strategy should outline reform areas and set accountabilities and timeframes. This will be important to ensuring that the systems designed to support healthy koala populations are effective.⁴²⁴

The NSW Koala Strategy and Saving Our Species Koala Project

6.9 The NSW Koala Strategy (the Koala Strategy) was released in 2018 in response to the first recommendation of the NSW Chief Scientist's report. In its written submission to the inquiry, the NSW Government outlined its NSW Koala Strategy as 'setting out actions for the first three years of a longer-term vision to stabilise and then increase koala numbers over the longer-term, ensuring genetically diverse and viable populations across the state'.⁴²⁵ The Koala Strategy is supported by an Expert Panel, whose members were also part of the Koala Advisory Committee, responsible for authoring the NSW Chief Scientist's report.

6.10 The Koala Strategy has been allocated \$44.7 million for its first phase, which the government noted was the largest commitment to date by a state government to stabilise koala populations.⁴²⁶ This funding includes \$20 million to acquire land to protect koala habitat and \$24.7 million to implement strategy actions. The Koala Strategy is accompanied by initiatives under the NSW Government's *Saving Our Species* program, a statewide program that aims to secure threatened plants and animals in the wild in NSW. This includes the specific *Saving Our Species Iconic Koala Project 2017–21*, which was allocated \$4 million in funding over its five year operating period.

⁴²² NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, p 24.

⁴²³ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, p 34.

⁴²⁴ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, p 24.

⁴²⁵ Submission 259, NSW Government, p 13.

⁴²⁶ Submission 259, NSW Government, p 2.

6.11 There is a significant amount of overlap between the initiatives created under the Koala Strategy and the SOS Koala Project. For example, the actions set out for the first three years of the Koala Strategy are to be delivered under four pillars and include:

- koala habitat conservation, including creating new reserves and protecting habitat corridors
- conservation through community action, such as working with local communities and businesses to target threats specific to local koala populations
- safety and health of koala populations, such as supporting the triage, treatment and rehabilitation of koalas when threats cannot be managed, and enhancing safety for koalas where possible
- building knowledge and education, through the development of a state-wide koala habitat information base.⁴²⁷

6.12 Similarly, koala habitat conservation is one of the key actions of the SOS Koala Project. Other actions include:

- community engagement in koala conservation
- introduction of a statewide training program for koala carers, in order to address the issue of inadequate support for fauna rehabilitation
- adoption of standardised protocols for koala surveys, in order to address lack of knowledge around koala population distribution and trends.⁴²⁸

6.13 Regarding this overlap, the NSW Government submission describes the SOS Koala Project as supporting the objectives of the NSW Koala Strategy, stating:

The NSW Koala Strategy builds on the work implemented through the Saving our Species Iconic Koala Project by aligning efforts across all government agencies much more broadly ...⁴²⁹

The project has been developed by experts who identified key threats to koalas and actions to address them across the koala's range in NSW. The program has also conducted a detailed analysis of areas of regional koala significance (ARKS) for prioritising conservation actions which identify key koala populations and management areas with potential for long-term viability, as well as priority threats to those populations.⁴³⁰

6.14 Throughout the inquiry, the committee received a significant amount of evidence on both the Koala Strategy and SOS Koala Project. For example, Ms Cerin Loane, Senior Policy and Law Reform Solicitor of the Environmental Defenders Office, acknowledged both approaches were representative of a recent effort to try and improve koala conservation in NSW. However, she also contended that both approaches are 'falling short of providing real and tangible protections

⁴²⁷ Submission 259, NSW Government, pp 13-14.

⁴²⁸ NSW Government, *Securing the Koala in the wild in NSW for 100 years – Saving Our Species Iconic Koala Project 2017–21*, pp 2-3.

⁴²⁹ Submission 259, NSW Government, p 13.

⁴³⁰ Submission 259, NSW Government, p 16.

for koalas and their habitat', arguing that actual reform of NSW legislation was needed to ensure 'real protections' for koalas.⁴³¹ In a similar vein, Mr Jeff Angel, Director of the Total Environment Centre claimed that no process pursued by the NSW Government to date had been adequate to save koalas, stating:

... we are under incredibly increasing pressure and I think we have to elevate the instruments to be used or should be used to protect the koala particularly at the urban interface. The fact that koalas are on a trajectory to at least local extinctions means nothing has worked so far. We need something a lot better.⁴³²

- 6.15** This chapter explores key aspects of both the Koala Strategy and SOS Koala Project, including stakeholder feedback on their success. As noted above, there is a significant overlap between the two approaches as they are described as being designed to both complement and support each other.

Koala habitat conservation

- 6.16** Koala habitat conservation forms a key part of both the Koala Strategy and SOS Koala Project. On the Koala Strategy, the NSW Government submission noted the areas to be conserved to protect koala habitat:

More than 20,000 hectares of state forest on the Central Coast, Southern Highlands, North Coast, Hawkesbury and Hunter with koala habitat will be set aside as new koala reserves. Over 4,000 hectares of native forest with koala habitat will be transferred to the national park estate including on the Mid North Coast. This land will be actively managed to ensure prime habitat is conserved, key habitat corridors are linked, and safe homes for koalas being returned to the wild are provided.⁴³³

- 6.17** Ms Trish Harrup, Director Parks & Conservation Group – Environment, Energy and Science Group, Department of Planning, Industry and Environment, confirmed that under the Koala Strategy, \$20 million in funding was available to purchase private land with priority koala habitat. This land was to be reserved as part of the national parks estate, with three properties purchased to date, with a combined size of 2,600 hectares.⁴³⁴ Evidence was provided on the size and location of two of these properties, which has been included in the table below.

⁴³¹ Evidence, Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office, 16 August 2019, p 54.

⁴³² Evidence, Mr Jeff Angel, Director, Total Environment Centre, 16 August 2019, p 54.

⁴³³ Submission 259, NSW Government, p 13. The NSW Government submission also noted that under the Koala Strategy, the Biodiversity Conservation Trust is working with eligible private landholders to protect koala habitat on their property. This issue is explored in greater detail in chapter 6, along with a broader discussion of the Trust's role in biodiversity conservation.

⁴³⁴ Evidence, Ms Trish Harrup, Director Parks & Conservation Group – Environment, Energy and Science Group, Department of Planning, Industry and Environment, 16 August 2019, p 9; Submission 259, NSW Government, p 14.

Table 3 Size and location of properties purchased for protection under the NSW Koala Strategy

Property	Location	Size
Cudgera Creek Nature Reserve	NSW North Coast	43 ha
Tugalong Station	Southern Highlands	2164 ha

Source: Submission 259, NSW Government, p 14; Answers to questions on notice, Environment, Energy and Science Group – Department of Planning, Industry and Environment, received 16 September 2019, p 2.

- 6.18** Other government witnesses, such as Ms Jacqueline Tracey from Local Land Services explained their role in protecting koala habitat under the Strategy. Ms Tracey described Local Land Services as 'working with [Environment, Energy and Science] to develop targeted landholder information and support packages, including the implementation of on-ground landholder partnerships in key koala habitat areas', as well as referring private landholders to the Biodiversity Conservation Trust.⁴³⁵
- 6.19** Notwithstanding this evidence, a number of stakeholders expressed strongly opposing views, with some questioning whether it really could be said that the Koala Strategy protects koala habitat. For example, Dr Oisin Sweeney, Senior Ecologist with the National Parks Association, was unequivocal in his evidence that the protection of koala habitat 'has been almost completely ignored in the NSW Koala Strategy'.⁴³⁶ Mr Scott Hetherington, Senior Program Leader – Biodiversity, Tweed Shire Council, made similar observations and stated that 'the absence of any protection for koala habitat in the NSW Koala Strategy is remarkable and significantly undermines its value'.⁴³⁷
- 6.20** The submission of the EDO NSW noted similar concerns:
- [The] NSW Koala Strategy ... has fallen far short of expectations and has been highly criticised for not providing the level of protection needed to protect and restore koala populations and habitat. One of the biggest flaws of the strategy is its failure to address the major threat of habitat loss. Despite the Chief Scientist's recommendations, the NSW Koala Strategy does not include any program or timeframe for law reform to prevent inappropriate broadscale land clearing and destruction of koala habitat from development, agriculture, forestry or other industries.⁴³⁸
- 6.21** Other stakeholders appeared to suggest that the issue lay more in the quality of habitat the Koala Strategy sought to protect. For example, the Clarence Valley Conservation Council submission contended that 24,500 hectares of new reserves created under the Koala Strategy contained only 554 hectare (2 per cent) of high-quality koala habitat. This led the organisation to conclude that 'the protection of these areas as reserves does not contribute to koala protection'.⁴³⁹
- 6.22** The submission of the North Coast Environment Council made similar assertions and argued that of the 20,000 hectares of state forest set for protection under the Koala Strategy, '83% was

⁴³⁵ Evidence, Ms Jacqueline Tracey, Director, Strategy and Engagement, Local Land Services, 16 August 2019, pp 15-16.

⁴³⁶ Evidence, Dr Oisin Sweeney, Senior Ecologist, National Parks Association, 16 August 2019, p 36.

⁴³⁷ Evidence, Mr Scott Hetherington, Senior Program Leader – Biodiversity, Tweed Shire Council, 18 October 2019, p 33.

⁴³⁸ Submission 289, Environmental Defenders Office NSW, p 31.

⁴³⁹ Submission 146, Clarence Valley Conservation Council, p 2.

already off-limits to logging and only ONE [reserve] had a genuine concentration of koala records'.⁴⁴⁰ The table below has been extracted from this submission and includes data on the location, size, proposed tenure, percentage of each reserve already subject to protection and percentage of high quality habitat contained within.

Table 4 State forests to be established as koala reserves under the NSW Koala Strategy

Koala "Reserves"	Area we Digitized (ha)	Area OEH (ha)	Proposed Tenure	Already Protected in Informal Reserve (FMZ 1, 2, 3A, 3B)		Koala_highest quality habitat		Koala Records
				ha	%	ha	%	
Barrington Tops	156	155	Flora Reserve	149	96	0	0	0
Carrai	2,111	2,103	National Park	2,102	100	0	0	0
Comleroy	2,911	2,905	Flora Reserve	2,909	100	0	0	0
Corrabare	843	843	Flora Reserve	841	98	0	0	1
Mt Lindesay	5,596	6,195	Flora Reserve	1,988	36	244	4	49
Mount Boss	1,381	1,383	SCA	1,381	100	273	20	2
Oakes	593	593	National Park	592	100	37	6	1
Watagan-Olney	3,120	3,107	Flora Reserve		99	0	0	9
Jellore SF	1,415	1,415	Flora Reserve	1,415	100	NA	NA	3
Belanglo SF	1,805	1,818	Flora Reserve	1,253	69	NA	NA	68*
Meryla SF	4,084	4,084	Flora Reserve	4,084	100	NA	NA	0
TOTALS	24,015	24,601		19,802	82	554	2	133*

Note: That the areas given are from manually digitising maps which resulted in some minor deviations from NPWS's claimed areas, except for Mt Lindesay and Corrabare which both appear to be NPWS errors.

** Nearly all of the Koala records in Belanglo come from radio-tracking just 2 individuals.*

Source: Submission 142, North Coast Environment Council, p 7.

6.23 Additional evidence on the quality of the habitat protected in these reserves was provided in the submission of the North East Forest Alliance, which made the following assertions about the twelve koala reserves proposed under the Koala Strategy:

- Ten are already protected as part of the informal reserve system (as [Forestry Management Zones] 2 and 3)
- Only 3 have high quality Koala habitat as modelled by DPI-Forestry identified within them, and 2 of these have no recent records to substantiate the models.
- Four have no records of Koalas, and only 2 have records within the past 10 years.
- Only 3 contain Koala Hubs, totalling just 181 ha (0.9%) of the Koala Hubs on State Forests.
- Only 3 can in part be justified to contain high quality Koala habitat, and these exclude adjacent areas of high quality habitat.⁴⁴¹

⁴⁴⁰ Submission 142, North Coast Environment Council, p 7.

⁴⁴¹ Submission 174, North East Forest Alliance, p 91.

- 6.24** The submission also argued that four of the new reserves, namely Barrington Tops, Carrai, Mount Boss, and Meryla are 'totally outside' areas of regional koala significance (ARKS) identified by the NSW Government and that two reserves – Corrabare and Olney are 'mostly outside ARKS'.⁴⁴²
- 6.25** In light of these submissions, the committee sought further evidence from government representatives on the quality of the land to be protected under the Koala Strategy. In evidence to the committee, Ms Michelle Dumazel, Executive Director, Policy Division – Environment, Energy and Science Group, Department of Planning, Industry and Environment, emphasised:
- Any kind of land acquisition, because it is going into the New South Wales national park estate, is guided by the "CAR" principles ... —comprehensiveness, adequacy and representativeness. For it to be considered as part of this, it is a high priority for purchase for koalas: must contain koala habitat; evidence of use by koalas; be well-connected to surrounding vegetation or enable better management of threat to koalas in that location.⁴⁴³
- 6.26** Furthermore, in answers to questions on notice, the Environment, Energy and Science (EES) Group of Department of Planning, Industry and Environment confirmed that with regards to the three properties purchased under the Koala Strategy '26 hectares of the 43-hectare Cudgera Creek Nature Reserve in Tweed is within a koala hub'.⁴⁴⁴ The response also confirmed that there were several identified hubs within 20 kilometres of the two properties in the Southern Highlands'.⁴⁴⁵
- 6.27** The EES Group also provided the committee with a table showing the percentage of each proposed reserve that was unavailable for logging under the Forest Management Zoning system, along with number of koala records in each reserve area.

⁴⁴² Submission 174, North East Forest Alliance, p 91.

⁴⁴³ Evidence, Ms Michelle Dumazel, Executive Director, Policy Division – Environment, Energy and Science Group, Department of Planning, Industry and Environment, 16 August 2019, p 9.

⁴⁴⁴ Answers to questions on notice, Environment, Energy and Science Group – Department of Planning, Industry and Environment, received 16 September 2019, p 2.

⁴⁴⁵ Answers to questions on notice, Environment, Energy and Science Group – Department of Planning, Industry and Environment, received 16 September 2019, p 2.

Table 5 Percentage of proposed 'koala reserves' currently unavailable to logging under the Forest Management Zoning System

State forest	Area hectares	% in FMZ 1, 2, 3	New tenure	Values
Part of Carrai	2,080	~100	Addition to Willi Willi National Park	Adjoining the Castles Nature Reserve, Oxley Wild Rivers National Park and Willi Willi National Park. Mix of high and low-quality koala habitat. 1 koala record within 1.5km. Latest record September 2000.
Part of Oakes	589	100	Addition to Gumbaynggirr National Park	Inholding of Gumbaynggirr National Park. Mostly moderate koala habitat with some areas of high quality habitat. Within an Area of Regional Koala Significance. 2 koala records within forest (last April 2013) and 20 records within 2 km.
Part of Mount Boss	1,382	100	Kindee Creek State Conservation Area	Mixed quality koala habitat, koalas likely to occur in moderate to low density.
Comleroy	2,905	100	Flora Reserve	Adjoining Parr State Conservation Area. Moderate koala habitat. 1 record within forest (last September 2014) and 12 records within 2 km.
Jellore	1,415	100	Flora Reserve	Adjoining Nattai National Park. Confirmed koala habitat. Important link in corridor between Blue Mountains and Morton national parks. 2 records within forest (last July 2016) and 20 records within 2 km.
Part of Barrington Tops	155	~100	Flora Reserve	Near Barrington Tops National Park. Mixture of high and low-quality koala habitat. Within an Area of Regional Koala Significance. Low survey effort. 1 recent record (Feb 2016) and 12 records within 2 km.
Part of Belango	1,818	~85	Flora Reserve	Confirmed high quality koala habitat with more than 50 koala records. 2 koalas radio tracked within last 2 years. Important link in corridor between Blue Mountains and Morton national parks.
Part of Corrabare	842	100	Flora Reserve	Adjoining Werakata National Park. Low to moderate koala habitat. Within an Area of Regional Koala Significance. 4 records within 2 km and many within 5km (last March 2015).
Part of Meryla	4,084	100	Flora Reserve	Adjoining Morton National Park. Mix of high and low-quality koala habitat.
Part of Olney & Watagan	3,107	100	Flora Reserve	Olney contains moderate koala habitat. 5 records within forest and more than 20 within 2 km. Watagan contains highly suitable habitat. 18 records in last 20 years. Within an Area of Regional Koala Significance.
Part of Mt Lindesay, Donaldson and Unumgar	5,620	35	Flora Reserve	Within an Area of Regional Koala Significance. Donaldson State Forest has some large areas of modelled high-quality habitat. 13 records in last 10 years. Mt Lindesay State Forest is modelled as mostly moderate quality habitat, with patches of high quality. There are 30+ records from the last 10 years. Unumgar State Forest is mostly moderate quality habitat, with patches of high quality. Koala records mostly in western third part and provides important link for broader parks.

Source: Answers to supplementary questions, Environment, Energy and Science Group – Department of Planning, Industry and Environment, received 16 September 2019, pp 2-3.

- 6.28** Evidence specifically related to the protection of koala habitat under the SOS Koala Project was more limited. However, the Environmental Defenders Office submission argued that the Saving Our Species program – of which the SOS Koala Project forms part – should be given stronger legislative effect under the *Biodiversity Conservation Act 2016*. The submission noted that this could be achieved through the imposition of stronger duties on developers seeking to develop koala habitat, as well as more funding for the protection of areas of outstanding biodiversity value – particularly Saving Our Species sites – identified under the *Biodiversity Conservation Act 2016*.⁴⁴⁶

Committee comment

- 6.29** The committee acknowledges that in implementing both the Koala Strategy and the Saving Our Species Iconic Koala Project, the NSW Government has shown a desire to try and improve koala conservation in NSW. However, the committee believes that in accepting the key recommendation of the NSW Chief Scientist's report, the Koala Strategy needs to be 'whole-of-government' which the evidence received suggests it is not.
- 6.30** The committee believes that both the Koala Strategy and Saving Our Species Iconic Koala Project fall well short of what is needed to save koalas in NSW. For example, the committee is of the view that allocating \$4 million over a 5-year period for the government's Saving Our Species Iconic Koala Project is insufficient to allow it to achieve its stated actions. Furthermore, both the Koala Strategy and Saving Our Species Iconic Koala fail to provide real and tangible protection for koalas and their habitat. In chapter 2 the committee found that the fragmentation and loss of koala habitat poses the most serious threat to koala populations in New South Wales, reinforcing the need for an effective habitat protection strategy. The committee agrees with the many stakeholders who argued that habitat being protected under the Koala Strategy is at best, already ostensibly protected, and at worst, unsuitable for occupation by koalas. On the balance of the evidence, the committee believes the NSW Government must do much more to protect koala habitat, including purchasing more koala habitat for conservation in-perpetuity. For this reason, the committee recommends that the NSW Government ensure that koala habitat selected for conservation on public land is of high quality and needs protection.

Finding 11

That the NSW Koala Strategy falls short of the NSW Chief Scientist's recommendation of a whole-of-government koala strategy with the objective of stabilising and then increasing koala numbers.

Finding 12

That the NSW Koala Strategy fails to prioritise and resource the urgent need to protect koala habitat across all tenures.

⁴⁴⁶ Submission 289, Environmental Defenders Office, p 32.

Finding 13

That allocating \$4 million over a 5-year period for the government's Saving Our Species Iconic Koala Project has been important but additional funding and support is required in order for it to achieve its stated aims.

Recommendation 23

That the NSW Government ensure that koala habitat selected for conservation on public land is of high quality and needs protection.

Conservation through community action

- 6.31** The NSW Government submission stated that in addition to the \$4 million Saving our Species investment to secure koalas in the wild, \$1 million was being provided under the NSW Koala Strategy to local communities over three years 'to deliver on-ground actions that address risks to koala populations at the local level'.⁴⁴⁷
- 6.32** Ms Dumazel provided a list of type of actions that had been undertaken within local communities through the NSW Koala Strategy. These included:
- 13 community workshops
 - installation of a koala drinking station near Moree
 - a wild dog study, looking into the interaction between koalas and wild dogs
 - preparing guidance for habitat restoration.⁴⁴⁸
- 6.33** Whilst the committee received evidence from community members about State funded local programs aimed at helping koalas, it was difficult to understand the full extent to which these actions were made possible due to funding under the Strategy, or whether they were supported by another source. For example, Mr Phil Spark, a wildlife ecologist, told the committee that the Gunnedah community had been provided with \$100,000 in order to regenerate corridors and patches around the area through planting trees, with this funding coming from the Saving Our Species program.⁴⁴⁹
- 6.34** On funding to local councils specifically, the committee received mixed evidence. For example, Mr Daniel Bennett, Senior Strategic Planner, Bellingen Shire Council stated:

⁴⁴⁷ Submission 259, NSW Government, p 14.

⁴⁴⁸ Evidence, Ms Dumazel, 16 August 2019, p 8.

⁴⁴⁹ Evidence, Mr Phil Spark, Wildlife ecologist, 13 December 2019, p 20.

The adoption of the ... [Koala Strategy] has not triggered any significant financial support to implement the management recommendations that are in it. We were hopeful that the NSW Koala Strategy might look to directly support implementation of existing strategies but that has not been our experience.⁴⁵⁰

6.35 Similarly, Mr Kevin Evans and Mr Robert Bentley expressed concern in their submission that no funding had been allocated under either the Strategy or the SOS Koala Project to assist in the implementation of strategies identified in the *Bellingen Shire Council Coastal Area Comprehensive Koala Plan of Management*.⁴⁵¹

6.36 In contrast, Wingecarribee Shire Council told the committee of receiving \$450,000 from the NSW Saving Our Species fund as part of the NSW Koala strategy for its *Southern Highlands Koala Conservation Project*. On the effect of this investment, it stated:

This investment has allowed us to expand the conservation work done on public land into private land. [Wingecarribee Shire Council] has been a pilot site for NSW Koala Strategy policies, including the Public Land Management Working Group. Ongoing State Government investment in the recommended actions contained within the Koala Strategy is essential.⁴⁵²

6.37 Similarly, a submission from the former President of Friends of the Koala, Ms Lorraine Vass, described the provision of funding under the SOS Koala Project to four councils in the Northern Rivers region. Ms Vass' submission described this funding as 'primarily associated with habitat protection and enhancement and to a lesser degree, community education', noting that it had allowed these councils to develop their own koala recovery project:

... the councils of Lismore, Byron, Ballina and Tweed ... and Friends of the Koala have built a successful collaborative working relationship over the years. Their *North-east Hinterland Regional Koala Conservation and Recovery Project*, just getting off the ground now, is funded under the Saving our Species Iconic Koala Project over three years (2019-2021), the Far North-east Hinterland being identified as a priority management site.⁴⁵³

6.38 The Minister for Energy and the Environment provided further detail on funding provided to the locals councils in which the South West Sydney koala colony was found:

Under the NSW Koala Strategy approximately \$1 million has been invested to install more than nine kilometres of fencing along Picton Road in Wollondilly. Over the last two years, approximately \$270,000 has been allocated to the Campbelltown and Wollondilly local councils for koala conservation research in the area through the Saving our Species program.⁴⁵⁴

6.39 Notwithstanding the Minister's evidence, both Wollondilly Shire and Campbelltown City council told the committee of the need for more funding to address the issue of koalas being

⁴⁵⁰ Evidence, Mr Daniel Bennett, Senior Strategic Planner, Bellingen Shire Council, 3 February 2020, p 17.

⁴⁵¹ Submission 257, Mr Kevin Evans and Mr Robert Bentley, p 1.

⁴⁵² Submission 125, Wingecarribee Shire Council, p 3.

⁴⁵³ Submission 266, Ms Lorraine Vass, p 2.

⁴⁵⁴ Answers to supplementary questions, Minister for Energy and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 20 April 2020, p 21.

hurt or killed on roads. The submission of Wollondilly Shire Council's stated, in regards to the NSW Koala Strategy:

Despite the high number of koalas being hurt or killed on State roads there was no funding assistance for the provision of koala care facilities in South Western Sydney or any announcement of additional funding for more scientific research in the area.⁴⁵⁵

- 6.40** Campbelltown City Council advised the committee that the Council had also made a number of requests to the NSW Government for additional funding in recent years.⁴⁵⁶ This funding was requested both for the immediate installation of fauna crossings on Appin Road, as well as for targeted financial assistance to local vets to assist with the treatment of injured wildlife.⁴⁵⁷ The most recent response to these requests, received from Ms Harrup of the Department on 18 October 2019, did not refer to the provision of any additional funding through the NSW Koala Strategy beyond the previously mentioned \$270,000.⁴⁵⁸

Committee comment

- 6.41** The committee notes the evidence from a number of local councils that, despite its focus on local and community initiatives, the Koala Strategy has not triggered any significant financial support to implement key council initiatives. However, the committee was encouraged to hear that some councils had had success in obtaining grants to protect koalas under the broader Saving Our Species program. The committee urges the NSW Government to increase funding available to councils under both the Koala Strategy and the Saving Our Species Iconic Koala Project, to enable more local councils to implement local conservation initiatives.

Recommendation 24

That the NSW Government increase funding to local councils to support the implementation of local koala conservation initiatives.

Safety and health of koala populations

- 6.42** Both the NSW Koala Strategy and SOS Koala Project contain a significant focus on ensuring the safety and health of koala populations. However, there are considerable gaps in the evidence received by the committee on this topic, particularly in relation to how both programs are approaching this issue.
- 6.43** One issue that the committee did receive evidence on was the support being provided to koala rehabilitators and wildlife carers under the Koala Strategy. For example, Ms Michelle Dumazel,

⁴⁵⁵ Submission 124, Wollondilly Shire Council, p 9.

⁴⁵⁶ Answers to questions on notice, Campbelltown City Council, 25 November 2019, pp 2-3.

⁴⁵⁷ Answers to questions on notice, Campbelltown City Council, 25 November 2019, Attachment 4, p 34; Answers to questions on notice, Campbelltown City Council, 25 November 2019, Attachment 7, p 27.

⁴⁵⁸ Answers to questions on notice, Campbelltown City Council, 25 November 2019, Attachment 7, p 25.

Executive Director, DPIE confirmed that \$4.5 million funding was available to koala rehabilitators under the NSW Koala Strategy. The Department also confirmed that \$185,000 was distributed to 17 providers (15 groups and 2 individuals) under the NSW Koala Strategy during 2018-2019, with an additional \$120,000 expected to be provided to the sector by June 2020. Under the Strategy's 2020-2021 allocation, a further \$120,000 is also to be allocated to the sector.⁴⁵⁹

- 6.44** In terms of the appropriateness of this funding, stakeholders such as Friends of the Koala described it as going 'some of the way to addressing some of the threats to koalas, particularly the need for more Vets and Vet nurses to treat koalas that have been injured or are diseased'.⁴⁶⁰ Ms Lorraine Vass, former president of Friends of the Koala also noted that the Koala Strategy's progress in its support for wildlife rehabilitators:

'... is not without a bit of smoke and mirrors due primarily to a certain overlap and interchangeability between funding sources for actions in the Strategy and actions associated with the reform of the volunteer wildlife rehabilitation sector which is part of the broader biodiversity reforms'.⁴⁶¹

- 6.45** Mrs Vass also suggested that the Koala Strategy's investment of \$7.5m will not go far in establishing a veterinary service and hospital network. In this regard, she noted that the two projects mentioned in the Koala Strategy under this pillar – namely the construction of koala hospitals at Port Stephens and Gunnedah – were already funded 'through the NSW Restart program with grants of \$3m and \$6.5m respectively'.⁴⁶²

- 6.46** Ms Josey Sharrad, Wildlife Campaigner Oceania with the International Fund for Animal Welfare (IFAW) also welcomed funding for wildlife rehabilitators. However, she was cautious not to overstate the benefit in supporting wildlife carers and vets, describing this approach as 'treat[ing] the symptoms rather than the addressing the cause, which is habitat loss'. She stated:

The Government is effectively cutting down trees with one hand while picking up sick and injured koalas with another. Volunteer wildlife groups like WIRES ... work around the clock to rescue and rehabilitate as many animals as they can but there is no secure habitat really to release them back into, so without that, it is a mere bandaid and that cycle will continue.⁴⁶³

- 6.47** The IFAW's submission made similar observations:

Funds for research and training of vets and vet nurses will be useful to address the need for more vets and vet nurses to treat koalas that have been injured or are diseased. Koalas are complex animals and unfortunately most vets do not receive adequate training in how to treat them, along with other wildlife ...

⁴⁵⁹ Answers to questions on notice, Ms Michelle Dumazel, Executive Director Policy, Environment, Energy and Science Group, Department of Planning, Industry and Environment, 10 January 2020, p 1.

⁴⁶⁰ Submission 69, Friends of the Koala, p 3.

⁴⁶¹ Submission 266, Mrs Lorraine Vass, p 6.

⁴⁶² Submission 266, Mrs Lorraine Vass, p 6.

⁴⁶³ Evidence, Ms Josey Sharrad, Wildlife Campaigner Oceania with the International Fund for Animal Welfare, 16 August 2019, p 44.

However, whilst the strategy contains significant funding and some worthwhile actions, such as citizen science surveys, vet training and the creation of new National Parks and koala sanctuaries, some of which are beneficial for koalas in the long-term, IFAW supports the view that the Strategy largely addresses the symptoms of koala decline rather than the cause - habitat loss and fragmentation. Unless the Strategy is supported by legislative change to protect existing and future koala habitat it will have little meaningful impact.⁴⁶⁴

- 6.48** This submission formed part of a broader swathe of evidence suggesting that the NSW Koala Strategy focused on actions – such as support for wildlife rehabilitators – at the expense of habitat protection. For example, the submission of the Clarence Environment Centre quoted Dr Stuart Blanch of the WWF, who stated that 'the primary failing of the NSW Koala Strategy is that it ignores changes to legislation in 2017 that made it legal to clear 99% of the state's koala habitat'.⁴⁶⁵ Similarly, Stand Up For Nature Alliance observed:

We accept that the [NSW Koala Strategy] contains significant funding and some worthwhile actions, such as citizen science surveys and creation of new National Parks and koala sanctuaries. However the primary cause of the emerging koala extinction crisis – loss and fragmentation of koala habitat on private land – has been ignored by the strategy.⁴⁶⁶

- 6.49** Discussion of the protection of habitat under the NSW Koala Strategy is also discussed at 6.16.
- 6.50** Limited evidence was received that directly referenced the SOS Koala Project. However it was noted by Ms Sharon Molloy during a Budget Estimates hearing in March that the broader Saving our Species program was assisting with much of the government's immediate bushfire response.⁴⁶⁷ This included installing drinking stations for koalas and ground surveying work in bushfire-affected areas.

Translocation of koalas

- 6.51** Under the 'Safety and health of koala populations' pillar in the NSW Koala Strategy, specific funding has been allocated to research the effectiveness and challenges of translocation. The Strategy defines translocation as 'reintroducing koalas from existing NSW populations to improve genetic diversity and health of local populations'.⁴⁶⁸

⁴⁶⁴ Submission 276, International Fund for Animal Welfare, p 7.

⁴⁶⁵ Submission 146, Clarence Valley Conservation Council, p 3.

⁴⁶⁶ Submission 155, Stand Up For Nature Alliance, p 24.

⁴⁶⁷ Evidence, Ms Sharon Molloy, Acting Executive Director, Biodiversity and Conservation, Department of Planning, Industry and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 80.

⁴⁶⁸ *NSW Koala Strategy* (May 2018), Department of Planning, Industry and Environment, <<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Threatened-species/nsw-koala-strategy-18250.pdf>>, pp 10 and 17.

- 6.52** Ms Melanie Hawyes, the Department's Deputy Secretary of Board Policy, Strategy and Science confirmed that following the bushfires, translocations was one of the issues the Department was looking into.⁴⁶⁹
- 6.53** Numerous inquiry stakeholders raised concerns with the viability of translocating koalas and referred to case studies where previous attempts had tragically failed.⁴⁷⁰ As an example, Ms Wendy Hawes, Director and Ecologist at the Enviro Factor, recalled a case study in south east Queensland where 35 koalas were relocated to a new habitat because of urban development. The koalas were collared and tracked, but all of them eventually perished.⁴⁷¹ An individual submission author, Mrs Patricia Durman, cited another case study where koalas from Campbelltown were released near the Tarlo River, but some disappeared, others died and one contracted chlamydia and needed medical attention. Mrs Durman noted that while the translocation of koalas to Kangaroo Island in Victoria seemed to be a success, in reality many of those koalas suffered from renal failure and chlamydia.⁴⁷²
- 6.54** Dr Kara Youngentob, Research Fellow at the Australian National University's Research School of Biology, did not support translocating koalas and referred to the aforementioned attempt in Queensland, attributing the reasons for its failure to a decrease in the quality of habitat and increased vulnerability to new threats, such as feral dogs. Dr Youngentob noted that animals need time to acclimatise to a new area and as a result, spend more time on the ground, putting themselves at higher risk of predation.⁴⁷³
- 6.55** Dr Youngentob further commented that that there were often reasons as to why a new habitat is devoid of koalas in the first place:
- It is either going to be the food is not good enough, or there is going to be feral dogs that knock the population down, or it could be disease. If that is the case, if there are no koalas remaining there that may not be an issue, but if there are then you have disease transmission through populations. That is another negative of moving animals from place to place.⁴⁷⁴
- 6.56** Dr Mathew Crowther from the University of Sydney agreed, stating that for a good relocation to occur, people had to consider whether an empty habitat, despite having similar species of plant trees, was an indication of other threats to koala populations:

⁴⁶⁹ Evidence, Ms Melanie Hawyes, Deputy Secretary, Board Policy, Strategy and Science, Department of Planning, Industry and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 79 [uncorrected].

⁴⁷⁰ Evidence, Ms Heather Ranclaud, Committee Member, Upper Mooki Landcare, 13 December 2019, p 10; Submission 25a, Ms Melisse Reynolds, p 1; Submission 50, Name suppressed, p 3; Submission 51, Mr Bernard Jean, p 2; Submission 114, Mrs Elizabeth Gossell, p 1; Submission 139, Blue Mountains Conservation Society, p 4; Submission 186, Name suppressed, p 1; Submission 199, Miss Lucy Kelly, pp 1 and 2; Submission 251, Port Stephens Koala and Wildlife Preservation Society, p 6; Submission 292, Ms Claire Bettington, pp 3 and 4.

⁴⁷¹ Evidence, Ms Wendy Hawes, Director and Ecologist, The Enviro Factor, 18 February 2020, p 4.

⁴⁷² Submission 97, Mrs Patricia Durman, p 7.

⁴⁷³ Evidence, Dr Kara Youngentob, Research Fellow, Research School of Biology, Australian National University, 18 February 2020, p 14.

⁴⁷⁴ Evidence, Dr Youngentob, 18 February 2020, p 14.

You have to know why something is not there and then that can be very difficult sometimes. Because you cannot just say, "Oh, the habitat looks the same—same species of trees". You have to look at whether there is a historical reason or a fire that wiped them out or some other event or some historical event that means koalas are not in that area. So the first thing you have to know is why are koalas not there now in the area that you want to translocate them to. And it could be the threats there. It could be close to a major road. Again, dog attack could be in the area.⁴⁷⁵

- 6.57** Stakeholders also flagged that success also hinged on the trees species found in the new area. Dr John Hunter, Director and Ecologist at the Enviro Factor summarised the complexity of koalas and their preferred feed trees:

Some of the recent research with moving koalas has also shown that sometimes even their gut bacteria is specific to the area and the trees that they are eating. And so, if you move them, even if they have got the right potential kind of trees, they still might not be able to digest them properly.⁴⁷⁶

Committee comment

- 6.58** The committee notes the significant number of concerns raised by stakeholders regarding translocation of koalas and on the balance of the evidence, believes the practice is an unproven way of protecting koala populations from the impacts of development and should only be used as a last resort. The committee is of the view that further research needs to be undertaken to assess its methodology and effectiveness.

Finding 14

Translocation is an unproven way of protecting koala populations from the impacts of development and should only be used as a last resort. Further research needs to be undertaken to assess its methodology and effectiveness.

Knowledge building

- 6.59** The NSW Government submission identified the prioritisation and funding of research as a key aspect of the Koala Strategy. In this regard, it confirmed that \$8.9 million has been allocated to increase knowledge of koalas and their habitat, as well as developing a state-wide koala habitat information base with the best available data on koala habitat and koala occurrence throughout New South Wales. To address knowledge gaps, a 10-year NSW Koala Research Plan has been implemented with priority koala-funded research, particularly in relation to climate change and extreme weather events, disease, habitat and other threats. As of August 2019, a total value of \$1.93 million of grants had been awarded to ten projects.⁴⁷⁷

⁴⁷⁵ Evidence, Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, University of Sydney, 16 August 2019, p 30.

⁴⁷⁶ Evidence, Dr John Hunter, Director and Ecologist, The Enviro Factor, 18 February 2020, p 4. See also, Evidence, Dr Crowther, 16 August 2019, p 30.

⁴⁷⁷ Submission 259, NSW Government, pp 3 and 14-15.

6.60 In evidence given at the start of the inquiry, Ms Trish Harrup, Director Parks and Conservation Policy, Environment, Energy and Science Group, admitted that previously:

... one of the key knowledge gaps was around where the koala habitat occurs across the State and where koalas are known to occur. Significant work has been undertaken to advance our knowledge on that and we are close ... to finalising that work'.⁴⁷⁸

6.61 The NSW Government submission also notes that since May 2018, koala surveys have been completed as part of the NSW Koala Strategy in the following areas, with the data to be made available on BioNet - Far North-east Hinterland, Moree Plains, Richmond Valley, Clarence Valley, Warrumbungles/Pilliga, Port Macquarie-Hastings, Dungog Shire, Myall Coast, Bathurst, Blue Mountains, Bungonia, Cooma and Jindabyne. Other recent surveys have been undertaken at Bongil Bongil National Park, Southern Highlands, Campbelltown, and the South Coast.⁴⁷⁹

6.62 The committee received some evidence from stakeholders that the Strategy, with its particular focus on research, was too concerned with long-term approaches. These stakeholders suggested as the situation was so dire, a more immediate response was required. In respect of this, Mr David Milledge, a local ecologist from Ballina stated:

I think the strategy is a good start, but the problem is it is a long-term strategy. I do not think we have got time for that ... the need to do something about koala populations is now. It is really urgent.⁴⁸⁰

6.63 Concerned that the Koala Strategy's focus on research had the potential to detract from the implementation of more immediate action, the committee raised this issue with government representatives at the inquiry's first hearing. In particular, the committee queried how funding provided under the Koala Strategy to the Natural Resources Commission to conduct research into regeneration harvesting of forests on the NSW North Coast benefitted koalas, whilst logging was underway. Ms Harrup responded:

We are investing in research to understand how koalas are responding to the regeneration harvesting in the North Coast. The Natural Resource Commission has published their research plan on their website and they have also commissioned a number of studies and they have published details about those studies. We expect the work will be concluded with results within the next three years so that when the Koala Strategy is reset after three years we will have that information available to inform future actions.⁴⁸¹

6.64 On the issue of climate change, Ms Michelle Dumazel of the Department asserted that, at least insofar as research was concerned, the Koala Strategy contained 'a strong focus in terms of climate change and drought'.⁴⁸² In particular, she highlighted the role of the Koala Strategy Independent Expert Advisory Panel in annually reviewing the Strategy, explaining that the 2020 review had been brought forward to January to confirm 'whether we need to think a bit further

⁴⁷⁸ Evidence, Ms Harrup, 16 August 2019, p 8.

⁴⁷⁹ Answers to questions on notice, Department of Planning, Industry and Environment, 16 September 2019, p 1.

⁴⁸⁰ Evidence, Mr David Milledge, Local ecologist, 18 October 2019, p 5.

⁴⁸¹ Evidence, Ms Harrup, 16 August 2019, p 12.

⁴⁸² Evidence, Ms Dumazel, 9 December 2019, p 46.

about our research strategies in relation to climate change'.⁴⁸³ Notwithstanding this evidence, a number of stakeholders expressed concern that the Strategy did not appropriately acknowledge the effect of climate change. For example, the Jane Goodall Institute and Tweed Landcare described the Strategy as 'ignoring the impacts of climate change'⁴⁸⁴, whilst Animal Liberation described it as 'effectively sidestepp[ing] the impacts climate change poses to koalas'.⁴⁸⁵ Similarly, the Blue Mountains Conservation Society described the Strategy's ignoring of climate change as 'negligent',⁴⁸⁶ with Earth Learning Inc calling on the Strategy to be revised to include reference to this factor.⁴⁸⁷

The importance of research

- 6.65** In addition to its importance under the Koala Strategy, the committee received a significant amount of evidence emphasising the importance of research more broadly. For example, Dr Youngentob, Research Fellow, ANU, asserted that more research was needed because there was still a lot to learn about koalas, including on how koala populations respond to fire. Dr Youngentob stated that for the 25 koalas that had been brought into ANU's care, they lacked 'even basic knowledge' about when the rehabilitated koalas could be safely released:

For example, we do not know if they can survive an epicormic growth and for how long; we do not know whether koalas that were not directly injured in the recent fires needed to be removed from the wild to increase their chance of survival while the forest recovers, that is assuming the forest recovers, which is not clear in some places; in most forests we do not know how disturbances such as fires and logging impact the nutritional quality and carrying capacity of the landscape for koalas; we also do not know how these disturbances impact global climate in most forests. This is critical because we do know that extreme heat or prolonged heat reduces the amount that koalas can eat, leaving them malnourished and dehydrated.⁴⁸⁸

- 6.66** Dr Ben Moore from the Hawkesbury Institute for the Environment at the Western Sydney University emphasised the importance of research into koala populations of varying densities. In this regard, he recommended that low-density koala populations, and not just the high-density populations, continue to be monitored and researched. He acknowledged that because of the intensive directed research efforts and citizen science, new koala populations had been identified in the Southern Highlands and the Blue Mountains. Dr Moore noted, 'Understanding the distribution of lower density populations is very valuable to understand the true extent and trends in koala populations and to understand and model how koala populations can recover from future disturbances'.⁴⁸⁹

⁴⁸³ Evidence, Ms Dumazel, 9 December 2019, p 46.

⁴⁸⁴ Submission 70, Jane Goodall Institute Australia, p 3; Submission 75, Tweed Landcare, p 2. See also Submission 274, Ms Lisa J Ryan, p 5.

⁴⁸⁵ Submission 162, Animal Liberation, p 4.

⁴⁸⁶ Submission 139, Blue Mountains Conservation Society, p 4.

⁴⁸⁷ Submission 145, Earth Learning Inc, p 2.

⁴⁸⁸ Evidence, Dr Youngentob, 18 February 2020, p 11.

⁴⁸⁹ Submission 149, Dr Ben Moore, p 3.

- 6.67** Dr Leigh, who has been monitoring growing koala populations in the Blue Mountains, highlighted the need for urgent research to protect vulnerable populations. She said:

We certainly need more research done on where these populations are as well—resources to get in and survey these. It makes a difference if we only have two populations of koalas in the mountains and both get burnt, we are in big trouble. If there are seven different colonies and we do not know about them but could protect them—⁴⁹⁰

- 6.68** Many inquiry stakeholders agreed that there was adequate technology currently available to improve koala research, but that it was costly. Dr Crowther from the University of Sydney explained how they were conducting extensive research projects in limited areas, funded by the Australian Research Council. They were comprehensive exercises with detailed results that will inform management in the future. He said:

But what you need to know is the demographics of the population ... you need to know where the koalas are—that is what is called occupancy; you also need to know the demographic categories ... you have got to know the age structure; you have got to know how many females and males; you have got to know how many juveniles; how many juveniles are being born, how many juveniles are surviving.

If you have got monitoring programs it can allow that. It is a costly exercise but they certainly can tell you what is happening to a population. Within a couple of years you can work out if the population is declining or increasing because you have got to know births, deaths and immigration. That tells you everything you need to know about a population.⁴⁹¹

Committee comment

- 6.69** The committee acknowledges that research into koala conservation must be a key component of any strategy to save koalas. The committee encourages the NSW Government to continue to engage closely with koala experts and community members to ascertain ongoing threats to koalas, and to develop strategies to address them. However, the committee believes that the immediate threats posed to koala populations are well-known to the Government and urges the Government to ensure there is a balance between investing in long-term research and the urgency of addressing immediate threats.

Implementation of the Strategy within the new Department of Planning, Industry and Environment

- 6.70** On 1 July 2019, machinery of government changes took effect within the NSW Government, reorganising the ten previous public sector clusters into eight. Most notably for this inquiry, the former Planning & Environment and Industry clusters were consolidated into a single cluster known as Planning, Industry and Environment. Within the cluster, the Office of Environment and Heritage was absorbed into the general functions of the Department, whilst the Natural Resources Commission was brought across to join Local Land Services as one of the Department's two executive agencies.

⁴⁹⁰ Evidence, Dr Kellie Leigh, Executive Director, Science for Wildlife, 9 December 2019, p 19.

⁴⁹¹ Evidence, Dr Crowther, 13 December 2019, p 22.

- 6.71** In a hearing held in the month following these changes, the committee was keen to understand whether implementation of both the Koala Strategy and SOS Koala Project would be affected by the restructure. In this regard, Ms Jacqueline Tracey, Director of Strategy and Engagement in Local Land Services described the Strategy's implementation as characterised by considerable interdepartmental cooperation:

As part of the koala strategy, Local Land Services is working with EES to develop targeted landholder information and support packages, including the implementation of on-ground landholder partnerships in key koala habitat areas. We also have a key role in referring landholders to the Biodiversity Conservation Trust where their land contains significant habitat and important ecological communities.

Finally, Local Land Services has partnered with EES and Dr Brad Law, ... to undertake koala research as part of the New South Wales koala strategy. We are very keen to get a better understanding of the populations, koala habitat and the impact of private native forestry, for example, on koala populations and occupancies. We will be working closely with Dr Law and EES on that with the view that that would inform both our extension work with landholders, but also any subsequent revisions to the land management and private native forestry codes of practice.⁴⁹²

- 6.72** Notwithstanding this assertion, the committee questioned governmental representatives on how conflicts were managed within the new structure, given the potential for disagreement between Forestry and the group responsible for implementing the Koala Strategy, namely the Environment, Energy and Science (EES) group. In response, Ms Michelle Dumazel suggested that while there had been structural changes, 'our relationships with all the different parts of the department remain the same'.⁴⁹³ The committee also put this question to Mr Dean Kearney, Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW. Mr Kearney's response suggested that as a State-owned corporation, Forestry was less directly involved with strategic decision making and more involved 'through the efforts of the DPI forest science unit'.⁴⁹⁴ Mr Kearney also acknowledged that whilst Forestry was siloed away from some environmental work of the Department, it was 'heavily involved' in other aspects such as the Natural Resource Commission's forestry monitoring project.⁴⁹⁵

Committee comment

- 6.73** As noted above, the committee acknowledges that in implementing both the Koala Strategy and the Saving Our Species Iconic Koala Project, the NSW Government has shown a desire to try and improve koala conservation in NSW. Moreover, it appears that whilst machinery of government changes in July had the potential to affect the implementation of these approaches within the newly consolidated Department of Planning, Industry and Environment, actual disruption has been minimal.

⁴⁹² Evidence, Ms Tracey, 16 August 2019, p 15-16.

⁴⁹³ Evidence, Ms Dumazel, 16 August 2019, p 3.

⁴⁹⁴ Evidence, Mr Dean Kearney, Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW, 26 February 2020, p 8.

⁴⁹⁵ Evidence, Mr Kearney, 26 February 2020, p 8.

- 6.74** Notwithstanding this, the committee continues to have concern about the overall efficacy of the NSW Government's approach to koala conservation. It is apparent that despite the NSW Koala Strategy establishing a number of actions to be delivered under four pillars, none of these address the fundamental issue facing koalas – namely, the fragmentation and loss of their habitat. In this regard, the committee believes both the NSW Koala Strategy and Saving Our Species Iconic Koala Project fall well short of what is required to save koalas in the wild in New South Wales.

Chapter 7 The protection of koalas and their habitat under environmental protection legislation

The protection and management of koalas in the New South Wales planning framework involves numerous pieces of legislation including the *Environmental Planning and Assessment Act 1979*, *Biodiversity Conservation Act 2016* and *Local Land Services Regulation 2014*. Notwithstanding this breadth, it is the *State Environmental Planning Policy (Koala Habitat Protection) 2019* – in particular, the koala plans of management (KPOMS) – that represents the key policy framework regarding the conservation of koalas in New South Wales. These KPOMS, in their identification of 'core koala habitat', play a fundamental role in triggering protective prescriptions in other legislation.

The first part of this chapter examines the operation and implementation of the *State Environmental Planning Policy (Koala Habitat Protection) 2019* and its precursor, the *State Environmental Planning Policy (Koala Habitat Protection) 1994*, which was repealed during the course of this inquiry. In particular, it focuses on perceived systemic issues with the approval of KPOMS made under these policies by the Department of Planning, Industry and Environment, including the flow-on effects relating to their effectiveness and enforcement.

The second half of the chapter explores a number of key frameworks and codes regulating clearing on private land. This includes the Private Native Forestry Code of Practice and Land Management Framework under the *Local Land Services Amendment Act 2016*. Within each, stakeholders' views on the adequacy and effectiveness given to the protection of koalas and their habitat are explored in detail.

Overview of the policy framework for koala habitat protection on private land

- 7.1** The *State Environmental Planning Policy (Koala Habitat Protection) 2019* (2019 SEPP) and its precursor, the *State Environmental Planning Policy (Koala Habitat Protection) 1994* (1994 SEPP) are the key environmental planning instruments relating to the conservation of koalas on private land. These planning instruments are made under the authority of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and once approved, are a matter for mandatory consideration for all development applications determined under Part 4 of the EP&A Act.⁴⁹⁶ This development does not include complying development, major projects – including State significant development and State significant infrastructure, development determined under Part 5 of EP&A Act or land clearing activities requiring approval under the *Local Land Services Regulation 2014*.⁴⁹⁷
- 7.2** These SEPPs are important because defined terms, such as 'core koala habitat', within these policies are also used as a trigger to commence processes and regulation under other environmental protection legislation. For example, for forestry operations on private land, tree clearing and harvesting is not permitted in any areas identified as 'core koala habitat' in an approved koala plan of management. Similarly, under Part 5A of the *Local Land Services Act 2013*,

⁴⁹⁶ *Environmental Planning and Assessment Act 1979*, s 4.15. See also Evidence, Ms Sue Higginson, Environmental lawyer, 18 October 2019, pp 18-19.

⁴⁹⁷ Submission 78, The University of Sydney, p 2; Submission 69, Friends of the Koala, pp 2-3.

category 2-sensitive regulated land (on which clearing is more strictly regulated) is to include 'core koala habitat'.⁴⁹⁸

7.3 The following sections review in detail both the 1994 SEPP and the 2019 SEPP.

The State Environmental Planning Policy (Koala Habitat Protection) 1994

7.4 The *State Environmental Planning Policy (Koala Habitat Protection) 1994* came into effect on 13 February 1995 and was ceased on 29 February 2020, immediately prior to the commencement of the *State Environmental Planning Policy (Koala Habitat Protection) 2019*.

7.5 Throughout the inquiry, the committee heard evidence describing shortcomings with the 1994 SEPP. These issues generally fell into two categories – its drafting or wording and problems with its implementation particularly the lack of approved comprehensive koala plans of management (CKPOMs) made under the policy. Despite the fact that the 1994 SEPP ceased in February 2020, it is important to examine issues with this planning instrument, as many stakeholders identified its shortcomings as partly responsible for the decline in koala populations.

7.6 However, despite this, the 1994 SEPP was well intentioned according to some stakeholders. Ms Sue Higginson, environmental lawyer, described the policy as 'really well-intended',⁴⁹⁹ whilst Mr Dailan Pugh of the North East Forest Alliance referred to it as 'good in principle'.⁵⁰⁰ Similarly, when asked by the committee about his view on the policy's shortcomings Mr Matthew Wood, Director – Planning and Environmental Health, Ballina Shire Council, recognised the utility of the policy and suggested that issues stemmed more from it being outdated, rather than flawed from the outset:

In relation to SEPP 44 ... being a State policy, presents a very useful tool in terms of the planning framework to manage koalas. The problem I see with SEPP 44 and the problem we experience from a planning perspective is that the SEPP is very old, it does not reflect the contemporary science around koalas, and there are lots of parts of the SEPP then that are essentially outdated. So what we end up with is conflict in relation to things that are scientifically obvious to us now but that the legislation simply does not identify.⁵⁰¹

7.7 The overwhelming evidence presented to the committee was its shortcomings however, and these are explored in greater detail in the next section.

Key issues with 1994 SEPP

7.8 Stakeholders noted that there were a number of fundamental issues with the 1994 SEPP which limited the effectiveness of the instrument to protect koalas. Issues identified included:

⁴⁹⁸ Submission 289, Environmental Defenders Office, pp 13 and 34.

⁴⁹⁹ Evidence, Ms Sue Higginson, 18 October 2019, p 15.

⁵⁰⁰ Evidence, Mr Dailan Pugh, President, North East Forest Alliance, 18 October 2019, p 16.

⁵⁰¹ Evidence, Mr Matthew Wood, Director – Planning and Environmental Health, Ballina Shire Council, 18 October 2019, p 35.

- the application of the policy to land greater than 1 hectare only
- weaknesses in the definitions of 'potential koala habitat' and 'core koala habitat'
- shortcomings in the list of preferred koala feed trees contained within the Schedule to the policy.

7.9 Each of these areas are expanded upon below.

Limitation of 1994 SEPP to land greater than 1 hectare

7.10 The 1994 SEPP identified various triggers to introduce tighter development control provisions to help protect koalas, all of which only applied to land greater than 1 hectare in size.⁵⁰² The committee heard from a number of stakeholders that this 1 hectare 'trigger' was both arbitrary and irrelevant. For land smaller than 1 hectare that may contain koala habitat, no protection was afforded by the 1994 SEPP.

7.11 Mr Matthew Wood, Ballina Shire Council, observed that setting the threshold of protection at 1 hectare excluded consideration of 'landscape-scale habitat',⁵⁰³ whilst Ms Virginia Seymour, Environmental Strategies Officer, Lismore City Council, argued that this led to land 'fall[ing] through the net'.⁵⁰⁴

7.12 Similarly, Ms Sue Higginson, environmental lawyer, noted that the fragmentation of core koala habitat has meant that it is sometimes under the 1 hectare threshold:

... the one hectare trigger limit is arbitrary, no longer relevant and, in fact, quite a serious prohibition because ... take the Richmond floodplain for example, where there is some serious core koala habitat in very fragmented condition—below one hectare is sometimes the core koala habitat in an area.⁵⁰⁵

Definitions of 'potential koala habitat' and 'core koala habitat'

7.13 The 1994 SEPP included several key definitions, including what was 'potential koala habitat' and 'core koala habitat'. These definitions were important, in part, for the role they played in other regulatory settings, such as in the land management and private native forestry frameworks.⁵⁰⁶ For example, under the Private Native Forestry Code of Practice, forest operations were not permitted within any area identified as 'core koala habitat'.⁵⁰⁷ Similar restrictions also applied under the Land Management Framework.⁵⁰⁸ Both are discussed in further detail at 7.96 onwards.

⁵⁰² *State Environmental Planning Policy (Koala Habitat Protection) 1994*, cl 6.

⁵⁰³ Evidence, Mr Wood, 18 October 2019, p 35.

⁵⁰⁴ Evidence, Ms Virginia Seymour, Environmental Strategies Officer, Lismore City Council, 18 October 2019, p 39. See also Evidence, Mr Kevin Evans, President, NSW National Parks Association, Coffs Harbour Branch, 4 February 2020, p 20.

⁵⁰⁵ Evidence, Ms Higginson, 18 October 2019, p 16.

⁵⁰⁶ Evidence, Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office, 16 August 2019, p 53.

⁵⁰⁷ Submission 289, Environmental Defenders Office, p 13.

⁵⁰⁸ Evidence, Ms Jacqueline Tracey, Director, Strategy and Engagement, Local Land Services, 16 August 2019, p 15.

7.14 'Core koala habitat' was defined in the 1994 SEPP as:

... an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population.⁵⁰⁹

7.15 Whilst 'potential koala habitat' was defined as:

... areas of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.⁵¹⁰

7.16 Many stakeholders raised concerns with these definitions, for a variety of reasons. Koala researchers at the University of Sydney stated that 'the distinctions between potential and core habitat [are] problematic, as potential koala habitat may be valuable koala habitat into the future, for example as a result of climate change'.⁵¹¹

7.17 Similarly the Environmental Defenders Office NSW (EDO NSW) observed:

The distinction between 'core' and 'potential' koala habitat is problematic, as it leaves 'potential' habitat unprotected for future recovery (include corridors that may be climate refugia), and may lead to incorrect and inconsistent identification of actual habitat. For council-approved development applications, 'potential' koala habitat receives no protection itself (clause 7).⁵¹²

7.18 To satisfy the requirement that 'core koala habitat' contain a resident population of koalas, many stakeholders referred to the practical challenges with identifying and detecting koalas in an area. For example, the Koala Recovery Partnership noted:

... koala detection is notoriously difficult. Most survey methods result in extremely high levels of non-detection (i.e. assuming no koalas are present when in fact they are) and formal scientific monitoring to determine detection rates has never been undertaken. While areas may be identified as 'potential koala habitat', many occupied areas are not correctly identified as 'core' due to low detection rates.⁵¹³

7.19 Ms Seymour, Lismore City Council noted similar issues regarding the presence of koalas:

The definition of core [koala] habitat ... does not identify core habitat. If a koala had not happened to be there in the last six months and someone went and checked under the tree and there were no scats, therefore it is not core koala habitat, so that tree or group of trees is eliminated because it is not considered in the SEPP 44 as important.⁵¹⁴

7.20 The EDO NSW identified similar concerns:

⁵⁰⁹ *State Environmental Planning Policy (Koala Habitat Protection) 1994*, cl 4.

⁵¹⁰ *State Environmental Planning Policy (Koala Habitat Protection) 1994*, cl 4.

⁵¹¹ Submission 78, University of Sydney, p 2.

⁵¹² Submission 289, Environmental Defenders Office, p 35.

⁵¹³ Submission 74, Koala Recovery Partnership, p 6. See also Submission 69, Friends of the Koala, p 3.

⁵¹⁴ Evidence, Ms Virginia Seymour, 18 October 2019, pp 35-36.

The definition of 'core' koala habitat is also problematic because it relies on identification of 'breeding females' which is difficult because a visible joey is only a small part of the breeding cycle.⁵¹⁵

- 7.21** The North East Forest Alliance also criticised these definitions, describing them as 'not flexible enough to account for additional areas of high quality koala habitat that do not satisfy the restrictive species and criteria'.⁵¹⁶ These sentiments were echoed by Campbelltown City Council, which observed:

... a [development] applicant may assess a site as not containing core koala habitat (when in fact it does) due to the ambiguity of the current core koala habitat definition (i.e. suggesting that the lack of a breeding female on site at the time of survey would indicate that the site is not considered core koala habitat and therefore SEPP44 does not apply).⁵¹⁷

- 7.22** Another observation was that under clause 8(1) of the 1994 SEPP, a council may not assess land to determine whether it is 'core koala habitat' without first having assessed it as 'potential koala habitat', meaning that some eligible land may be excluded from consideration.⁵¹⁸ Campbelltown City Council noted that this requirement meant that core koala habitat may end up not being protected:

... there is the likelihood for some areas that constitute 'core koala habitat' that don't pass the preliminary test of 'potential koala habitat' to fall through the gaps, and not be adequately captured in the assessment.⁵¹⁹

Koala feed trees under Schedule 2

- 7.23** As noted above, the definition of 'potential koala habitat' was based on the presence of tree species (that koalas are known to feed on) in Schedule 2 to the 1994 SEPP. Throughout the inquiry, there was a broad consensus across stakeholders that the list of koala feed trees contained in Schedule 2 of the 1994 SEPP was inadequate. Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, the University of Sydney, expanded on the issues with these definitions, suggesting that the previous list of trees in Schedule 2 did not take into consideration the variation in tree species across the State.⁵²⁰

- 7.24** Other similar comments on the list of trees included:

- [the list] is insufficient for koala food tree species in our area and therefore fails to trigger the legislation⁵²¹

⁵¹⁵ Submission 289, Environmental Defenders Office, p 35.

⁵¹⁶ Submission 154, North East Forest Alliance, p 80.

⁵¹⁷ Submission 195, Campbelltown City Council, pp 1-2.

⁵¹⁸ Submission 195, Campbelltown City Council, p 1.

⁵¹⁹ Submission 195, Campbelltown City Council, p 1.

⁵²⁰ Evidence, Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, University of Sydney, 16 August 2019, p 32.

⁵²¹ Submission 153, Koalas in Care, p 2.

- [the list] is considered inadequate for determining 'potential koala habitat' in the Campbelltown LGA, as a number of the preferred food trees that have been identified for the LGA through scientific studies, are not included in this list⁵²²
- [Coffs Harbour City Council] would like to see the feed trees in schedule 2 expanded to reflect the full suite of feed trees used by koalas across the state. The incomplete list is currently preventing true koala habitat being classified as core habitat under the SEPP⁵²³
- the list of trees identified as 'Koala Browse Trees' ... does not capture all koala feed tree species in our region ... State-wide reviews of koala feed trees 'average' use and therefore fail to capture species which may be widely used at the regional scale. Important koala habitat may therefore not be captured as 'potential' habitat.⁵²⁴

Issues with implementation

- 7.25** The committee also explored issues with the implementation of the 1994 SEPP. For many stakeholders, their key concern was the fact that since its commencement in 1995, only a small number of comprehensive koala plans of management (CKPOMs) made by local councils had been approved by the Department of Planning, Industry and Environment under the policy.
- 7.26** Others referred to logistical barriers around the mapping of koala habitat and the flow-on effect that had on protecting koala populations in local government areas. Notwithstanding the definitional issues discussed above, many stakeholders also referred to the cost and time associated with the mapping process, with the resultant effect being that potential core koala habitat was either misidentified or remained unmapped.

Approval of comprehensive koala plans of management

- 7.27** The 1994 SEPP provided for koala plans of management (KPOMs), which were able to be prepared by anyone, including a council.⁵²⁵ Under clause 13, a KPOM prepared by council had no effect unless approved by the Director (of Planning).⁵²⁶ As a general rule, KPOMs prepared by councils were generally referred to as comprehensive koala plans of management (CKPOMs), based on their coverage of the entire local government areas. KPOMs were also able to be prepared by a person other than the council and were colloquially known as individual koala plans of management (IKPOMs). Generally, IKPOMs were prepared for individual development on land identified as containing koala habitat. Like CKPOMs, these plans required approval, having no effect unless approved by the relevant council and by the Director.⁵²⁷
- 7.28** KPOMs were an important management tool and their effect was to trigger processes and regulation under other NSW legislation. For instance, land mapped as 'core koala habitat' had a prohibitive effect on development, private native forestry or land clearing.

⁵²² Submission 195, Campbelltown City Council, p 1.

⁵²³ Submission 52, Coffs Harbour City Council, p 3.

⁵²⁴ Submission 74, Koala Recovery Partnership, p 5.

⁵²⁵ *State Environmental Planning Policy (Koala Habitat Protection) 1994*, cl 11(2).

⁵²⁶ *State Environmental Planning Policy (Koala Habitat Protection) 1994*, cl 13(1).

⁵²⁷ *State Environmental Planning Policy (Koala Habitat Protection) 1994*, cl 13(2).

7.29 Throughout the inquiry, the committee heard evidence that only six CKPOMs had been approved by the department since the commencement of the 1994 SEPP in February 1995.⁵²⁸ The approval status of CKPOMs submitted to the Department of Planning, Industry and Environment since 1995, as well as their coverage within a local government area, is shown in Table 6.

Table 6 Approval status and coverage of comprehensive koala plans of management submitted to Department of Planning, Industry and Environment since 1995

LGA	Status	Coverage
<i>Ballina</i>	Approved on 6/07/2017 by Department of Planning	Part shire (mainly western uplands)
<i>Bellingen</i>	Approved on 11/11/2016 by Department of Planning	Coastal area
<i>Byron</i>	Submitted to the Department of Planning, Industry and Environment for approval under the transitional clause under SEPP 44 (2019)	Byron coast only
<i>Campbelltown</i>	Submitted to Department of Planning, Industry and Environment for approval under the transitional clause under SEPP 44 (2019)	Shire-wide
<i>Clarence Valley</i>	Submitted to Department of Planning, Industry and Environment for approval under the transitional clause under SEPP 44 (2019)	Ashby, Woombah and Iluka koala management areas
<i>Coffs Harbour</i>	Approved in 2000 by Department of Planning. New plan submitted to Department of Planning, Industry and Environment for approval under the transitional clause under SEPP 44 (2019)	Shire wide excluding Corindi and Arrawarra.
<i>Cooma - Monaro</i>	Currently a draft	Part shire
<i>Greater Taree</i>	Currently a draft	Shire-wide
<i>Kempsey</i>	Approved on 25/3/2011 by Department of Planning	East of Pacific Highway only
<i>Lismore</i>	Approved on 22/1/2013 by Department of Planning	South-east Lismore
<i>Port Macquarie / Hastings</i>	Currently a draft	Coastal only
<i>Port Stephens</i>	Approved in 2000 by Department of Planning	Shire wide

⁵²⁸ Evidence, Ms Michelle Dumazel, Executive Director Policy Division – Environment, Energy & Science Group, Department of Planning, Industry and Environment, 9 December 2019, p 44.

<i>Tweed</i>	Submitted to Department of Planning, Industry and Environment for approval under the transitional clause under SEPP 44 (2019)	Tweed coast only
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Source: Answer to questions on notice, Mr John Turbill, Threatened Species Officer, Department of Planning, Industry and Environment, 18 March 2020, p 2.

- 7.30** From the information provided by the department, it can be seen that whilst two CKPOMs were approved in 2000, there was an 11 year gap before the next plan was approved in 2011. Since this time, only three plans have been approved. Whilst Table 1 refers to some plans as having been submitted in 2019 under a transitional clause, evidence from a number of councils noted that their CKPOMs had in fact been submitted earlier and were yet to be approved. These included Byron Shire Council, whose CKPOM was submitted on 2 September 2016 and Campbelltown City Council, whose first draft was submitted on 23 December 2016 and revised draft submitted on 12 November 2018.⁵²⁹ Whilst not confirming the date of submission of their original CKPOM, Tweed Shire Council noted they adopted their CKPOM as strategy of council in 2015 in response to a lack of approval by the Department.⁵³⁰
- 7.31** Compared with the delay in departmental approval for CKPOMs, the committee heard evidence that IKPOMs did not experience the same delay. For example, the turn-around time for IKPOMs approval was, on average, around six to 16 weeks.⁵³¹
- 7.32** Many stakeholders expressed frustration over the low CKPOM approval rate. Most notably, stakeholders were dissatisfied with the fact that without departmental approval, CKPOMs have no effect in triggering processes and regulation under other NSW legislation. That is to say, even in areas where a council had opted to complete comprehensive mapping, land mapped as 'core koala habitat' had no prohibitive effect on development, private native forestry or land clearing unless the CKPOM had received departmental approval.
- 7.33** Some witnesses also spoke of the need to adopt workarounds to ensure koala populations in their local government area were protected, given the uncertainty about when their draft CKPOM might be approved. In this regard, Mr Scott Hetherington, Senior Program Leader – Biodiversity at Tweed Shire Council spoke of converting the council's draft CKPOM into a council strategy after the department's failure to approve the plan:

We have a koala plan of management, but it is not approved under SEPP 44. We developed that plan in collaboration, in accordance with the guidelines issued by the department with departmental representatives on our steering committee, our community committee. We developed an holistic, an integrated plan that included the development provisions and all of the aspects that are detailed in the guidelines. We consulted with the Department of Planning at all stages of that plan. But when it came to the actual approval ... the department asked us to separate our plan into statutory aspects and recovery, or strategic aspects. We declined.

⁵²⁹ Submission 152, Byron Shire Council, p 5; Answers to questions on notice, Mr Fletcher Rayner, Executive Manager, Urban Release and Engagement, Campbelltown City Council, 25 November 2019, pp 3-4

⁵³⁰ Submission 159, Tweed Shire Council, p 4.

⁵³¹ Answers to questions on notice, Mr Fletcher Rayner, Executive Manager - Urban Release and Engagement, Campbelltown City Council, 25 November 2019, p 3.

We said we have just developed, we have just invested a lot of time and energy and community will into developing what we think is an excellent integrated plan, it is in accordance with your guidelines. What we did, we adopted it as a strategy of council. On that basis we have been applying it and we have had it tested in a couple of Land and Environment Court decisions. We are fortunate, we have a specific aim in our local environmental plan to protect the Tweed coast koalas, so that is our link back to the Environmental Planning and Assessment Act that we have relied on in those Land and Environment Court proceedings.⁵³²

Relationship with individual koala plans of management

7.34 There was also a sense among numerous inquiry participants that the department's failure to approve CKPOMs set the scene for 'the perpetuation of the death by 1,000 cuts theory with development by development',⁵³³ as IKPOMs prepared and approved in their absence created a 'piecemeal' approach to koala conservation across a local government area.⁵³⁴

7.35 In this regard, the North East Forest Alliance argued that IKPOMs were not an appropriate substitute, based on them being of 'limited effectiveness':

... they are only required to be prepared at the end of the planning process after land is rezoned and developments have been approved, they are only required for Council decisions, they are prepared by developer's consultants and thus biased, and they can over-ride CKPOMs.⁵³⁵

7.36 Campbelltown City Council's submission also described IKPOMs as inefficient. Other issues identified included:

... inaccurate and varying methodologies used, difficulty in ongoing monitoring, inconsistent vegetation compensation measures, and most significantly the cost and uncertainty incurred by applicants arising from the preparation of these documents. Council staff resources are also expended in managing this process, which also involves seeking concurrence from DPIE.⁵³⁶

7.37 In contrast, those local councils with an approved CKPOM gave evidence on the efficacy of these plans in protecting koala habitat, particularly in urban areas. For example, Ms Sally Whitelaw, Team Leader Biodiversity, Coastal and Flooding, Local Planning of Coffs Harbour City Council, observed that there were 'definite areas throughout the local government area where the koala plan has conserved habitat'.⁵³⁷ She attributed this primarily to the fact that the council's CKPOM contained a requirement to do replanting and therefore that sound developers found it a 'more cost-effective, easier, streamlined process ... to avoid those areas of koala habitat'.⁵³⁸

⁵³² Evidence, Mr Scott Hetherington, Senior Program Leader – Biodiversity, Tweed Shire Council, 18 October 2019, p 38.

⁵³³ Evidence, Ms Higginson, 18 October 2019, p 16.

⁵³⁴ Evidence, Ms Fiona Bullivant, Wilton Action Group, 25 October 2019, p 2.

⁵³⁵ Submission 154, North East Forest Alliance, p 79.

⁵³⁶ Submission 195, Campbelltown City Council, p 2.

⁵³⁷ Evidence, Ms Sally Whitelaw, Team Leader Biodiversity, Coastal and Flooding, Local Planning, Coffs Harbour City Council, 4 February 2020, p 33.

⁵³⁸ Evidence, Ms Whitelaw, 4 February 2020, p 33.

Reasons for delay in approving CKPOMs

- 7.38** Many witnesses were somewhat bewildered and angry about the delay in the department approving CKPOMs. For example, Dr Stephen Phillips, Managing Director and Principal Research Scientist, Biolink observed:

The reality is I do not understand why there are roadblocks [to approval] there. It is the ineptness and the stalling that goes on. Campbelltown is not on its own. There is Tweed, there is Byron, where at least plans have been prepared and the Government just sits there and they do not get approved ... I have gone away and have been thinking about this afterwards, going "How can we fix this?" The SEPP in principle is good, it has got the basic mechanics in there, and much of the work that we have done since its inception has been about making it work. And the one hold-up and the one thing that is impeding it the most has been the Government's inefficiency in approving the comprehensive KPOMs.⁵³⁹

- 7.39** Responding to questions from the committee during Budget Estimates on the reasons for the internal delay, Mr Marcus Ray, Group Deputy Secretary, Planning and Assessment, Department of Planning, Industry and Environment referred to a disconnect between the requirements of the 1994 SEPP and more recent studies of preferred koala feed trees:

In relation to the draft koala plans of management that are yet to be approved ... the issue there is that the definitions of core koala habitat and the tree species in which koalas are found need to be updated. At the moment the SEPP 44 does not align with the latest information from the former OEH, NSW Environment, Energy and Science ... It has been identified for some time that SEPP 44 needs to be updated, so the list of feed trees which now, provided with the best science, are where koalas are likely to be found or could be found.⁵⁴⁰

- 7.40** Mr Ray also confirmed at this hearing in October 2019 that the Minister for Planning and Public Spaces had asked the department 'to ensure that he is able to make the SEPP 44 amendment before the end of the year'.⁵⁴¹ In this regard, he told the committee that draft CKPOMs before the department at the time would not be finalised by the end of 2019.⁵⁴²
- 7.41** Evidence from the Minister for Energy and the Environment received in March 2020 during Budget Estimates suggested that draft CKPOMS still to be approved would be finalised in the near future:

⁵³⁹ Evidence, Dr Stephen Phillips, Managing Director and Principal Research Scientist, Biolink, 25 October 2019, p 15.

⁵⁴⁰ Evidence, Mr Marcus Ray, Group Deputy Secretary, Planning and Assessment, Department of Planning, Industry and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 31 October 2019, p 29.

⁵⁴¹ Evidence, Mr Ray, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 31 October 2019, p 31.

⁵⁴² Evidence, Mr Ray, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 31 October 2019, p 31.

... the reason they have not been signed off is because SEPP 44 ... has been under review. The new SEPP has just been made and I would imagine that the planning Minister ... will be looking to sign off on those KPOMs as soon as possible.⁵⁴³

Practical challenges in mapping 'core koala habitat'

- 7.42** Many stakeholders referred to practical challenges in mapping 'core koala habitat', particularly the cost. In this regard, Mr John Turbill, Threatened Species officer with the Department referred to financial support available to assist with these processes:

Over the last 15 years ... the department has provided \$570,000 or more in funding to help each council undertake a koala habitat study or move towards a draft Koala Plan of Management. They are quite expensive exercises and in a lot of cases councils do not have the funding or the capacity to undertake their own studies or plan.⁵⁴⁴

- 7.43** Mr Daniel Bennett, Senior Strategic Planner of Bellingen Shire Council, noted that support from State government agencies was essential:

When we did [the mapping] we were assisted by the Office of Environment and Heritage [OEH], which did the fine-scale vegetation mapping and also did the koala habitat study and helped us with the preparation of the koala plan of management, which was critical for us as a small council—in terms of the resourcing to be able to do that. We would not have been able to achieve what we did without the assistance of the OEH.⁵⁴⁵

- 7.44** In response to questions from the committee as to how councils could access support from State government agencies to conduct this mapping, Mr Turbill noted:

[The department] will only provide the funding to council, if the council has a resolution at the councillor level to go ahead and do [a CKPOM] and finalise it. So ... we are asking councillors to approve the process so that we put up the funding, we put up the process and we seek that councillors approve the process before we provide the funding.⁵⁴⁶

- 7.45** In addition to the cost, some stakeholders referred to the need for political will to conduct such mapping before it could take place. Responding to questions from the committee as to whether the choice to conduct mapping was a 'political decision', Mr Bennett from Bellingen Shire Council confirmed that elected councillors 'have to agree to embark upon that process and ultimately endorse the [CKPOM]' before it had any effect on development, native vegetation clearing or private native forestry.⁵⁴⁷

⁵⁴³ Evidence, Hon Matt Kean MP, Minister for Energy and the Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 64.

⁵⁴⁴ Evidence, Mr John Turbill, Threatened Species Officer, Department of Planning, Industry and Environment, 4 February 2020, p 8.

⁵⁴⁵ Evidence, Mr Daniel Bennett, Senior Strategic Planner, Bellingen Shire Council, 3 February 2020, p 22.

⁵⁴⁶ Evidence, Mr Turbill, 4 February 2020, p 9.

⁵⁴⁷ Evidence, Mr Bennett, 3 February 2020, p 23.

- 7.46 When questioned during Budget Estimates as to whether he thought the NSW Government was doing enough to financially support councils to conduct such mapping, the Minister for Energy and the Environment asserted that a lack of funding was not the only reasons councils were not conducting such mapping:

Councils have to come up with money to collect rubbish. They have to do a whole range of functions. That is why they have a rate base. They should prioritise what is important in their communities.

... if funding was the only roadblock to councils getting out of their way and doing their actual job, then that would be an easy fix, but the reality is that a lot of these councils do not want to do what the community expects of them.⁵⁴⁸

- 7.47 He also expressed the view that 'there are ways to protect koala habitat and that is through the koala plans of management'. In this regard - notwithstanding the delays in approving those draft CKPOMs that had been submitted – the Minister expressed concern that 'a huge number' of councils were yet to create such plans.⁵⁴⁹

Committee comment

- 7.48 The committee is acutely aware that a strong legislative planning framework is crucial to the long term survival of koalas. With loss of habitat identified as a key threat to koala populations, a planning framework which identifies and protects key areas of koala habitat is therefore essential.
- 7.49 Upon its introduction, the 1994 SEPP was a key piece in the government's suite of actions to protect koalas. However, the overwhelming evidence presented to the Committee is that whilst the intentions and principles of the 1994 SEPP were admirable, its implementation has fallen well short. Nowhere is more apparent than in the low approval rate of CKPOMs by the department.
- 7.50 To hear that in the 25 years of the 1994 SEPP's operation, only 6 CKPOMs were approved by the department shocked and angered the committee. The committee empathises with the frustration felt by both local councils who prepared these plans, and residents of these local council areas who sought better protection for koalas. The committee was displeased by the department's failure to provide a clear reason for its low approval rate and inexplicable delays of CKPOMs.

Finding 15

Approvals by the Department of Planning, Industry and Environment of comprehensive koalas plans of management made by local councils have been too slow. There is an urgent need for them to be approved in a timely and transparent manner.

⁵⁴⁸ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 56.

⁵⁴⁹ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 11.

- 7.51 To help rectify this delay, the committee recommends that the NSW Government urgently approve comprehensive koala plans of management previously submitted to the Department of Planning, Industry and Environment in a timely and transparent manner.

Recommendation 25

That the NSW Government urgently approve comprehensive koala plans of management previously submitted to the Department of Planning, Industry and Environment in a timely and transparent manner.

The State Environmental Planning Policy (Koala Habitat Protection) 2019

- 7.52 The *State Environmental Planning Policy (Koala Habitat Protection) 2019* commenced on 1 March 2020. Its introduction followed a review of the earlier SEPP by the then Department of Planning and Environment, which commenced in 2016.⁵⁵⁰ In addition to the 2019 SEPP, a Koala Habitat Protection Guideline (the Guideline), which underpins the new SEPP, was proposed, following a period of public exhibition from 2 March to 6 April 2020. At the time of writing, the Guideline had yet to be released. A Ministerial Direction was also proposed for release, requiring councils preparing planning instruments to identify areas of core koala habitat and zone the land Environmental Protection or include provisions that control the development of the land to consider impact on koalas and their habitat.⁵⁵¹
- 7.53 In hearings immediately following the introduction of the 2019 SEPP, the committee asked a number of inquiry participants for their initial thoughts on the policy, particularly whether it addressed many of the well-known deficiencies of its precursor around the definition of core koala habitat. Overall, the committee received mixed feedback from stakeholders on the success of the new policy. Many noted an inability to fully assess the impact of the 2019 SEPP without the Guideline, which was released two months after the SEPP itself.
- 7.54 A detailed analysis of the policy and the Guideline was conducted by the Environmental Defenders Office. The Environmental Defenders Office came to the conclusion that the new SEPP failed to meet their expectations, stating:

A state environmental planning policy for koalas is one legal tool for protecting koala populations ... and a new Koala SEPP was expected to provide strengthened protections for koalas. However our analysis shows that, despite a number of key changes, the new Koala SEPP remains largely ineffective in addressing the exacerbated threats currently facing our iconic koalas.⁵⁵²

⁵⁵⁰ Correspondence from Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office of NSW, to committee, 16 March 2020.

⁵⁵¹ Correspondence from Ms Cerin Loane to committee, 16 March 2020.

⁵⁵² Correspondence from Ms Cerin Loane to committee, 16 March 2020.

- 7.55** Of the changes introduced by the 2019 SEPP, the organisation noted that the amended definition of 'core koala habitat' meant that a greater area was likely to be identified as core koala habitat.⁵⁵³ EDO also referred to the removal of the problematic concept of 'potential koala habitat',⁵⁵⁴ which was replaced by mapping to initially identify koala habitat.⁵⁵⁵
- 7.56** Dr Rebecca Montague-Drake, koala ecologist and President of Koala Recovery Partnership, also referred to the shift in approach towards mapping under the 2019 SEPP, which, coupled with the change in the definition of 'core koala habitat' to include land in which koalas had been present in the last 18 years, was 'a great improvement':

I have had a look at the mapping that will underpin much of the new SEPP 44 and I think it is a great improvement on anything that we have had hitherto. Ultimately, there is the provision for developers to challenge the mapping and to undertake further assessments, and that is certainly something that possibly we have seen already with the previous SEPP 44—that challenging process where one party believes it is core koala habitat and the other party does not believe that.

I think that it is definitely a positive that now we have set some firmer metrics around—I believe that it is going to be any koala seen within an 18-year period at a two-kilometre grid will be considered as koala presence, whereas before the SEPP 44 was silent on what constituted koala occupancy at a site. So we saw it interpreted as at a site, whereas of course we know that koalas do not obey our boundaries; they move across the landscape. So this is certainly an improvement. If the 18 years and two-kilometre grids is adopted as a standard, this is certainly an improvement as well.⁵⁵⁶

- 7.57** Ms Sally Whitelaw of Coffs Harbour City Council also praised the changes in the 'core koala habitat' definition, citing the expanded habitat proposed to be contemplated by the 2019 SEPP:

[Under the 1994 SEPP] the department would only endorse parts of the habitat that were defined as core koala habitat. The department has told us now that a new koala plan under the new SEPP can actually include more types of habitat. It can include linkages, buffers, secondary or however these other definitions are going to be termed. I think that is a good outcome because previously the department would only endorse the section of your document that only related to core habitat.⁵⁵⁷

- 7.58** Mr Steve Schwartz, Coordinator, Strategic and Environmental Planner of Kempsey City Council, also supported this change:

One of the issues with the outgoing SEPP 44 was the definition of 'core koala habitat'. It made it very difficult to prepare a comprehensive koala plan at the landscape scale because of the rules around defining core koala habitat. I note the definition has changed to using the term that I think is 'suitable koala habitat'. It seems to be a broader

⁵⁵³ Correspondence from Ms Cerin Loane to committee, 16 March 2020.

⁵⁵⁴ Correspondence from Ms Cerin Loane to committee, 16 March 2020.

⁵⁵⁵ Ms Cerin Loane and Ms Rachel Walmsley, Environmental Defenders Office, *Analysis: Koalas: new laws – old tricks* (20 February 2020), <<https://www.edo.org.au/2020/02/20/koalas-nsw-new-laws-old-tricks/>>.

⁵⁵⁶ Evidence, Dr Rebecca Montague-Drake, Koala Ecologist and President of Koala Recovery Partnership, 3 February 2020, p 4.

⁵⁵⁷ Evidence, Ms Whitelaw, 4 February 2020, p 33.

approach. I think it looks like there is some ability to have some local interpretation, once you prepare a koala plan.⁵⁵⁸

7.59 Of the specific concerns relating to the 1994 SEPP discussed at 7.8, the Environmental Defenders Office made a number of observations. For example, they noted that the limitation to land greater than 1 hectare remained, which they argued:

... leaves small koala habitat areas, particularly koala habitat in urban areas, without adequate protection. The 1 hectare requirement also contributes to cumulative impacts, and can reduce connectivity across the landscape by allow small patches to be cleared.⁵⁵⁹

7.60 Other observations included:

- the requirement for councils to prepare CKPOMs remains voluntary
- the 2019 SEPP only applies to council-approved developments and continues to exclude complying development, major projects – including State significant development and State significant infrastructure, development determined under Part 5 of EP&A Act or land clearing activities requiring approval under the LLS Act
- Schedule 2 has been expanded under the 2019 SEPP from 10 species of preferred koala feed trees to 123 species, now categorised into 9 distinct regions.⁵⁶⁰

Committee comment

7.61 It is clear that stakeholders saw the review of the 1994 SEPP and introduction of the 2019 SEPP as an opportunity to address many of the issues identified with the former policy. In this regard, the committee was pleased to hear that scientific knowledge about koalas since the former policy's creation in 1994 had been incorporated into the new SEPP. This was particularly evident with regards to the list of preferred koala feed trees contained in the old SEPP, which was expanded from a mere 10 species to 123 species under the 2019 SEPP.

7.62 The committee also acknowledges positive changes to definitions within the 2019 SEPP, particularly the purported broadening of the definition of both types of koala habitat, and is hopeful that such changes will lead to a greater protection of koala habitat. Despite these positive changes, the committee is concerned that the 2019 SEPP may not be strong enough to prevent the loss of koala habitat.

7.63 As many stakeholders noted, as an environmental planning instrument made under the *Environmental Planning and Assessment Act 1979*, the 2019 SEPP is only required to be 'considered' by councils when assessing development applications. Furthermore, the requirement for councils to prepare comprehensive koala plans of management under the 2019 SEPP remains voluntary. In practice, this has allowed many developments to proceed, notwithstanding their detrimental effect on koalas and their habitat. The committee's view is that the protection of koala habitat has been hampered by the inconsistencies and disconnection between the different

⁵⁵⁸ Evidence, Mr Steve Schwartz, Coordinator, Strategic and Environmental Planner, Kempsey Shire Council, 3 February 2020, p 18.

⁵⁵⁹ Correspondence from Ms Cerin Loane to committee, 16 March 2020.

⁵⁶⁰ Correspondence from Ms Cerin Loane, to committee, 16 March 2020.

planning instruments within the NSW planning system and there is an urgent need to address this.

Finding 16

Protecting koala habitat is hampered by the inconsistencies and disconnection between the different planning instruments within the NSW planning system, and there is an urgent need to address this.

- 7.64** For the above reasons, the committee recommends that the NSW Government, in finalising the *State Environmental Planning Policy (Koala Habitat Protection) 2019* framework, strengthen the ability of consent authorities to protect koala habitat.
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Recommendation 26

That the NSW Government, in finalising the *State Environmental Planning Policy (Koala Habitat Protection) 2019* framework, strengthen the ability of consent authorities to protect koala habitat.

- 7.65** The committee also recommends that all councils with koala populations be required to develop comprehensive koala plans of management in a timely manner.
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Recommendation 27

That all councils with koala populations be required to develop comprehensive koala plans of management in a timely manner.

- 7.66** The committee recognises that a definitive assessment of the new SEPP's success has been hindered because the department has yet to release the final Koala Habitat Protection Guideline. Many stakeholders suggested that 'the devil is in the detail' when it came to the 2019 SEPP, and that the contents of this Guideline would be determinative of the new SEPP's ability to truly protect koalas. In this regard, the committee notes that at the date of tabling, the Guideline was still under consideration – 6 months after the 2019 SEPP's release, and recommends that it be published as soon as practicable.
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Recommendation 28

That the NSW Government publish the final *State Environmental Planning Policy (Koala Habitat Protection) Guideline* as soon as practicable.

- 7.67** The committee also considers that the lack of transparency around the CKPOM approval process has likely discouraged a number of councils from developing plans for their local government area. However, it also acknowledges that logistical challenges – including the cost of completing mapping required by these plans – present another hurdle for councils to overcome. The committee commends the work of the former Office of Environment and Heritage in providing funding and other assistance to local councils to perform this mapping. Given the Minister for Energy and the Environment has himself identified the importance of koala plans of management made under the 2019 SEPP, the committee recommends that the NSW Government increase resources to local councils to support them in conducting mapping required for comprehensive koala plans of management.

Recommendation 29

That the NSW Government increase resources to local councils to support them in conducting mapping required for comprehensive koala plans of management.

Protection of koalas and their habitat within native forests on private land

- 7.68** This section examines the protection of koalas and their habitat within the Private Native Forestry Codes of Practice.

Private Native Forestry Codes of Practice

- 7.69** Private native forestry (PNF) refers to the management of native vegetation on private property for the purposes of sustainable logging and timber production.⁵⁶¹ The regulatory requirements for private native forestry are established under Part 5B of the *Local Lands Services Act 2016* and are set out in the Private Native Forestry Codes of Practice (PNF Codes). At present, there are four PNF Codes in operation in NSW: Northern NSW, Southern NSW, River red gum forests and Cypress and western hardwood forests.
- 7.70** Under all PNF Codes, private landholders seeking to carry out private native forestry must have a PNF plan approved by Local Land Services. These plans must be consistent with Listed Ecological Prescriptions in each of the PNF Code regions. Furthermore, all PNF Codes require that forest operations carried out must not result in any harm to an animal that is part of a threatened population.⁵⁶²
- 7.71** There is both consistency and variation in the protections afforded to koalas and their habitat across the four PNF Codes. For example, under all PNF Codes, forest operations are not permitted within any area identified as 'core koala habitat' within the meaning of SEPP 44. Similarly, all PNF Codes require the implementation of exclusion zones where there is a record of koalas within an area, or within 500 metres of an area, or a koala scat is found beneath a primary or secondary koala food tree. These exclusion zones must contain:

⁵⁶¹ NSW Environment Protection Authority, *About private native forestry* (29 October 2019), <<https://www.epa.nsw.gov.au/your-environment/native-forestry/about-private-native-forestry>>.

⁵⁶² Submission 259, NSW Government, p 7.

- a minimum of 10 koala feed trees and 5 secondary food trees per hectare
- these trees must be spread evenly across the area, have leafy broad crowns and be a minimum of 30 centimetres in DBH (Diameter at Breast Height)
- damage to the retained trees must be minimised by using directional felling techniques.⁵⁶³

7.72 In the case of Northern and Southern Code of Practice regions, any tree containing a koala or any tree underneath which 20 or more scats are found must be retained and a harvest exclusion zone of 20 metres implemented around each individual tree. For River Red Gum and Cypress and Western Hardwood regions, only one scat, or the presence of a koala is required before a harvest exclusion area of 50 metres is implemented.⁵⁶⁴

7.73 Stakeholder views on the adequacy of these protections, as well as evidence received on PNF more generally, are explored below. In general, these concerns focused on two issues: the protection of 'core koala habitat' under the PNF Codes and the adequacy of protection offered to koalas outside areas identified as 'core koala habitat', referred to as the PNF prescriptions.

Interaction between Private Native Forestry and koala plans of management

7.74 Many stakeholders raised concerns regarding the interaction between koala plans of management approved under SEPP 44 and PNF. Primarily, these concerns centred around the fact that, where a koala plan of management had not been formally approved by the department, the restrictions relating to 'core koala habitat' discussed above do not apply.

7.75 This issue was described by Mr John Turbill, co-author of Coffs Harbour Koala Plan of Management and Threatened Species Officer with the Department, who explained 'if [a council does] not have an adopted plan under the SEPP ... there would be no restriction, only the proscriptions in the PNF Code would apply'.⁵⁶⁵ The submission of the Koala Recovery Network made similar contentions:

Only areas formally identified as 'core' koala habitat under a registered Koala Plan of Management have restrictions placed on them from Private Native Forestry. Due to the difficulties associated with mapping core koala habitat, many, even progressive Councils ... do not yet have Comprehensive Koala Plans of Management (CKPOMs). Other Councils, such as Kempsey Shire Council, have CKPOMs which are now many years old, and for which it is realised that the associated mapping, did not fully identify the types of habitat preferred by koalas in the region ... Therefore registered CKPOMs are not the best mechanism by which to identify koala habitat and regulate Private Native Forestry activities. Alternative methods are required.⁵⁶⁶

⁵⁶³ Submission 259, NSW Government, pp 7-8.

⁵⁶⁴ Submission 259, NSW Government, pp 7-8.

⁵⁶⁵ Evidence, Mr Turbill, 4 February 2020, p 8.

⁵⁶⁶ Submission 74, Koala Recovery Partnership, p 3.

7.76 The evidence received from Coffs Harbour City Council suggested it was greatly concerned with the potential impact of PNF on its koala population. In this regard, its submission referred to the *2016 Regional State of the Environment Report for the North Coast Region of New South Wales*, noting that it:

... refers to the Private Native Forestry Code of Practice several times throughout the report as being the appropriate regulatory tool for governing PNF in koala habitat. It has been the experience of Coffs Harbour City Council that the code fails to protect koala habitat as its interpretation is too limited, there is a failure to adhere to the prescriptions and there is limited resources for compliance.

Analysis of Coffs Harbour City Council's records has revealed that of the almost 19,370 hectares of Koala Habitat in the Local Government Area, up to 23% are covered by PNF approvals.⁵⁶⁷

7.77 Coffs Harbour City Council, along with the North Coast Environment Council Inc also gave evidence on the effect of historic PNF approvals, also referred to by government witnesses as 'legacy PNF plans'.⁵⁶⁸ For these stakeholders, these plans were concerning because their long validity – up to 15 years – allowed PNF to be carried out on land, regardless of the land being subsequently remapped as core koala habitat in updated koala plans of management. Coffs Harbour Council, stated that since 2007, private native forestry in the North Coast region had increased significantly:

Of the 2,916 PNF agreements approved in NSW between 2007 and June 2015, 69.4% were in the reporting region, covering 49.7% of the total area under PNF agreements in NSW (EPA Public Register 2016). The *Regional State of the Environment Report 2016* goes on to say that 'the area under PNF agreements for the North Coast region as at June 2015 was 266,727 hectares' however the report also points out that only a fraction of these approvals have been enacted. Given that a PNF approval lasts for 15 years the impact and legacy of these approvals cannot be underestimated.⁵⁶⁹

7.78 Ms Sally Whitelaw at Coffs Harbour City Council gave an example of how these approvals worked in practice. She explained that recent remapping of core koala habitat in the Coffs Harbour area showed that of the 190 PNF plans approved since the council approved its koala plan of management in 1999, 124 were for properties found to contain core koala habitat. Ms Whitelaw did not criticise the mapping that informed the 1999 Coffs Harbour KPOM, describing it as 'good data at the time'. However she also contended that 'the impact and legacy of these approvals cannot be underestimated' given that 'once [PNF approvals] are given, even if a new koala plan comes into place, those PNF approvals are done'.⁵⁷⁰

7.79 The committee sought further evidence on the overlap between PNF plans and core koala habitat mapped in KPOMs from the department. In answers to supplementary questions, Local Land Services provided the following table showing PNF plans in place before a KPOM was adopted and approved by the then Department of Planning and Environment.

⁵⁶⁷ Submission 52, Coffs Harbour City Council, p 2.

⁵⁶⁸ Submission 142, North Coast Environment Council, p 2; Submission 52, Coffs Harbour City Council, p 2.

⁵⁶⁹ Submission 52, Coffs Harbour City Council, p 2.

⁵⁷⁰ Evidence, Ms Whitelaw, 4 February 2020, pp 27 and 29.

Table 7 PNF Plan areas identified as overlapping with Core Koala Habitat identified in a KPOM

LGA	Core Koala Habitat identified in a KPOM (ha)	Legacy PNF Plans that overlap with Core Koala Habitat identified in a KPOM
Ballina	2,170	97
Coffs Harbour	2,576	91
Kempsey	214	12
Lismore*	0	0
Port Stephens*	0	0

* Note: Lismore and Port Stephens LGAs have approved KPOMs however these do not identify Core Koala Habitat as defined by *State Environmental Planning Policy No. 44 – Koala Habitat Protection*.

Source: *Answers to supplementary questions, Local Land Services, 16 September 2019, p 1.*

Adequacy of protections under Private Native Forestry Codes of Practice

- 7.80** In addition to the restrictions on PNF on land formally identified as core koala habitat, PNF prescriptions apply on land where there is a record of koalas within an area, or within 500 metres of an area, or a koala scat is found beneath a primary or secondary koala food tree.
- 7.81** The committee received a significant amount of evidence from stakeholders on the adequacy of these protections. For example, a number of inquiry participants expressed concern that the PNF Codes did not require pre-logging surveys before clearing commenced.⁵⁷¹ In this regard, both the North East Forest Alliance and Environmental Defenders Office, amongst others, called for threatened species and habitat surveys to be carried out before any logging on private land, with the EDO recommending these surveys be conducted by accredited ecologists.⁵⁷²
- 7.82** Others suggested that any surveying of the land that triggered the PNF prescriptions – such as when koala scats were found beneath food tree – was both ad-hoc and an unreliable means of confirming the presence of koalas. In its submission to the inquiry, the Koala Recovery Partnership observed that scats can be 'very difficult to detect, particularly after rainfall events or during periods of high leaf drop and bark decortication'. In their opinion, along with relying on 'non-trained experts, with a vested interest', to identify koala presence, this process of locating koala scats to trigger the PNF prescriptions was 'fraught with problems'.⁵⁷³

⁵⁷¹ Submission 250, NSW National Parks Association, Coffs Coast Branch, p 11; Submission 266, Mrs Lorraine Vass, p 4; Submission 280, Mr Frank Dennis, p 2; Submission 297, Bellingen Environment Centre, p 11.

⁵⁷² Submission 154, North East Forest Alliance, p 4; Submission 289, Environmental Defenders Office, p 5; Submission 280, Mr Frank Dennis, p 2.

⁵⁷³ Submission 74, Koala Recovery Partnership, p 2.

7.83 When Local Land Services was questioned by the committee as to why, unlike State forests, such assessments were not required for logging on private land, Ms Jacqueline Tracey, its Director of Strategy and Engagement responded:

The scale of operations on private native forestry is obviously quite different than what it is for State forest. It is much smaller scale and much less intensity, and the codes are designed as such ... [with] a number of quite stringent protections for koalas.⁵⁷⁴

7.84 Another issue raised was whether relying on 'a record of koalas' within an area offered sufficient protection. For example, the North East Forest Alliance asserted that most PNF occurs in areas where there have been no surveys for threatened species, and thus that there were no 'records of koalas' in the area to trigger the PNF prescriptions.⁵⁷⁵ Similarly, the National Parks Association observed:

[The PNF prescriptions] are triggered by either the existence of koala records in the Atlas of NSW Wildlife or the identification of the presence of koalas (or evidence of their presence) by the landholder and/or a logging operator. There are limited records in the Atlas of NSW Wildlife for forested private lands away from coastal towns, and they are by no means comprehensive.⁵⁷⁶

7.85 In regards to this issue, the NSW Government submission states that funding is being provided under the NSW Koala Research Plan that assesses koala occupancy in private native forests in north-east NSW.⁵⁷⁷

7.86 Beyond concerns regarding the lack of requirement to undertake surveys before logging, some stakeholders raised more fundamental concerns regarding the PNF regulatory framework. For example, the Environmental Defenders Office questioned whether a reliance on 'self-assessable codes' was appropriate when threatened species such as koalas were concerned. They stated:

EDO NSW has significant concern with the increased reliance on codes in place of a robust environmental assessment and determination process where listed species are involved. Codes are only an appropriate regulatory tool for low risk activities. The use of self-assessable codes increases the risk that habitat needed for koalas will be inadvertently cleared, or cleared due to lower standards of environmental oversight.⁵⁷⁸

7.87 Some stakeholders also questioned whether operations under the PNF Codes were subject to adequate compliance mechanisms.

⁵⁷⁴ Evidence, Ms Tracey, 16 August 2019, p 24.

⁵⁷⁵ Submission 154, North East Forest Alliance, pp 53-54.

⁵⁷⁶ Submission 250, NSW National Parks Association, Coffs Coast Branch, p 15.

⁵⁷⁷ Submission 259, NSW Government, p 19.

⁵⁷⁸ Submission 289, Environmental Defenders Office, p 13.

- 7.88** Ms Jacqueline Tracey of Local Land Services told the committee that compliance and enforcement responsibilities for PNF operations were carried out by the NSW Environmental Protection Authority (EPA).⁵⁷⁹ On the number of compliance operations carried out by the EPA, the committee received limited evidence, with Local Land Services unable to provide the committee with that number.⁵⁸⁰
- 7.89** Ms Rachel Walmsley, Director of Policy and Law Reform of the Environmental Defenders Office NSW, told the committee that more resourcing was needed for the EPA to take a stronger compliance role. Ms Walmsley also stressed the importance of 'having a compliance presence', noting that without this, some landholders 'may get away with it'.⁵⁸¹ Similarly, Coffs Harbour City Council also identified 'limited resources for compliance',⁵⁸² whilst the submission of Byron Shire Council also contended that compliance with the requirements of the PNF Codes was unable to be definitively or objectively assessed⁵⁸³. North East Forest Alliance described this inability to ensure compliance as a 'veil of secrecy', which it contended, allowed purported transgressions including the clearing of core koala habitat previously identified in a KPOM.⁵⁸⁴
- 7.90** As noted in its submission, the NSW Government committed to the Private Native Forestry Review in November 2018. This review includes the adequacy of the protection measures for threatened species and their habitat, including the koala.⁵⁸⁵

Committee comment

- 7.91** Based on the evidence received, the committee believes that the regulatory framework for private native forestry does not protect koala habitat on private land. In fact, the 'number of quite stringent protections for koalas' that government witnesses asserted the PNF Code contains are weakened substantially, or indeed non-existent, when practically applied. The committee finds it unacceptable that land identified as core koala habitat can be cleared because of departmental delays.
- 7.92** The committee concludes that many of the issues with the Private Native Forestry Codes of Practice stem from their reliance on protections under SEPP 44. Once again, the committee reiterates its disappointment at the systemic failure to approve koala plans of management under SEPP 44. Because of this failure, it is clear that protection of 'core koala habitat' under the Private Native Forestry Codes of Practice is not occurring as the NSW Government claims it is in its submission.

⁵⁷⁹ Evidence, Ms Tracey, 16 August 2019, p 25.

⁵⁸⁰ Answers to questions on notice, Local Land Services, 10 September 2019, p 1.

⁵⁸¹ Evidence, Ms Rachel Walmsley, Director of Policy and Law Reform, Environmental Defenders Office NSW, 16 August 2019, p 56.

⁵⁸² Submission 52, Coffs Harbour City Council, p 2.

⁵⁸³ Submission 152, Byron Shire Council, p 1.

⁵⁸⁴ Submission 154, North East Forest Alliance, p 54.

⁵⁸⁵ Submission 259, NSW Government, p 8.

7.93 The committee is not convinced that the triggers under SEPP 44 should be the only means to activate protections for koalas under the Private Native Forestry Codes of Practice. The committee is also concerned by the evidence received regarding the inadequacy of the PNF prescriptions and, in particular, by the lack of protection for koalas on private land before private native forestry operations begin. In this regard, the committee believes that the Private Native Forestry Review currently being conducted provides an opportunity for many of these shortcomings to be addressed. The committee therefore recommends that the NSW Government, in the Private Native Forestry Review:

- require consideration to be given to whether private native forestry plans are consistent with the objects of the Private Native Forestry Codes of Practice before such plans are approved, and
- require that the objects of Private Native Forestry Codes of Practice be amended to refer to the protection of biodiversity, water quality and soil quality.

Recommendation 30

That the NSW Government, in the Private Native Forestry Review:

- require consideration to be given to whether private native forestry plans are consistent with the objects of the Private Native Forestry Codes of Practice before such plans are approved; and
- require that the objects of Private Native Forestry Codes of Practice be amended to refer to the protection of biodiversity, water quality and soil quality.

7.94 The committee also believes that 'legacy PNF plans' are having a negative effect on koala habitat conservation, notwithstanding the best efforts of local councils to complete comprehensive koala habitat mapping. The committee therefore recommends that the NSW Government assess the interaction between legacy PNF plans and koala plans of management to ensure core koala habitat is protected.

Recommendation 31

That the NSW Government assess the interaction between legacy Private Native Forestry plans and koala plans of management to ensure core koala habitat is protected.

7.95 The evidence to this inquiry also shows the inherent problems with a reliance on self-assessing codes when much core koala habitat on private land has not been assessed and protected through a koala plan of management approved under the SEPP. Therefore it is clear that due to the high rate of self-assessment, more resources are needed to ensure compliance with these codes. In this regard, the committee recommends that the NSW Government provide additional funding to the NSW Environment Protection Authority to expand its compliance capabilities in the area of private native forestry.

Recommendation 32

That the NSW Government provide additional funding to the NSW Environment Protection Authority to expand its compliance capabilities in the area of private native forestry.

The Land Management Framework

- 7.96** The clearing of land in New South Wales is listed as a key threatening process under Schedule 4 of the *Biodiversity Conservation Act 2016*. Habitat loss has also been identified as the key threat to the survival of koalas. This section explores the regulation of land clearing on private land under the Land Management Framework.
- 7.97** The *Local Land Services Act 2013* (LLS Act), together with the Local Land Services Regulation 2013 and the Land Management (Native Vegetation) Code 2018, provide the regulatory framework for the management of native vegetation on private rural and regional land in New South Wales. This 'Land Management Framework' was introduced in 2017 as part of broader land management and biodiversity reforms, which saw the repeal of the *Native Vegetation Act 2003* and introduction of the *Biodiversity Conservation Act 2016* (BC Act). The latter Act is discussed in detail in chapter 8. Under the Land Management Framework, agricultural land is categorised based on certain criteria which determine how native vegetation on that land can be managed. These categories are also shown on the Native Vegetation Regulatory Map, which currently exists in a transitional status. Table 8 shows the different type of land contained within each category.

Table 8 Land categories under the Land Management Framework

Land categories	Criteria
Exempt land (Category 1)	<ul style="list-style-type: none"> • Land cleared of native vegetation as at 1 January 1990 or lawfully cleared after 1 January 1990 • Low conservation grasslands • Land containing only low conservation groundcover (not being grasslands) • Native vegetation identified as regrowth in a Property Vegetation Plan under the repealed Native Vegetation Act 2003 • Land bio-certified under the Biodiversity Conservation Act 2016
Regulated land (Category 2) (not including vulnerable or sensitive land)	<ul style="list-style-type: none"> • Land not cleared as at 1 January 1990 or unlawfully cleared after 1 January 1990 • Native vegetation grown with the assistance of public funds (but clearing under the Land Management Code is not permitted on such land while the agreement providing the funds is in force) • Land that was subject to a Private Native Forestry property vegetation plan (PVP) that is no longer in force • Grasslands that are neither low nor high conservation grasslands • Travelling Stock Reserves, apart from Travelling Stock Reserves in the Western Division
Vulnerable regulated land (subcategory of Category 2)	<ul style="list-style-type: none"> • Steep or highly erodible land • Protected riparian areas • Land susceptible to erosion, or land that is otherwise environmentally sensitive
Sensitive regulated land (subcategory of Category 2)	<ul style="list-style-type: none"> • Land subject to a private land conservation agreement • A set aside under the Land Management Code • Land subject to a biocertification conservation measure • Land comprising an offset under a Property Vegetation Plan or set aside under a code under the Native Vegetation Act 2003 • Coastal wetlands and littoral rainforests (Coastal Management Act 2016) • High conservation grasslands • Core Koala habitat identified in a plan of management (Koala Habitat Protection State Environmental Planning Policy) • Critically endangered plants and critically endangered ecological communities • Ramsar wetlands (EPBC Act) • Land subject to remedial action or conservation measures under the Biodiversity Conservation Act • Land subject to a property, trust or conservation agreement • Land recommended for listing as an Area of Outstanding Biodiversity Value • Land subject to a Private Native Forestry Plan or Private Native Forestry PVP that is in force • Conservation Areas under the Southern Mallee Land Use Agreement • Native vegetation that must be retained under the Plantation and Reafforestation Act 1999 • Land subject to a condition of development consent requiring the land to be set aside for conservation purposes under the Environmental Planning and Assessment Act 1979 • Rainforest and old-growth forest

Source: NSW Government, Land categories and the Land Management Framework.

7.98 Under clause 6 of the Land Management (Native Vegetation) Code 2018 (the Native Vegetation Code), clearing is not permitted on land designated as Category 2 – sensitive regulated land. This includes core koala habitat, as described by Section 60I(2)(j) of the LLS Act and Clauses 111 and 108(2)(b) of the Regulation.⁵⁸⁶

⁵⁸⁶ Submission 259, NSW Government, p 9.

- 7.99** Clause 9 requires that clearing under authority of the Native Vegetation Code does not harm threatened animal species. Clearing is not authorised by the Native Vegetation Code if the person who carries out the clearing harms an animal that is a threatened species and that person knew that the clearing was likely to harm the animal. Threatened species has the same meaning as in the BC Act, which includes koalas.⁵⁸⁷
- 7.100** Part 5A, Division 6 of the LLS Act requires that the Native Vegetation Panel (an independent body established under the LLS Act to determine applications seeking to clear native vegetation on rural land that do not meet the requirements of the Native Vegetation Code) must refuse to grant approval if the proposed clearing is likely to have serious and irreversible impacts on biodiversity values (as determined under Section 6.5 of the BC Act).⁵⁸⁸
- 7.101** Responsibility for ensuring landholders are aware of, and implement management practices consistent with, their obligation under the land management framework is held by Local Land Services. Local Land Services also approves allowable clearing, with compliance and enforcement of the requirements of the framework performed by the EPA, within the Environment, Energy and Science (EES) group of the Department of Planning, Industry and Environment.⁵⁸⁹
- 7.102** Along with the role played in administering the framework, Ms Jacqueline Tracey of Local Land Services told the committee of the agency's key role in engaging local landholders to educate them on 'how to better manage their koala habitat and populations' as well as its role in 'working with EES to develop targeted landholder information and support packages, including the implementation of on-ground landholder partnerships in key koala habitat areas'.⁵⁹⁰

The status of koalas within the land management framework

- 7.103** During this inquiry, the committee received evidence on the ineffectiveness of the new land management framework in protecting koala habitat on private property. The Environmental Defenders Office stated in their submission:

It is now clear that changes to the LLS Act made by the insertion of Part 5A and the introduction of the Native Vegetation Code have weakened protections for native vegetation and have opened large areas of koala habitat in rural NSW to clearing without the need for any formal assessment or approval. It is particularly worrying that the Minister for the Environment signed off on the Native Vegetation Code despite expert advice that the laws would expose 99% of koala habitat on private land to clearing.⁵⁹¹

⁵⁸⁷ Submission 259, NSW Government, p 9.

⁵⁸⁸ Submission 259, NSW Government, p 10.

⁵⁸⁹ Evidence, Ms Tracey, 16 August 2019, p 15.

⁵⁹⁰ Evidence, Ms Tracey, 16 August 2019, pp 15-16.

⁵⁹¹ Submission 289, Environment Defenders Office NSW, p 29.

7.104 This was confirmed by the Nature Conservation Council NSW through a document obtained under the *Government Information (Public Access) Act 2009*, which showed that advice provided by OEH staff to the-then Environment Minister was that only one per cent of koala habitat is protected under the Land Management (Native Vegetation) Code 2018.⁵⁹² This document has been included at Appendix 4.

7.105 Similar to the evidence received on the PNF Codes, many stakeholders noted issues with the interaction between SEPP 44 and the land management framework. Primarily, these concerns centred around the classification of 'core koala habitat' as category 2 – sensitive regulated land, which cannot occur unless the KPOM under which this habitat is identified has been approved by the department. Without this classification, prohibitions on land clearing under the code do not apply. Dr Oisin Sweeney, Senior Ecologist, National Parks Association, summarised this issue in his evidence to the committee, stating:

The Government's submission ... says that core habitat has been mapped to help protect koalas and it talks about mapping under SEPP 44, which is then mapped as sensitive regulated land on the native vegetation map where clearing is not permitted. The problem is that ... the Government also highlights the fact that only six LGAs have done that mapping, so only koala habitat in six LGAs is translated through to category 2-sensitive. There is an enormous black hole there between the tool that the Government is using to protect koala habitat and the maps that it is using to inform that, so that really needs to change.⁵⁹³

7.106 The EDO NSW elaborated on this in their submission:

Currently, only 'core koala habitat' cannot be cleared under the Code ... [however] the concept of 'core koala habitat' is too narrow, meaning that koala habitat is at risk. Additionally, protections for endangered ecological communities are also weak, with only *critically* endangered ecological communities exempt from clearing under the Codes. Additional safeguards that could be put in place to strengthen protections are absent. For example, clearing under the Code should not be authorised if a landholder knows or 'ought reasonably to know' that the clearing harms a threatened animal species such as the koala. However, the Code currently allows for any obligation not to clear to be discharged by claiming no knowledge.⁵⁹⁴

7.107 In terms of how this issue could be overcome, the EDO NSW recommended 'expanding Category 2 (sensitive regulated land) to include actual and potential koala habitat, not just core koala habitat ... and all endangered ecological communities (not just critically endangered)'.⁵⁹⁵

7.108 The committee also heard evidence that vital components of the land management framework were not finalised, more than two years after its inception. These are the Native Vegetation Map and the Native Vegetation Panel and are described in more detail below.

⁵⁹² Submission 155, Stand Up for Nature Alliance, p 19. See also Media release, Nature Conservation Council, 'Environment Minister knew 99% of koala habitat would be exposed to land clearing by contentious new laws, FIO document shows', 2 March 2018.

⁵⁹³ Evidence, Dr Oisin Sweeney, Senior Ecologist, National Parks Association, 16 August 2019, p 41.

⁵⁹⁴ Submission 289, EDO NSW, p 28.

⁵⁹⁵ Submission 289, Environmental Defenders Office, p 30.

The Native Vegetation Map and Native Vegetation Panel

7.109 According to the NSW Government's submission, core koala habitat is to be mapped as Sensitive Regulated Land on the Native Vegetation Regulatory map. Clearing on this land is not permitted unless approved by the Native Vegetation Panel.⁵⁹⁶ However, the Stand Up For Nature Alliance outlined significant implementation problems with these key components of the land management framework:

Koala habitat is meant to be protected as Category 2 - Sensitive Regulated land under the Native Vegetation Regulatory (NVR) map. The map is described by the Office of Environment and Heritage as "an essential part of the *Local Land Services Act 2013* (LLS Act) and guides the application of the land management codes and allowable activities". Unfortunately there are two key issues with this mapping process:

1. This map has never been released in full and we are concerned that it has been deliberately withheld from release to enable landholders to legally bulldoze habitat, including likely koala habitat.

2. Category 2 - Sensitive Regulated Land in the NVR map is overly restrictive in focus and fails to protect from bulldozing habitats known or likely to contain koala habitat. At present, only koala habitat identified through SEPP 44 is included as Category 2 - Sensitive Regulated Land.

Unfortunately, SEPP 44 has been inconsistently applied with the vast majority of LGAs having failed to prepare a Comprehensive Koala Plan of Management ... This means that the majority of koala habitat is not captured and therefore not protected.⁵⁹⁷

7.110 The EDO NSW submission describes the Native Vegetation Regulatory Map as a fundamental part of the land management framework. However it also notes:

... the [NVR Map] only shows the excluded land (Category 3) and the sensitive and vulnerable areas of regulated land (Category 2) ... [meaning] there is no final map showing whether the vast majority of the state is regulated or unregulated land ... [putting] remaining koala habitat at higher risk of mistaken or illegal clearing.⁵⁹⁸

7.111 To rectify these issues, stakeholders such as Coffs Harbour City Council urged for the Native Vegetation Regulatory Map to be finalised and released. They also advocated for both core and potential koala habitat to be mapped as 'regulated', which would require any clearing to be approved under the *Local Land Services Act 2013* rather than the use of self-assessable codes.⁵⁹⁹

7.112 Stakeholders also noted issues with the Native Vegetation Panel. In this regard, the EDO NSW submission stated:

Another missing element of the land management regime is an active and effective Native Vegetation Panel (established under the LLS Act). In theory, land clearing that can't be done under the Native Vegetation Code, or as an allowable activity under the LLS Act (including clearing of core koala habitat), requires approval by the Native

⁵⁹⁶ Submission 259, NSW Government, p 16.

⁵⁹⁷ Submission 155, Stand Up For Nature Alliance, p 19.

⁵⁹⁸ Submission 289, Environmental Defenders Office, p 29.

⁵⁹⁹ Submission 52, Coffs Harbour City Council, p 1.

Vegetation Panel. However, after 2 years there is no publically available information about the panel actually assessing applications. This suggests that all current clearing of koala habitat is being done under the Code or an allowable activity exemption.⁶⁰⁰

Other related issues stemming from the 2016 land management reforms

7.113 More broadly, other stakeholders noted strong concerns about the repeal of the *Native Vegetation Act 2003* and the replacement of its operative provisions with the framework under the LLS Act, particularly because it had led to an increase in overall land clearing.

7.114 The Stand Up For Nature Alliance submission referred to an 80 per cent increase in the clearing of forests and woodlands following the reform.⁶⁰¹ The alliance of conservation organisations has suggested that:

The absence of objectives that require decision makers to ensure their application of native vegetation laws 'improves or maintains environmental outcomes' and 'protect[s] native vegetation of high conservation value', which were legislated in the repealed Native Vegetation Act, has eroded the NSW Government's ability to slow and reverse population declines of koalas. This legal threshold should be reinstated in the Local Land Services Act and Biodiversity Conservation Act.⁶⁰²

7.115 The Alliance's submission also referenced land-clearing data from four hotspots in the State which found that, since the repeal of the *Native Vegetation Act 2003* in 2016, clearing of native vegetation on private land had nearly doubled in three study areas in NSW – North West, Central West and Hunter regions. In the Central West it had increased by 2.5 times, 2.3 times in the Hunter Region and 1.6 times in the North West. A total of 4,679 hectares of koala habitat was cleared in the study areas over the two years. In the Moree-Collarenebri region land clearing had almost tripled with destruction of 5,246 hectares of koala habitat.⁶⁰³

7.116 When asked about this issue at the hearing, Ms Tracey from Local Land Services cautioned of the need to take a number of factors into account when interpreting land clearing statistics, stating:

A number of things that come into those are natural events such as fire and flood, approved clearing as well as management clearing such as regrowth management, and INS clearing, which is for managing invasive native species.⁶⁰⁴

7.117 Ms Tracey also provided alternate figures showing a much lower rate of clearing having been approved by Local Land Services since the reforms:

[T]he authorised clearing undertaken since the land management reforms were implemented under the LLS Act and by the code, effectively the Natural Resources Commission [NRC] looked at our approvals and they found that the indicated 16 per cent of approved treatment areas were actually cleared as of March 2019. By comparison

⁶⁰⁰ Submission 289, EDO NSW, p 30.

⁶⁰¹ Submission 155, Stand Up For Nature Alliance, p 17.

⁶⁰² Submission 155, Stand Up For Nature Alliance, p 16.

⁶⁰³ Submission 155, Stand Up For Nature Alliance, p 18.

⁶⁰⁴ Evidence, Ms Tracey, 16 August 2019, p 18.

that figure is 73 per cent for the approved clearing under the [*Native Vegetation Act 2003*]. This appears consistent with the anecdotal evidence given by landholders that there was a spike in clearing pre the changes in the land management reform as well as again at the 2019 State election ... some of those spikes can be explained through landholders managing what they view as regulatory risk and historically I understand that has been the case through the *Native Vegetation Act 2003* as well in terms of land clearing going up and down.⁶⁰⁵

- 7.118** When asked by the committee if she thought land clearing would slow over time under the new laws, Ms Tracey asserted that any clearing needed to be considered in light of land simultaneously being protected by other measures, such as by the Biodiversity Conservation Trust. In this regard, she stated:

Certainly in terms of clearing what you also need to consider is the land management code had put in place ... a triple bottom line approach to managing native vegetation on land holders. You need to take into context we may have had increased clearing but we have also had other mechanisms in place such as the Biodiversity Conservation Trust.⁶⁰⁶

- 7.119** Ms Tracey also told the committee that with these conservation mechanisms in place, her understanding was that more land had been set aside than had been subject to clearing.⁶⁰⁷

- 7.120** However, the submission of the Maules Creek Branch of the Country Women's Association argued that clearing on private land has escalated, and that Local Land Services staff are in a difficult position – working and living in the same communities:

Clearing and logging on private property is out of control since the *Biodiversity Conservation Act 2016* was introduced in August 2017 and came into force. It was rushed and conservation was watered down so clearing for wide acre farming was easy and uncomplicated ... Local Land Services (LLS) are now in a position to advise landholders of the Act, they are sitting in the middle, on one hand advising property owners of where and what they can clear, and on the other side of the coin they are supposed to be protecting the Environment and habitat, when Mapping is not even accurate. Most LLS staff live in the areas where they work and must feel compromised trying to do the right thing by the landholder and on the other hand protecting the environment.⁶⁰⁸

- 7.121** Finally, as was identified with the PNF codes, a number of stakeholders asserted that the 'self-assessing' nature of the Code was inappropriate. For example, Stand Up for Nature Alliance contended that:

Self-assessment has directly contributed to a tripling of deforestation, illegal clearing, misidentification of threatened species habitats and ecological communities, and highly permissive codes that enable landholders to the vast majority of their property.⁶⁰⁹

- 7.122** The EDO NSW expressed significant concerns with the increased reliance on self-assessment 'in place of a robust environmental assessment and determination process where listed species

⁶⁰⁵ Evidence, Ms Tracey, 16 August 2019, pp 18-19.

⁶⁰⁶ Evidence, Ms Tracey, 16 August 2019, p 19.

⁶⁰⁷ Evidence, Ms Jacqueline Tracey, 16 August 2019, p 19.

⁶⁰⁸ Submission 87, Maules Creek Branch of the Country Womens' Association of NSW, p 4.

⁶⁰⁹ Submission 155, Stand Up For Nature Alliance, p 19.

are involved', describing codes as an appropriate regulatory tool for low risk activities alone.⁶¹⁰ On the specific effect such codes would have on koalas, they stated that 'the use of self-assessable codes increases the risk that habitat needed for koalas will be inadvertently cleared, or cleared due to lower standards of environmental oversight'.⁶¹¹

7.123 The submission from Tweed Shire Council raised similar concerns:

Self-assessable, non-measurable allowances for clearing and construction such as 'minimum extent necessary', 'as far as practicable' and 'kept to a minimum' are not appropriate in relation to koala habitat ... [t]he provisions in relation to clearing of native vegetation ... must be defined in such a way as to enable objective assessment of whether this condition is met.⁶¹²

7.124 Researchers from the University of Sydney echoed these concerns, highlighting that 'history demonstrates clearly that self-regulation, in any sphere, is typically inadequate and ineffective'.⁶¹³ In addition to this, a number of organisations such the National Parks Association – Armidale Branch,⁶¹⁴ Tweed Landcare,⁶¹⁵ and the Jane Goodall Institute,⁶¹⁶ along with individual submissions called for an 'end to self-assessment' under both the *Local Land Services Act 2013* and *Biodiversity Conservation Act 2016*.⁶¹⁷

7.125 A number of stakeholders described how the current regulatory framework does not adequately incentivise landholders to protect vegetation on their land rather than clearing it. For example, Mr Stuart Blanch from WWF Australia told the committee:

In the same way that the Federal Government under John Howard said, "We're going to buy water from irrigators to restore the Murray-Darling Basin", we need a shift in the understanding that farmers, particularly with threatened species like koalas, are the primary conservation managers of koalas ... There are some interesting precedents. The Queensland Land Restoration Fund identifies money for farmers who are protecting regrowing vegetation, which they could otherwise clear. It is a half a billion-dollar program ... I really think we need like a \$1 billion land management and biodiversity fund that builds on some of the great work that the Biodiversity Conservation Trust does, but it has a broader remit is to protect mature and high conservation value forests and other ecosystems where farmers do not have the legal right to clear and so they are excluded from, for example, the Emissions Reduction Fund projects federally. That is a missing piece of the puzzle.⁶¹⁸

⁶¹⁰ Submission 289, EDO NSW, p 13.

⁶¹¹ Submission 289, EDO NSW, p 13.

⁶¹² Submission 159, Tweed Shire Council, p 3.

⁶¹³ Submission 78, University of Sydney, p 3.

⁶¹⁴ Submission 252, National Parks Association – Armidale Branch, p 3.

⁶¹⁵ Submission 75, Tweed Landcare, p 1.

⁶¹⁶ Submission 70, The Jane Goodall Institute Australia, p 2.

⁶¹⁷ See for example: Submission 236, Ms Gae Constable, p 1; Submission 274, Ms Lisa Ryan, p 4; Submission 51, Mr Bernard Jean, p 1.

⁶¹⁸ Evidence, Dr Blanch, WWF Australia, 18 February 2020, p 8.

The Natural Resources Commission's Report on Land Management

7.126 In 2019, the NSW Government commissioned advice from the Natural Resources Commission about the land management and biodiversity conservation laws introduced under the 2016 reforms. The NSW Government received the Commission's Report on Land Management in July 2019, and released the report – along with its response to the recommendations included within – in March 2020. Table 9 sets out the recommendations of the Commission, many of which address stakeholder concerns mentioned above, particularly the Native Vegetation Regulatory Map.

Table 9 Recommendations of the Natural Resources Commission's Report on Land Management

Recommendation
<p>1. If the implementation of the Native Vegetation Regulatory (NVR) Map remains a NSW Government priority, Environment, Energy and Science Group (EES) implement a staged release of the Native Vegetation Regulatory Map:</p> <p>1.1 The first stage should involve the immediate release of all categories of the map for woody vegetation-dominant landscapes on a region-by-region basis. This needs to be supported by processes to improve map accuracy, including a process to resolve disagreements on map accuracy that remain following EES's normal appeal process that is overseen by an independent body.</p> <p>1.2 The second stage should involve the release of all categories of the map for native grassland-dominant landscapes, once there is more confidence in the accuracy of the mapping of native grassland.</p>
<p>2. The NSW Government strengthen compliance frameworks by:</p> <p>2.1 Reviewing the roles, responsibilities and resourcing for monitoring and enforcing compliance with certifications and notifications to clear and set asides under the Land Management (Native Vegetation) Code.</p> <p>2.2 Developing clear processes to monitor and report on compliance with certifications and notifications to clear and set asides under the Land Management (Native Vegetation) Code. Monitoring and reporting processes should be developed with consideration of best practice principles, including ensuring monitoring can identify incidents of non-compliance and compliance risks in a timely way.</p> <p>2.3 Reviewing the drivers of high rates of unexplained clearing and address identified issues.</p> <p>2.4 Developing processes to ensure six monthly monitoring and reporting of unexplained clearing as part of the trigger framework.</p>
<p>3. The NSW Government undertake an immediate review of Part 3 (pasture expansion) of the Land Management (Native Vegetation) Code to address risks to biodiversity values state-wide resulting from high rates of certifications and notifications to clear under this part of the Code.</p>
<p>4. The NSW Government replace the existing policy review trigger with the immediate implementation of the Commission's proposed trigger framework.</p>
<p>Trigger 1: Policy implementation: That all core policies of the reform are operational within 18 months of commencement of reforms</p> <ul style="list-style-type: none"> • Land Management (Native Vegetation) Code • NVR Map

- Biodiversity Conservation Investment Strategy
- Private Land Conservation Agreements
- Single measure of assessing biodiversity value under the Biodiversity Offsets Scheme
- Coordinated reform specific Monitoring, evaluation and reporting (MER) framework

Trigger 2: Compliance: Annual areas of unexplained clearing should not exceed pre-reform average (6,350 ha/annum) (EES[lead]/LLS)

Trigger 3: Biodiversity - state wide: Annualised combined area of set asides and conservation agreements is less than two times the area approved for clearing (certification and notifications under Parts 3-6 of the code) (LLS/BCT).

Trigger 4: Biodiversity – regional: Using a 'traffic-light' risk rating system, LLS regional risk to biodiversity from clearing under the reforms exceeds 'high risk' thresholds: The risk rating system considers the area of land approved to be cleared and area of set asides in each LLS region. (LLS)

Trigger 5: Socioeconomic: State-wide investment in conservation agreements falls below 80% of budget (BCT)

Trigger 6: Code clearing: Reported for consideration without threshold – cumulative area approved to clear under Parts 3 – 6 of the code by ha (LLS)

5. The Environment, Energy and Science Group, Local Land Services and the Biodiversity Conservation Trust provide a quarterly report on the status of triggers to the Cluster Ministers Group for the Planning, Industry and Environment Cluster.
6. Previous reporting on triggers to Cabinet is replaced by reporting on an annual or exceptional basis if thresholds are exceeded to ensure Cabinet remains informed.
7. If a coordinated, reform specific MER program remains a NSW government priority, the NSW Government implement an overarching MER framework within six months that is informed by the Commission's proposed MER framework so that sufficient data is collected to inform the three- and five-year reviews to the best possible extent.

Committee comment

- 7.127** The committee notes that over two-thirds of koala records are now located on private land. With the 2019-2020 bushfires heavily impacting koala populations in national parks and state forests, conserving and restoring koala habitat on private land is crucial to their ongoing survival as a species. With this in mind, it is clear that frameworks regulating clearing on private land play a vital role in koala habitat protection and therefore in preventing the extinction of the koala in NSW and must be strengthened. In this regard, the committee believes that legal thresholds should be reinstated in the *Local Land Services Act 2013*, so that its application improves or maintains environmental outcomes and protects native vegetation of high conservation value.

Recommendation 33

That the NSW Government amend the *Local Land Services Act 2013* to reinstate legal thresholds so that its application improves or maintains environmental outcomes and protects native vegetation of high conservation value.

- 7.128** The committee was concerned to hear that the protections for koalas under the Land Management Framework were not functioning effectively. Like the PNF Codes discussed above, many of these protections seemed to be failing because of the poor interaction between the *Local Land Services Act 2013* and SEPP 44. The crux of the issue seems to be that it is only land identified as core koala habitat under a koala plan of management where clearing is not permitted. With so many local councils still lacking comprehensive koala plans of management – the majority through no fault of their own – this protection has little practical effect. In this regard, the committee is concerned that the submission of the NSW Government seems to suggest otherwise.
- 7.129** In light of this evidence, the committee believes it is necessary that the NSW Government consider the adequacy of the protection of koala habitat under the Land Management Framework. For this reason, the committee recommends that the NSW Government review the impact of koala habitat of the application of regulated land and self-assessment frameworks under the *Local Land Services Act 2013*.
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Recommendation 34

That the NSW Government review the impact on koala habitat of the application of regulated land and self-assessment frameworks under the *Local Land Services Act 2013*.

- 7.130** On the balance of the evidence received, the committee also believes that individual landholders should be assisted to carry out clearing in a way that protects species – particularly koalas – located on their land. In this regard, the committee was encouraged to hear from Local Land Services that landholders are generally interested in seeking to protect threatened species on their properties. We commend the outreach work performed by Local Land Services which seeks to educate landholders on how to better manage their koala habitat and population.
- 7.131** Finally, the committee acknowledges that a robust assessment of the Land Management Framework introduced under the 2016 land management reforms was undertaken by the Natural Resources Commission in its 2019 Report on Land Management. In order to address many of the shortcomings in the Framework identified above, the committee recommends that the NSW Government adopt all of the recommendations made by the Natural Resources Commission in its 2019 Report on Land Management.
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Recommendation 35

That the NSW Government adopt all of the recommendations made by the Natural Resources Commission in its 2019 Report on Land Management.

Chapter 8 The Biodiversity Conservation Act

This chapter examines the role of the *Biodiversity Conservation Act 2016* (BC Act), which, along with the *Environmental Planning and Assessment Act 1979* (EP&A Act), is a key pillar of the framework regulating the protection of koalas. The BC Act commenced in August 2017, repealing the *Threatened Species Conservation Act 1995* and *Nature Conservation Trust Act 2001* along with parts of the *National Parks and Wildlife Act 1974* (NP&W Act) to create a single piece of biodiversity legislation in NSW.

Key components of the Biodiversity Conservation Act 2016

8.1 This section provides an overview of the three components of the Biodiversity Conservation Act most relevant to this inquiry: the listing of threatened species and ecological communities, the Biodiversity Offset Scheme and the Biodiversity Conservation Trust.

Threatened species and ecological communities

8.2 The BC Act plays a key role in the protection of biodiversity within NSW through its listing of threatened species and threatened ecological communities. Under section 4.4, the NSW Scientific Committee may list a species of animal that is native to New South Wales or that is known to periodically or occasionally migrate to New South Wales as a threatened species if it meets the specific eligibility criteria set out within the section.⁶¹⁹ A species may be listed with one of three statuses – *critically endangered*, *endangered* or *vulnerable* – according to criteria contained within Part 4 of the Biodiversity Conservation Regulation 2017.⁶²⁰ Ecological communities are also able to be listed as *critically endangered*, *endangered* or *vulnerable*, depending on the risk of extinction faced by such communities.⁶²¹

8.3 Listing a species or ecological community under the BC Act has the effect of requiring that it be considered under the EP&A Act when preparing environmental planning instruments and when undertaking development assessments.⁶²² Consent authorities are also required to consider the impacts of development actions on these species or communities.⁶²³ For example, under Part 7 of the BC Act, development or activity that is 'likely to significantly affect threatened species'⁶²⁴ must have its application for consent accompanied by a biodiversity development assessment report.

⁶¹⁹ *Biodiversity Conservation Act 2016*, s 4.4.

⁶²⁰ *Biodiversity Conservation Act 2016*, s 4.2.

⁶²¹ *Biodiversity Conservation Act 2016*, s 4.5.

⁶²² NSW Chief Scientist & Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, December 2016, p 2.

⁶²³ NSW Chief Scientist & Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW*, December 2016, p 2.

⁶²⁴ *Biodiversity Conservation Act 2016*, s 7.2.

The Biodiversity Offset Scheme

- 8.4 The Biodiversity Offset Scheme is established under Part 6 of the BC Act and contains the following components, inter alia:
- the formation of biodiversity stewardship agreements between the Minister and land owners under which biodiversity stewardship sites are established
 - the requirement of management actions to be carried out on these sites, from which biodiversity credits are created
 - the trade and acquisition of these biodiversity credits by developers or other persons who have an obligation to retire biodiversity credits under the Scheme.
- 8.5 The Biodiversity Offset Scheme is a market-based scheme that brings together landowners who create biodiversity credits by establishing a biodiversity stewardship site, and purchasers who buy the credits created. Purchasers may be the NSW Biodiversity Conservation Trust or developers wanting to 'offset' biodiversity loss from a new development site. Conservation groups, philanthropists and government departments may also be interested in conserving biodiversity in perpetuity. The Biodiversity Offset Scheme provides funds for landowners to manage their land for conservation. The scheme is voluntary and supports landowners to take care of their bushland forever, and pays for them to do it.⁶²⁵
- 8.6 The Scheme is governed by 'biodiversity offset rules', which are set out under clause 6.2 of the Biodiversity Conservation Regulation 2017. These rules also establish the requirements for procuring offsets as part of a development.⁶²⁶ Under clause 6.2(2), an offset obligation can be satisfied by any one or a combination of the following measures:
- a. the retirement of the required number and class of like-for-like biodiversity credits,
 - b. the retirement of the required biodiversity credits in accordance with the variation rules,
 - c. the funding of a biodiversity conservation action that would benefit the relevant threatened species or ecological community and that is equivalent to the cost of acquiring the required like-for-like biodiversity credits as determined by the offsets payment calculator referred to in section 6.32 of the [BC Act],
 - d. in the case of State significant development or infrastructure under the *Environmental Planning and Assessment Act 1979* that is mining under a mining lease—an obligation to undertake ecological rehabilitation of the impacted site that has the same credit value (determined in accordance with the ancillary rules) as the retirement of like-for-like biodiversity credits,
 - e. the payment under section 6.30 of the [BC Act] of an amount into the Biodiversity Conservation Fund determined in accordance with the offsets payment calculator to satisfy the requirement to retire biodiversity credits.⁶²⁷

⁶²⁵ NSW Government, Biodiversity Stewardship Agreements for Landholders Through the Biodiversity Offset Scheme, September 2017, p. 3. <https://www.bct.nsw.gov.au/sites/default/files/2018-04/offset_BSA_brochure.pdf>.

⁶²⁶ Evidence, Mr Paul Elton, Chief Executive Officer, Biodiversity Conservation Trust, 18 February 2020, p 46.

⁶²⁷ Biodiversity Conservation Regulation 2017 cl 6.2.

- 8.7 Responsibility for, and implementation of the Scheme falls to both the Department of Planning, Industry and Environment and the Biodiversity Conservation Trust.

The Biodiversity Conservation Trust

- 8.8 Part 10 of the BC Act establishes the Biodiversity Conservation Trust. In regards to the conservation of biodiversity, the role of the Trust can be divided into two areas. The Trust is involved in conservation on private land and is tasked with negotiating, entering into and administering private land conservation agreements. The Trust also plays a role in the Biodiversity Offsets Scheme, seeking strategic biodiversity offset outcomes to compensate for the loss of biodiversity due to development and other activities.

Listing of threatened species and ecological communities

- 8.9 This section explores concerns raised throughout the inquiry regarding the operation of the BC Act. It examines the treatment of threatened species and ecological communities in the BC Act, including the current status of the koala, as well as the impact of reforms to the Act in 2016, which removed the ability to list local populations where a species has already been listed at the State level.

The listing of koalas as 'vulnerable'

- 8.10 Koalas have been listed as a threatened species, classified as 'vulnerable' at a State-wide level, since the commencement of the BC Act in August 2017.⁶²⁸ The BC Act classifies a species as 'vulnerable' if, in the opinion of the NSW Scientific Committee, it is facing a high risk of extinction in Australia in the medium-term future, as determined in accordance with criteria prescribed by the regulations, and it is not eligible to be listed as an endangered or critically endangered species.⁶²⁹ Before 2017, the koala had been listed as 'vulnerable' under the *Threatened Species Conservation Act 1995* since it was first listed in 1992.
- 8.11 A number of stakeholders expressed concerns that a listing of 'vulnerable' did not adequately represent the extinction risk faced by koalas.⁶³⁰ In this regard, Dr Stuart Blanch, WWF Australia, raised the issue of 'uplisting' the koala and suggested changing its classification to 'endangered'.⁶³¹ For Dr Blanch, the justification for this change was the dramatic loss in numbers following the fires:

... in two of three sites so far surveyed there was an 80 per cent to 85 per cent reduction in abundance of koalas. I think it has confirmed ... that it warrants koalas being up-listed, at least in New South Wales, to "endangered" status—hopefully under State and Federal law.⁶³²

⁶²⁸ Prior to this, koalas had been listed as vulnerable under the TSC Act since 1992.

⁶²⁹ *Biodiversity Conservation Act 2016*, s 4.4(3).

⁶³⁰ Submission 202, Ms Susie Header, p 3; Submission 274, Ms Lisa Ryan, p 4.

⁶³¹ Evidence, Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, WWF Australia, 18 February 2020, p 6.

⁶³² Evidence, Dr Blanch, 18 February 2020, p 6.

- 8.12** Ms Rachel Walmsley of the Environmental Defenders Office also noted that their office had received a number of questions from the public as to whether this uplisting could occur, in light of the effect of the bushfires.⁶³³
- 8.13** In response to questions from members during Budget Estimates, the Hon Matt Kean MP, Minister for Energy and the Environment, responded that he understood the NSW Threatened Species Scientific Committee was undertaking a review into the koala's status in light of the effect of the recent bushfires.⁶³⁴
- 8.14** On the question of whether such a change in status would afford koalas greater protection, the committee received fairly limited evidence. During Budget Estimates, Ms Hawyes from the Department stated:
- That status creates penalties if you harm the animal and that exists in its own right. There are greater thresholds of protections that might be applied, given that enhanced status, through the planning system, through the declaration of core koala habitat and other sorts of habitat protection. But in and of itself, there are actual protections to animals in that species in terms of the penalties that are applied if you harm that species.⁶³⁵
- 8.15** At the same hearing the Minister also expressed the view that uplisting the koala to 'endangered' would 'not necessarily' make a difference or lead to the protection of more koala habitat, emphasising that other actions undertaken by the NSW Government – such as increasing the number of national parks – would have greater effect.⁶³⁶

Committee comment

- 8.16** The committee acknowledges that a number of stakeholders are concerned that the current listing of koalas as 'vulnerable' under the *Biodiversity Conservation Act 2016* does not adequately reflect their risk of extinction, particularly after the summer bushfires.
- 8.17** In this regard, the committee was pleased to hear that the NSW Threatened Species Advisory Committee has commenced a review into the koala's status and notes that decisions to uplist threatened species are made independent of government.

The removal of the ability to list local populations

- 8.18** The committee also received evidence on the effect of the 2016 biodiversity reforms, which introduced the BC Act, on the listing of threatened species and ecological communities. As set

⁶³³ Evidence, Ms Rachel Walmsley, Director of Policy and Law Reform, Environmental Defenders Office, 18 February 2020, p 6.

⁶³⁴ Evidence, Hon Matt Kean MP, Minister for Energy and the Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 55.

⁶³⁵ Evidence, Ms Melanie Hawyes, Deputy Secretary, Board Policy, Strategy and Science, Department of Planning, Industry and Environment, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 60.

⁶³⁶ Evidence, Hon Matt Kean MP, Portfolio Committee No. 7 – Planning and Environment, Budget Estimates 2019-2020, 6 March 2020, p 55.

out in the NSW Government submission, the purpose of the BC Act is to 'maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development'.⁶³⁷

8.19 In repealing the *Threatened Species Conservation Act 1995*, the BC Act made a number of changes to the way in which threatened species are listed in NSW. In particular, under the BC Act, listing of species shifted to a State-wide focus, with local populations only able to be listed if a species is not otherwise listed at the state level.⁶³⁸ This is the result of a Memorandum of Understanding (MoU) between all States and Territories and the Commonwealth which established a 'common assessment method' for assessing threatened species across all jurisdictions.⁶³⁹ The practical effect of this MoU was to prevent the listing of individual populations where the species itself is separately listed.⁶⁴⁰ This issue will be explained in more detail below.

8.20 Throughout the inquiry, the committee received a significant amount of evidence on the shift to a 'state-wide' focus. For example, Mr David Milledge, a local ecologist from the NSW North Coast described this change as 'the most detrimental recent change to legislation', arguing that 'loss of local populations equals extinction'.⁶⁴¹

8.21 Other stakeholders also stressed the importance of being able to list particular threatened populations of a species in order to better manage their chance of survival. For example, Stand Up For Nature Alliance stated:

Listing threatened populations is important as it allows particular attention to be paid to local and regional extinction threats, even if the overall population of a species is not at risk of extinction.

Local and regional extinctions are the precursor to final extinction of a species. If we cannot acknowledge and manage local extinctions through the [BC Act] then we are increasing the risk that a species like the koala will not be seen in the wild in future.⁶⁴²

8.22 Similarly, Ms Rachel Walmsley of the Environmental Defenders Office described the listing of local populations as a means of ensuring greater resource allocation:

... the fact that you could list a population draws attention to it, so then it would obviously be factored into the Government's *Saving Our Species* program about which areas get priority. That is a way of saying in the koala population that these are the really endangered populations at the moment. It is a way of drawing that attention. Hopefully that would also ensure resources flowed to those populations.⁶⁴³

⁶³⁷ Submission 259, NSW Government, p 1.

⁶³⁸ Submission 259, NSW Government, p 15.

⁶³⁹ Department of Agriculture, Water and the Environment, *Intergovernmental memorandum of understanding - Agreement on a common assessment method for listing of threatened species and threatened ecological communities*, June 2015. Note that South Australia did not sign the MoU.

⁶⁴⁰ Biodiversity Conservation Regulation 2017 cl 4.1(5).

⁶⁴¹ Evidence, Mr David Milledge, Ecologist, 18 October 2019, p 2.

⁶⁴² Submission 155, Stand Up For Nature Alliance, pp 25-26.

⁶⁴³ Evidence, Ms Walmsley, 18 February 2020, p 7.

- 8.23** From a land management perspective, Mr Scott Hetherington of Tweed Shire Council described the value in local approach:

From our perspective the ability to have endangered populations is critical ... manag[ing] koalas and the koala recovery at the landscape scale it is about understanding how do those local populations function and what is going on there and how does that relate to the bigger picture? Our North Coast story is emerging to demonstrate that very well in that there are those coastal populations that are impacted at a different level to different threats.

The fact that population is identified as endangered and can be applied in terms of our local planning policies and our local decision-making, as well as the potential to use that in some of the decisions in relation to the new biodiversity conservation provisions around avoiding and minimising further impact and identifying species that cannot sustain further loss are some of the key decisions that we, as a council, are required to make. Having the ability to identify populations endangered—particularly on the back of so much work, it was a couple of years of work to actually propose that and have that nomination reviewed and revised and determined—it seems it is going to disappear some time shortly.⁶⁴⁴

- 8.24** The Government confirmed that whilst the listing of koalas under the BC Act was limited to a state-wide classification, the management response was 'from a local aspect', with Ms Michelle Dumazel from the Department of Planning, Industry and Environment telling the committee:

Through the Saving Our Species program and the Koala Strategy there is a lot of activity at the local level to work in partnership with local government, with the community around specific populations.⁶⁴⁵

- 8.25** Notwithstanding these approaches, Ms Rachel Walmsley, Environmental Defenders Office, argued that the recent bushfires highlighted the vulnerability of certain populations, and that the ability to list a local population as endangered should be restored:

[The ability to list local populations] could be really important and worth restoring so that those populations that have been really affected by these fires can get that additional attention.

I think the results of these bushfires will show that certain populations are extremely stressed now. The ability to list populations could be a useful tool.⁶⁴⁶

- 8.26** One stakeholder also expressed concern about the fact that, in addition to removing the ability to list *new* local populations, three local koala populations retained from the repealed *Threatened Species Conservation Act 1995*—found in the Hawks Nest and Tea Gardens area of the Great Lakes Local Government Area (LGA), the Pittwater area of Warringah LGA and the area in between the Tweed and Brunswick Rivers – had also been removed from the BC Act. In his evidence, Mr Scott Hetherington – whose council contained one of the populations – told the committee of learning of the proposed removal of these populations from the submission of the NSW Threatened Species Scientific Committee to this inquiry:

⁶⁴⁴ Evidence, Mr Scott Hetherington, Senior Program Leader—Biodiversity, Tweed Shire Council, 18 October 2019, pp 37-38.

⁶⁴⁵ Evidence, Ms Dumazel, 16 August 2019, p 11; Submission 259, NSW Government, p 11.

⁶⁴⁶ Evidence, Ms Walmsley, 18 February 2020, p 7.

It became apparent during the preparation of the [BC Act] that these populations were going to be left out, which was an issue that we raised in our submissions and the resolution of that appeared to be that these three would be retained but there would be no further provision for additional populations. That was my understanding up until yesterday when I read through the submission to this inquiry from the [NSW Threatened Species Scientific Committee] which stated that those three [local populations] would be removed from the schedules [of the BC Act].⁶⁴⁷

- 8.27** Another local area affected by the inability to list local populations was Port Stephens, with some stakeholders identifying the perverse effect the legislative changes had on specific local koala populations previously identified as at risk. Both Eco Network-Port Stephens and the Port Stephens Greens⁶⁴⁸ detailed in their submissions that the NSW Scientific Committee had determined to list the local Port Stephens koala population as 'endangered',⁶⁴⁹ based on the Committee's conclusion that this population was 'facing a very high risk of extinction in the near future'⁶⁵⁰ an observation agreed to by the Department.⁶⁵¹
- 8.28** However, following the conclusion of the MoU with the Commonwealth in 2016 and the commencement of the BC Act and Regulation in 2017, the listing of this local population as 'endangered' was rejected in 2018 because koalas were already listed at both the State and Federal level as 'vulnerable'.⁶⁵²
- 8.29** The committee received very little evidence on the reason for this change in approach to the listing of local populations. In its submission, the NSW Threatened Species Scientific Committee confirmed the decision to remove these populations stemmed from a requirement of the MoU with the Commonwealth:

As the Koala is listed nationally as a Vulnerable species, Koala populations are no longer eligible to be listed under the BC Act. This is a requirement of a Memorandum of Understanding between the NSW Government and the Commonwealth which prevents the listing of individual populations where the species itself is listed. The three currently listed Endangered Koala populations will be removed from the schedules of the BC Act.⁶⁵³

⁶⁴⁷ Evidence, Mr Hetherington, 18 October 2019, p 37.

⁶⁴⁸ Submission 190, Port Stephens Greens, p 2.

⁶⁴⁹ Submission 156, Eco Network – Port Stephens, p 3.

⁶⁵⁰ NSW Threatened Species Scientific Committee, *Final determination - Koala Phascolarctos cinereus population in the Port Stephens area (north of the Hunter River, east of the Pacific Highway and south of Nelson Bay/ Karuah River) - Rejection of endangered population listing – Ineligible for listing*, 17 August 2018, p 2.

⁶⁵¹ Evidence, Ms Michelle Dumazel, Executive Director Policy Division – Environment, Energy & Science Group, Department of Planning, Industry and Environment, 16 August 2019, p 11; Evidence, Trish Harrup, Director Parks & Conservation Policy, Environment, Energy & Science Group, Department of Planning, Industry and Environment, 16 August 2019, p 10.

⁶⁵² NSW Threatened Species Scientific Committee, *Final determination - Koala Phascolarctos cinereus population in the Port Stephens area (north of the Hunter River, east of the Pacific Highway and south of Nelson Bay/ Karuah River) - Rejection of endangered population listing – Ineligible for listing*, 17 August 2018.

⁶⁵³ Submission 250, NSW Threatened Species Scientific Committee, p 1.

- 8.30** Whilst the NSW Government submission did not refer to the Memorandum of Understanding, the Department of Planning, Industry and Environment website confirms that: The NSW Government has signed a Memorandum of Understanding (MOU) with the Commonwealth Government and other State and Territory jurisdictions to implement a Common Assessment Method (CAM) of species and ecological communities.

... The CAM will ensure there is consistent approach in the assessment of threatened species and ecological communities in Australia. Through information sharing and mutual recognition of assessments, national assessment undertaken by one jurisdiction may be accepted by other jurisdictions. This will ensure a species is listed at the same level of extinction risk at both the Commonwealth and State level and reduce the duplication of assessments.⁶⁵⁴

Committee comment

- 8.31** The committee is concerned about the quantity of evidence it received expressing concern about the inability to list local populations under the *Biodiversity Conservation Act 2016* if the species is already listed at a State level. In the case of koalas, this has meant that much of the nuance has been lost regarding the threats individual koala populations face. Whilst acknowledging that most koala populations in NSW are under significant strain, some of the challenges faced by local populations are best addressed by a local response. In this regard, the evidence received from Mr Scott Hetherington of Tweed Shire Council was particularly compelling, referring to the role played by local planning policies and decision-making in protecting local koala populations.
- 8.32** The committee acknowledges evidence received from Government witnesses that confirmed that whilst the listing of koalas under the *Biodiversity Conservation Act 2016* is limited to a state-wide classification, the management response is 'from a local aspect'. The committee is concerned about the true efficacy of such an approach, given the resourcing limitations of some local councils.
- 8.33** Finally, the committee was disappointed to learn that the Memorandum of Understanding signed with the Commonwealth had the effect of requiring that local populations previously identified as endangered could now not be listed at all except as part of the state-wide 'vulnerable' listing.

The Biodiversity Offset Scheme

- 8.34** This section explores stakeholder concerns with the Biodiversity Offset Scheme (BOS), including issues raised regarding the compatibility of biodiversity offsets with species conservation, as well as specific concerns regarding like-for-like offsets. It also looks at the effect of supplementary measures and the variation rules on the overall integrity of the BOS. Finally, it examines the role of the Biodiversity Conservation Trust (Trust) within the BOS, via a case study on the Maules Creek Mine Project.

⁶⁵⁴ Department of Planning, Industry and Environment, *Species listing* (23 October 2018), <<https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/programs-legislation-and-framework/species-listing>>.

Suitability of biodiversity offsets

- 8.35** Throughout the inquiry, it became evident that many stakeholders saw the offset scheme as fundamentally incompatible with the conservation of ecological communities and threatened species, particularly koalas. For example, Mr Frank Dennis, a local resident and koala activist from the Port Macquarie area, outlined fundamental issues with the concept of offsets themselves, describing them as 'a mirage':

[Offsetting] is essentially looking at a vegetated area and saying that vegetated area has a capacity to protect, support a certain range of animals and certain values. And you are going to offer another piece of land which will offer you the same thing that the land that you now want to clear ...

There is no net gain. You are destroying an area of forest completely, right. It is to be cleared. You are offering another one which at best, if it is and if you can show it, is equal to what you have just destroyed. But that never happens. Too many instances and in most cases you will find that the land that has been swapped or offered in return for what you have destroyed, is of lesser value.⁶⁵⁵

- 8.36** Similar observations were made by Mr David Paull, a local koala expert from the Gunnedah area, who suggested that offsets gave the perception of protecting koala habitat, when in reality, they permitted its clearing:

[Offsets] basically fail in their attempt, because you are allowing the removal of habitat. Say you want to clear 100 hectares of koala habitat and under current rules similar vegetation is required to offset that. Now it does not have to be exactly like for like. It could be anywhere, so in terms of strategic location it does not make sense ... all the offset policy does is facilitate clearing. What is even worse is the policy cons the public into believing that something is being done when, in fact, nothing is being done. The offset policy has not saved any koala population at all—in fact, the opposite.⁶⁵⁶

- 8.37** Others such as Mr Jeff Angel, Director of the Total Environment Centre, attributed issues with the concept to an increasing shortage in land suitable for conservation:

Our view over the many years is that existing instruments such as biobanking and offsets do not perform or have sufficient capacity to conserve koalas. There was this warning some years ago when the concept of offsets and biobanking was introduced that there is so little left of natural bushland in and around Sydney that it is extremely hard to find an offset that replicates the habitat and therefore allows the continued preservation of that species.⁶⁵⁷

- 8.38** Whilst not commenting specifically on the appropriateness of offsets as a conservation measure, many stakeholders did suggest their efficacy was weakened due to issues with monitoring compliance. Some local councils, including Lismore City Council, appeared to attribute this to a resourcing issue, both at the local council and State level:

Councils are reliant on the information provided by developers and their consultants to assess the impact of a development on koala habitat. The resources available for

⁶⁵⁵ Evidence, Mr Frank Dennis, Local resident and koala activist, 3 February 2020, p 13.

⁶⁵⁶ Evidence, Mr David Paull, Local koala expert, 13 December 2019, p 22.

⁶⁵⁷ Evidence, Mr Jeff Angel, Director, Total Environment Centre, 16 August 2019, p 43.

ground-truthing such information are very limited. In addition, it appears that the resources available within State agencies to investigate and prosecute potential breaches of biodiversity legislation are also extremely limited, with a consequent lack of accountability for compliance. Monitoring of retained and replacement habitat over the longer term is also not possible within available resources, potentially undermining the effectiveness of these measures further.⁶⁵⁸

- 8.39** Others such as Ms Karen Love from Byron Shire Council suggested a broader issue of 'tokenistic' planting undermined offsets in their local government area:

... often plantings that are an offset for development ... tend to be tokenistic in the way that a plan of management is written, they go in the ground and there is no follow-up or compliance as to whether or not those trees have succeeded or not.⁶⁵⁹

- 8.40** On the other hand, evidence from Mr Paul Elton, Chief Executive Officer of the Biodiversity Conservation Trust was that, in the case of individual landholders participating in biodiversity stewardship agreements, compliance was strictly monitored:

... we pay the landholders in perpetuity for the stewardship of those sites. Effectively, our job is to ensure compliance on that side of the ledger. We do have a rigorous compliance approach for monitoring biodiversity stewardship agreements which includes, for example, receipt of an annual report on the completion of their management actions. For all biodiversity stewardship sites we also do an annual inspection to satisfy ourselves that they have carried out their management obligations. Our role is really ensuring the integrity of the offset sites.⁶⁶⁰

- 8.41** Mr Elton also confirmed the Trust had recourse to a number of measures to enforce compliance, including working with landholders to assist them in meeting their obligations. In cases where this was unsuccessful, he noted that the Trust was empowered to commence civil proceedings under the BC Act, with remedies including 'seeking a court order to force the landholder to comply ... a renegotiation of the terms of their agreement ... [or] the imposition of a financial guarantee'.⁶⁶¹

- 8.42** However, he confirmed that where offsets had been secured as part of a development consent, compliance with conditions of this consent remained a matter for the Department.⁶⁶²

The 2016 reforms

- 8.43** As was the case with the listing of threatened species, the committee received evidence on the effect of the 2016 biodiversity reforms on the Biodiversity Offset Scheme. Many stakeholders argued changes introduced by these reforms weakened the efficacy of the Scheme, with a particularly detrimental effect on koalas. Ms Sue Higginson, an environmental lawyer summarised the reforms as follows:

⁶⁵⁸ Submission 225, Lismore City Council, p 2.

⁶⁵⁹ Evidence, Ms Karen Love, Research Officer, Byron Shire Council, p 34.

⁶⁶⁰ Evidence, Mr Elton, 18 February 2020, p 45.

⁶⁶¹ Evidence, Mr Elton, 18 February 2020, p 58.

⁶⁶² Evidence, Mr Elton, 18 February 2020, p 52.

... offsets have applied now in New South Wales for many years. When the offset scheme was first introduced it was based on significant principles of integrity around offsetting schemes that were internationally developed. I think we attempted to do the right thing in the way we introduced offsetting ... [but] when we introduced the reforms, the Biodiversity Conservation Act and the Local Land Services Act ... that is when we did violence to our offsetting scheme ... What I would say is that under this current system absolutely we should not be offsetting koala habitat because we are not doing it right. We are not doing it in the way offsets were ever originally intended.⁶⁶³

- 8.44 Mr Ben Grant, a planner at Byron Shire Council described the effect of the reforms as contributing to confusion around the concept of avoiding and minimising impacts:

My opinion on the Biodiversity Conservation Act reforms is that even though "avoid and minimise" is written into that Act, it is not clear how it should be applied. There is a focus on offsetting, which should be a measure of last resort.⁶⁶⁴

- 8.45 For her part, Ms Walmsley of the Environmental Defenders Office expressed concern with the fact that under the current BOS 'everything is amenable to offsets'.⁶⁶⁵ To rectify this issue, the Environmental Defenders Office referred to the concept of 'red lights' whereby the unavailability of like-for-like offsets is considered a strong indication that the proposal's impact is significant (and potentially serious or irreversible) and that it should not proceed.⁶⁶⁶ Furthermore, it suggested the BOS could be strengthened if offsets were seen as a measure of last resort, available only after 'genuine attempts to avoid and minimise impacts on threatened species are demonstrated', with projects failing to demonstrate such attempts rejected.⁶⁶⁷

Like-for-like biodiversity credits

- 8.46 A particular area of concern with the Biodiversity Offset Scheme was the concept of 'like-for-like' biodiversity credits, of which there are two types – 'ecosystem credits' and 'species credits'.

- 8.47 Ecosystem credits are used to measure the offset requirement for impacts on threatened ecological communities, threatened species habitat for species that can be reliably predicted to occur within a plant community type, and other plant community types generally. In their case, a like-for-like requirement can be satisfied by offset sites of:

- (a) the same class of native vegetation located in—
 - (i) the same or an adjoining Interim Biogeographic Regionalisation of Australia subregion as the impacted site, or
 - (ii) any such subregion that is within 100 kilometres of the outer edge of the impacted site, and
- (b) the same or a higher offset trading group, and

⁶⁶³ Evidence, Ms Sue Higginson, Environmental lawyer, 18 October 2019, p 20.

⁶⁶⁴ Evidence, Mr Ben Grant, Planner, Byron Shire Council, 4 February 2020, p 35.

⁶⁶⁵ Evidence, Ms Walmsley, 16 August 2019, p 58.

⁶⁶⁶ Submission 289, Environmental Defenders Office NSW, pp 33-34.

⁶⁶⁷ Submission 289, Environmental Defenders Office NSW, pp 33-34.

(c) if the impacted habitat contains hollow bearing trees—vegetation that contains hollow bearing trees.⁶⁶⁸

- 8.48** Species credits measure the offset requirement for impacts on threatened species individuals or area of habitat. Like-for-like requirements for these groups require any impacts to be offset with the same threatened species.⁶⁶⁹
- 8.49** The Koala Recovery Partnership noted that koalas are currently classified as an 'ecosystem credit species', allowing impacts to their habitat to be offset with the same class of native vegetation within a certain geographic location.⁶⁷⁰ Their submission described this arrangement as being 'of great concern', as under the Biodiversity Assessment Method, vegetation classes are categorised under a classification scheme known as 'Keith Class', rather than by a more detailed scheme known as Plant Community Type.⁶⁷¹ The Keith Class divides vegetation into 99 classes,⁶⁷² as opposed to 1,500 at the Plant Community Type level, which according to the Partnership means that many 'highly favoured [koala] feed trees' such as swamp mahogany, fall in the 'same class of native vegetation' as communities containing virtually no koala feed trees.⁶⁷³
- 8.50** Dr Kara Youngentob, a Research Fellow from the Research School of Biology at the Australian National University, also noted that the nutritional quality of koala feed tree species could vary between different like-for-like offsets, yet was not a factor taken into consideration under the Biodiversity Offset Scheme:

As far as I know the nutritional quality of the landscape is not considered in determining whether an offset has like value for a landscape that is being lost. We know from research that we have done that ... the nutritional quality of that landscape did influence the carrying capacity and the density of the population ... whatever landscape you are planning to use as an offset should be similar in terms of the quality of the browse for koalas, not just the species but the quality of those species there to have a similar carrying capacity of the landscape you have lost.⁶⁷⁴

- 8.51** The Koala Recovery Partnership also noted that koalas with certain characteristics – namely, 'breeding individuals' – have been classified as 'species credit species', in which case a 'like-for-like' offset can only be secured by retiring koala species credits alone.⁶⁷⁵ However, of 'huge concern' to the Partnership was the fact that these offsets could be sourced from anywhere in the State.⁶⁷⁶ Concerns relating to genetic diversity, climate change and community value were identified with this approach.⁶⁷⁷

⁶⁶⁸ Biodiversity Conservation Regulation 2017, cl 6.3(2).

⁶⁶⁹ Biodiversity Conservation Regulation 2017, cl 6.3(3).

⁶⁷⁰ Submission 74, Koala Recovery Partnership, p 8.

⁶⁷¹ Submission 74, Koala Recovery Partnership, p 8.

⁶⁷² NSW Government, *Biodiversity Assessment Method*, p 75.

⁶⁷³ Submission 74, Koala Recovery Partnership, p 8.

⁶⁷⁴ Evidence, Dr Kara Youngentob, Research Fellow from the Research School of Biology at the Australian National University, p 14.

⁶⁷⁵ Submission 74, Koala Recovery Partnership, p 9.

⁶⁷⁶ Submission 74, Koala Recovery Partnership, p 8.

⁶⁷⁷ Submission 74, Koala Recovery Partnership, p 9.

- 8.52** The Environmental Defenders Office submission asserted that 'a local koala population and habitat in Gunnedah could be offset with a different koala population on the south coast of NSW, which is hundreds of kilometres away'.⁶⁷⁸
- 8.53** Ms Rachel Walmsley from Environmental Defenders Office echoed this statement:
- If you are having an impact on a koala population and you are offsetting that with koalas hundreds of kilometres away ... that is not an offset. That is a trade-off. That is a compensatory mechanism.⁶⁷⁹
- 8.54** In a similar vein, Ms Blayne West of Port Macquarie Hasting Council argued that the BC Act 'does not sway developers to keep offsets local' and that 'incentivising local offsets is left up to each local council through their development control plan [DCP] or policies'.⁶⁸⁰
- 8.55** The Biodiversity Conservation Trust conceded that there was no requirement to secure offsets locally and that 'a "like-for-like" offset for a koala species credit obligation can be secured by retiring koala species credits derived from anywhere in NSW'.⁶⁸¹ However, Mr Paul Elton, Chief Executive Officer of the Trust observed that, despite the absence of an express requirement, the nature of species' distribution meant offsets were still 'more than likely' to be found nearby:
- Some of these species or ecosystems have quite narrow distributions or ranges and others have quite wide distributions or ranges. As a generalisation, the like for like rules will generally have you looking for offsets in a locality that is not distant from the development, because naturally if you are impacting that particular ecosystem or that particular species then it is more than likely that the offset is going to be nearby.⁶⁸²
- 8.56** The committee explored the issue of koala species credits further with Mr Paul Elton of the Biodiversity Conservation Trust when he appeared before the committee on 18 February 2020. The Trust confirmed that they had received two payments from developers for 14 koala species credits,⁶⁸³ at a total of \$7575.48.⁶⁸⁴ The Trust also advised the committee that 18,565 koala species credits are currently available for sale in the biodiversity credits market, and that a total of 2,752 hectares of koala habitat has been protected in-perpetuity.⁶⁸⁵

Committee comment

- 8.57** The committee is concerned that with 18,565 koala species credits currently available, it indicates an imbalance in the biodiversity credits market. However, it is also encouraged by the fact that it shows there is immense pent up demand from private land owners to conserve koalas on their land. As indicated in paragraph 8.5, species credits can be purchased not just by developers

⁶⁷⁸ Submission 289, Environmental Defenders Office NSW, p 33.

⁶⁷⁹ Evidence, Ms Walmsley, 16 August 2019, p 58.

⁶⁸⁰ Evidence, Ms Blayne West, Natural Resources Manager, Port Macquarie-Hastings Council, 3 February 2020, p 18.

⁶⁸¹ Answers to questions on notice, NSW Biodiversity Conservation Trust, 17 March 2020, p 6.

⁶⁸² Evidence, Mr Elton, 18 February 2020, p 48.

⁶⁸³ Evidence, Mr Elton, 18 February 2020, p 42.

⁶⁸⁴ Answers to questions on notice, NSW Biodiversity Conservation Trust, 17 March 2020, p 2.

⁶⁸⁵ Answers to questions on notice, NSW Biodiversity Conservation Trust, 17 March 2020, p 3.

offsetting a new development, but also purchased by the Biodiversity Conservation Trust itself, other government departments or philanthropists. Given the urgent need to conserve more koala habitat, the committee recommends that the NSW Government investigate the cost of purchasing these 18,565 koala species credits, and facilitate their purchase and retirement from the market over the next two years.

Recommendation 36

That the NSW Government investigate the cost of purchasing the 18,565 koala species credits currently available in the biodiversity credit market, and facilitate their purchase and retirement from the market over the next two years.

The availability of supplementary measures and the effect of the variation rules

8.58 The committee also heard that the efficacy of the Biodiversity Offset Scheme was further hampered by the fact that the retirement of like-for-like credits was but one of a combination of measures that may be taken to offset for impacts on biodiversity values.

8.59 In this regard, Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW claimed that 'there are so many ways within the legislation that you can water down what should be a like-for-like offset'.⁶⁸⁶ For example, instead of securing like-for-like credits, proponents can make 'monetary payments ... [either] in lieu of an offset or ... to the Biodiversity Conservation Trust'.⁶⁸⁷ She also referred to the specific measures available to mining companies, which allow offset credits to be secured based on a commitment to rehabilitate the mine site at the end of the project. Ms Loane concluded by stating '... if you add up the cumulative impact of all those excuses on koalas, it is a pretty bleak picture'.⁶⁸⁸

8.60 The Environmental Defenders Office also referred to the negative compounding effect of the 'variation rules' established under clause 6.3(4) of the BC Act. As described by Ms Walmsley, these rules 'set out requirements that a developer must [follow, including taking] reasonable steps to try to find the offset' but also allow a developer 'to apply to use these variation rules before an offset is decided'.⁶⁸⁹ The organisation's written submission also states:

Under the variation rules, proponents clearing koala habitat can discharge obligations by offsetting koala populations with another animal.

8.61 In response to questions from the committee on the strength of offset obligations on developers, Mr Paul Elton of the Biodiversity Conservation Trust expressed the view that the legislation did in fact contain a 'bias' towards securing like-for-like offsets over others.⁶⁹⁰ He explained:

⁶⁸⁶ Evidence, Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW, 16 August 2019, p 53.

⁶⁸⁷ Evidence, Ms Loane, 16 August 2019, p 53.

⁶⁸⁸ Evidence, Ms Loane, 16 August 2019, p 53.

⁶⁸⁹ Evidence, Ms Walmsley, 16 August 2019, p 57.

⁶⁹⁰ Evidence, Mr Elton, 18 February 2020, p 46.

The legislation has a bias and a default position that you should first and foremost seek like for like offsets. If you are able to demonstrate that you have taken all reasonable steps to find a like for like offset and you are not able to find one, you are then able to use what are called variation offsets. There is a further option to pursue conservation actions if you cannot find a variation offset. So there are effectively three tiers of alternative offsets that you can pursue, but to move through those tiers you have to have taken all reasonable steps and effectively demonstrate diligence in trying to procure those offsets.⁶⁹¹

Committee comment

- 8.62** The committee is alarmed that under the Biodiversity Offset Scheme, impacts on an affected koala population can be offset with any other koala population in the State. The committee believes this is extremely problematic as this approach does not recognise the genetic diversity of local populations, leading to the cumulative loss and fragmentation of koala habitat and therefore potentially, local extinction.
- 8.63** The committee therefore believes that the NSW Government should review the *Biodiversity Conservation Act 2016* in relation to the Biodiversity Offset Scheme with particular regard to:
- amending its objectives to ensure all offsets meet the standard of 'no net loss or better'
 - prohibiting the ability to offset high quality koala habitat
 - ensuring all offsets are 'like for like'
 - imposing location restrictions on koala offsets
 - removing the ability to make payments in lieu of offsets
 - removing the ability of mining companies to delay offsets until project completion.

Recommendation 37

That the NSW Government review the *Biodiversity Conservation Act 2016* in relation to the Biodiversity Offsets Scheme with particular regard to:

- amending its objectives to ensure all offsets meet the standard of 'no net loss or better'
 - prohibiting the ability to offset high quality koala habitat
 - ensuring all offsets are 'like for like'
 - imposing location restrictions on koala offsets
 - removing the ability to make payments in lieu of offsets
 - removing the ability of mining companies to delay offsets until project completion.
-

The role of the Biodiversity Conservation Trust under the Biodiversity Offset Scheme

- 8.64** In addition to its role in private land conservation (discussed at 8.68), the Trust has four specific roles under the Scheme, which is otherwise administered and managed by the department:

⁶⁹¹ Evidence, Mr Elton, 18 February 2020, p 46.

On the supply side of the Biodiversity Offset Scheme, we have the responsibility to assist any landholder who wishes to set up a biodiversity stewardship agreement and through that generate credits that they can then sell. If they then sell those credits to a developer or any other party they are required to make a certain deposit into what is called the biodiversity stewardship payments fund—it used to be called the BioBanking fund. We take that money, we hold that in trust, we manage it, we invest it through Treasury Corporation and we use those investment proceeds to make the annual payments back to the landholder. That is the supply side of the market.

On the demand side, which comes from developers who have a clear obligation in their development consent, they can either buy biodiversity credit directly in the market which is regulated by the department, they can set up their own offset site or they can, under the new Act, transfer their credit obligation to us by making a payment to us and we then inherit that exact same credit obligation. We are then bound under the Act to secure that offset on behalf of the developer.⁶⁹²

- 8.65** The Trust also plays a role in terms of ensuring the integrity of offset sites on the part of the landowner by monitoring their compliance with the terms of their biodiversity stewardship agreements.
- 8.66** The committee received limited evidence on the success of the Trust's role in the Biodiversity Offset Scheme. However, in his evidence, Mr Elton referred to the fact that the Trust's role within the Scheme had only recently been established, noting 'we have really only been going since March 2018 ... it is very early days in this biodiversity offsets market'.⁶⁹³ Ms Blayne West of Port Macquarie Hastings Council described the Trust as 'a fantastic' part of the Biodiversity Offsets Scheme, based on its ability to 'look at a proactive acquisition of lands'.⁶⁹⁴
- 8.67** In contrast to the limited evidence received on the Trust's role under the Biodiversity Offsets Scheme, a significant number of stakeholders expressed concern with the role of the Trust in sustaining conservation agreements, particularly in the case of mining projects. According to Mr Elton, these agreements formed part of a transitional responsibility the Trust inherited from the Office of Environment and Heritage upon its creation, 'under which developers were sometimes required through their development consent to sustain a conservation agreement as an offset'.⁶⁹⁵ He confirmed that the Trust had 'a number of these agreements in the pipeline', having been approached by mining companies – including Whitehaven Coal – seeking to establish them to fulfil offset obligations.⁶⁹⁶ The following case study has been provided to illustrate the role played by the Trust in concluding these agreements, along with stakeholder concerns around the quality of offset areas secured under them.

⁶⁹² Evidence, Mr Elton, 18 February 2020, p 44.

⁶⁹³ Evidence, Mr Elton, 18 February 2020, p 47.

⁶⁹⁴ Evidence, Ms West, 3 February 2020, p 25.

⁶⁹⁵ Evidence, Mr Elton, 18 February 2020, p 47.

⁶⁹⁶ Evidence, Mr Elton, 18 February 2020, p 47.

Case study: Whitehaven Coal Mine

The Maules Creek Coal Project – also known as Whitehaven Coal Mine – is an open cut coal mine located 45km south east of Narrabri. Project approval for the mine was granted in 2012. Part of the project site is located within the Leard State Forest, a corridor of vegetation that links Mount Kaputar National Park to the north with Pilliga Forest reserves in the south,⁶⁹⁷ and allows the dispersal of koalas in an east-west direction⁶⁹⁸ Along with providing a corridor for local koala populations, Leard State Forest previously contained a key permanent water source for local wildlife in the form of Lawlers Well. This water source has been destroyed as a result of mine development and six drinking stations to provide water for local koalas were installed in its place.⁶⁹⁹

As a condition of project approval, the proponent was required to comply with a number of conditions, including the implementation of a Biodiversity Offset Strategy to compensate for the loss of native vegetation and habitat for threatened species. The proponent was also required to make suitable arrangements to provide appropriate long-term security for the offset areas by entering into conservation agreements, with responsibility for securing these agreements assumed by the Biodiversity Conservation Trust.⁷⁰⁰

During the committee's site visit and hearing in Gunnedah in December 2019, Wando Conservation and Cultural Centre informed the committee that documents obtained by them through an extensive GIPAA request revealed that the majority of the offsets were not correctly mapped and do not represent the koala habitat and critically endangered ecological community.⁷⁰¹ It also noted that the proponent had been granted two extensions in time to finalise its mapping of offset areas, during which time clearing of land required for the project – most significantly, in the Leard State Forest – had been allowed to continue.⁷⁰² Other stakeholders also agreed with these contentions.⁷⁰³

The committee put these concerns to Mr Paul Elton, Chief Executive Officer of the Biodiversity Conservation Trust, who conceded that mapping of offset sites provided by the proponent was 'inaccurate in some cases' but that this had been rectified by the Trust ecologists 'going on site and ground truthing the proposed conservation areas'.⁷⁰⁴

⁶⁹⁷ Evidence, Ms Lynne Hosking, President, National Parks Association, Armidale Branch, p 3.

⁶⁹⁸ Submission 252, National Parks Association of NSW, Armidale Branch, p 5.

⁶⁹⁹ Evidence, Ms Anna Christie, Research Officer, Wando Conservation and Cultural Centre, 13 December 2019, p 5.

⁷⁰⁰ Planning Assessment Commission of NSW, Project Approval – Maules Creek Coal Project, p 25.

⁷⁰¹ Evidence, Ms Christie, 13 December 2019, p 2.

⁷⁰² Evidence, Ms Christie, 13 December 2019, p 5.

⁷⁰³ Evidence, Ms Wendy Hawes, Director and Ecologist, Enviro Factor, 18 February 2020, p 3; Evidence, Mr John Hunter, Director and Ecologist, Enviro Factor, 18 February 2020, pp 2-3.

⁷⁰⁴ Evidence, Mr Elton, 18 February 2020, p 54.

Throughout his evidence, Mr Elton was clear that the Trust would not finalise any conservation agreements without being satisfied as to the accuracy of the mapping and exact location of any onsite endangered ecological communities.⁷⁰⁵ Mr Elton told the committee that there was a strict division in the monitoring of compliance with conditions of development consent – which fell to the Department – with the Trust limited to monitoring compliance with conservation agreements only once they were finalised.⁷⁰⁶

The Biodiversity Conservation Trust and private land conservation

8.68 Along with its role within the Biodiversity Offset Scheme, the Trust also plays a significant role in regards to conservation on private land. In this area, the Conservation Management Program is the principal means by which the NSW Government invests in private land conservation.⁷⁰⁷ Under this program, the Trust runs conservation tenders in targeted regions of NSW to encourage private landholders with important koala habitat on their property to enter into in-perpetuity conservation agreements. Landholders successful in the tender process receive annual payments for implementing conservation actions determined in the agreement.⁷⁰⁸ The Trust also has a budget of \$2.5 million per annum for small grants, under which landholders with voluntary conservation partnership agreements that do not get an annual payment can apply for grants to help with conservation management works on their properties⁷⁰⁹

8.69 The committee received a significant amount of evidence on the efficacy of these programs in conserving private land. For example, Dr Rebecca Montague Drake of the Koala Recovery Partnership praised the work of the Trust, particularly the way in which it introduced private landholders to conservation through incremental steps:

I think the Biodiversity Conservation Trust is an excellent scheme in that it presents numerous avenues for landholders to participate in conservation outcomes either on a purely touchy-feely voluntary basis ... then you step up through the programs to the Conservation Partners Program where it becomes legally binding on your title.

8.70 The Koala Recovery Partnership's submission also spoke positively of working with the Trust to identify valuable koala habitat on private land:

... The Koala Recovery Partnership is working closely with the Biodiversity Conservation Trust to try to protect important areas of koala habitat on private property through either acquisition ... [and] with its expert knowledge, is helping to promote properties for sale on the open market, and through working directly with landholders, to the Biodiversity Conservation Trust. We feel that this is a really good working model for achieving habitat protection, as it uses local knowledge and local relationships with landholders coupled with a State-wide mechanism.⁷¹⁰

⁷⁰⁵ Evidence, Mr Elton, 18 February 2020, p 55.

⁷⁰⁶ Evidence, Mr Elton, 18 February 2020, p 58.

⁷⁰⁷ NSW Government, *Biodiversity Conservation Trust 2017-18 to 2020-21 Business Plan*, pp 17-18.

⁷⁰⁸ Submission 259, NSW Government, p 16.

⁷⁰⁹ Evidence, Mr Elton, 18 February 2020, p 62.

⁷¹⁰ Submission 74, Koala Recovery Partnership, p 10.

- 8.71** Despite these positives, a number of stakeholders raised concerns around the efficacy of the program. In part, these were attributed to funding and resourcing issues, as well as to competition from other industries. On this issue, Dr Montague-Drake suggested the Trust's programs were hampered by an inability to keep up with demand from private landholders:

What we are seeing is that the demand for people wanting to enter that scheme is more than can be serviced by the Biodiversity Conservation Trust staff. They literally do not have the resources ... [T]hrough the Koala Recovery Partnership we are going to pay contractors to do some of the work of the Biodiversity Conservation Trust staff to go out and undertake the field assessments to streamline that process for good areas of koala habitat, to bring them online quicker. This is a fantastic scheme. There is a lot of interest out there, a lot of goodwill and landholders want to be a part of it but they cannot keep up with the demand.⁷¹¹

- 8.72** Dr Montague-Drake also told the committee of the indirect competition between incentives offered to private landholders under the Trust for conservation actions and the potential revenue sources such as private native forestry, suggesting that the latter appeared to offer a better financial option for landholders:

Depending on your property, the money that you can get from Private Native Forestry obviously cannot be compensated for at the moment with small amounts of the grant funding, \$15,000 per year for each of three years, if you join the Conservation Partners Program. You do get some rate relief. So at the moment I feel the decision is probably more made by landholders' care of the land than it is about finance ...

It would be great if we could genuinely have money, especially for good koala habitat that is enough to compensate for private native forestry.⁷¹²

- 8.73** In their submission, the Maules Creek Branch of the Country Women's Association agreed with views of Dr Montague-Drake, stating that the uptake of conservation programs in their area has been slow because the payments on offer are simply not 'in line with productivity that could be made from the land':

In the past there have been property owners that have taken up the agreements to look after portions of their properties in perpetuity, but it appears that those that took up these agreements when they were first offered received reasonable compensation. As money from the Government runs low the offers to lock away sections of private property with good Koala habitat doesn't seem to be working, the real need for protection of habitat is located on many private properties that consider their bank balance before environmental or specifically Koala habitat needs.⁷¹³

- 8.74** When such contentions were put to him, Mr Elton responded that he did not believe private native forestry to be a 'significant competitor'.⁷¹⁴ However, he did observe that the Trust experienced competition from other sectors, including 'urban development, agriculture [and] infrastructure development', noting that it was 'still too early to determine if competition for

⁷¹¹ Evidence, Dr Rebecca Montague-Drake, Koala Ecologist and President of Koala Recovery Partnership, 3 February 2020, p 10.

⁷¹² Evidence, Dr Montague-Drake, 3 February 2020, p 10.

⁷¹³ Submission 87, Maules Creek Branch of the Country Women's Association, p 10.

⁷¹⁴ Evidence, Mr Elton, 18 February 2020, p 49.

particular sectors of land use is becoming a problem for our work'.⁷¹⁵ Government witnesses also referred to the Trust's prioritisation of koala habitat. For example, Ms Trish Harrup, Director Parks & Conservation Policy – Environment, Energy & Science Group, Department of Planning, Industry and Environment, informed the committee that:

The Biodiversity Conservation Trust is managing a significant amount of funding, \$340 million for conservation of biodiversity values on private land. The koala habitat was signalled by the minister as one of the priority areas for that investment ... a number of properties or landholders have entered into ... 10 agreements protecting 254 hectares of koala habitat on their properties.⁷¹⁶

8.75 In answers to questions on notice, the Department elaborated on the nature and cost of these in-perpetuity agreements, stating that the Trust had signed 'five conservation agreements in the Port Macquarie region and five conservation agreements in the Lismore-Ballina region, with a total investment of \$7.9 million'.⁷¹⁷

8.76 Other stakeholders raised concerns about the overall coordination and quality of koala habitat protected under private land conservation agreements. According to Mr David Milledge, a local ecologist from the Ballina region:

The procedure of paying people to conserve koalas on their land is an ad hoc process. Instead of identifying the land that really needs protection in this manner, the process is that landholders apply to have their land protected in this manner. Whether or not it is good quality koala habitat does not seem to be terribly important. Recently I have had a look at four properties that the Government is looking at acquiring, paying the landowners to look after koalas on these properties.

I would say that only one of those properties is high-quality koala habitat. It is ad hoc and it is long term.⁷¹⁸

8.77 In addition to this lack of coordination, Ballina Shire Council referred to a lack of transparency around the process for protecting land:

Investments or incentives that conserve koala populations or habitat through grants, conservation agreements or stewardship sites are not clear or transparent and do not seem to be coordinated over time. For example, Council cannot easily identify the benefits, investments made, credits generated or sold and generally, circumstances where landholders are assisted financially to manage their land for conservation through Biodiversity Conservation Trust mechanisms in our local government area. If resources exist, communication or accessibility to such information has not been coordinated effectively.⁷¹⁹

8.78 When questioned by the committee on the approach for securing conservation areas, Mr Elton confirmed the Trust was guided by the Biodiversity Conservation Strategy (BCIS), which sets

⁷¹⁵ Evidence, Mr Elton, 18 February 2020, pp 49-50.

⁷¹⁶ Evidence, Ms Harrup, 16 August 2019, p 11.

⁷¹⁷ Answers to questions on notice, Environment, Energy and Science Group – Department of Planning, Industry and Environment, 16 September 2019, p 2.

⁷¹⁸ Evidence, Mr Milledge, 18 October 2019, p 5.

⁷¹⁹ Submission 227, Ballina Shire Council, p 3.

out areas of priority investment and identifies connectivity as a key principle.⁷²⁰ Answers to supplementary questions received from the Department also referred to the role of the BCIS in identifying significant areas of private land for koala conservation:

In relation to koala conservation on private land, the Biodiversity Conservation Investment Strategy guides investment in private land conservation including the targeting of conservation assets, such as koala habitat, where they are subject to the most significant pressure or threat.

Tender areas are defined using mapping of preferred koala habitat and based on the known or likely occurrence of the primary feed tree species. To be eligible, a landholder must be within the tender area and meet size thresholds for the proposed total conservation area and the area of existing koala habitat that contains primary feed trees.⁷²¹

8.79 One method used to identify valuable sites for investment was the identification of habitat as an area of outstanding biodiversity value (AOBV) under Part 3 of the BC Act. The EDO submission set out the benefit of this approach:

As part of the 2016 biodiversity reforms, the NSW Government introduced Areas of Outstanding Biodiversity (AOBV) as a tool for identifying the most valuable sites with irreplaceable biodiversity values outside the national reserve system. AOBVs are intended to be a 'priority for government investment' but no new AOBVs have been declared since the BC Act came into effect. We note that the AOBV mechanism could be used to provide protection for important koala habitat.⁷²²

8.80 A number of other stakeholders also called for koala habitat to be identified as AOBV, including Bangalow Koalas,⁷²³ Wollondilly Shire Council,⁷²⁴ Animal Liberation,⁷²⁵ and the NSW National Parks Association – Coffs Coast Branch.⁷²⁶ Despite acknowledging the importance of AOBVs, Dr Blanch of WWF Australia reiterated that regulatory oversight of habitat protection was needed to save koalas:

I maintain that without regulatory oversight by governments to require compulsory protection over koala habitat, irrespective of land tenure, SEPP 44 and AOBVs on their own will not save koalas, particularly with climate impacts destroying so much habitat.⁷²⁷

8.81 When asked about the issue at the hearing, Ms Dumazel of the Department confirmed that there are currently four AOBVs in existence under the BC Act,⁷²⁸ which are:

- Mitchell's Rainforest Snail critical habitat in Stotts Island Nature Reserve

⁷²⁰ Evidence, Mr Elton, 18 February 2020, pp 49-50.

⁷²¹ Answers to supplementary questions, Environment, Energy and Science Group – Department of Planning, Industry and Environment, 16 September 2019, pp 1-2.

⁷²² Submission 289, EDO NSW, p 32.

⁷²³ Submission 107, Bangalow Koalas, p 2.

⁷²⁴ Submission 124, Wollondilly Shire Council, p 11.

⁷²⁵ Submission 162, Animal Liberation, p 1.

⁷²⁶ Submission 250, NSW National Parks Association – Coffs Coast Branch, p 6.

⁷²⁷ Evidence, Dr Blanch, 18 February 2020, p 9.

⁷²⁸ Evidence, Ms Dumazel, 16 August 2019, p 14.

- Little Penguin critical habitat in Sydney's North Harbour
- Gould's Petrel critical habitat in John Gould Nature Reserve
- Wollemi Pine critical habitat in Wollemi National Park.⁷²⁹

8.82 Ms Dumazel also provided some insight as to why no new areas had been declared since the BC Act commenced, noting that the Department was still developing guidelines on them for consideration.

Committee comment

8.83 The committee is encouraged by the work and purpose of the Biodiversity Conservation Trust and acknowledges that demand for the Trust's work is strong. The committee also notes that some stakeholders suggested that resourcing issues were preventing the Trust from meeting this demand. Hence the committee recommends that the NSW Government ensure the Biodiversity Conservation Trust is adequately resourced to allow it to meet demand for its services within the area of private land conservation.

Recommendation 38

That the NSW Government ensure the Biodiversity Conservation Trust is adequately resourced to allow it to meet demand for its services within the area of private land conservation.

8.84 Furthermore, given the competition that exists in the form of private native forestry – a purportedly more lucrative option for many landholders – the committee believes the Trust cannot afford to be the less competitive option when it comes to encouraging private landholders to protect koala habitat on their property. In this regard, the committee recommends that the NSW Government increase incentives available to private landholders under the Conservation Partners Program.

Recommendation 39

That the NSW Government increase incentives available to private landholders under the Conservation Partners Program.

8.85 Finally, the committee acknowledges that many stakeholders called for koala habitat to be identified as areas of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* in order to attract greater funding from the Biodiversity Conservation Trust. For this reason, the committee urges the NSW Government to work with willing landholders to identify koala habitat that is of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* in order to facilitate more koala habitat on private land being protected.

⁷²⁹ Answers to questions on notice, Environment, Energy and Science Group – Department of Planning, Industry and Environment, 16 September 2019, p 3.

Recommendation 40

That the NSW Government work with willing landholders to identify koala habitat that is of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* in order to facilitate more koala habitat on private land being protected.

Chapter 9 Can we save the koala in New South Wales?

This chapter examines what future steps could be taken to prioritise the conservation of koalas and their habitat in New South Wales. Firstly, it explores the fundamental importance of habitat protection and discusses whether the creation of national parks could safeguard the future for the State's koalas. As an example, the proposal for a Great Koala National Park is looked at in detail, including the arguments for and against its creation. Secondly, the chapter reviews the economic value of the koala and how this could be translated into increased ecotourism for local and regional communities. The chapter then concludes with a reflection on the need to urgently protect koala habitat, particularly in the aftermath of the devastating bushfires of 2019-2020.

The fundamental importance of habitat protection

- 9.1** Throughout this inquiry, it was made very clear that the protection of koala habitat is of fundamental importance. Numerous stakeholders have raised that the key threat to the survival of koalas in New South Wales was the fragmentation or loss of habitat.
- 9.2** The bushfires of summer 2019-2020 intensified the urgent need to protect remaining koala habitat. In February 2020, the Minister of Energy and Environment, the Hon Matt Kean MP, advised that a quarter of modelled koala habitat in eastern New South Wales had been within fire-affected area and this had 'significantly' compounded the vulnerable status of the koala. In a media article he is quoted as saying, '... this season's significant bushfires have resulted in devastating losses to koala numbers across NSW, so it is imperative that remaining populations and habitat are protected'.⁷³⁰
- 9.3** The importance of protecting habitat for koalas is not a new concept. Numerous reports and research have highlighted habitat loss as a key, if not the largest, threat to koalas in the State. Equipped with this knowledge, successive governments over the decades and across the political spectrum have failed to adequately protect habitat, through elevating other priorities, and weak legislation and planning policies.
- 9.4** Tweed Shire Council emphasised the importance of habitat protection and described the multiple associated benefits with it:
- Protection of koala habitat provides a significant opportunity to achieve integrated, landscape scale, multiple benefits including climate change adaptation and the protection and improvement of critical environmental values such as soil and water quality. It is also an essential element of ensuring viable tourism and recreation sectors and the protection of scenic landscape values.⁷³¹
- 9.5** Other stakeholders suggested that habitat for koalas and other wildlife could be protected by the establishment of new national parks, which is explored in more detail below.

⁷³⁰ Peter Hannam, 'Koala losses "spectacularly huge" after NSW drought, bushfires', *Sydney Morning Herald*, 18 February 2020.

⁷³¹ Submission 159, Tweed Shire Council, p 5.

Creation of new national parks

- 9.6** The Chief Scientist and Engineer's 2016 report into koala conservation noted that koala populations need large areas of connected habitat to maintain their viability. The report highlighted that national parks could mitigate other threats to koalas and help them adapt to climate change:

Formal protected areas, such as national parks, provide a network of lands where threats can be managed and mitigated in a coordinated and systematic manner, for example through the application of regional fire, weed and pest management strategies. National parks may also play an increasingly important role in enabling koala populations (and other threatened species) to adapt to the effects of climate change.⁷³²

- 9.7** Acknowledging that the national park estate provides a 'solid foundation' for habitat conservation and protecting koalas, the Chief Scientist also highlighted the importance of connectivity between areas of koala habitat:

... there needs to be a network of other crown land (that may not be suitable for addition to the parks estate), Aboriginal land and other private freehold land that together provide large tracts of well-connected and managed koala habitat across regions. To be effective, conservation efforts to protect koalas will require measures on private and public lands, with actions based around an understanding of the species' needs from a landscape perspective.⁷³³

- 9.8** Noting that koalas can travel up to two kilometres a week, the Koala Retreat submission also recommended that wildlife corridors be created to connect the various national parks.⁷³⁴

- 9.9** Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager at WWF Australia, compared China's policy of utilising land conservation to prevent the giant panda from going extinct:

The other option is the giant panda option, where a government says, "No, we are not going to allow a national icon to go extinct". They have created major protected areas. They have legally protected core habitat. They worked with people who had pandas on their land to encourage them, and they World Heritage listed both the bamboo forests and the pandas. They have greater global protection because of that. We could do the same for koalas.⁷³⁵

- 9.10** Other stakeholders, including Wingecarribee Shire Council, recognised that the acquisition of new national parks had been beneficial for the conservation of their small local koala population:

The community response to [National Parks and Wildlife Service] acquisitions in the Wingecarribee Shire has been overwhelmingly positive. The Southern Highlands is a mecca for bushwalking and nature-based activities. There has been little eco-tourism

⁷³² NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW* (December 2016), p 30.

⁷³³ NSW Chief Scientist and Engineer, *Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW* (December 2016), p 30.

⁷³⁴ Submission 68, Koala Retreat, p 2.

⁷³⁵ Evidence, Mr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, WWF Australia, 16 August 2019, p 36.

solely based on Koalas because of the low density in our shire. The environmental benefits of conserving koala habitat in National Parks is obvious – you can't protect a species without saving habitat.⁷³⁶

- 9.11** Throughout the inquiry, stakeholders raised proposals for the creation of two specific national parks – Georges River National Park, which was discussed in Chapter 2, and the other was the Great Koala National Park, which is explored in detail below.

Great Koala National Park

- 9.12** The Great Koala National Park (GKNP) is a proposal made by the National Parks Association of NSW (NPA NSW), first put forward in 2015. The GKNP Steering Committee, a non-incorporated group of local citizens, was also created to promote the proposal. Its submission describes it as 'active members from local and regional conservation groups as well as people from diverse background who are not associated with conservation groups e.g. Aboriginal cultural heritage, tourism, education and media'.⁷³⁷
- 9.13** NPA NSW explained that the GKNP would be Australia's first national park dedicated to protecting koalas and believes that it could become a globally significant tourist attraction.⁷³⁸ It advised that since 2012, conservation groups have conducted koala conservation assessments in five local government areas. By using koala habitat mapping, collating koala locality records and local knowledge of koala ecology and key habitat, they derived a number of outputs relevant to koala conservation assessment and planning in the region, including likely koala dispersal barriers and identification of likely koala populations in the area.⁷³⁹
- 9.14** The GKNP thus proposes a network of existing and new national parks on the Mid North Coast. The proposal would add 175,000 hectares of public state forests to existing protected areas to form a continuous 315,000 hectares reserve of public land. Figure 9 is a map of the proposed area for the GKNP. The proposed GKNP adjoins World Heritage listed reserves, including New England and Dorrigo national parks and the Guy Fawkes National Park, to form a proposed conservation complex of half a million hectares extending from the tablelands to the Coast.⁷⁴⁰

⁷³⁶ Submission 124, Wingecarribee Shire Council, p 5.

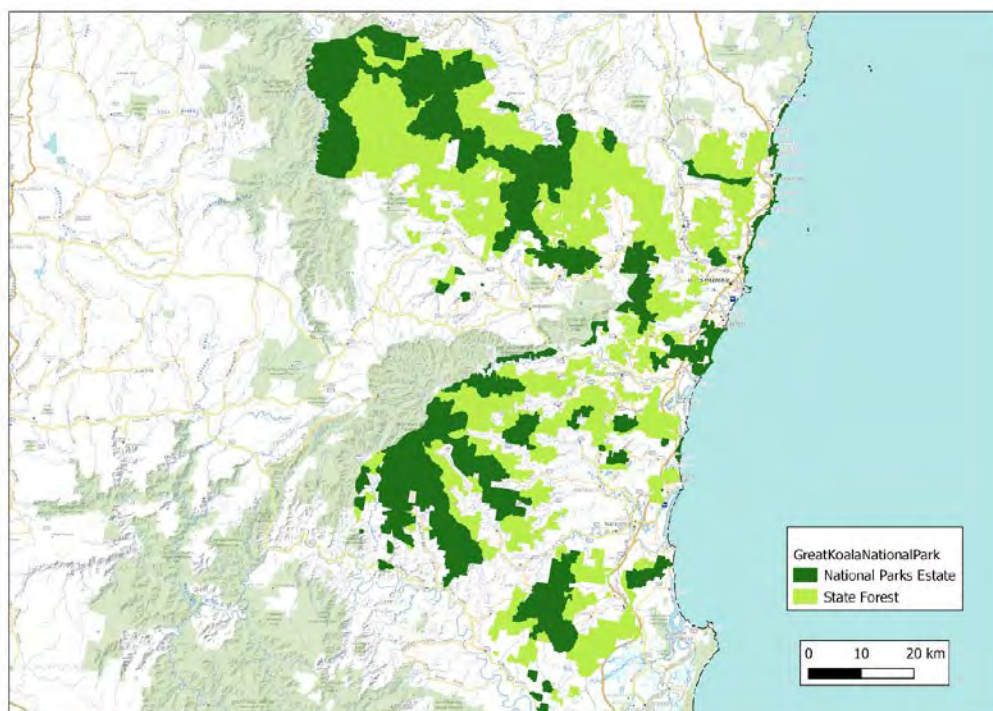
⁷³⁷ Submission 72, Great Koala National Park Steering Committee, p 1.

⁷³⁸ Submission 163, National Parks Association of NSW, p 22.

⁷³⁹ Submission 163, National Parks Association of NSW, p 7.

⁷⁴⁰ Submission 163, National Parks Association of NSW, p 7.

Figure 9 Map of the GKNP proposal indicating state forests (pale green) and existing national parks (dark green). The park stretches from Woolgoolga in the north to South West Rocks in the south



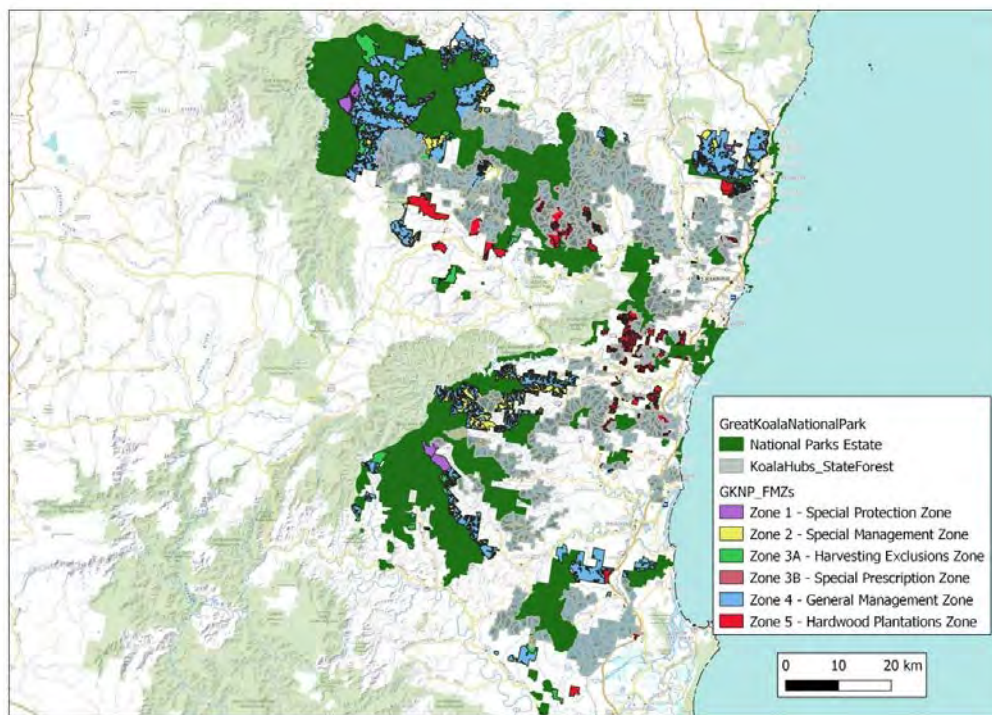
Source: Submission 163, National Parks Association of NSW, p 8.

- 9.15** The Stand Up for Nature Alliance and NPA NSW advised that the area encompassed by the proposal was a biodiversity hotspot that included two nationally recognised koala metapopulations – Coffs Harbour-Guy Fawkes metapopulation and Bellinger-Nambucca-Macleay metapopulation. Before the 2019-2020 bushfires, these two metapopulations were estimated to count for almost 20 per cent or 4,500 of the State's wild koalas. Furthermore, the area is significant as it contains 56 per cent of all koala hubs in state forests on the north coast of New South Wales and 44 per cent of all koala hubs in State forests. The conservation groups argued that the GKNP would protect coastal forests on the east coast and restore a link between coastal forests and the escarpment to allow koalas to move in response to extreme weather events and climate change.⁷⁴¹
- 9.16** NPA NSW also provided a map which overlaid koala hubs mapped by WWF Australia with the GKNP proposal and forest management zones, as seen in Figure 10.⁷⁴²

⁷⁴¹ Submission 155, Stand Up for Nature Alliance, p 27; Submission 163, National Parks Association of NSW, pp 7-8.

⁷⁴² Submission 164, National Parks Association of NSW, p 6. See also, Submission 155, Stand Up for Nature Alliance, p 28; Submission 72, Great Koala Steering Committee, p 2.

Figure 10 WWF's overlay of State Forests' koala hubs (grey shading) on the GKNP proposal and the Forest Management Zones



Source: Submission 163, National Parks Association of NSW, p 9.

Community support for the Great Koala National Park

- 9.17** The GKNP has been endorsed by the Gumbaynggirr people, whose lands stretch from the Nambucca River in the South to around the Clarence River in the North and the Great Dividing Range in the West.⁷⁴³ Mr Michael Donovan, an elected representative of the Gumbaynggirr Nation, explained the sacred importance of conserving the Dunggirr (koala) to his people:

Despite their population declines due to intensive logging, land clearing and the recent damaging fires, the colony within the Gumbaynggirr Nation are now the most significant. That is why the Gumbaynggirr people fully endorse the great koala national park and we are working together with all relevant parties to ensure their protection and preservation.

The establishment of the great koala national park will also help to protect other sacred and significant sites, threatened endangered, rare, endemic and special totemic flora and fauna within our homelands. If they are not protected and they go extinct we, the Gumbaynggirr people, will be strictly forbidden to pass on our dreaming stories and our knowledge of Dunggirr to our children, our children's children and all future generations of Gumbaynggirr people. This is Gumbaynggirr law.⁷⁴⁴

- 9.18** Mr Donovan also advised that the Indigenous community had been involved with the planning of the GKNP proposal. He said that at a recent meeting of the Wanggaan (Southern)

⁷⁴³ Muurrbay Aboriginal Language and Culture Co-op, *Gumbaynggirr*, <<https://muurrbay.org.au/languages/gumbaynggirr/>>.

⁷⁴⁴ Evidence, Mr Michael Donovan, Gumbaynggirr Nation representative, 4 February 2020, p 21.

Gumbaynggir Nation native title corporate, 97 per cent of those present had signed a letter of support for the GKNP.⁷⁴⁵ There had also been discussions of at least 50 per cent employment and training provided for Gumbaynggir people.⁷⁴⁶

9.19 Stakeholders who supported the establishment of the GKNP, argued that recent events such as the bushfires and a history of intensive logging had highlighted the urgency to protect and restore what koala habitat remains. Ms Paula Flack, Member of the GKNP Steering Committee described the vast extent of logging that had occurred over the past few decades, 'Unfortunately, more than 42,000 hectares—53 per cent of the likely koala habitat—and more than 2,500 hectares or 50 per cent of koala hubs in State forests in the proposed Great Koala National Park have been logged in the past 20 years'.⁷⁴⁷

9.20 According to Ms Lyn Orrego, Committee Member of the Nambucca Valley Conservation Association, 57 per cent of the proposed GKNP area had been burnt in the recent bushfires.⁷⁴⁸ However, Mr Ashley Love, Member of the Bellingen Environment Centre, observed that the proposed area had not been as impacted by the bushfires compared to other parts of the North Coast, due to its elevation range and dissected topography, which contributed to breaking up fire fronts.⁷⁴⁹ Mr Love also provided information on what the effects of the bushfires had been on local koala populations:

Whilst three out of four of the regional populations—they are mainly the ones away from the coast—were either fully burnt or partly burnt, there were 14 sub-populations within the Great Koala Park and nine of them have escaped fire. They are mostly coastal oriented sub-populations. The biggest and the most important one in eastern Australia is the Bonville Pine Creek one. Some of the other coastal sub-populations of that nine are quite small.⁷⁵⁰

9.21 Other stakeholders emphasised that if properly supported, the GKNP could introduce social, economic and environmental benefits to the local and regional communities. For example, Mr Jack Gough, Policy and Research Coordinator of the Nature Conservation Council NSW, highlighted, 'There are opportunities around where the proposal for the Great Koala National Park is to make this a centre for people to come to and see some of the best forests that we have left in New South Wales'.⁷⁵¹ Further to his point, Bellingen Environment Centre and the Coffs Coast branch of the NPA believed that the GKNP could potentially provide a major ecotourism attraction for local, national and international tourists.⁷⁵²

9.22 Ms Paula Flack described what the GKNP Steering Committee envisioned for the GKNP, and the economic and social benefits it would bring in terms of new jobs and increased tourism:

⁷⁴⁵ Tabled document, Mr Michael Donovan, *Letter dated 15 June 2019, from traditional custodians of the Gumbaynggir Nation to the Great Koala National Park Steering Committee*, February 2020.

⁷⁴⁶ Evidence, Mr Donovan, 4 February 2020, p 22.

⁷⁴⁷ Evidence, Ms Flack, 4 February 2020, p 13.

⁷⁴⁸ Evidence, Ms Orrego, 4 February 2020, p 13.

⁷⁴⁹ Evidence, Mr Love, 4 February 2020, p 24.

⁷⁵⁰ Evidence, Mr Love, 4 February 2020, p 23.

⁷⁵¹ Evidence, Mr Jack Gough, 16 August 2019, pp 39-40.

⁷⁵² Submission 250, NSW National Parks Association, Coffs Coast Branch, p 1; Submission 297, Bellingen Environment Centre, p 2.

We want the Great Koala National Park to be a people's park: a well-managed, nature-based tourism mecca where visitors would have the chance of seeing a koala in the wild. We want to open up our public forests for public use while protecting koala habitat and promoting forest recovery from logging and fires. The Great Koala National Park would engage and enrich regional communities and economies by encouraging more national and international visitors. We believe it would create many more jobs than those in the relatively small regional native forest timber industry. A local tourism expert recently has estimated that the park would bring an additional \$300 million to our region annually.

... We have prepared a number of recreational trail concept plans for within the park—including a multi-day, 215-kilometre world-class walking track with spectacular features, a 65-kilometre horseriding trail and an extensive mountain biking network ...⁷⁵³

- 9.23** NPA NSW also highlighted that the proposed GKNP's location in the Moonee-Bindery area had been identified as possessing World Heritage values, which was the global 'gold standard' for parks and significant tourism destinations. (Ecotourism is explored in more detail later in this chapter.) NPA NSW stressed the potential economic return of the GKNP:

NPA, alongside local community groups, has developed a suite of tourism and recreation offerings that would help maximise the economic return from the GKNP, including walking trails, riding trails, self-drive tours and mountain bike hubs in appropriate locations. Investing in mountain bike tourism is proven to provide a strong economic return.⁷⁵⁴

- 9.24** The committee also heard that three local bodies – Bellingen Shire Council, Coffs Harbour City Council and Destination North Coast – had each contributed \$25,000 to fund a \$75,000 comprehensive cost-benefit analysis of the GKNP proposal, due to be finalised in 2020.⁷⁵⁵ Bellingen Shire Council has also expressed its support of the GKNP by giving the Steering Committee access to a Great Koala National Park Information and Visitor Centre in Urunga,⁷⁵⁶ which the committee visited in February 2020 for a site visit.
- 9.25** Mr Ashley Love from Bellingen Environment Centre also advised that the Environment, Energy and Sciences unit of the Department of Planning, Industry and Environment was currently undertaking assessments of the GKNP to calculate the extent to which it captures suitable koala habitat.⁷⁵⁷

⁷⁵³ Evidence, Ms Flack, 4 February 2020, p 12.

⁷⁵⁴ Submission 163, National Parks Association of NSW, p 22.

⁷⁵⁵ Evidence, Ms Flack, 4 February 2020, p 12.

⁷⁵⁶ Evidence, Ms Flack, 4 February 2020, p 17.

⁷⁵⁷ Evidence, Mr Love, 4 February 2020, p 20.

- 9.26** NPA NSW told the committee that based on figures calculated by the Parliamentary Budget Office in 2019:

The approximate total cost of ending native forest logging in [north eastern New South Wales], compensating industry and workers, establishing the GKNP and employing 100 additional people (based on Parliamentary Budget Office figures) is thus \$200 million.⁷⁵⁸

Opposition to the Great Koala National Park

- 9.27** The committee also heard from stakeholders who did not support the creation of the GKNP. The Australian Workers' Union of NSW was 'unequivocally opposed' on the basis of the 'catastrophic destruction of regional economies and jobs'.⁷⁵⁹ Its Assistant Secretary, Mr Paul Noack, stipulated that if the GKNP was established, the Forestry Corporation of NSW (Forestry Corp) would cease to exist as it would run out of business. Mr Noack questioned the effectiveness of a koala national park, noting that there were other threats that needed to be managed. He emphasised that if land was to be handed over to the national parks estate, the requisite jobs needed to move over too. He warned:

What happens—and it has happened in the past—is that we have seen parts of State forest being handed over to NSW National Parks and Wildlife Services without any additional field officers going with them; they are not protected.⁷⁶⁰

- 9.28** Mr Noack suggested that in lieu of a koala national park, the Government set up 'koala protection areas' with more stringent controls over pests and other threats, but retained areas where Forestry Corp could continue to log.⁷⁶¹

- 9.29** Timber NSW also questioned the evidence about additional national parks resolving the issue of koala conservation. It noted in its submission:

The notion that koalas can be better protected in National Parks and Reserves than in State forests and on private land, has not been demonstrated and the evidence around wildfire history suggests that the reverse may be the case. The NSW Government should be sceptical when agencies and NGOs advocate that more parks and reserves are needed for koala conservation.⁷⁶²

Concerns of the timber industry

- 9.30** Other stakeholders also expressed concern for those workers employed by the timber industry. Forestry Corp questioned what additional conservation benefit there would be to '[c]reating large areas where there are currently no threats to a known koala population by changing land tenure from State forest to national park'. Forestry Corp also argued that the creation of a GKNP would reduce the availability of high quality logs by about 40 per cent and cost \$757 million a year to the New South Wales economy and almost 2,000 jobs. Its submission noted:

⁷⁵⁸ Submission 163, National Parks Association of NSW, p 24.

⁷⁵⁹ Submission 299, Australian Workers Union of NSW, p 10.

⁷⁶⁰ Evidence, Mr Paul Noack, Assistant Secretary, Australian Workers' Union NSW, 18 February 2020, p 29.

⁷⁶¹ Evidence, Mr Noack, 18 February 2020, p 30.

⁷⁶² Submission 144, Timber NSW, p 5.

This specific proposal covers the highest productivity, highest demand timber in NSW and would reduce the availability for high quality logs of desired species by around 40 per cent.

The Australian Forest Products Association released economic modelling indicating that proposal would cost \$757 million a year to the NSW economy and cut almost 2000 jobs. Ximenes et al (2016) reported that the cost of transition of the NSW public native forests from timber production to conservation reserves would be \$3.36 [billion] on the north coast, not accounting for predicted decline in regional employment.⁷⁶³

- 9.31** Timber NSW also recognised that the proposed GKNP area included the region's most productive and economically important State forests and warned:

The State forests on the NSW North Coast operate as a single wood supply zone. If the GKNP had been implemented as proposed or is in the future, it impacts the entire region's native forest sector and arguably will lead to complete collapse of the industry.⁷⁶⁴

- 9.32** The South East Timber Association also cited examples of where koala populations have declined or even become extinct, despite measures to protect and conserve their habitat. It notes that in the early 1990s, over 20,000 hectares of the Tantawangalo and Glenbog State forests, including areas of prime koala habitat, were transferred to the South East Forest National Park. However by 2011, koala numbers for the population had become 'very low and possibly extinct'.⁷⁶⁵

- 9.33** Other stakeholders suggested that the projected losses of jobs in the timber industry was overestimated.⁷⁶⁶ NPA NSW submission explained:

Prior to the 2019 NSW election, the Australian Forests Products Association (AFPA) released a report ostensibly detailing the economic impact of creating the GKNP. What was actually modelled was retiring the entire wood supply agreements and thus ending native forest logging in north-east NSW. The report showed that ending native forest logging, creating the GKNP and protecting and restoring all state forests for their wildlife, water and carbon values is eminently feasible both economically and socially. It aligns better with a suite of policy settings than does logging.

AFPA's document cited 566 direct logging jobs in north-east NSW and 652 direct jobs NSW-wide (i.e. just 86 in southern NSW). A further 829 indirect jobs were estimated in north-east NSW and 1,219 state-wide (i.e. 390 in southern NSW). This gives a maximum of 1,395 affected jobs in north-east NSW. It is highly likely that this is an overestimate as not all indirect jobs will be entirely reliant on the native forest logging industry.⁷⁶⁷

- 9.34** Mr Ashley Love from the Bellingen Environment Centre further suggested that Forestry's Corp assertion of the GKNP reducing the availability of high quality logs by 40 per cent was exaggerated. Mr Love said:

⁷⁶³ Submission 161, Forestry Corporation of NSW, p 24.

⁷⁶⁴ Submission 144, Timber NSW, p 8.

⁷⁶⁵ Submission 189, South East Timber Association Inc., p 2.

⁷⁶⁶ Evidence, Mr Love, 4 February 2020, p 19.

⁷⁶⁷ Submission 163, National Parks Association of NSW, p 22.

The Great Koala National Park covers about 10 per cent, as was stated earlier, of the State forests of New South Wales, covers 23 per cent of the State forest on the North Coast. Additional timber is available from State and private hardwood plantations and private native forest lands. So, substantial additional timber is available to that that is on State forests. The impact from available timber resources on the North Coast is more likely to be in the order of 10 per cent to 15 per cent, we believe.⁷⁶⁸

- 9.35** The GKNP Steering Committee told the committee of what consultations have been had with workers across the timber industry. Ms Paula Flack advised that forums had been held in rural towns and information about the GKNP had been distributed:

These plans have been imparted to the community in a series of well-received presentations last year. In Bowraville—a small rural town with only one timber mill left—over 100 locals attended a Great Koala National Park forum, which was hosted by the chamber of commerce. Only one attendee was unsupportive.⁷⁶⁹

- 9.36** Mr Jack Gough of the Nature Conservation Council NSW, suggested that protecting koala habitat did not signal the end of the timber industry, but that communities could be supported to make a transition to ecotourism.⁷⁷⁰ Ms Flack continued to describe what a transition would look like for an employee in the timber industry:

We know that creating the Great Koala National Park will have an impact on local timber industry jobs. We understand the difficulties such a change would involve. We support a well-funded transition package for affected timber workers as an integral component of the process of creating the park.⁷⁷¹

Committee comment

- 9.37** The committee strongly believes that amongst all the other threats, fragmentation and loss of habitat is the key threat currently facing koalas in New South Wales. It heard the evidence of adding to the national parks estate with great interest, and believes there is merit to creating larger 'protected' areas of koala habitat.
- 9.38** As raised multiple times in the earlier chapters, the Government needs to prioritise the preservation of habitat to prevent the extinction of those remaining koalas, which have become more at risk after the bushfires. The committee believes that by creating protected areas of koala habitat in national parks, it will give koala populations the best chance to thrive and increase in numbers.
- 9.39** The committee however recognises that it is important to be able to support any employees that may need to make the transition from the timber industry. Workers will need access to further training and education to add to their skillsets in order to be able to find jobs outside of their traditional fields. The committee also recognises that ecotourism could be a viable alternative and will create additional jobs in local communities.

⁷⁶⁸ Evidence, Mr Love, 4 February 2020, p 19.

⁷⁶⁹ Evidence, Ms Flack, 4 February 2020, p 12.

⁷⁷⁰ Evidence, Mr Jack Gough, Policy and Research Coordinator, Nature Conservation Council NSW, 16 August 2019, p 39.

⁷⁷¹ Evidence, Ms Flack, 4 February 2020, p 12.

- 9.40** Therefore on the balance of the evidence presented to the committee, we believe that there is great merit to the creation of the Great Koala National Park to increase the area of habitat protected for koalas on the Mid North Coast. Hence the committee recommends that the NSW Government investigate the establishment of the Great Koala National Park.

Recommendation 41

That the NSW Government investigate the establishment of the Great Koala National Park.

Economic value of koalas

- 9.41** Koalas in the wild have been considered a major tourism drawcard, and hence have considerable economic value. NPA NSW cited the lead government agency for tourism, Destination NSW, that tourism based on nature was a large and growing industry that contributed \$21 billion annually to New South Wales.

- 9.42** NSW Government statistics have also revealed that specifically, koalas support 9,000 jobs across the State and generate up to \$2.5 billion each year.⁷⁷² Across Australia, Ms Cheyne Flanagan, Clinical Director of Port Macquarie Koala Hospital, estimated that the koala brings in \$6 billion annually in tourism dollars. She highlighted the lucrative potential of koala tourism using their own hospital as an example:

At the koala hospital we host a conservative estimate of 150,000 visitors per year, local, national and international. In the month of November that has just passed during the fire situation it is likely we hosted 50,000 in that month alone, such was the concern of the general public. You are probably already aware of this but our GoFundMe page seeking donations to build wildlife watering stations, which was \$25,000 we were asking for, currently now sits at \$1.9 million. This is the biggest GoFundMe campaign in Australia's history such is the power of the koala.⁷⁷³

- 9.43** The Koala Recovery Partnership further noted that the Port Macquarie Koala Hospital and other koala-related ventures within the Hastings-Macleay region, contributed to more than \$60 million annually in tourism revenue.⁷⁷⁴

⁷⁷² Submission 163, National Parks Association of NSW, p 22.

⁷⁷³ Evidence, Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital, 9 December 2019, p 30.

⁷⁷⁴ Submission 74, Koala Recovery Partnership, p 1.

- 9.44** In the New England region that has been affected by prolonged drought and heatwaves, nature-based tourism delivered a significant boost to the local economy. Ms Lynne Hosking, President of the Armidale branch of the National Parks Association informed the committee:

Nature-based tourism is very important for long-term economic gains.

... In New England and north-west last year [2018] 4.6 million nights were stayed and visitors spent over \$636 million.⁷⁷⁵

Koalas and the future of ecotourism

- 9.45** The committee heard from multiple stakeholders about the economic potential of koalas and ecotourism in the future. Conserving koala habitat and prioritising the care of local koala populations could lead to increased tourism to the area, which would in turn benefit local and regional economies. The importance of tourism was described by the Voice of Woodville and Wallalong:

The tourism industry prides itself on providing "nature" experiences that only this country can offer. Tourism creates jobs, and provides incomes that support many communities across our country. Tourism is sustainable and makes money for even the most remote communities.⁷⁷⁶

- 9.46** Nature-based tourism has the potential to lure tourists away from metropolitan Sydney and encourage tourists to visit regional communities in the State. For example, Mr Kevin Evans and Mr Robert Bentley noted in their submission:

Nature based tourism is extremely important to the Bellingen economy. A survey of our guests over 12 months suggests that nature is the number one reason people visit our area and on departure is nominated as the factor that will bring them back in future. Seeing a wild koala is one of the primary goals of any visit to this area according to our visitors.⁷⁷⁷

- 9.47** The International Fund for Animal Welfare emphasised that the key action was to conserve koala habitat and populations in the future. In its submission, it noted, "The potential for further expanding koala-focused tourism is huge but, for that to happen, we need to maintain and increase koala numbers in the state by protecting habitat".⁷⁷⁸

- 9.48** Furthermore, the committee received scores of submissions from individual authors, emphasising the iconic status of the koala and how it was a beloved animal both here in Australia and overseas. Ms Petra O'Neill, a tour guide based in Sydney, detailed her disappointment of having to take international tourists to zoos to glimpse a koala:

⁷⁷⁵ Evidence, Ms Lynne Hosking, President, National Parks Association, Armidale Branch, 13 December 2019, p 4.

⁷⁷⁶ Submission 193, Voice of Woodville and Wallalong, p 3.

⁷⁷⁷ Submission 257, Mr Kevin Evans and Mr Robert Bentley, p 1.

⁷⁷⁸ Submission 276, International Fund for Animal Welfare, p 9.

What [tourists] want to see most during their time in Australia is a Koala. We stop at Featherdale Wildlife Park, and here they have their portrait taken with a Koala. Then they go back to the ship. This may be all they get to see of a Koala. But number one, this is what brought them to Australia.⁷⁷⁹

- 9.49** Mr Gregory Hall, another individual submission author, echoed this disappointment of decreasing sightings of koalas in the wild:

It is also no secret that many would-be Koala tourists are disappointed, as there are now so few in the wild. The tragedy is that the most accessible sightings are to be had in koala hospitals and other captive areas.⁷⁸⁰

- 9.50** Inquiry participants further emphasised the beauty of seeing koalas in the wild and in their natural habitat, as opposed to seeing them in zoos.⁷⁸¹ For example, Ms Wendy Bithell, who runs a local ecotourism business in Byron Bay, stated:

One of my tours is the Wildlife Safari, where I take visitors out to see wildlife in their natural habitat. [T]he koalas are getting more challenging by the day, and [when I] explain why to my clients, they are gobsmacked that [the] government isn't doing all it can to protect koalas. Seeing them in the wild is one of the big drivers of their decision to come to Australia.⁷⁸²

- 9.51** Closer to Sydney, Mr Saul Deane, Urban Sustainability Campaigner of the Total Environment Centre highlighted the potential for tourism in Campbelltown as it was home to a healthy and expanding koala population. Reflecting on the success of the Port Stephens approach to koala conservation and utilising them as part of its ecotourism strategy, Mr Deane drew comparisons to Campbelltown:

I just want to say this is an incredibly amazing opportunity for Campbelltown—a whole new sustainable industry that is about to occur. We see that Port Stephens has seized this with both arms and taken it on board and has been able to create a hospital, a sanctuary and then also incorporate that in ecotourism. That is obviously a potential here for Campbelltown to do.⁷⁸³

- 9.52** The Macarthur branch of the NPA described the South Western Sydney koala population as a 'marvel' and that ecotourism could allow 'koalas to be seen in the wild on the edge of Australia's major capital city'.⁷⁸⁴ In its submission, the Total Environment Centre considered the potential for Campbelltown to become an international tourist destination:

For a region with one of the lower socio-economic indicators for Sydney, the presence of a wild Koala colony in Campbelltown is an economic jackpot on which a new and lucrative tourism industry can be founded. Combined with the new Western Sydney international airport, and Campbelltown's colonial frontier landscapes, the potential for

⁷⁷⁹ Submission 204, Ms Petra O'Neill, p 1.

⁷⁸⁰ Submission 226, Mr Gregory Hall, p 1.

⁷⁸¹ Submission 81, Mr Mark Suttor, p 1; Submission 109, Name suppressed, p 1; Submission 266, Mrs Lorraine Vass, p 9; Submission 300, Ms Jenny Ankin, p 1.

⁷⁸² Submission 307, Ms Wendy Bithell, p 1.

⁷⁸³ Evidence, Mr Deane, 25 October 2019, p 4.

⁷⁸⁴ Submission 126, NPA NSW – Macarthur Branch, p 3.

Campbelltown to be re-imagined as an international tourist destination is ripe. An hour train trip from Sydney is a long daily commute, but a short journey for an international tourist.⁷⁸⁵

- 9.53** Whilst preparing for the first comprehensive koala plan of management for Coffs Harbour, independent koala researcher Dr Dan Lunney found that 'there was an overwhelming [economic] value for koalas for Coffs Harbour Shire, particularly for tourism that made the cost of it very minor indeed to protect the koala populations'. Dr Lunney also suggested that in addition to the economic benefits, ecotourism could bring substantial sociological benefits to the community, in relation to education about koala issues and management.⁷⁸⁶
- 9.54** The Armidale branch of the NPA also raised that ecotourism could offer long term opportunities for job creation, including for Indigenous communities.⁷⁸⁷
- 9.55** The committee received an overwhelming number of submissions which supported sustained conservation of koalas and their habitat, as well as the potential for ecotourism in the State.⁷⁸⁸

The need to urgently protect koala habitat

- 9.56** This concluding section examines the way forward for koala conservation in light of the devastating loss suffered during the 2019-2020 bushfire season. As previous chapters note, many stakeholders in this inquiry were of the view that habitat protection has never been adequately addressed in government approaches to koala conservation.
- 9.57** In hearings held after the bushfires, it became apparent that many stakeholders believed the damage caused by the fires had 'changed everything'.⁷⁸⁹ Indeed, a number of stakeholders spoke of a need to reconfigure conservation approaches to incorporate a new urgency when it comes to habitat protection. In this regard, Ms Cerin Loane, Senior Policy and Law Reform Solicitor at the Environmental Defenders Office told the committee that the recommendations contained in the organisation's submission 'probably need to go further than the recommendations we made [at the start of the inquiry], because the situation has changed quite dramatically'.⁷⁹⁰

⁷⁸⁵ Submission 150, Total Environment Centre, p 4.

⁷⁸⁶ Evidence, Dr Daniel Lunney, independent koala researcher, 9 December 2019, p 20.

⁷⁸⁷ Submission 252, National Parks Association of NSW, Armidale Branch, p 6.

⁷⁸⁸ Submission 22, Ms Shaunti Kiehl, p 1; Submission 25, Ms Melisse Reynolds, p 1; Submission 32, Mrs Helga Bligh, p 1; Submission 42, Name suppressed, p 1; Submission 65, Mrs Sandra Woodall, p 1; Submission 73, Keep Sydney Beautiful, p 1; Submission 86, Name suppressed, p 1; Submission 94, Name suppressed, p 1; Submission 96, Mrs Meg Nielsen, p 2; Submission 104, Ms Mary Forbes, p 2; Submission 112, Mr Bruce Aham, p 1; Submission 147, Coffs Harbour Greens, p 2; Submission 149, Dr Ben Moore, p 6; Submission 162, Animal Liberation, p 8; Submission 169, Mrs Terri Hanlon, p 1; Submission 183, Name suppressed, p 1; Submission 208, Mrs Kim Morris, p 1; Submission 223, Ms Kristine Mulder, p 1; Submission 233, Mrs Caroline Lewis-Hughes, p 1; Submission 236, Ms Gae Constable, p 1; Submission 244, Name suppressed, p 1; Submission 287, Name suppressed, p 1; Submission 311, Mr Brent Hely, p 2.

⁷⁸⁹ Evidence, Mr Frank Dennis, Local resident and koala activist, 3 February 2020, p 12.

⁷⁹⁰ Evidence, Ms Cerin Loane, Senior Policy And Law Reform Solicitor, Environmental Defenders Office NSW, 18 February 2020, p 6.

9.58 Witnesses gave a number of suggestions on what this new approach might look like. For example, Dr Rebecca Montague-Drake called for an immediate moratorium on clearing of koala habitat 'across multiple pieces of New South Wales legislation ... particularly in fire-affected regions where so very little habitat remains'.⁷⁹¹ Similarly, Ms Lyn Orrego, Committee member of Nambucca Valley Conservation Association, noted that there had been an estimated 50 per cent decline in koala numbers in the north-east coast of NSW due to the bushfires, and called for 'urgent action to halt the continued intensive logging of koala habitat'.⁷⁹²

9.59 Members of the committee put these requests for urgent action to both the Minister for Energy and the Environment, and Minister for Planning and Public Spaces during Budget Estimates hearings held in March. The Minister for Energy and the Environment was asked whether changes would be made to protect more habitat, to which he responded:

These unique circumstances require a unique response ... The work to develop that unique response is ongoing. We have already seen a part of it with our immediate response but there is more work to do. We need to get the balance right between protecting the interests of those communities that have been devastated economically because of the impact on their timber supply while at the same time ensuring that our native wildlife and flora and fauna have the best chance at recovery.⁷⁹³

9.60 In a similar vein, the Minister for Planning and Public Spaces was asked about a reassessment of the regulatory environment around clearing habitat as a result of the bushfires, and responded:

Statewide we will rely quite appropriately on the recommendations of the [NSW Bushfire Inquiry] ... Otherwise we are acting in accordance with the Koala Strategy. Certainly if the recommendations coming out of that review in ways that we need to look at further protections or different arrangements in relation to koala or other native animals, of course we will take action following the recommendations that are made to us.⁷⁹⁴

9.61 The NSW Government's *Wildlife and Conservation Bushfire Recovery – Immediate Recovery Strategy* – discussed in detail in Chapter 5 – noted that a longer-term plan is being developed to ensure the recovery of NSW koalas from the bushfires:

The NSW Koala Strategy Expert Advisory Panel chaired by the Deputy Chief Scientist and Engineer is meeting with koala experts to identify priority actions. From this we will publish a NSW Koala Strategy: Bushfire Recovery Plan.⁷⁹⁵

9.62 The committee did not receive any evidence on the progress of the NSW Koala Strategy: Bushfire Recovery Plan.

⁷⁹¹ Evidence, Dr Rebecca Montague Drake, Koala Ecologist and President of Koala Recovery Partnership, 3 February 2020, p 2.

⁷⁹² Evidence, Ms Orrego, 4 February 2020, p 12.

⁷⁹³ Evidence, Minister for Energy and Environment, Hon Matt Kean MP, Budget Estimates 2019-2020, 6 March 2020, p 25.

⁷⁹⁴ Evidence, Minister for Planning and Public Spaces, Hon Rob Stokes MP, Budget Estimates 2019-2020, 13 March 2020, p 10.

⁷⁹⁵ NSW Government, *Wildlife and Conservation Bushfire Recovery – Immediate Recovery Strategy*, January 2020, p 12.

Committee comment

- 9.63** It is clear that there is a new urgency regarding koala conservation as the committee agrees with those stakeholders who described the 2019-2020 bushfires as changing everything. To address this urgency, the committee urges the NSW Government, in its formation of the NSW Koala Strategy: Bushfire Recovery Plan, to take stock of previous errors. As the NSW Chief Scientist's report noted in 2016 'there is already a wealth of information about what works and what doesn't ... [and] the deficiencies of past strategies and plans need to be recognised'. The committee is of the view that the chief deficiency of past strategies, and in particular, the current approach, is the inadequate and ineffective protection of koala habitat. For this reason, the committee recommends that the NSW Government ensure that the NSW Koala Strategy: Bushfire Recovery Plan contains as its key focus, the protection of koala habitat.

Recommendation 42

That the NSW Government ensure that the NSW Koala Strategy: Bushfire Recovery Plan contains as its key focus, the protection of koala habitat.

Appendix 1 Correspondence regarding wildlife carers' access to firegrounds



LEGISLATIVE COUNCIL

PORTFOLIO COMMITTEE 7 - ENERGY AND ENVIRONMENT

18 October 2019

D19/39527

The Hon Gladys Berejiklian
Premier
52 Martin Place
SYDNEY NSW 2001

By email: taylor.gramoski@premier.nsw.gov.au; david.bold@premier.nsw.gov.au

CC: The Hon Matt Kean MP, Minister for Energy and Environment;
The Hon Adam Marshall MP, Minister for Agriculture and Western New South Wales;
The Hon David Elliott MP, Minister for Police and Emergency Services

Dear Premier

I write urgently to you on behalf of the Legislative Council's Portfolio Committee 7 which is inquiring into Koala Populations and their Habitat which has just finished a hearing in Ballina today.

Committee members heard alarming evidence that bushfires have burned through three of the most significant koala populations on the North Coast in Braemar, Carwong and Royal Camp State Forests and that many koalas may have survived the fires and be in urgent need of rescue.

We understand that the general public, including wildlife rescuers, appear to be unable to enter these forests. However, the Committee heard that one member of the public who ignored the ban located an injured koala and joey in Braemar State Forest that were rescued and are now being cared for.

The fires have burned or dried out most of the leaves the koalas feed on which means that any koalas which have survived the fires will need rescuing quickly.

Evidence taken from ecologists today suggest that 60-70 percent of the population could have been killed in the fires and that the remaining 30-40 percent will be under significant stress as a result of limited or no access to food and water and will die if not provided assistance.

Therefore, the committee urgently requests that the relevant agencies allow wildlife carers immediate access to these forests to assess, provide support and rescue injured or stressed animals.

We also understand that Forestry Corp may be looking at assessing what wood is remaining after the fires. Prior to this occurring we request that the immediate care of injured animals and the development of a recovery plan for these koala populations be prioritised over wood salvage operations.

Just like the Government has shown it is prepared to put resources into ensuring native fish populations are rescued as a result of inland rivers drying up, the Government should ensure that any koalas which have survived the fires in these forests are also rescued.

Yours sincerely



Ms Cate Fachtmann MLC
Committee Chair



Gladys Berejiklian MP
Premier of New South Wales

Ref: A3207972

31 OCT 2019

Ms Cate Faehrmann MLC
Committee Chair
Portfolio Committee 7 – Energy and Environment
portfoliocommittee7@parliament.nsw.gov.au

Dear Ms Faehrmann,

Thank you for your letter of 18 October 2019 on behalf of the Legislative Council's Portfolio Committee 7 – Energy and Environment, requesting access to recently burnt state forests to enable wildlife carers to provide support and rescue services for injured or stressed animals.

Since receipt of your letter my office has been liaising with the offices of Minister Kean, Minister Elliott and the Deputy Premier Barilaro, as the Ministers responsible for the Environment, Emergency Services and State Forests respectively.

As you may be aware state forests are generally accessible to the public, except when such access may be unsafe due to, for example, recent bushfires or current logging operations.

I appreciate the Committee's issues about carers being able to gain access to sick and distressed animals. While human safety will always come first I understand that, following bushfires and in limited and special circumstances, licensed wildlife rehabilitation providers may be allowed to access areas once emergency services have handed a site back to Forests NSW and prior to the general public gaining access if it is safe for them to do so.

Thank you very much for bringing this matter to my attention.

Yours faithfully,

Gladys Berejiklian MP
Premier

CC: The Hon John Barilaro MP, Deputy Premier
The Hon David Elliott MP, Minister for Emergency Services
The Hon Matt Kean MP, Minister for Energy and Environment



The Hon. Adam Marshall MP
Minister for Agriculture
Minister for Western New South Wales

OM19/4001
Your ref: D19/39527

The Hon Cate Faehrmann MLC
Committee Chair
Portfolio Committee 7 – Energy and Environment
Parliament House
SYDNEY NSW 2000

Dear Ms Faehrmann *Cate,*

I refer to your letter of 18 October 2019 to the Hon Gladys Berejiklian MP, Premier, concerning the welfare of koalas affected by the north coast bushfires.

As you are aware, the recent and continuing bushfires in northern NSW have affected private property, national park and State forest. The Rural Fire Service (RFS) has declared these fires to be emergency events under section 44 of the *Rural Fires Act 1997*, which means that the strategies for controlling the fires are developed in the RFS Incident Control Centre. In these situations, the activities of other fire authorities, such as the Forestry Corporation NSW (FCNSW) and National Parks & Wildlife Service (NPWS), are under RFS control.

Overseen by RFS Incident Control, teams of RFS, FCNSW and NPWS staff are working to most expediently contain the fires, with the safety of firefighters and the community, and protection of life and property, always a priority. Immediately after a wildfire, the fire ground can still be dangerous for a considerable period of time and access is restricted to ensure public safety.

You would appreciate that at this point in time the primary focus of the RFS, FCNSW and NPWS is on fighting the many fires that are continuing to burn and threaten lives and property. However, I am pleased to advise that there is a coordinated effort with Friends of the Koala, based at Lismore, to provide assistance to koalas that may be in the northern NSW fire grounds. FCNSW, for example, has established water stations in affected State forest areas and is assisting Friends of the Koala volunteers with basic fire awareness training to assist their access to the fire grounds once safe.

If you require any further information please contact Alex Hall in my office on 0285 745474.

Yours sincerely

A handwritten signature in blue ink that reads 'Adam Marshall'.

Adam Marshall
MINISTER

CC: The Hon Matt Kean MP, Minister for Energy and Environment
The Hon David Elliott MP, Minister for Police and Emergency Services

12 DEC 2019

Appendix 2 Correspondence regarding Leard State Forest and Maules Creek Coal Mine



LEGISLATIVE COUNCIL

PORTFOLIO COMMITTEE NO 7 - PLANNING AND ENVIRONMENT

17 December 2019

The Hon Rob Stokes MP
 Minister for Planning and Public Spaces
 52 Martin Place
 Sydney 2000

By email: office@stokes.minister.gov.au

Dear Minister

Inquiry into koala populations and habitat in New South Wales

I write urgently to you on behalf of the Legislative Council's Portfolio Committee No. 7 which is inquiring into Koala Populations and their Habitat.

During a hearing in Gunnedah last Friday, committee members heard alarming evidence regarding the clearing of Leard State Forest, which contains the largest intact remnant of the nationally listed Critically Endangered Ecological Community of White Box Grassy Woodland, yet 1,665 hectares has been approved for clearing as part of Whitehaven Coal's development application for its Maules Creek Coal Mine project.

Representatives of Wando Conservation and Cultural Centre informed the committee that while development consent for this application was conditional on the company acquiring and protecting equivalent or greater land of this koala habitat, the land acquired to offset this clearing was incorrectly mapped and does not in fact protect koala habitat.

The Committee was extremely concerned to hear that despite the Biodiversity Conservation Trust refusing to register their offsets, Whitehaven has been allowed to clear the land while the Department of Planning has granted two extensions for the company to get their offsets in order, with the latest extension granted to March 2020. This is despite the concerns of both community groups and the NSW Government's own Biodiversity Conservation Trust.

We understand that the next window for clearing by Maules Creek Coal Mine begins on 15 February 2020, which will clear yet more vital habitat for koalas in Leard State Forest, without any offsets in place.

Therefore, the committee urgently requests that:

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 Macquarie Street Sydney
 NSW 2000 Australia

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 Facsimile (02) 9230 2981
portfoliocommittee7@parliamentnsw.gov.au

1. The Resource Assessment Branch of the Department of Planning, Industry and Environment respond to issues raised in Friday's hearing regarding the Maules Creek Coal Mine project approval and Biodiversity Offset Management Plan (*transcript attached*); and,
2. The NSW Government halt all further clearing of the Leard State Forest until the Biodiversity Conservation Trust has confirmed that the offsets accurately reflect the conditions upon which approval for the mine was granted.

Given the impending clearing date and holiday period, the Committee appreciates your urgent attention to this matter.

Yours sincerely



Ms Cate Faehrmann MLC
Committee Chair



LEGISLATIVE COUNCIL

PORTFOLIO COMMITTEE NO 7 - PLANNING AND ENVIRONMENT

22 January 2020

The Hon Rob Stokes MP
 Minister for Planning and Public Spaces
 GPO Box 5341
 Sydney NSW 2001

By email: office@stokes.minister.nsw.gov.au

Dear Minister

Inquiry into koala populations and habitat in New South Wales

I write as Chair of the inquiry into Koala Populations and Habitat in New South Wales to urge you to investigate evidence received suggesting that the clearing of koala habitat at the site of Whitehaven Coal's Maules Creek mine site has not been offset as per its conditions of approval.

At the inquiry's Gunnedah hearing held on 13 December last year by the Wando Conservation and Cultural Centre tabled documents obtained through Government Information Public Access from the Department of Planning, Industry and Environment (DPIE) which revealed that Whitehaven Coal failed to meet its obligations to provide biodiversity offsets for the clearing of Critically Endangered Ecological Community (CEEC) known as White Box Grassy Woodland.

The mine was approved on the condition that the company would offset cleared habitat including CEEC and koala habitat within the Leard State Forest with like-for-like, securing any offsets in perpetuity with binding conservation agreements. On 23 March 2018, the Department of Planning's Mike Young signed off on the Maules Creek offsets (see Document 46b, p. 137 of the GIPA) satisfied that they fulfil the Conditions of the mine approval.

State and Federal approvals of Maules Creek mine have permitted the clearing of 1,665 hectares of native vegetation in Leard State Forest, including 544 hectares of White box – Yellow box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland Critically Endangered Ecological Community (CEEC). All without offsets in place to date.

The Biodiversity Conservation Trust (BCT) had the role of negotiating the conservation agreements for the Maules Creek offsets. However, the GIPA documents reveal that the BCT has repeatedly visited the offsets and found in many instances the vegetation mapping inadequate and incorrect. Maules Creek has been provided with two extensions to fulfil its consent conditions, however conservation agreements for offsets for the mine have still not been completed. The deadline for Maules Creek to reach their offset conditions has now been extended to March 2020.

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Despite being unable to meet its offset commitments to date and therefore no conservation agreements being in place, Whitehaven Coal is due to begin its annual clearing of Leard State Forest for Maules Creek on 15 February.

Given the increased vulnerability of the state's koala populations due to the bushfires and climate change, the Committee is requesting that the Government urgently investigate how the Department of Planning approved the Maules Creek Coal Mine despite its failure to secure like-for-like offsets before any further clearing is permitted.

Thank you for giving this your urgent consideration.

Yours sincerely



Ms Cate Faehrmann MLC
Committee Chair



The Hon. Rob Stokes MP
Minister for Planning and Public Spaces

IRF20/114

Ms Cate Faehrmann MLC
Committee Chair
Portfolio Committee No.7 – Planning and Environment
Legislative Council
Parliament House, Macquarie Street
SYDNEY NSW 2000

Dear Ms Faehrmann

A handwritten signature in blue ink that reads 'Cate'.

Thank you for your letter regarding the Legislative Council's Portfolio Committee No.7 (the Committee), which is inquiring into koala populations and habitat in NSW.

I understand the information provided to the Inquiry, as outlined in the transcript attached to your letter, contains several inaccuracies on the biodiversity impacts of the mining projects in the Leard State Forest, particularly koalas, as well as the status of the biodiversity offsets for these projects.

The Department of Planning, Industry and Environment has prepared a short report on these matters, which is attached for your information.

Should you require anything further, I have asked Mr David Kitto, Executive Director of Special Projects at the Department of Planning, Industry and Environment, to assist the Committee. He can be contacted on 9274 6487.

Yours sincerely

A handwritten signature in blue ink, appearing to be 'Rob Stokes'.

The Hon. Rob Stokes MP
Minister for Planning and Public Spaces

ENC: Report on inquiry into koala population and habitat in NSW

Inquiry into Koala Population and Habitat in New South Wales
Leard State Forest Mining Precinct and Biodiversity Offsets

Background

Leard State Forest is an area included in the *Brigalow and Nandewar Community Conservation Area Act 2005* (BNCCA Act). The Act was the outcome of a comprehensive forestry assessment of western NSW that included extensive consultation with a range of stakeholders. The Act provides for the permanent conservation of approximately 350,000 hectares of land in the region, while also recognising the socio-economic benefits of the forestry and resource sectors.

Leard State Forest itself has an area of approximately 8,134 hectares, and has been historically disturbed by logging practices. Under the BNCCA Act, Leard State Forest is zoned for the purposes of forestry, recreation and mineral extraction.

There are three mines located within the Leard Forest Mining Precinct, including the Boggabri mine operated by Idemitsu, and the Maules Creek and Tarrawonga mines operated by Whitehaven Coal.

Approvals for the Boggabri and Maules Creek mines date back to the late 1980s, although all three mines currently operate under contemporary approvals granted by the then Planning Assessment Commission since 2010.

In this regard, the Boggabri mine operates under an approval granted on 18 July 2012 (09_0182), the Maules Creek mine operates under an approval dated 23 October 2012 (10_0138), and the Tarrawonga mine operates under an approval dated 23 January 2013 (11_0047).

All three approvals were granted following comprehensive environmental assessment and in the case of Maules Creek and Boggabri, independent review by the Planning Assessment Commission (PAC). The PAC carefully considered the impacts and benefits of these projects, including economic and employment benefits to the regional economy and the State. The approvals have been modified a number of times since the original approvals.

The approvals are subject to stringent conditions. The Department of Planning, Industry and Environment monitors and enforces compliance with these conditions.

Biodiversity Impacts

The assessment of the Leard State Forest mining projects included comprehensive assessment of biodiversity impacts, including potential impacts on koalas.

The disturbance areas approved under the consents as modified from time to time amount to a total of 3,934 hectares of native vegetation across the three mines. The disturbance areas are set out in the following table.

Table 1: Native Vegetation Clearing – Leard Forest Mining Precinct

<i>Mine</i>	<i>Native Woodland (ha)</i>	<i>Derived Native Grassland (ha)</i>	<i>Total Native Vegetation Clearing (ha)</i>
Boggabri	1,415	43	1,458
Maules Creek	1,665	414	2,079
Tarrawonga	336	61	397
Total	3,416	518	3,934

These native vegetation areas included areas of the White Box – White Cypress Pine Grassy Woodland Endangered Ecological Community (EEC), commonly referred to as Box Gum Woodland. Areas of Box Gum Woodland EEC within the approved disturbance areas are outlined in the following table.

Table 2: Box Gum Woodland EEC Clearing – Leard Forest Mining Precinct

<i>Mine</i>	<i>Box Gum Woodland (ha)</i>	<i>Box Gum Woodland Derived Native Grassland (ha)</i>	<i>Total Box Gum Woodland Clearing (ha)</i>
Boggabri	629	5	634
Maules Creek	458	87	545
Tarrawonga	10	3	13
Total	1,097	95	1,192

Koalas

The biodiversity assessments for the three mining projects included detailed targeted surveys for koalas and other threatened species.

Surveys for the Maules Creek and Tarrawonga projects did not identify any koala sightings or other evidence of koalas within the project boundaries.

Surveys for the Boggabri project did identify some evidence of koalas in early surveys, including a small number of scats and two koala sightings.

The biodiversity assessments acknowledged that some secondary koala feed tree species are present in the Leard State Forest area, but that the lack of any significant koala activity indicates that the State Forest has very low habitat use, and that preferred habitat is more likely located on the lower valley areas outside the State Forest. The ecological assessments concluded that the clearing required for the projects would not result in any significant impacts on koalas.

Since the original approvals, Whitehaven and Idemitsu report that no koalas have been sighted in any monitoring surveys undertaken. Such monitoring forms a mandatory component of the mining operations under the approvals.

Biodiversity Offsets

The approvals for the three mining projects also contain requirements on the mining companies to implement comprehensive biodiversity offset strategies to compensate for the loss of native vegetation and habitat for endangered species.

The offset areas were largely identified upfront prior to the approval of the projects. However, the approvals for the Maules Creek and Boggabri mines were subject to requirements to identify additional offsets of at least 1,000 hectares for each mine. These additional offset areas have since been identified and incorporated into revised offset strategies.

The biodiversity offsets for the projects are summarised in the following table, and shown on **Figure 1** below.

Table 3: Summary of Biodiversity Offset Areas – Leard Forest Mining Precinct

Mine	All Vegetation (ha)				Box Gum Woodland EEC Component (ha)		
	Woodland	DNG	Pasture / Other	Total	BGW Woodland	BGW DNG	BGW Total
Boggabri	7,321	3,173	148	10,642	1,578	1,960	3,488
Maules Creek	7,898	2,306	1,965	12,169	3,597	1,880	5,477
Tarrowonga	1,355	261	44	1,660	23	193	216
Total	16,574	5,740	2,157	24,471	5,148	4,033	9,180

As indicated in the table, the combined biodiversity offset strategies will result in around 22,300 hectares of native vegetation offsets (excluding non-native agricultural land), to compensate for the 3,934 hectares of native vegetation that will be cleared for the projects.

In addition to these offsets, under the consent conditions the mines are required to rehabilitate the mine sites, with some 4,000 hectares required to be rehabilitated to woodland.

The offsets include substantial areas of existing native woodland and Box Gum Woodland EEC, as well as substantial areas of derived native grassland that would be regenerated to provide additional areas of Box Gum Woodland.

The offsets (excluding rehabilitation of the mine site or non-native agricultural land) equate to a gross offset ratio of 5.7 hectares of offset land for every hectare of land disturbed by the projects. In terms of Box Gum Woodland EEC, the offset strategies provide for the conservation of 9,180 hectares of Box Gum Woodland EEC (including Box Gum Woodland grassland), which equates to a gross offset ratio of around 7.7:1.

The biodiversity offset areas have been carefully located to provide short and long term biodiversity benefits. This includes providing a regional biodiversity corridor between the Namoi River to the west and the Nandewar Range to the east, which are both areas of known koala habitat. The offsets themselves comprise extensive areas of potential koala habitat, as indicated on the Department's recently released koala habitat maps. The potential koala habitat across the region is shown on Figure 1, along with the offset areas.

To ensure a coordinated and strategic approach to biodiversity offsetting across the Leard Forest Mining Precinct, the consents for all three mines require the mining companies to jointly prepare a coordinated Regional Biodiversity Strategy. The strategy is required to be implemented in three stages, including:

- **Stage 1 – Scoping Report:** comprising the terms of reference, scope and objectives for the strategy;
- **Stage 2 – Strategy Document:** comprising the strategy framework, spatial framework, biodiversity offset management framework and offset security framework; and
- **Stage 3 – Strategy Review:** to review the strategy implementation following completion of required rehabilitation and offset area audits.

Stages 1 and 2 have been completed with the Strategy document publicly available on the mine's websites, along with currently approved Biodiversity Management Plans. These documents can be found on the individual mine websites at:

- Boggabri Coal: <https://www.idemitsu.com.au/mining/operations/boggabri-coal/>
- Maules Creek Coal: <https://whitehavencoal.com.au/our-business/our-assets/maules-creek-mine/>

- Tarrawonga Coal Mine: <https://whitehavencoal.com.au/our-business/our-assets/tarrawonga-mine/>

The consents also include a range of other biodiversity-related conditions, including requirements for the mining companies to:

- maintain a 500-metre vegetated buffer corridor between the Boggabri and Maules Creek mines;
- ensure that the biodiversity offset strategies focus on rehabilitation and maintenance of Box Gum Woodland and threatened species (including koala);
- prepare and implement comprehensive Biodiversity Management Plans, including requirements for regular biodiversity monitoring and reporting;
- make suitable arrangements to provide appropriate long-term conservation security for the offset areas;
- lodge conservation bonds to ensure the biodiversity offset strategies are implemented in accordance with agreed performance and completion criteria; and
- undertake 5 yearly independent biodiversity audits.

All of these requirements have been and are being implemented for the Leard State Forest mining projects. The only issue currently outstanding is finalising the arrangements to provide for the long-term conservation security of the offset areas for the three mines.

This has been partly delayed due to the 2017 changes to the biodiversity legislation which prevented the use of conservation agreements specified in the relevant conditions of consent for each of the mines. It has now been agreed that the mines will use alternative conservation mechanisms that are available under the *Biodiversity Conservation Act 2016*, and the mining companies have submitted applications and are working with the Biodiversity Conservation Trust (BCT) to finalise the agreements.

The mining companies are also in discussions with National Parks and Wildlife Service about its interest to transfer certain land to the national park estate.

In finalising the conservation agreements with the BCT, there has been extensive discussions between the mining companies and the BCT on the mapping of the vegetation communities in the relevant offset areas, partly due to the NSW Government moving to an improved vegetation mapping classification system since mapping was completed for the environmental assessments and subsequent vegetation validation studies completed by the mines.

The current deadline for finalising all aspects of the conservation agreement for the Maules Creek mine is March 2020. Should the long-term security arrangements not be finalised by this time, the Department will consider what actions are appropriate. However, the Department notes that finalising the long-term security arrangements is an administrative issue that would have no effect on the continued management and enhancement of the biodiversity offset areas, which are regulated under the existing conditions of the consent for each mine. The Department will continue to monitor the implementation of approved Biodiversity Management Plans for each mine to ensure the approved offsets are delivered and improve regional conservation values.

With regard to the koala, the Department considers that the conditions of consent for the Leard State Forest mining projects provide appropriate measures to ensure the protection of this nationally important species.

The Department will continue to work with the mining companies and other stakeholders to ensure that impacts on koalas are avoided and/or minimised, and that the biodiversity offsets provide net benefits for the species over the short, medium and longer term.

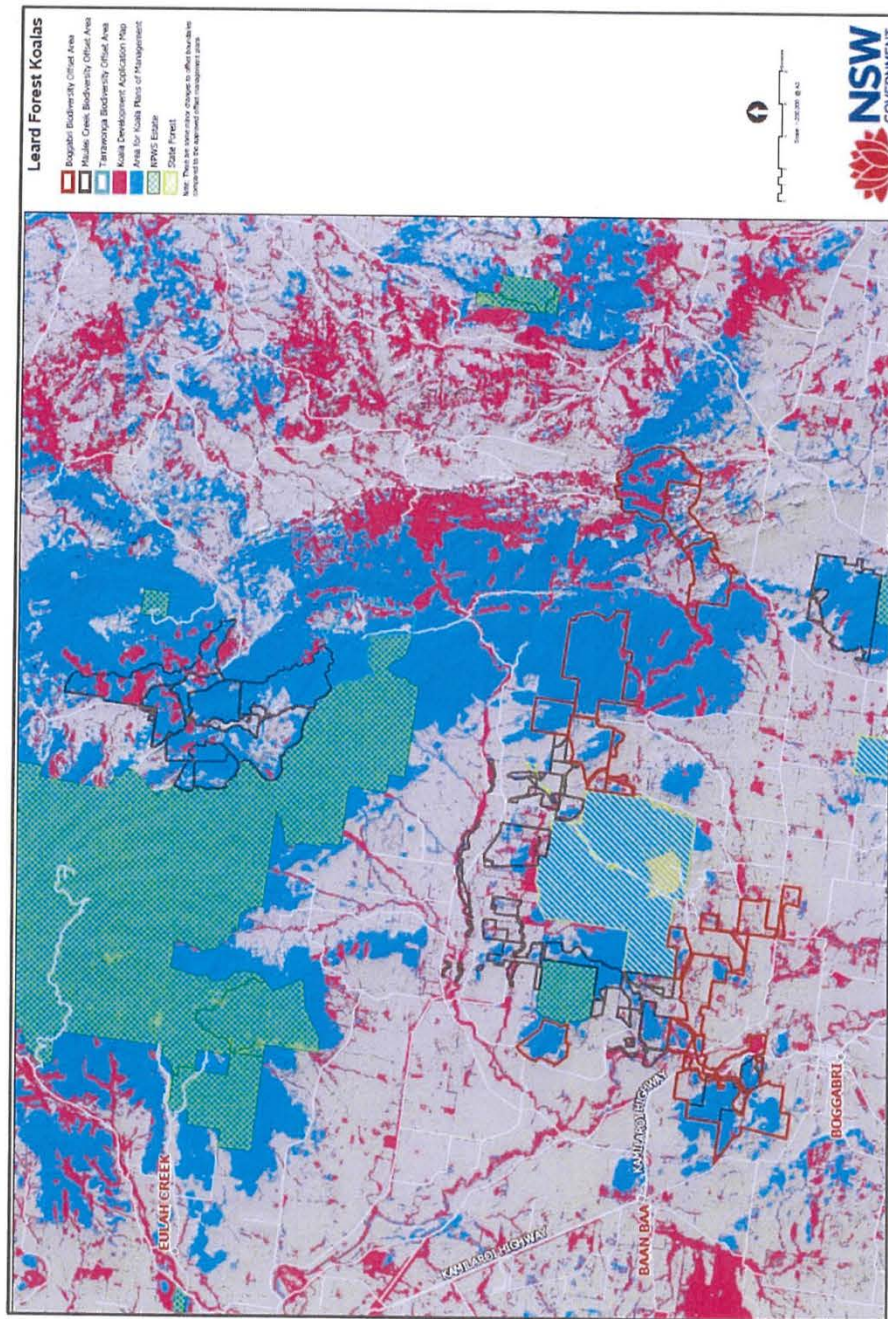


Figure 1 – Leard State Forest mine offset areas and Koala SEPP mapping

Appendix 3 Correspondence regarding the NSW Government's bushfire response



LEGISLATIVE COUNCIL

PORTFOLIO COMMITTEE NO 7 - PLANNING AND ENVIRONMENT

21 January 2020

The Hon Matt Kean MP
 Minister for Energy and Environment
 GPO Box 5341
 Sydney 2001

By email: office@kean.minister.nsw.gov.au

Dear Minister

Inquiry into koala populations and habitat in New South Wales

I write to you on behalf of the Legislative Council's Portfolio Committee No. 7 which is inquiring into Koala Populations and their Habitat.

In view of the devastation reported to numerous koala and other wildlife habitats across the state by bushfires over the summer period, I write to you on behalf of the committee to request that your department provide a written briefing to update the committee on the following aspects of the government's response to the devastation caused by the summer bushfires:

- next steps for the assessment and restoration of damaged national parks, forests and wildlife populations
- how government agencies will identify and support koala populations to recover, including plans for captive and other breeding programs
- how state agencies will work with their federal counterparts to administer recently announced funding and other support for NSW communities and wildlife
- changes necessitated to the Koala Strategy
- whether the status of koalas in New South Wales will be changed from 'vulnerable' to 'endangered', particularly in view of the Federal Government's recent comments in that regard
- whether more financial and other support will be provided to community wildlife carers, many of whom are shouldering the financial and emotional burden of caring for injured wildlife.

As the committee has site visits scheduled to fire-affected regions during the first week of February, the committee would appreciate your response to this request by **Wednesday 29 January 2020**.

Yours sincerely

Ms Cate Faehrmann MLC
Committee Chair

Parliament House
 Macquarie Street Sydney
 NSW 2000 Australia

Telephone (02) 9230 2282
 Facsimile (02) 9230 2981
portfoliocommittee7@parliament.nsw.gov.au



LEGISLATIVE COUNCIL

PORTFOLIO COMMITTEE NO 7 - PLANNING AND ENVIRONMENT

21 January 2020

The Hon David Elliott MP
Minister for Police and Emergency Services
GPO Box 5341
Sydney 2001

By email: office@elliott.minister.nsw.gov.au

Dear Minister

Inquiry into koala populations and habitat in New South Wales

I write to you on behalf of the Legislative Council's Portfolio Committee No. 7 which is inquiring into Koala Populations and their Habitat.

I returned this week from a visit to the NSW South Coast where members of the community, already devastated by the recent bushfires, have opened their homes to care for wildlife. Many spoke of working with Rural Fire Service volunteers to rescue these animals following the fire. On behalf of the committee, I would like to acknowledge the tireless work of the RFS throughout the entirety of the bushfire crisis. The past few months have seen countless examples of their heroism, as they have saved not only people and property, but also wildlife and crucial areas of habitat.

As part of this inquiry, the committee will travel to fire-affected areas on the NSW Mid-North Coast in the first week of February. In preparation for these hearings, the committee seeks to understand how state agencies such as the RFS and NSW National Parks & Wildlife Service are working with local wildlife groups to rescue animals from firegrounds. The committee has previously heard evidence regarding the excellent relationship between the RFS and Port Macquarie Koala Hospital and is interested to learn more about how these arrangements function and how they may be established in other areas of the state.

Given the impending date of the hearings, the committee would appreciate that your response to this request be returned to the committee by **Wednesday 29 January 2020** and treated as a matter of priority.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Cate Faehrmann'.

Ms Cate Faehrmann MLC
Committee Chair



The Honourable Matt Kean MP
Minister for Energy and Environment

MD20/695

Ms Cate Faehrmann MLC
Chair
Legislative Council's Portfolio Committee No. 7
Parliament House
Macquarie Street
SYDNEY NSW 2000

By email: portfoliocommittee7@parliament.nsw.gov.au

Dear Ms Faehrmann *Cate*

Thank you for your correspondence of 21 January 2020 about the NSW Government's response to the bushfires.

As you know, this fire season has been unprecedented, and its impacts have been devastating for our communities and our natural environment. The NSW Government is committed to supporting the recovery of native wildlife and habitat affected by the bushfires.

Department of Planning, Industry and Environment (DPIE) scientists are using satellite imagery to rapidly assess how severely a fire has impacted vegetation in the areas that have been burned.

The Google Earth Engine Burnt Area Mapping, known as GEEBAM, is available in the SEED portal at www.seed.nsw.gov.au. This data can be visually combined with the Koala Habitat Information Base in the SEED map viewer to identify potential koala refugia and guide recovery actions.

An analysis of the level of fire severity on classes of koala habitat will be provided to the committee as soon as it becomes available. The fires are still active in places and smoke and cloud free imagery has been difficult to acquire. On-ground assessments and surveys are also being carried out as it becomes safe to do so.

The NSW Government is currently finalising an immediate response plan for wildlife and conservation which will set out the emergency actions we are taking to accelerate and support the natural recovery process that is already taking place in many areas. This will include urgent measures such as the provision of drinking stations and the control of feral animals at key locations. The plan will be released shortly and a copy will be provided to the committee as a priority.

A medium to long term plan to restore wildlife and habitat is also under development. This document will set out the NSW Government's plan of action to support the recovery of native wildlife, protected areas and other natural assets.

To support this work, DPIE has convened an extraordinary meeting of the NSW Koala Strategy Expert Advisory Panel. This meeting will be held on 3 February 2020 and will focus on priority responses to the bushfires to support koala conservation. As you are aware, the NSW Koala Strategy commits \$44.7 million to fund a range of conservation actions to secure koalas in the wild in NSW.

GPO Box 5341 Sydney NSW 2001 ■ P: (02) 8574 6150 ■ F: (02) 9339 5572 ■ W: nsw.gov.au

The strategy is adaptable and allows for reprioritisation when necessary. With up to 25 per cent of koala habitat in eastern NSW impacted by these bushfires, additional conservation actions will be required to achieve the strategy's long-term objective of stabilising and increasing koala populations in NSW.

The bushfires may have affected the conservation status of several species, including the koala. I have met with the Chair of the NSW Threatened Species Scientific Committee to commence the work required to determine if the conservation status of these species should be reviewed.

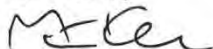
I recognise the invaluable contribution of volunteer wildlife rehabilitators in assisting our native animals when they need it most. The NSW Government has committed more than \$6.5 million to support the sector. This includes a \$1 million bushfire emergency fund that provides grants for wildlife rehabilitators and supports veterinary care. DPIE is working closely with the sector in ensuring these grants are distributed and expended effectively.

DPIE has also engaged proactively and constructively with officials in the Victorian and Federal Governments to collaborate on response priorities and to share data.

I will provide more information to the committee as it becomes available.

If the committee has any further questions about this matter, please do not hesitate to contact my office on 8574 6150 or at office@kean.minister.nsw.gov.au.

Yours sincerely



Matt Kean MP
Minister for Energy and Environment



Matt Kean
Minister for Energy and Environment

MEDIA RELEASE

Sunday 2 February 2020

WILDLIFE AND CONSERVATION BUSHFIRE RECOVERY

Native animals and plants impacted by this season's unprecedented bushfires will receive expedited help under the NSW Government's 2019-2020 immediate response bushfire conservation plan.

Mr Kean said that while we are still determining the full magnitude of the impact on our wildlife and their habitat, what we know is that many of our most vulnerable species have been heavily impacted by these fires and now face a scarcity of food and water, and predation by feral animals.

"While our assessment continues, we are doing what we can to help wildlife during the critical phase immediately after the fires," Mr Kean said.

"These short-term actions will support the natural recovery process that has already started in some areas."

The NSW Government's immediate response includes:

- Supplementary food for endangered species like the brush-tailed rock wallaby and mountain pygmy possums;
- Drinking stations installed for native wildlife;
- Extensive aerial and ground-based feral animal and weed control operation;
- The rescue of six species already taken into captive protection;
- \$1 million in emergency funding set aside as part of a \$6.5 million investment to support rescue and care of injured wildlife;
- Taronga Conservation Society's vet and wildlife experts providing front line support for injured animals; and
- Fire severity and habitat mapping to guide rescue and recovery.

"Additionally, we are planning for the longer-term restoration and recovery of our native animals, plants and landscapes across NSW. This includes protecting the remaining areas of unburnt habitat.

"The NSW Government will continue to update our response as we improve our understanding of the impacts of these unprecedented fires. We will shortly publish a medium-term NSW wildlife and conservation bushfire recovery plan," Mr Kean said.

MEDIA: David Naidoo | 0419 934 706

Appendix 4 GIPA documents: Concurrence on Land Management (Native Vegetation) Code

Released by OEH under the GIPA Act - Ref: GIPA945-IR



Office of
Environment
& Heritage

DOC17/428830

Minister for the Environment and Heritage

FOR APPROVAL by 25 August 2017

Concurrence on Land Management (Native Vegetation) Code


Purpose: To provide advice about the Minister for Primary Industries' request for concurrence on the Land Management (Native Vegetation) Code 2017 (Tab 1).

Analysis: The draft Land Management Code was developed by DPI and LLS in consultation with OEH. The code sets controls for clearing native vegetation on category 2 regulated lands and forms one part of the broader land management and biodiversity reforms.

Recommendations

Approve the Minister providing concurrence on the Land Management (Native Vegetation) Code under s60T of the Local Land Services Amendment Act 2016 (LLSA Act), noting the agreements made by Minister's offices, OEH and LLS set out in a letter to the Minister for Primary Industries at **Tab 6**

Approval

Approved: Steve Hartley, A/ Executive Director, Policy	22/08/2017
Approved: Anthony Lean, Chief Executive	
Contact: Tom Celebrezze, Director, Biodiversity Policy	02 9995 5446
	28.8.17
Gabrielle Upton MP, Minister	Date

Timeframes

The Government has committed to commencing the Land Management and Biodiversity Reforms on **25 August 2017**.

Key issues

Land management and biodiversity reforms

The land management and biodiversity reforms seek to move away from the current approach of managing all native vegetation to a standard set of rules at every property, and instead deliver a broader approach that provides greater flexibility at the property level. The reforms seek to balance this flexibility with clearer prioritisation mechanisms and incentives to maintain and manage important biodiversity values at local and bioregional scales.

The Code is the principal regulatory tool to regulate clearing of native vegetation on private landholdings and Crown Land in rural areas. Clearing using the Code is essentially not allowed in prescribed environmentally sensitive lands (see **Tab 2**). In other Category 2-regulated land,

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Released by OEH under the GIPA Act - Ref: GIPA945-IR

the Code authorises land clearing of remnant native vegetation, provided that the clearing complies with the conditions of the Code (see details in **Tab 3**).

The Independent Biodiversity Legislation Review Panel (Independent Panel) acknowledged that introducing reforms which remove the requirement that any clearing must 'improve or maintain' environmental outcomes could cause some biodiversity losses at a site scale.

The Code's flexibility in enabling site scale native vegetation clearing (with safeguards) should be viewed in the context of the reforms as a whole. The reforms include a range of improved compliance and enforcement provisions and OEH will have carriage of regulatory functions. The Government has sharply increased public investment in biodiversity conservation on private land (\$240 million available for private landholders over 5 years, then \$70 million per year subject to performance reviews), and ensuring the Saving our Species program is adequately resourced (\$100 million available over 5 years).

At the statewide level the Government has ensured there are levers to suspend the Code if appropriate. The Minister for Primary Industries and Minister for Environment can issue a joint order to restrict issuing certificates under the Code, in relation to any area or for any period (s60ZA LLSA Act), at any time.

Statewide satellite monitoring of woody vegetation change continues. The legislation establishes a scientifically robust environmental monitoring framework to quantify significant environmental change at various scales, which OEH will administer.

Despite these controls, checks and balances, the Code has been widely criticised by environment groups, who believe it will cause substantial harm. OEH analysis does not forecast land clearing rates will escalate dramatically in the medium term, although there may be a significant spike in the first 1-2 years of the Code (see below). The Code is complex, presents environmental risks if exploited inappropriately by farmers, and it is possible that it will be difficult to enforce in some circumstances. This document sets out the risks, how they have been mitigated, and the residual risk. The residual risk has been addressed by agency and Ministerial level agreements relating to reporting, monitoring, review and if appropriate future amendment.

Minister's concurrence role

The Minister for Primary Industries is responsible for making the Code under s60T Local Land Services Amendment Act (LLS Act). The Minister may make the Code only with the concurrence of the Minister for the Environment. Both Ministers are required to have regard to the principles of 'ecologically sustainable development' ('ESD') in making and concurring on the Code (see **Tab 4** for further details).

Under the LLS Act, ESD requires integration of social, economic and environmental matters. In line with the Act, the Ministers concurrence must have regard regards to:

- *the precautionary principle*: if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- *inter-generational equity*: the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations;
- *conservation of biological diversity and ecological integrity*: conservation of biological diversity and ecological integrity should be a fundamental consideration; and
- *improved valuation, pricing and incentive mechanisms*: environmental factors should be included in the valuation of assets and services.

This brief includes OEH's advice on social, economic and environmental matters arising from the Code. This is also addressed in the attachment to Minister Blair's letter.

Potential vs likely clearing under the Code

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WWF-Australia commissioned a report last year which estimated that over 8 million hectares of extant woody vegetation across NSW would potentially be *available* for clearing under the Equity part of the Code. This hypothetical study does not take into account the economic, climatic and regulatory constraints which drive land use change.

OEH has also developed a modelling tool to analyse land clearing trends, with the aim of estimating clearing that could occur as a result of adopting the Code. The modelling indicates that (see **Tab 5**):

- economic and climatic conditions, rather than regulatory settings, have historically been the main drivers for land clearing decisions in NSW
- in the absence of regulatory change, favourable commodity prices are likely to increase land clearing rates in NSW over the next 3 years; agricultural clearing is likely to return to long run clearing rates towards ~15,000 ha per annum over the period 2017-18 to 2019-20 (up from ~9,000 ha per annum in recent years)
- the regulatory changes in the Code may further increase agricultural clearing in NSW by between **8%** and **45%** annually. There may also be a spike in clearing in the first 2 years of the Code due to landholders' behavioural responses to regulatory change
- Land clearing is responsive to agricultural policy. For example, decisions around live export trade, dry land cropping or other major structural change in the agricultural sector are likely to have a significant effect on land clearing rates, so continued monitoring of policy settings will be required should such structural changes occur).

Risk table

Risk	Details of risk	Proposed risk mitigation strategies	Residual risk mgmt
<p>Impact of clearing on threatened species</p>	<p>Clearing under the Code may threaten the viability of certain threatened species at a property and local landscape scale.</p> <p>The risk is highest in overcleared landscapes where most clearing is likely to occur under the Code (Northern Tablelands, North-West, Central West and Western parts of NSW), particularly if there is limited uptake by farmers in these areas in the private land conservation funding schemes (BCIS and SOS) to conserve lands with biodiversity value on their property.</p>	<ol style="list-style-type: none"> 1. exclude additional core koala habitat from Code clearing , and work on travelling stock reserves clearing protocol (finalise by end 2017) 2. threatened species habitat will be a focus of funding under the BCIS 3. OEH to advise RLU CCs on monitoring information on changes in landscape extent in each biodiversity subregion 4. 12 month review of code and 3 year review of clearing caps 5. LLS to prepare outreach material to advise on benefits of retaining hollows in overcleared landscapes. 6. LLS only authorise activities in a set aside area if it promotes biodiversity outcomes; LLS set aside management guidelines to be consulted on with OEH. 7.  	<p>Moderate (on site and local landscape scale)</p> <p>Monitoring by Resources and Land Use CEOs committee ('RLU CCs')</p>

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Risk	Details of risk	Proposed risk mitigation strategies	Residual risk mgmt
Impact of clearing on threatened ecological communities	The Code contains some restrictions on clearing vegetation in vulnerable ('VEC') and endangered ecological communities ('EEC'), which will not apply if LLS deems the vegetation to not be a 'functioning ecological community'. Clearing this vegetation could threaten the ongoing viability of certain VECs and EECs in overcleared landscapes	<ol style="list-style-type: none"> 1. LLS guidelines on whether a VEC is a 'functioning ecological community' must be consulted upon with OEHL and approved by a qualified ecological sciences expert. 2. LLS to prepare guidelines for identifying VECs and EECs at a site level 	Moderate (on site and local landscape scale) OEHL review of guidance and reporting to RLU CCs
Enforcement risks	Clearing of 'regrowth' under Division 1 of Part 4 cannot be monitored to trigger safeguards under the Code, as no LLS notification is required.	Letter to Minister Blair affirming the agreement by LLS to provide guidance to landholders that this provision only authorises clearing of vegetation that has regrown following a lawful clearing event, and to operationally collect the landholder interest in this provision via customer relationship management systems to better profile the risk and report to RLU CCs.	Low Monitoring by RLU CC,
Climate change impact	Land clearing can lead to increased carbon emissions, depending on a range of factors including local soil quality.	<ol style="list-style-type: none"> 1. The biodiversity reforms are complemented by the new NSW Climate Change Policy and associated funding package announced in 2016. 2. [REDACTED] 	Low
Soil and water quality impact	If clearing is poorly managed, it could lead to localised erosion and increased salinity, and impacts on local water quality.	<ol style="list-style-type: none"> 1. LLS guidelines on best practice to minimise soil erosion and salinity. 2. [REDACTED] 	Low

Environmental risks and their relationship to safeguards

Most parts of the Code include limits and safeguards such as notification, certification and set asides which will work to minimise clearing and secure vegetation in the landscape, while still providing farmers with a greater level of autonomy. The table above summarises the risks and how they are proposed to be mitigated. Social and economic factors are discussed in the 'issues' section).

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Released by OEHL under the GIPA Act - Ref: GIPA945-IR

Clearing under the *farm expansion* and to a lesser extent *continuing use* part of the Code risk the following impacts, particularly at a property and local landscape scale in areas where most clearing is likely to occur under the Code:

- removing key habitat for threatened species, including koala habitat (less than 1% of identified koala habitat in NSW is protected from clearing under the Code)
- increasing vulnerability of threatened ecological communities (including in the last remaining tracts of remnant vegetation in already overcleared and vulnerable landscapes, such as travelling stock reserves and hollow bearing trees).
- landholders not managing set asides and retained vegetation to promote biodiversity and protect remaining habitat to offset the impacts of the clearing.

The Code does not formally require any assessment that proposed clearing and any associated offsets 'improves or maintains' environmental outcomes (including biodiversity, water and soil quality), although some provisions of the code (such as requirements to retain vegetation stem density requirements) have been designed to address these risks. Code restrictions on clearing vegetation in threatened ecological communities will also only apply if LLS is of the opinion that the vegetation is in a 'functioning' ecological community.

There are no specific requirements in the Code to ensure that at least 30% remnant vegetation remains on a landscape scale and that hollow bearing trees are retained after equity or farm plan clearing. Where less than 30% habitat or woodland remains in a landscape, the rate of species loss greatly accelerates. Hollows in trees are also critical to the survival of some threatened species who rely on hollows for food and habitat.

The measures proposed in the exchange of letters at **Tab 6**, including scheduled Code reviews and that LLS provide outreach services to promote best land management practices, are designed to substantially mitigate potential adverse environmental impacts of clearing under the Code. The biodiversity and land management reforms are also complemented by the new NSW Climate Change Policy and associated funding package announced in 2016.

Potential economic and social benefits of Code

Potential economic and social benefits of the Code include enabling landholders to increase production on their landholding, with more available land for pasture or cropping.

Given the forecasted land clearing rates from OEHL modelling do not indicate a dramatic escalation of clearing rates in the medium term, it is unlikely that there will be increased production that would have significant benefit for local communities across the State. Rather, the main benefits are likely to be private benefits for large farming operations which broadscale clear under the Code. Some benefits are likely to flow through to local communities in areas such as Moree/Walgett or Northern Tablelands where more extensive clearing may occur.

Next steps

Following Ministerial concurrence, the Code will be published on the NSW legislation website.

Supporting analysis

Further reasons

Not applicable

Cabinet / ERC recommendations and decisions

Legislative consequences

Not applicable

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Financial impact

Not applicable

Consultation

A draft version of the Code was publicly exhibited by LLS from 10 May to 21 June 2017, together with the other supporting documents for the Land Management and Biodiversity Reforms. Approximately 85% of the 8,924 submissions received commented on the Code.

The majority of campaign submissions were not supportive of the broadscale clearing permitted under the Equity and Farm Plan parts of the Code, due to potential habitat loss and impacts of clearing on climate change. There were also concerns about the cumulative impact of clearing, particularly on hollow bearing trees, travelling stock reserves and threatened ecological communities.

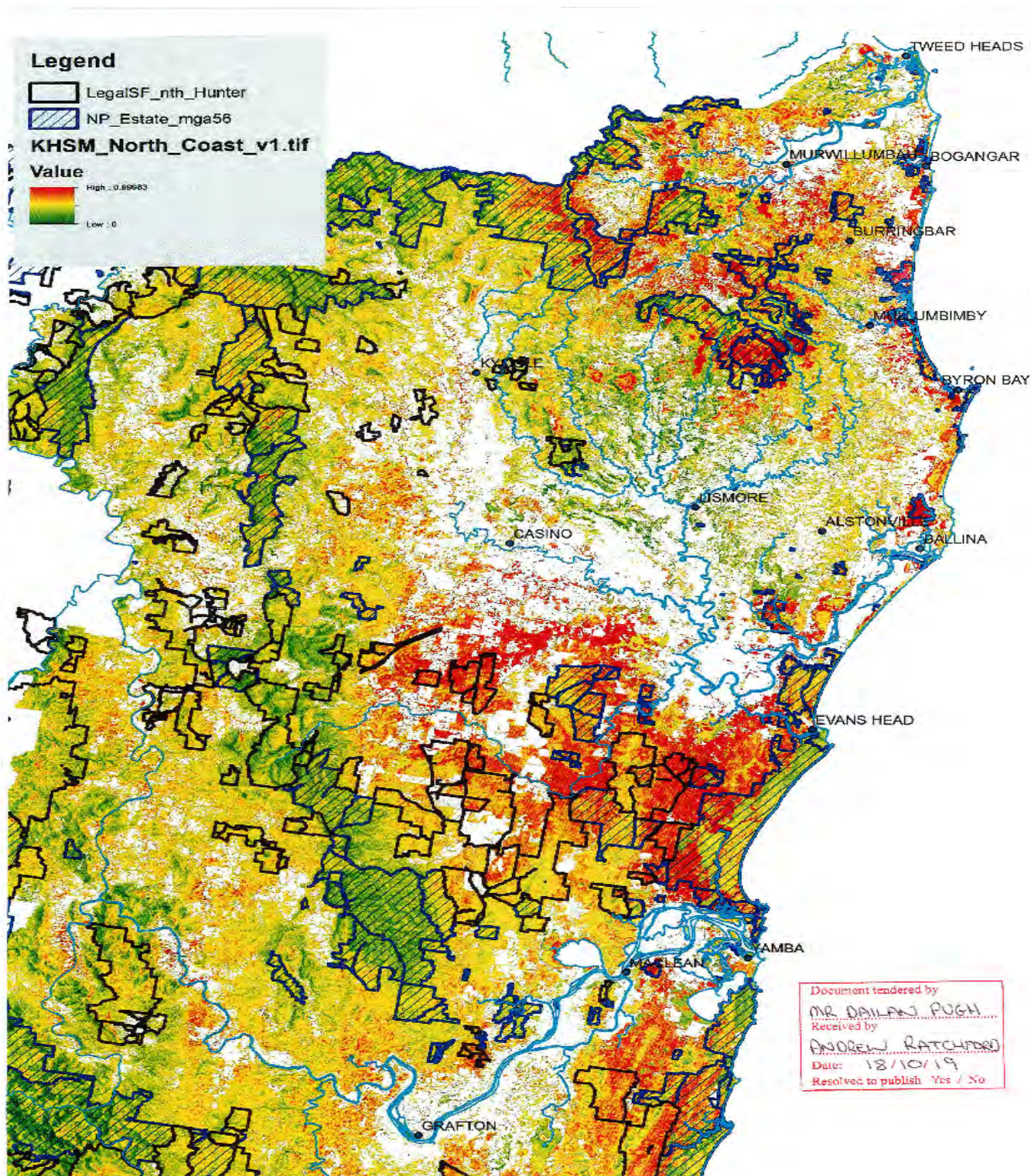
Significant concern was expressed in public submissions regarding the potential impact of clearing under the Code on koala habitat; many stakeholders have recommended commencement of the Code be delayed until completion of the statewide koala maps and the final native vegetation map

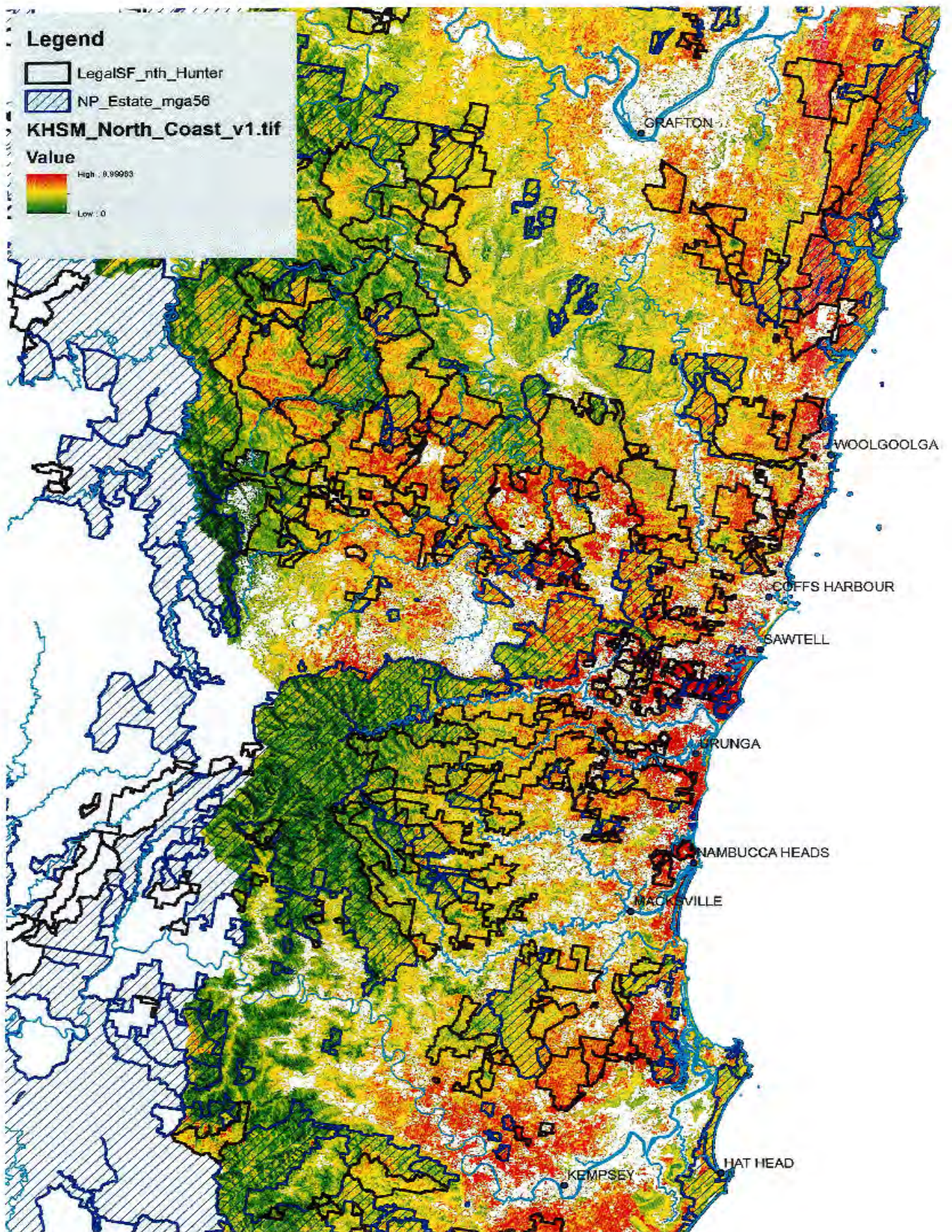
Some farming stakeholders expressed support for the code-based approach to regulating clearing, and requested further flexibility in the drafting of the Code.

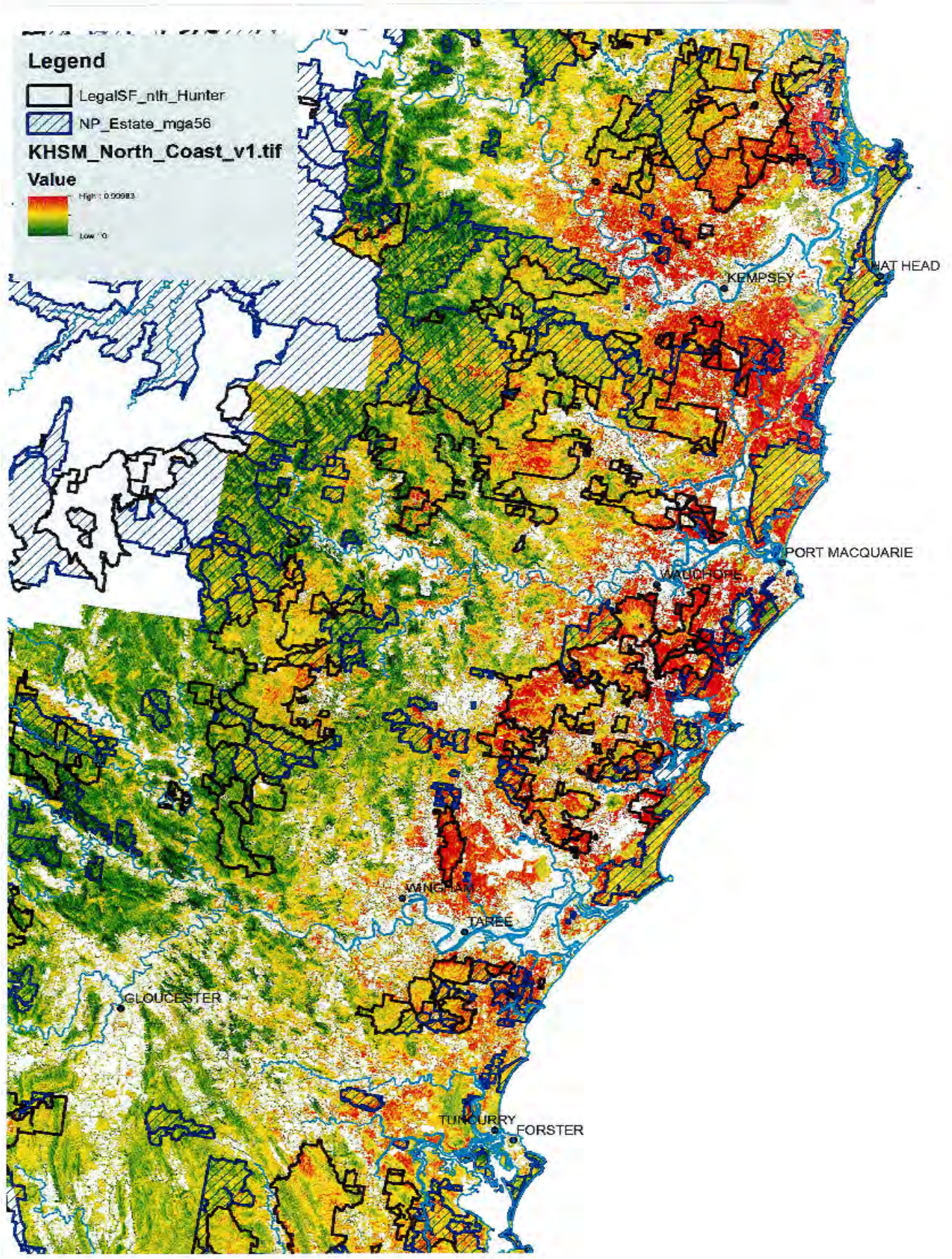
Tabs

Tab	Title
1	<i>Land Management (Native Vegetation) Code 2017</i> and request for concurrence
2	Restrictions on clearing in environmentally sensitive areas
3	Details of clearing authorised under the <i>Land Management (Native Vegetation) Code</i>
4	Principles of ecologically sustainable development and objects of <i>Local Land Services Act 2016</i>
5	OEH forecast land clearing report
6	Proposed letter from Minister Upton and Minister Blair
6a	Exchange of letters between Minister Speakman and Minister Blair dated 14 September 2016
6b	Procedures and guidance

Appendix 5 Maps tendered to the committee by Mr Dailan Pugh on 18 October 2019







Appendix 6 Submissions

No.	Author
1	Mr Warwick Schofield
2	Ms Thea Eves
3	Name suppressed
4	Name suppressed
5	Mr Karl Augustine
6	Asha Singham
7	Name suppressed
8	Mrs Cathy Mitchell
9	Name suppressed
10	Ms Samantha Chapman
11	Ms Kay Podmore
12	Mr Terence Doherty
13	Ms Linda Hall
14	Name suppressed
15	Miss Dorlene Haidar
16	Mrs Maïke Coates
17	Mr Thomas Fawcett
18	Ms Karen Visser
19	Name suppressed
20	Confidential
21	Ms Rosalyn Armstrong
22	Ms Shaunti Kiehl
23	Ms Helen Kvelde
24	Ms Maria Arranz
25	Ms Melisse Reynolds
25a	Ms Melisse Reynolds
26	Confidential
27	Ms Laura Bowden
28	Name suppressed
29	Name suppressed
30	Confidential
31	Mr Kenneth Stewart

No.	Author
32	Mrs Helga Bligh
33	Name suppressed
34	Ms Wendy White
35	Mrs Eira Battaglia
36	Confidential
37	Confidential
38	Mr Andreas Dalman
39	Ms Tracey Burchall
40	Mrs Martine Porret
41	Name suppressed
42	Name suppressed
43	Mrs Sandra Shergill
44	Name suppressed
45	Ms Rachel Sussman
46	Ms Charlotte McCabe
47	Mr Vic Jurskis
48	The Myall Koala and Environment Group Inc
49	Ms Joanne Warner
50	Name suppressed
51	Mr Bernard Jean
52	Coffs Harbour City Council
53	The Hon Mark Latham MLC
54	Lemon Tree Passage Parks, Reserves and Landcare Group
55	Ms Annette Rankin
56	Mrs Susan Somerville
57	Name suppressed
58	Confidential
59	Name suppressed
60	Name suppressed
61	Name suppressed
62	Name suppressed
63	Name suppressed
64	Great Southern Forest
65	Mrs Sandra Woodall
66	Ms Lynette Sinclair

No.	Author
67	National Parks Association of NSW, Tamworth Namoi Branch
68	Koala Retreat
69	Friends of the Koala Inc
70	Jane Goodall Institute Australia
71	Royal Zoological Society of New South Wales
72	Great Koala National Park Steering Committee
73	Keep Sydney Beautiful
74	Koala Recovery Partnership
75	Tweed Landcare Inc
76	Wildlife Carers Group
77	Saving Sydneys Trees
78	The University of Sydney
79	Ecotreasures
80	Tilligerry Habitat Association
81	Mr Mark Suttor
82	Sustainable Living Armidale. Wildlife Habitat Group
83	Name suppressed
84	Ms Deirdree Wallwork
85	Name suppressed
86	Name suppressed
87	Maules Creek Branch of the Country Womens' Association of NSW
88	Mr Jamie McMahon
89	Mrs Chantal Redman
90	Name suppressed
91	Ms Katina Czyczelis
92	Ms Justine Curatolo
93	Mr Barry Durman
94	Name suppressed
95	Mrs Marilyn Dawes
96	Mrs Meg Nielsen
97	Mrs Patricia Durman
97a	Mrs Patricia Durman
98	Ms Rebecca Page
99	Name suppressed
100	Name suppressed

No.	Author
101	Mrs Kirsty Fuller
102	Name suppressed
103	Mrs Patricia Edwards
104	Ms Mary Forbes
105	Name suppressed
106	Mr Jeremy Houghton
107	Bangalow Koalas
108	Mr Frank Binkley
109	Name suppressed
110	Name suppressed
111	Name suppressed
112	Mr Bruce Axam
113	Ms Mary-Jayne House
114	Mrs Elizabeth Gossell
115	Miss Margaret Sharkey
116	Ms Julie Manfredi Hughes
117	Mrs Linda Ambrose
118	Name suppressed
119	Name suppressed
120	Mrs Diana Pryde
121	Mrs Valerie Le Bihan
122	Mrs Anne Thompson
123	Dr Margaret Lorang
124	Wollondilly Shire Council
125	Wingecarribee Shire Council
126	National Parks Association of NSW, Macarthur Branch
127	Clarence Environment Centre
128	Save Mt. Gilead Inc.
129	Mr Clive West
130	Ms Jan Howlin
131	Mr Richard Horton
132	Ms Cheryl Sharma
133	Mr Roger Barlow
134	<i>Withdrawn</i>
135	Mrs Jennifer Bohner

No.	Author
136	Mr Gaven Wear
137	Mr Peter Wing
138	Mr Graham King
139	Blue Mountains Conservation Society Inc
140	Vegan Australia
141	Shepherds Ground Pty Lrd
142	North Coast Environment Council Inc
143	National Parks Association of NSW, Hunter Branch
144	Timber NSW
145	Earth Learning Inc
146	Clarence Valley Conservation Coalition Inc
147	Coffs Harbour Greens
148	New England Greens Armidale Tamworth
149	Dr Ben Moore
150	Total Environment Centre
151	Help Save Appin Inc
152	Byron Shire Council
153	Koalas In Care Inc
154	North East Forest Alliance
155	Stand Up For Nature Alliance (NCC NSW, NPA NSW, HSI, IFAW, TEC, Wilderness Society, WIRES, WWF Australia, Colong Foundation, National Trust, NEFA and North Coast Environment Council)
156	EcoNetwork - Port Stephens Inc
157	Ms Elizabeth Bewsher
158	Mr Ron McLachlan
159	Tweed Shire Council
160	Wilton Action Group
161	Forestry Corporation of NSW
162	Animal Liberation
163	National Parks Association of NSW
164	Name suppressed
165	Name suppressed
166	Ms Merle Thompson
167	Ms Michelle Higgins
168	Name suppressed
169	Mrs Terri Hanlon

No.	Author
170	Ms Prudence Wawn
171	Mr Peter Nielsen and Mrs Meg Nielsen
172	Ms Daniela Osiander
173	Name suppressed
174	Name suppressed
175	Name suppressed
176	Mr Bruce McQueen
177	Mr Patrick Murphy
178	Confidential
179	Ms Alexis Axam
180	Ms Natalie Stevens
181	Ms Rachel King
182	Ms Jane Dargaville
183	Name suppressed
184	Name suppressed
185	Ms Miriam Purkiss
186	Name suppressed
187	Name suppressed
188	Name suppressed
189	South East Timber Association Inc
190	Port Stephens Greens
191	Australian Koala Foundation
192	Wando Conservation and Cultural Centre
193	Voice of Woodville and Wallalong
194	Mr Scott Sledge
195	Campbelltown City Council
196	Team Koala
197	Raid Moorebank
198	Potoroo Palace, Native Animal Sanctuary
199	Miss Lucy Kelly
200	Ms Suzanne Whiteman
201	Mr James Fitzgerald
202	Ms Susie Hearder
203	Ms Anne Allen
204	Ms Petra O'Neill

No.	Author
205	Name suppressed
206	Name suppressed
207	Ms Lucia Jadronova
208	Mrs Kim Morris
209	Mr Michael Case
210	Mrs Maureen Webb
211	Ms Bunty Condon
212	Name suppressed
213	Name suppressed
214	Mr Garth Newton
215	Ms Petra Jones
216	Mrs Tania Thompson
217	Ms Elisabeth Nicolson
218	Mr Joseph Tamas
219	Name suppressed
220	Mrs Jacqui Purcell
221	Mr Angus Atkinson
222	Name suppressed
223	Ms Kristine Mulder
224	Mr Brian Summers
225	Lismore City Council
226	Mr Gregory Hall
227	Ballina Shire Council
228	Name suppressed
229	Name suppressed
230	Mr Trevor Evans
231	Mr David Paull
231a	Mr David Paull
232	Ms Sharon Cooke
233	Mrs Caroline Lewis-Hughes
234	Susan Wallace
235	Ms Pat Schultz
236	Ms Gae Constable
237	Mrs Sue Nile
238	Mrs Olia Carwardine

No.	Author
239	Mr Alan Roberts
240	Mr Ross Garsden
241	Name suppressed
242	Ms Meredith Stanton
243	Ms Karen Vegar
244	Name suppressed
245	Mr Robert Bertram
246	Ms Kate Boyd
247	Mr John Lindsay
248	Confidential
249	Name suppressed
250	NSW National Parks Association, Coffs Coast Branch
251	Port Stephens Koala and Wildlife Preservation Society Ltd
252	National Parks Association of NSW, Armidale Branch
253	Mambo-Wanda Wetlands Conservation Group
254	Name suppressed
255	Ms Anne Higginson
256	Name suppressed
257	Mr Kevin Evans and Mr Robert Bentley
258	Mr David Norris
259	NSW Government
260	Mr Nigel Waters
261	Miss Elissa Avery
262	Name suppressed
263	Name suppressed
264	Ms Nancy Pallin
265	Mr Callan Lawrence
266	Mrs Lorraine Vass
267	Name suppressed
268	Mrs Margaret Hession
269	Mr Peter Richards
270	NSW Threatened Species Scientific Committee
271	Ms Jane Good
271a	Ms Jane Good
272	Ranwi Morris

No.	Author
273	Mr Rogan Hunt
274	Ms Lisa J Ryan
275	Mr Jim Morrison
276	International Fund for Animal Welfare
277	Nambucca Valley Conservation Association Inc
278	Ms Sharlene Smith
279	Ms Anne Evans
280	Mr Frank Dennis
281	Ms Cheryl Egan
282	DJ Stief
283	Ms Louise Krieger
284	Ms Margaret England
285	Ms Meg Everingham
286	Mr Jason John
287	Name suppressed
288	Mr Graeme Tychsen
289	Environmental Defenders Office NSW
290	Ms Beverley Maunsell
291	Mr Nick Wilson
292	Ms Claire Bettington
293	Ms Maria Matthes
294	Confidential
295	Name suppressed
296	Mr Leon Gross
297	Bellingen Environment Centre Inc
298	Save Lot 2 Sawtell Road
299	The Australian Workers' Union
300	Ms Jenny Ankin
301	Name suppressed
302	The Coastwatchers Association Inc.
303	Mr David Carr
304	Ms Corinne MacKenzie
305	Name suppressed
306	Mr Brian Sawyer
307	Ms Wendy Bithell

No.	Author
308	Miss Alison Stoykovich
309	Mr John Pryde
310	Ms Wendy Parsons
311	Mr Brent Hely
312	Ms Kristine Hely
313	Mr Robert Trezise
314	Cita Murphy
315	Ms Amanda Thompson
316	Ms Gabrielle Richardson
317	Andris Abolins
318	Mr Derek Finter
319	Supporters of Proforma No 1 - 436 people
320	Supporters of Proforma No 2 - 3,435 people
321	Supporters of Proforma No 3 - 357 people
322	Supporters of Proforma No 4 - 1,401 people
323	Supporters of Proforma No 5 - South West Sydney - 11 people
324	Supporters of Proforma No 6 - 7 people
325	Supporters of Proforma No 7 - 105 people
326	Ms Nicole Small
327	Friends of Kalang Headwaters and affiliated groups
328	Dr Kara Youngentob
329	Coast Environmental Alliance (CEA)
330	Clarence Valley Council

Appendix 7 Witnesses at hearings

Date	Name	Position and Organisation
16 August 2019 Jubilee Room Parliament House	Ms Michelle Dumazel	Executive Director Policy Division – Environment, Energy & Science Group, Department of Planning, Industry and Environment
	Ms Trish Harrup	Director Parks & Conservation Policy – Environment, Energy & Science Group, Department of Planning, Industry and Environment
	Ms Jacquelyn Miles	Director Forestry- Environment, Energy & Science Group - Environment Protection Authority
	Dr Brad Law	Principal Research Scientist, Forest Science Unit, Department of Primary Industries
	Mr Nick Milham	Group Director, Forestry Policy, Research and Development, Department of Primary Industries
	Mr Dean Kearney	Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW
	Mr Justin Williams	Manager, Strategic Planning, Hardwood Forests Division, Forestry Corporation of NSW
	Ms Jacqueline Tracey	Director, Strategy and Engagement, Local Land Services
	Mr Brett Slavin	Manager, Strategy and Engagement, Local Land Services
	Dr Mathew Crowther	Associate Professor, School of Life and Environmental Sciences, University of Sydney

Date	Name	Position and Organisation
	Mr Jack Gough	Policy and Research Coordinator, Nature Conservation Council NSW
	Dr Oisin Sweeney	Senior Ecologist, National Parks Association
	Dr Grahame Douglas	Executive Member, National Parks Association
	Dr Stuart Blanch	Australian Forest and Woodland Conservation Policy Manager, World Wildlife Fund (WWF) Australia
	Ms Kristie Newton	Campaign Manager, WIRES
	Ms Josey Sharrad	Wildlife Campaigner Oceania, International Fund for Animal Welfare
	Mr Saul Deane	Urban Sustainability Campaigner, Total Environment Centre
	Mr Jeff Angel	Director, Total Environment Centre
	Ms Rachel Walmsley	Policy and Law Reform Director, Environmental Defenders Office NSW
	Ms Cerin Loane	Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW
18 October 2019	Mr David Milledge	Ecologist
Spinnakers Room	Dr Stephen Phillips	Managing Director/Principal Research Scientist, Biolink
Ballina RSL	Mr Jim Morrison	President, North Coast Environment Council
	Mr Dailan Pugh	President, North East Forest Alliance
	Ms Sue Higginson	Environmental Lawyer
	Dr Roslyn Irwin	President, Friends of the Koala
	Ms Maria Matthes	Ballina koalas expert

Date	Name	Position and Organisation
	Ms Linda Sparrow	President, Bangalow Koalas
	Ms Deborah Tabart OAM	Chairman, Australian Koala Foundation
	Ms Rhonda James	Project Officer, Friends of Cudgen Nature Reserve
	Mr Scott Hetherington	Senior Program Leader, Biodiversity, Tweed Shire Council
	Ms Virginia Seymour	Environmental Strategies Officer, Lismore City Council
	Mr Matthew Wood	Director Planning and Environmental Health, Ballina Shire Council
25 October 2019	Ms Fiona Bullivant	Wilton Action Group
Performance Studio	Mr Barry Durman	National Parks Association of NSW, Macarthur Branch and co-author of Campbelltown Koala Research and Database
Campbelltown Arts Centre	Mrs Susan Gay	Public Officer, Save Mt. Gilead Inc
	Mr Saul Deane	Urban Sustainability Campaigner, Total Environment Centre
	Mr Ricardo Lonza	Co-Founder, Help Save the Wildlife and Bushlands in Campbelltown
	Dr Stephen Phillips	Managing Director/Principal Research Scientist, Biolink and report writer, Campbelltown Koala Plan of Management
	Mr Matthew Wallace	Managing Director, Residential, Lendlease
	Ms Ranisha Clarke	General Manager Operations, Communities, Lendlease
	Mr Robert Humphries	Lead - Environmental Offsets and Biobanking, Eco Logical Australia

Date	Name	Position and Organisation
	Ms Alex Stengl	Environmental Services Manager, Wollondilly Shire Council
	Mr Ibrahim Muharrem	Sustainability Coordinator, Wollondilly Shire Council
	Mr Fletcher Rayner	Executive Manager - Urban Release and Engagement, Campbelltown City Council
9 December 2019 Macquarie Room Parliament House	Mr Mark Graham <i>(via teleconference)</i>	Hotspots Ecologist, Nature Conservation Council
	Mr Vic Jurskis	Ecological historian
	Dr Dan Lunney	Independent koala expert
	Dr Kellie Leigh	Executive Director, Science for Wildlife
	Mr Victor Steffensen	Tagalaka Descendant from North Queensland and Indigenous fire practitioner
	Mr Oliver Costello	Chief Executive Officer, Firesticks Alliance Indigenous Corporation and Deputy Chair, Indigenous Reference Group, Threatened Species Recovery Hub
	Ms Cheyne Flanagan	Clinical Director, Port Macquarie Koala Hospital
	Mr Atticus Fleming	Deputy Secretary, National Parks and Wildlife Service
	Ms Naomi Stephens	Executive Director, Park Operations, National Parks and Wildlife Service
	Ms Michelle Dumazel	Executive Director, Policy – Environment, Energy and Science Group, Department of Planning, Industry and Environment
	Mr Dailan Pugh	President, North East Forest Alliance

Date	Name	Position and Organisation
13 December 2019 Smithurst Theatre Gunnedah	Ms Martine Moran	WIRES
	Ms Anna Christie	Research Officer, Wando Conservation and Cultural Centre, Maules Creek
	Ms Lynne Hosking	President, National Parks Association, Armidale Branch
	Ms Nicola Chirlian	Chair, Upper Mooki Landcare
	Ms Heather Ranclaud	Committee member, Upper Mooki Landcare
	Mr Andrew Pursehouse	Local resident
	Ms Roselyn Druce	Agricultural & Environmental Officer, Maules Creek Branch of the Country Women's Association of NSW
	Mr Phil Spark	Wildlife ecologist
	Mr John Lemon	Local koala researcher
	Mr David Paull	Local koala expert
	Dr Mathew Crowther	School of Life and Environmental Sciences, University of Sydney
	Mr John Trotter	Environment Manager, Shenhua Watermark
	3 February 2020 Glasshouse Port Macquarie	Ms Cheyne Flanagan
Dr Rebecca Montague-Drake		Koala Ecologist and President of Koala Recovery Partnership
Mr Frank Dennis		Local resident and koala activist
Ms Blayne West		Natural Resources Manager, Port Macquarie-Hastings Council
Mr Steve Schwartz		Coordinator Strategic & Environmental Planner, Kempsey Shire Council
Mr Daniel Bennett	Senior Strategic Planner, Bellingen Shire Council	

Date	Name	Position and Organisation
4 February 2020 C.Ex Coffs Coffs Harbour	Dr Dan Lunney	Koala academic and co-author of Coffs Harbour Koala Plan of Management
	Mr Chris Moon	Koala academic and co-author of Coffs Harbour Koala Plan of Management
	Mr John Turbill	Koala academic and co-author of Coffs Harbour Koala Plan of Management
	Ms Paula Flack	Member, Great Koala National Park Steering Committee
	Ms Lyn Orrego	Committee member, Nambucca Valley Conservation Association
	Ms Leonie Blain	Honorary Secretary, Clarence Valley Conservation Coalition
	Mr Ashley Love	Member, Bellingen Environment Centre
	Mr Kevin Evans	President, NSW National Parks Association, Coffs Coast Branch
	Mr John Edwards	Honorary Secretary, Clarence Environment Centre
	Mr Michael Donovan	Gumbaynggirr Nation Representative
	Ms Sally Whitelaw	Team Leader Biodiversity, Coastal and Flooding, Local Planning, Coffs Harbour City Council
Ms Karen Love	Research Officer, Byron Shire Council	
Mr Ben Grant	Planner, Byron Shire Council	
18 February 2020 Jubilee Room Parliament House	Ms Wendy Hawes <i>(via teleconference)</i>	Director and Ecologist, The Enviro Factor
	Dr John Hunter <i>(via teleconference)</i>	Director and Ecologist, The Enviro Factor

Date	Name	Position and Organisation
	Dr Stuart Blanch	Australian Forest and Woodland Conservation Policy Manager, World Wildlife Fund (WWF) Australia
	Ms Rachel Walmsley	Director of Policy and Law Reform, Environmental Defenders Office NSW
	Ms Cerin Loane	Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW
	Dr Kara Youngentob <i>(via teleconference)</i>	Research Fellow, Research School of Biology, Australian National University
	Mr Jeff Lucas <i>(via teleconference)</i>	Director Planning and Environment Services, Operations Directorate, NSW Rural Fire Service (Hotspots Fire Project)
	Mr Paul Noack	Assistant Secretary, Australian Workers' Union NSW
	Mr Nick Kamper	National Economist, Australian Workers' Union NSW
	Dr Kellie Leigh	Executive Director, Science for Wildlife
	Mr James Fitzgerald	Founder, Two Thumbs Wildlife Trust
	Mr Paul Elton	Chief Executive Officer, Biodiversity Conservation Trust
26 February 2020 Macquarie Room Parliament House	Mr Dean Kearney	Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW

Appendix 8 Minutes

Minutes no. 2

Tuesday 18 June 2019

Portfolio Committee No. 7 – Planning and Environment

Room 1254, Parliament House, Sydney at 1.15 pm

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack

Mr Franklin

Mr Mallard

Ms Sharpe.

2. Draft minutes

Resolved, on the motion of Mr Pearson: That draft minutes no. 1 be confirmed.

3. ***

4. Proposed terms of reference – koalas in New South Wales

The Chair circulated draft terms of reference for an inquiry into koalas in New South Wales for the consideration of members.

5. Adjournment

The committee adjourned at 1.24 pm, *sine die*.

Jenelle Moore

Clerk to the Committee

Minutes no. 3

Thursday 20 June 2019

Portfolio Committee No. 7 – Planning and Environment

Members' Lounge, Parliament House, Sydney at 6.30 pm

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack

Mr Mallard

Ms Sharpe

2. Apologies

Mr Franklin

3. Draft minutes

Resolved, on the motion of Ms Cusack: That draft minutes no. 2 be confirmed.

4. Consideration of terms of reference

The Chair tabled a letter proposing the following self-reference:

1. That Portfolio Committee No. 7 – Planning and Environment Committee notes that WWF-Australia and the Nature Conservation Council of NSW have predicted that koalas could be extinct in New South Wales by 2050 from threats including habitat loss and climate change.
2. That Portfolio Committee No. 7 – Planning and Environment Committee inquire into and report on actions, policies and funding by government to ensure healthy, sustainable koala populations and habitat in New South Wales, and in particular:
 - (a) the status of koala populations and koala habitat in New South Wales, including trends, key threats, resource availability, adequacy of protections and areas for further research,
 - (b) the impacts on koalas and koala habitat from:
 - (i) the Coastal Integrated Forestry Operations Approvals and Regional Forest Agreements,
 - (ii) the Private Native Forestry Code of Practice,
 - (iii) the old growth forest remapping and rezoning program,
 - (iv) the 2016 land management reforms, including the *Local Land Services Amendment Act 2016* and associated regulations and codes
 - (c) the effectiveness of *State Environmental Planning Policy 44 - Koala Habitat Protection*, the NSW Koala Strategy and the *Biodiversity Conservation Act 2016*, including the threatened species provisions and associated regulations, in protecting koala habitat and responding to key threats,
 - (d) identification of key areas of koala habitat on private and public land that should be protected, including areas currently at risk of logging or clearing, and the likely impacts of climate change on koalas and koala distribution,
 - (e) the environmental, social and economic impacts of establishing new protected areas to conserve koala habitat, including national parks, and
 - (f) any other related matter.
3. That the committee report by 15 June 2020.

Resolved, on the motion of Ms Sharpe: That the committee adopt the terms of reference.

5. Conduct of the inquiry into koala populations and habitat in New South Wales

5.1 Closing date for submissions

Resolved, on the motion of Mr Pearson: That the closing date for submissions be Friday 2 August 2019.

5.2 Stakeholder list

Resolved, on the motion of Mr Mallard: That the secretariat circulate to members the Chairs' proposed list of stakeholders to provide them with the opportunity to amend the list or nominate additional stakeholders, and that the committee agree to the stakeholder list by email, unless a meeting of the committee is required to resolve any disagreement.

5.3 Advertising

The committee noted that all inquiries are advertised via Twitter, Facebook, stakeholder letters and a media release distributed to all media outlets in New South Wales.

5.4 Hearing dates and site visits

Resolved, on the motion of Ms Sharpe: That:

- the timeline for hearings and site visits be considered by the committee following the receipt of submissions, and
- that dates for hearings and site visits be determined by the Chair after consultation with members regarding their availability.

6. Adjournment

The committee adjourned at 6.37 pm, *sine die*.

Jenelle Moore

Clerk to the Committee

Minutes no. 5

Tuesday, 16 August 2019

Portfolio Committee No. 7

Jubilee Room, Parliament House, 9.30 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg (from 10:26 am - 11:51 am)

Ms Cusack

Mr Franklin (left at 12.00 pm)

Ms Sharpe

2. Apologies

Mr Mallard

3. Previous minutes

Resolved, on the motion of Mr Pearson: That draft minutes no. 4 be confirmed.

4. Correspondence

The committee noted the following items of correspondence:

Received:

- 9 August 2019 – Email from Mr Evan Quartermain, Head of Programs, Humane Society International, to the committee, declining the invitation to appear as a witness at the hearing on 16 August 2019.
- 13 August 2019 – Email from Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, WWF Australia, to the committee, providing a document entitled, 'Briefing - koala extinction risk in Eastern Australia WWF'.
- 15 August 2019 - Email from Dr Valentina Mella, School of Life and Environmental Services, University of Sydney, to the committee, declining the invitation to appear as a witness at the hearing on 16 August 2019.

5. Inquiry into koala populations and habitat in New South Wales**5.1 Public submissions**

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 51-56, 64-82, 84, 87-88, 91-93, 95-96, 98, 101, 103-104, 106-108, 112-117, 120-127, 129-133, 135-151, 153-163, 166-167, 169-172, 176-177, 179-182, 185, 189-200, 259, 276 and 289.

5.2 Partially confidential submissions

The committee noted that the following submissions were partially published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 57, 59-63, 83, 85-86, 90, 94, 99-100, 102, 105, 109-111, 118-119, 164-165, 168, 173-175, 183-184 and 186-188.

Resolved, on the motion of Mr Franklin that the committee authorise the publication of submission nos. 57, 59-63, 83, 85-86, 90,94, 99-100, 102, 105, 109-111, 118-119, 164-165, 168, 173-175, 183-184 and 186-188 with the exception of the author's name, which is to remain confidential, as per the request of the author.

Submissions to be considered for partial confidentiality

Resolved, on the motion of Mr Pearson that the committee authorise the publication of submissions nos. 50, 89, 97-97a, 128, 134 and 152, with the exception of:

- the names of third party individuals, which are to remain confidential, at the recommendation of the secretariat
- highlighted sections of submission no. 152, which are to remain confidential, at the request of the author.

5.3 Confidential submissions

Resolved on the motion of Ms Sharpe that the committee keep submission nos. 58 and 178 confidential, as per the request of the author.

5.4 Procedural fairness for inquiry participants

Members noted that the resolution regarding procedural fairness for inquiry participants was adopted in October 2018 (attached). The resolution will apply to all witnesses before committees in the 57th Parliament.

5.5 Request to film

Resolved, on the motion of Mr Buttigieg: That the committee agree to the Nature Conservation Council (NCC)'s request to take photographs and videos of their staff giving evidence at the hearing and that the NCC sign and return the relevant media guidelines.

5.6 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Ms Michelle Dumazel, Executive Director Policy Division – Environment, Energy & Science Group, Department of Planning, Industry and Environment
- Ms Trish Harrup, Director Parks & Conservation Policy – Environment, Energy & Science Group, Department of Planning, Industry and Environment
- Ms Jacquelyn Miles, Director Forestry- Environment, Energy & Science Group - Environment Protection Authority.

Ms Michelle Dumazel, tendered the following document:

- Organisational chart – Department of Planning, Industry and Environment, Senior Executive Team.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Dr Brad Law, Principal Research Scientist, Forest Science Unit, Department of Primary Industries
- Mr Nick Milham, Group Director Forestry Policy, Research and Development, Department of Primary Industries
- Mr Dean Kearney, Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW
- Mr Justin Williams, Manager, Strategic Planning, Hardwood Forests Division, Forestry Corporation of NSW
- Ms Jacqueline Tracey, Director, Strategy and Engagement, Local Land Services
- Mr Brett Slavin, Manager, Strategy and Engagement, Local Land Services.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Dr Mathew Crowther, Associate Professor, School of Life and Environmental Sciences, University of Sydney.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Jack Gough, Policy and Research Coordinator, Nature Conservation Council NSW
- Dr Oisin Sweeney, Senior Ecologist, National Parks Association
- Dr Grahame Douglas, Executive Member, National Parks Association
- Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, World Wildlife Fund (WWF) Australia.

Mr Jack Gough tendered the following documents:

- Excerpt from NSW Forest Agreements and IFOAs Implementation Report 2014-15
- Excerpt from Native Forestry Compliance Update
- Excerpt from report, 'Crown native forestry compliance and enforcement activities'
- Submission to the NSW Environmental Protection Agency on the Draft Coastal Integrated Forestry Operations Approval Remake
- Article entitled 'Baradine forestry feud rolls on as sawmill mediation fails'.

Dr Oisin Sweeney, tendered the following documents:

- Document entitled 'Clearing Koalas Away in North East NSW' by Dailan Pugh
- Article entitled 'Koalas in Kalang'
- Article entitled 'China's new panda park will be three times bigger than Yellowstone'
- Document entitled 'The economic impact of the cancellation of NSW North Coast Wood Supply Agreements due to the creation of Great Koala National Park – Final report'.

Dr Grahame Douglas, tendered the following documents:

- Article entitled 'Conserving Koalas: A review of the contrasting regional trends, outlooks and policy challenges'
- Document entitled '50 Park Proposals'.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Kristie Newton, Campaign Manager, WIRES
- Ms Josey Sharrad, Wildlife Campaigner Oceania, International Fund for Animal Welfare
- Mr Saul Deane, Urban Sustainability Campaigner, Total Environment Centre
- Mr Jeff Angel, Director, Total Environment Centre

Ms Kristie Newton, tendered the following document:

- Photograph of maimed koala.

Mr Saul Deane, tendered the following documents:

- Figtree Hill Masterplan
- Article entitled 'Biobanks EPBC conditions being ignored – No additional Koala habitat protection conferred', Total Environment Centre
- NSW Government Gazette No 70, dated 5 July 2019
- Australian Government, Department of the Environment and Energy – Approval - Mt Gilead residential development, NSW (EPBC 2015/7599)
- Office of Environment and Heritage - BioBanking Agreement ID No: 239 - Under the Threatened Species Conservation Act 1995

- Minutes of 2019 Campbelltown City Council Local Planning Panel, 24 July 2019.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Rachel Walmsley, Policy and Law Reform Director, Environmental Defenders Office NSW
- Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW.

The evidence concluded and the witnesses withdrew.

The public hearing concluded at 4.33 pm.

The public and media withdrew.

Resolved, on the motion of Ms Sharpe: That the committee accept and publish the following documents tendered during the public hearing:

- Organisational chart, Department of Planning, Industry and Environment, Senior Executive Team
- Excerpt from NSW Forest Agreements and IFOAs Implementation Report 2014-15
- Excerpt from Native Forestry Compliance Update
- Excerpt from report, 'Crown native forestry compliance and enforcement activities'
- Submission to the NSW Environmental Protection Agency on the Draft Coastal Integrated Forestry Operations Approval Remake
- Article entitled 'Baradine forestry feud rolls on as sawmill mediation fails'
- Document entitled 'Clearing Koalas Away in North East NSW' by Dailan Pugh
- Article entitled 'Koalas in Kalang'
- Article entitled 'China's new panda park will be three times bigger than Yellowstone'
- Document entitled 'The economic impact of the cancellation of NSW North Coast Wood Supply Agreements due to the creation of Great Koala National Park – Final report'
- Article entitled 'Conserving Koalas: A review of the contrasting regional trends, outlooks and policy challenges'
- Document entitled '50 Park Proposals'
- Photograph of maimed koala
- Figtree Hill Masterplan
- Article entitled 'Biobanks EPBC conditions being ignored – No additional Koala habitat protection conferred', Total Environment Centre
- NSW Government Gazette No 70, dated 5 July 2019
- Australian Government, Department of the Environment and Energy – Approval - Mt Gilead residential development, NSW (EPBC 2015/7599)
- Office of Environment and Heritage - BioBanking Agreement ID No: 239 - Under the Threatened Species Conservation Act 1995
- Minutes of 2019 Campbelltown City Council Local Planning Panel, 24 July 2019.

5.7 Hearings and site visit

Resolved, on the motion of Ms Sharpe: That the committee conduct a hearing in Lismore on 18 October 2019, and conduct a site visit and hearing in the Campbelltown/Appin area on 25 October 2019, the details of which will be determined in consultation with members over email.

6. Adjournment

The committee adjourned at 4.40 pm *sine die*.

Helen Hong
Clerk to the Committee

Minutes no. 8

Thursday 12 September 2019

Portfolio Committee No. 7 – Planning and Environment

Macquarie Room, Parliament House, Sydney at 9.17 am

1. Members presentMs Faehrmann (*Chair*)Mr Pearson (*Deputy Chair*)

Ms Cusack

Mr Franklin

Mr Mallard

Mr Searle (substituting for Mr Buttigieg)

Ms Sharpe (until 5.05 pm)

Mr Shoebridge (participating from 2.15 pm until 4.03 pm)

Mr Primrose (substituting for Ms Sharpe from 6.00 pm)

2. Correspondence

The committee noted the following items of correspondence:

Received:

- 2 September 2019 – Email from Mr Tom Loomes, Parliamentary Director, Office of the Hon-Rob Stoke MP, Minister for Planning and Public Spaces, to the secretariat, advising that Professor Hugh Durrant-Whyte, NSW Chief Scientist and Engineer and Ms Suzanne Jones, Landcom Chair are available to appear at the Budget Estimates hearing for Planning and Public Spaces.
- 11 September 2019 – Email from Mr Tom Loomes, Director of Parliamentary Business, Office of the Hon Rob Stokes MP, Minister for Planning and Public Spaces, to the secretariat, advising that Dr Sarah Hill is unable to attend the hearing for Planning and Public Spaces due to unforeseen circumstances.

Sent:

- 5 September 2019 – Email from the secretariat to Ms Jane Boag, Parliamentary Liaison Officer, Office of the Hon Shelley Hancock MP, Minister for Local Government, attaching transcript of evidence with questions on notice highlighted, supplementary questions and instructions on how to correct the transcript and return answers to questions.

3. *****4. Inquiry into koala populations and habitat in New South Wales****4.1 Public submissions**

The following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 201-204, 207-211, 214-218, 220-221, 223-227, 230-240, 242-243, 245-247, 250, 252-253, 255, 257-258, 260-261, 264, 266, 268-275, 277-286, 288, 290-293, 296-300, 302-304 and 306-309.

4.2 Partially confidential submissions

The following submissions were partially published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 205-206, 212-213, 222, 228-229, 241, 244, 249, 254, 256, 262-263, 267, 287, 295, 301 and 305.

Resolved, on the motion of Mr Pearson: That the committee authorise the publication of submission nos. 205-206, 212-213, 222, 228-229, 241, 244, 249, 254, 256, 262-263, 267, 287, 295, 301 and 305 with the exception of the author's name, which is to remain confidential, as per the request of the author.

Resolved, on the motion of Ms Cusack: That the committee authorise the publication of submissions nos. 219, 251 and 265, with the exception of the names of third party individuals, which is to remain confidential, at the recommendation of the secretariat.

4.3 Confidential submissions

Resolved, on the motion of Ms Cusack: That the committee keep submission nos. 20, 26, 30, 36-37, 248 and 294 confidential, as per the request of the author.

5. ***

6. Adjournment

The committee adjourned at 6.33 pm, until 9.15 am, Friday 13 September 2019, Macquarie Room (*Energy and Environment*).

John Young/Merrin Thompson
Clerk to the Committee

Minutes no. 11

Friday, 18 October 2019

Portfolio Committee No. 7

Spinnakers Room, Ballina RSL, 9.15 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Buttigieg

Ms Cusack

Mr Franklin

Ms Hurst (*substituting for Mr Pearson*)

Ms Sharpe

2. Apologies

Mr Mallard

3. Correspondence

The committee noted the following items of correspondence:

Received:

- 3 September 2019 – Email from the Office of Hon Emma Hurst to the secretariat, advising that the Hon Emma Hurst will substitute for the Hon Mark Pearson at the public hearing in Ballina on 18 October 2019.
- 12 September 2019 – Mr Gary Dunnett, Executive Officer, National Parks Association NSW to the secretariat, providing supplementary information following the public hearing on 16 August 2019.
- 1 October 2019 – Professor Ross Goldingay to the secretariat, declining the invitation to appear as a witness at the hearing on 18 October 2019.
- 4 October 2019 – Mr David Milledge to the secretariat, providing a document entitled, 'Submission to NSW Parliamentary Inquiry, October 2019'.
- 4 October 2019 – Ms Rebecca Cribb, Walker Corporation, declining invitation for Mr David Gallant to appear as a witness at the hearing on 25 October 2019.
- 10 October 2019 – Ms Elizabeth Fowler, Forestry Corporation of NSW, declining invitation for representatives to appear as witnesses at the hearing on 18 October 2019.
- 14 October 2019 – Email from Mr Robert Bertram to the committee, commenting on the answers to questions on notice supplied by Forestry Corporation's Mr Dean Kearney.
- 15 October 2019 – Email from Dr Stephen Phillips, specialist Koala ecologist, to the secretariat outlining key issues and recommendations for the inquiry into koala populations
- 15 October 2019 – Hon Shayne Mallard to the Chair, advising that he is unable to attend the public hearing in Ballina on 18 October 2019.

4. Inquiry into koala populations and habitat in New South Wales

4.1 Submissions

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 310-326.

4.2 Answers to questions on notice and supplementary questions

The committee noted that the following questions on notice and supplementary questions were published by the committee clerk under the authorisation of the resolution appointing the committee:

- answers to questions on notice from Ms Kristie Newton, Campaign Manager, WIRES, received on 21 August 2019
- answers to questions on notice from Mr Dean Kearney, Senior Manager, Planning , Hardwood Forests Division, Forestry Corporation of NSW and Mr Justin Williams, Manager, Strategic Planning, Hardwood Forests, Division, Forestry Corporation of NSW, received on 6 September 2019
- answers to questions on notice from Dr Jacqueline Tracey, Director, Strategy and Engagement, Local Land Services, received on 10 September 2019
- answers to questions on notice from Ms Rachel Walmsley, Policy and Law Reform Director, Environmental Defenders Office NSW, and Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW, received on 10 September 2019
- answers to supplementary questions from Dr Brad Law, Principal Research Scientist, Forest Science Unit, NSW Primary Industries, received on 11 September 2019
- answers to supplementary questions from Ms Elysia Harradine, A/Executive to the CEO, Local Land Services, received on 16 September 2019
- answers to questions on notice and supplementary questions from Ms Michaela Friedman, Manager Strategic Projects - Ministerial Services, Department of Planning, Industry and Environment, received on 16 September 2019
- answers to supplementary questions from Ms Michaela Friedman, Manager Strategic Projects - Ministerial Services, Environment Protection Authority, received on 16 September 2019
- answers to supplementary questions from Mr Dean Kearney, Senior Manager, Planning , Hardwood Forests Division, Forestry Corporation of NSW, received on 16 September 2019
- answers to supplementary questions from Mr Justin Williams, Manager, Strategic Planning, Hardwood Forests, Division, Forestry Corporation of NSW, received on 16 September 2019.

4.3 Transcript corrections

Resolved on the motion of Mr Buttigieg: That the committee agree to the transcript corrections proposed by the following witnesses:

- Ms Jacqueline Miles (Director Forestry – Environment, Energy & Science Group – EPA)
- Mr Dean Kearney (Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW)
- Ms Rachel Walmsley (Policy and Law Reform Director, EDO NSW)

4.4 Election of Deputy Chair

Resolved, on the motion of Ms Sharpe: That Ms Hurst be elected Deputy Chair for the duration of the meeting only.

4.5 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Mr David Milledge, Ecologist
- Dr Stephen Phillips, Managing Director/Principal Research Scientist, Biolink

Dr Phillips tendered the following documents:

- Biolink Ecological Consultants report entitled: 'Comprehensive koala plan of management for eastern portion of Kempsey Shire LGA, Volume 1 - Resource study, dated March 2009'
- Biolink Ecological Consultants report entitled: 'Port Macquarie-Hastings koala habitat and population assessment, Final report to Port Macquarie-Hastings Council, dated June 2013'

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Jim Morrison, President, North Coast Environment Council
- Mr Dailan Pugh, President, North East Forest Alliance
- Ms Sue Higginson, Environmental Lawyer

Mr Pugh tendered the following documents:

- Document entitled: 'Comparison of recent koala modelling'
- Document entitled: 'Proposed Sandy Creek Koala Park'
- Assorted north coast mapping documents including 'Comparison of koala modelling conducted by NSW Department of Planning, Industry and Environment with koala modelling conducted by Forestry Corporation of NSW' and 'Proposed Sandy Creek Koala Park'

Ms Higginson tendered the following document:

- Summary of key issues and recommendations for the committee's consideration

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Dr Roslyn Irwin, President, Friends of the Koala
- Ms Maria Matthes, Ballina koalas expert
- Ms Linda Sparrow, President, Bangalow Koalas
- Ms Deborah Tabart OAM, Chairman, Australian Koala Foundation
- Ms Rhonda James, Project Officer, Friends of Cudgen Nature Reserve

Ms Matthes tendered the following documents:

- Document entitled: 'Every koala is important'
- Sandpiper Ecological report entitled: 'Woolgoolga to Ballina Pacific Highway upgrade phased resource reduction for koala'

Ms Tabart OAM tendered the following documents:

- Map entitled: 'Koala Habitat Atlas'
- Map entitled: 'Koala numbers by Federal electorate with Potential habitat, 2018 edition'
- Map entitled: 'Koala Map New South Wales'
- Department of Environment and Science, 'Code of Practice - Care of sick, injured or orphaned protected animals in Queensland, Nature Conservation Act 1992'

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Scott Hetherington, Senior Program Leader, Biodiversity, Tweed Shire Council
- Ms Virginia Seymour, Environmental Strategies Officer, Lismore City Council
- Mr Matthew Wood, Director Planning and Environmental Health, Ballina Shire Council

The evidence concluded and the witnesses withdrew.

The public hearing concluded at 2:50 pm.

The public and media withdrew.

4.6 Tended documents

Resolved, on the motion of Mr Franklin: That the committee accept and publish the following documents tendered during the public hearing:

- Biolink Ecological Consultants report entitled: 'Comprehensive koala plan of management for eastern portion of Kempsey Shire LGA, Volume 1 - Resource study, dated March 2009'
- Biolink Ecological Consultants report entitled: 'Port Macquarie-Hastings koala habitat and population assessment, Final report to Port Macquarie-Hastings Council, dated June 2013'
- Assorted north coast mapping documents including 'Comparison of koala modelling conducted by NSW Department of Planning, Industry and Environment with koala modelling conducted by Forestry Corporation of NSW' and 'Proposed Sandy Creek Koala Park'
- Summary of key issues and recommendations for the committee's consideration
- Document entitled: 'Every koala is important'
- Sandpiper Ecological report entitled: 'Woolgoolga to Ballina Pacific Highway upgrade phased resource reduction for koala'
- Map entitled: 'Koala Habitat Atlas'
- Map entitled: 'Koala numbers by Federal electorate with Potential habitat, 2018 edition'
- Map entitled: 'Koala Map New South Wales'
- Department of Environment and Science, 'Code of Practice - Care of sick, injured or orphaned protected animals in Queensland, Nature Conservation Act 1992'

4.7 Site visit to Campbelltown – 25 October 2019

Resolved, on the motion of Mr Buttigieg: That the committee agree to the site visit schedule for Campbelltown on 25 October 2019 as circulated by the Chair.

The Chair also briefed the committee on a potential half day site visit and half day hearing in the Coffs Harbour region.

4.8 Other business

Resolved, on the motion of Mr Buttigieg: That the Chair write to the Premier, the Minister for Environment and Energy, the Minister for Agriculture and the Minister for Emergency Services to request that urgent action be taken to protect koala populations in the Braemar, Kerewong and Royal Camp State Forests as a result of recent bushfires and to allow the rescue and support of populations in distress.

5. Adjournment

The committee adjourned at 3.30 pm *sine die*.

Laura Ismay

Clerk to the Committee

Minutes no. 12

Friday, 25 October 2019

Portfolio Committee No. 7

Parliament House, Hospital Road, Sydney, 6.50 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack

Mr Franklin

Mr Mallard

Ms Sharpe (until 1.00 pm)

2. Confirmation of draft minutes

Resolved, on the motion of Mr Franklin: That draft minutes no. 11 be confirmed.

3. Correspondence

The committee noted the following items of correspondence:

Received:

- 2 October 2019 – Email from Mr Ricardo Lonza to the secretariat, providing a document entitled 'Summary of my key issues/recommendations'
- 18 October 2019 – Email from Mr Barry Durman to the secretariat, providing a copy of commentary on questions asked by the committee at the hearing on 16 August 2019
- 20 October 2019 – Email from Ms Patricia Durman to the secretariat, providing a copy of document titled 'North-South Corridor (Government option) and other corridor options'
- 21 October 2019 – Email from the Hon Adam Marshall MP, Minister for Agriculture and Western New South Wales to the chair, confirming receipt of correspondence sent on 18 October 2019 regarding the request that relevant agencies allow wildlife carers immediate access to these forests to Braemar, Kerewong and Royal Camp State Forests to assess, provide support and rescue injured or stressed animals

Sent:

- 18 October 2019 – Chair of the Committee to the Hon Gladys Berejiklian, Premier; the Hon Matt Kean MP, Minister for Energy and Environment; The Hon Adam Marshall MP, Minister for Agriculture and Western New South Wales and The Hon David Elliott MP, Minister for Police and Emergency Services, requesting that relevant agencies allow wildlife carers immediate access to Braemar, Kerewong and Royal Camp State Forests to assess, provide support and rescue injured or stressed animals

4. Inquiry into koala populations and habitat in New South Wales

4.1 Site visit

The committee visited Mount Gilead, from 8:30 am to 12:05 pm, and examined Beulah Homestead, Woodhouse Creek and various sites on the proposed Figtree Hill development location.

The committee was briefed on the impact of the proposed development on the local koala population by the expert stakeholders:

- Mr Saul Deane, Total Environment Centre
- Mr Barry Durman, local resident
- Ms Susan Gay, Save Mt Gilead.

The committee was briefed on the proposed 'Figtree Hill' development by Lendlease representatives:

- Mr Mark Anderson, Senior Development Manager, Communities
- Ranisha Clarke, General Manager, Operations
- Brendan O'Brien, Head of Strategic Planning
- Virginia Kim, National Manager, Government & Industry Affairs
- Robert Humphries, Lead – Environment Offsets and Biobanking, EcoLogical Australia

Ms Kim tendered a collection of six maps relating to the proposed development on the Gilead site.

4.2 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Ms Fiona Bullivant, Wilton Action Group
- Mr Barry Durman, National Parks Association of NSW, Macarthur Branch and Co-Author of Campbelltown Koala Research and Database

- Mrs Susan Gay, Public Officer, Save Mt. Gilead Inc
- Mr Saul Deane, Urban Sustainability Campaigner, Total Environment Centre
- Mr Ricardo Lonza, Co-Founder, Help Save the Wildlife and Bushlands in Campbelltown.

Ms Bullivant tendered the following documents:

- Opening statement
- Greater Macarthur Land Release Investigation
- Wilton Site Visit schedule
- Biodiversity Conservation (Savings and Transitional) Regulation 2017
- Collection of correspondence.

Mr Deane tendered the following documents:

- Koala Survival Lessons from Gilead
- Comprehensive Koala Plan of Management, Prepared by Biolink for Campbelltown City Council
- Letter from Total Environment Centre to Campbelltown Councillors, dated 10 September 2018
- Abridged letter from Total Environment Centre to South West Sydney Planning Panel, dated 8 October 2019.

Ms Gay tendered the following document:

- Document entitled "Document tracking – Mt Gilead – EPBC Assessment Report".

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Dr Stephen Phillips, Managing Director/Principal Research Scientist, Biolink and report writer, Campbelltown Koala Plan of Management

Dr Phillips tendered the following documents:

- Document entitled "Parliamentary inquiry into koala populations and habitat in NSW – Campbelltown Sitting 25/10/19"
- Excerpt from Koala Plan of Management
- Koala Corridor Project – Campbelltown City Council & Wollondilly Local Government Areas: Greater Macarthur Growth Area, Report to NSW Office of Environment & Heritage, dated October 2018
- Lend Lease Communities (Roads and Maritime) – Appin Road Upgrade, Mt Gilead NSW, Biodiversity Assessment.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Matthew Wallace, Managing Director, Residential, Lendlease
- Ms Ranisha Clarke, General Manager Operations, Communities, Lendlease
- Mr Robert Humphries, Lead - Environmental Offsets and Biobanking, Eco Logical Australia.

The Chair tabled a document containing a map of the proposed Gilead development, provided to the committee by Lendlease during a site visit.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Ms Alex Stengl, Environmental Services Manager, Wollondilly Shire Council
- Mr Ibrahim Muharrem, Sustainability Coordinator, Wollondilly Shire Council
- Mr Fletcher Rayner, Executive Manager - Urban Release and Engagement, Campbelltown City Council.

The evidence concluded and the witness withdrew.

The evidence concluded and the witnesses withdrew.

The public hearing concluded at 5.01 pm.

The public and media withdrew.

4.3 Tended documents

Resolved, on the motion of Mr Buttigieg: That the committee accept and publish the following documents tendered during the public hearing:

- Koala Survival Lessons from Gilead, tendered by Mr Deane
- Letter from Total Environment Centre to Campbelltown Councillors, dated 10 September 2018, tendered by Mr Deane
- Abridged letter from Total Environment Centre to South West Sydney Planning Panel, dated 8 October 2019, tendered by Mr Deane
- Document entitled "Document tracking – Mt Gilead – EPBC Assessment Report", tendered by Ms Gay
- Document entitled "Parliamentary inquiry into koala populations and habitat in NSW – Campbelltown Sitting 25/10/19", tendered by Dr Phillips
- Excerpt from Koala Plan of Management, tendered by Dr Phillips
- Koala Corridor Project – Campbelltown City Council & Wollondilly Local Government Areas: Greater Macarthur Growth Area, Report to NSW Office of Environment & Heritage, dated October 2018
- Lend Lease Communities (Roads and Maritime) – Appin Road Upgrade, Mt Gilead NSW, Biodiversity Assessment, tendered by Dr Phillips.

5. ***

6. Adjournment

The committee adjourned at 5.05 pm until 9.15 am, Thursday 31 October 2019 in the Macquarie Room, Parliament House, Sydney (Budget Estimates supplementary hearing – Planning).

Jenelle Moore
Clerk to the Committee

Minutes no. 15

Thursday 31 October 2019

Portfolio Committee No. 7 – Planning and Environment
Macquarie Room, Parliament House, Sydney, 3.25 pm

1. Members present

Ms Faehrmann (*Chair*)
Mr Pearson (*Deputy Chair*)
Mr Buttigieg
Ms Cusack
Mr Franklin
Mr Searle (*participating until 4.40 pm*)
Ms Sharpe
Mr Shoebridge (*participating from 5.15 pm until 5.45 pm*)

2. Apologies

Mr Mallard

3. Inquiry into koala populations and habitat in NSW

3.1 Hearings and site visits

Resolved, on the motion of Ms Sharpe: That the committee hold hearings and site visits at the following locations:

9 December 2019: Sydney

13 December 2019: Gunnedah

Early February 2020: Coffs Harbour

26 February 2020: Final Sydney hearing.

4. ***

5. **Adjournment**

The committee adjourned at 6.52 pm, *sine die*.

Stephen Frappell
Clerk to the Committee

Minutes no. 17

Monday 9 December 2019

Portfolio Committee No. 7

Macquarie Room, Parliament House, 9.02 am

1. **Members present**

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack (*until 3.01 pm*)

Mr Franklin (*from 11.29 am*)

Mr Mallard (*from 9.27 am*)

Ms Sharpe

2. **Previous minutes**

Resolved, on the motion of Ms Cusack: That draft minutes no. 13, 14, 15 and 16 be confirmed.

3. **Correspondence**

The Committee noted the following items of correspondence:

Received:

- 30 October 2019 – Email from Mr Saul Deane to the secretariat, providing document entitled 'Report to NSW Office of Environment & Heritage' by Biolink Ecological Consultants and document entitled 'Final Report: Conserving koalas in Wollondilly and Campbelltown LGAs'
- 31 October 2019 – Email from the Hon Gladys Berejiklian, Premier to the Chair, responding to letter dated 18 October 2019 for wildlife rehabilitation providers to be given access to areas affected by bushfire
- 20 November 2019 – Email from Dr Valentina Mella, Postdoctoral Research Associate - Animal Behaviour and Conservation, University of Sydney, to the secretariat declining invitation to appear at the Gunnedah hearing on 13 December 2019
- 21 November 2019 – Email from Mr Barry Durman to the secretariat, providing a document entitled 'Supplement to my submission'
- 21 November 2019 – Email from Mr Vic Jurskis to the secretariat, providing a document entitled 'Ecological history of the koala and implications for management'
- 22 November 2019 – Email from Ms Elizabeth Fowler, Media and Communications Officer, Forestry Corporation of NSW, to the secretariat, declining invitation for representatives to appear at the Sydney hearing on 9 December 2019

- 22 November 2019 – Email from Mr Richard Hodge, Policy Advisor, Office of the Hon. Matt Kean, Minister for Energy and Environment, to the secretariat, declining invitation for Minister to appear at the Sydney hearing on 9 December 2019
- 25 November 2019 – Email from Ms Susan Gay, Save Mt Gilead, providing additional commentary on Campbelltown hearing on 25 October 2019
- 26 November 2019 – Email from Mr Edward Strong, Parliamentary Liaison Officer, Office of the Hon. David Elliott, Minister for Police and Emergency Services, to the secretariat, declining invitation for Minister to appear at the Sydney hearing on 9 December 2019
- 26 November 2019 – Email from Ms Debbie Andreatta, Director, Executive Services, NSW Rural Fire Service, to the secretariat, declining invitation for staff to appear at Sydney hearing on 9 December 2019
- 26 November 2019 – Email from Professor Mark Krockenberger, Professor of Veterinary Pathology, University of Sydney, to the secretariat, declining invitation to appear at Gunnedah hearing on 13 December 2019
- 27 November 2019 – Email from Mr John Lemon, providing a document entitled 'Summary for Portfolio Committee No 7 regarding the Inquiry into Koala Populations and Habitat'
- 29 November 2019 – Email from Mr Gerry McDonald, Human Resources and Safety Manager, Shenhua Australia, to the secretariat, declining invitation for representative to appear at Gunnedah hearing on 13 December 2019
- 3 December 2019 – Letter from Mr Rob Rogers, Deputy Commissioner, NSW Rural Fire Service, to the Chair, declining the Chair's request to reconsider invitation for staff to attend the Sydney hearing on 9 December 2019
- 4 December 2019 – Letter from Mr John Trotter, Environment Manager, Shenhua Australia, to the Chair, declining the Chair's request to reconsider invitation for a representative to attend the Gunnedah hearing on 13 December 2019

Sent:

- 7 November 2019 – Letter from Chair to Mr Matthew Wallace, General Manager Residential, Lendlease thanks Lendlease for the tour of Mt Gilead site on 25 October 2019
- 7 November 2019 – Letter from Chair to Mr Saul Deane, Total Environment Centre thanking Mr Dean for the site visit to Beulah and Mt Gilead on 25 October 2019
- 7 November 2019 – Letter from Chair to Lady Katrina Hobhouse, thanking her for hosting the committee for morning tea during the Mt Gilead site visit on 25 October 2019
- 29 November 2019 – Letter from Chair to Mr Shane Fitzsimmons, Commissioner NSW Rural Fire Service, requesting that the NSW Rural Fire Service reconsider the invitation for staff to appear at the Sydney hearing on 9 December 2019
- 3 December 2019 – Letter from Chair to Mr John Trotter, Environment Manager, Shenhua Australia, requesting that Shenhua reconsider the invitation for a representative to appear at the Gunnedah hearing on 13 December 2019

4. Inquiry into koala populations and habitat in New South Wales

4.1 Correspondence from Shenhua Australia

Resolved, on the motion of Mr Pearson: That the committee summon Mr John Trotter, Environment Manager, Shenhua Australia to appear at a public hearing in Gunnedah on 13 December 2019.

4.2 Publication of documents tabled by Ms Fiona Bullivant during hearing on 25 October 2019

Resolved, on the motion of Mr Pearson: That the committee authorise the partial publication of the following documents with the exception of identifying information:

- Opening statement
- Greater Macarthur Land Release Investigation
- Wilton Site Visit schedule
- Biodiversity Conservation (Savings and Transitional) Regulation 2017
- Collection of correspondence.

4.3 Transcript corrections

Resolved, on the motion of Ms Sharpe: That the committee agree to a transcript correction proposed by Mr Dailan Pugh, President, North East Forest Alliance.

4.4 Answers to questions on notice and supplementary questions

Resolved, on the motion of Mr Pearson: That the committee authorise the publication of the following answers and attachments, previously circulated:

- answers to questions on notice from Mr Dailan Pugh, President, North East Forest Alliance, received on 2 November 2019
- answers to questions on notice from Mr Scott Hetherington, Senior Program Leader – Biodiversity, Tweed Shire Council, received on 12 November 2019
- answers to questions on notice from Mr David Milledge, Director, Landmark Ecological Services Pty Ltd, received on 18 November 2019
- answers to questions on notice from Dr Roslyn Irwin, President, Friends of the Koala, received on 18 November 2019
- answers to questions on notice from Mr Ibrahim Muharrem, Sustainability Coordinator and Ms Alexandra Stengl, Environmental Services Manager, Wollondilly Shire Council, received on 25 November 2019
- answers to questions on notice from Ms Virginia Kim, National Manager, Government and Industry Affairs, Lendlease, received on 25 November 2019
- answers to questions on notice from Mr Fletcher Rayner, Executive Manager, Urban Release and Engagement, Campbelltown City Council, received on received 25 November 2019
- answers to supplementary questions from Mr Fletcher Rayner, Executive Manager, Urban Release and Engagement, Campbelltown City Council, received on 25 November 2019

4.5 Public Hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witness was sworn and examined:

- Mr Mark Graham, Hotspots Ecologist, Nature Conservation Council (*via teleconference*)

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Mr Vic Jurskis, Ecological historian

Mr Vic Jurskis tendered the following document:

- Five photographs of koalas in their natural habitat

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Dr Dan Lunney, Independent koala expert
- Dr Kellie Leigh, Executive Director, Science for Wildlife

Dr Dan Lunney tendered the following document:

- 'Statement by Dan Lunney for the Inquiry into koala populations and habitat in New South Wales' dated 6 December 2019

Dr Kellie Leigh tendered the following documents:

- Response and recommendations to the inquiry Terms of Reference
- 'Bushfire Impacts on Koala Habitats in the Greater Blue Mountains', dated 5 December 2019

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Victor Steffensen, Tagalaka Descendant from North Queensland and Indigenous fire practitioner
- Mr Oliver Costello, Chief Executive Officer, Firesticks Alliance Indigenous Corporation and Deputy Chair, Indigenous Reference Group, Threatened Species Recovery Hub

Mr Oliver Costello tendered the following documents:

- Firesticks Alliance Indigenous Corporation brochure entitled 'Supporting cultural and contemporary burning practices for healthy communities and healthy landscapes'
- Letter to the committee entitled 'Logging moratorium for koala habitat'

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Atticus Fleming, Deputy Secretary, National Parks and Wildlife Service
- Ms Naomi Stephens, Executive Director, Park Operations, National Parks and Wildlife Service

The following witness, previously sworn, was examined

- Ms Michelle Dumazel, Executive Director, Policy – Environment, Energy and Science Group, Department of Planning, Industry and Environment

The evidence concluded and the witnesses withdrew.

The following witness, previously sworn, was examined

- Mr Dailan Pugh, President, North East Forest Alliance

Mr Dailan Pugh tendered the following documents:

- 'The Effects of Bushfires on North Coast Koalas, Dailan Pugh', dated 9 December 2019

The evidence concluded and the witnesses withdrew.

The public hearing concluded at 3.25 pm.

The public and media withdrew.

4.6 Tendered documents

Resolved, on the motion of Ms Sharpe: That the committee accept and publish the following documents tendered during the public hearing:

- Five photographs of koalas in their natural habitat, tendered by Mr Jurskis
- 'Statement by Dan Lunney for the Inquiry into koala populations and habitat in New South Wales', tendered by Dr Lunney
- 'Response and recommendations to the inquiry Terms of Reference', tendered by Dr Leigh
- 'Bushfire Impacts on Koala Habitats in the Greater Blue Mountains', tendered by Dr Leigh
- 'Supporting cultural and contemporary burning practices for healthy communities and healthy landscapes', tendered by Mr Costello
- 'Logging moratorium for koala habitat', tendered by Mr Costello
- 'The Effects of Bushfires on North Coast Koalas, Dailan Pugh', tendered by Mr Pugh.

4.7 Correspondence from Shenhua Australia

Resolved, on the motion of Mr Mallard: That the committee note correspondence received from Mr John Trotter, Environment Manager, Shenhua Australia advising that he is willing to attend the hearing in Gunnedah on 13 December 2019 voluntarily and not proceed with the issue of the summons.

5. Adjournment

The committee adjourned at 3:28 pm until 11.45 am, Friday 13 December 2019 at the Smithurst Theatre, Gunnedah NSW.

Laura Ismay
Clerk to the Committee

Minutes no. 18

Friday 13 December 2019
 Portfolio Committee No. 7
 Smithurst Theatre, Gunnedah at 11:54 am

1. Members present

Ms Faehrmann (*Chair*)
 Mr Pearson (*Deputy Chair*)
 Mr Buttigieg
 Ms Cusack
 Ms Sharpe

2. Apologies

Mr Franklin
 Mr Mallard

3. Previous minutes

Resolved, on the motion of Ms Sharpe: That draft minutes no.17 be confirmed.

4. Correspondence

The Committee noted the following items of correspondence:

Received:

- 9 December 2019 – Two letters from Mr Vic Jurskis, ecological historian, providing clarification to his evidence from the hearing on Monday 9 December 2019
- 10 December 2019 – Email from Mr Barry Durman to secretariat, providing documents entitled 'Update on Lendlease at Figtree' and 'Figtree Hill Planning Proposal November 2019'
- 12 December 2019 – Letter from Hon Adam Marshall MP, Minister for Agriculture to the Chair, responding to letter dated 18 October 2019 for wildlife rehabilitation providers to be given access to areas affected by bushfire

5. Inquiry into koala populations and habitat in New South Wales

5.1 Clarification to evidence

Resolved, on the motion of Ms Sharpe: That the committee note the clarifications to evidence provided by Mr Vic Jurskis.

5.2 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined.

- Ms Martine Moran, WIRES
- Ms Anna Christie, Research Officer, Wando Conservation and Cultural Centre, Maules Creek
- Ms Lynne Hosking, President, National Parks Association Armidale Branch

Ms Lynne Hosking tendered the following document:

- 'Protecting all koala habitat trees near watercourses and on footslopes or floodplains'

Ms Anna Christie tendered the following documents:

- 'Additional information for committee members'
- Schedule of documents obtained as a result of GIPA application.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Nicola Chirlan, Chair, Upper Mooki Landcare
- Ms Heather Ranclaud, Committee member, Upper Mooki Landcare
- Mr Andrew Pursehouse, Local resident
- Ms Roselyn Druce, President, Maules Creek Branch of the Country Women's Association of NSW

Ms Nicola Chirlan tendered the following documents:

- 'Presentation to NSW Parliament Portfolio Committee No. 7 – Planning and Environment'
- 'Lots of loss with little scrutiny: The attrition of habitat critical for threatened species in Australia'

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Phil Spark, Wildlife ecologist
- Mr John Lemon, Local koala researcher
- Mr David Paull, Local koala expert

The following witness, previously sworn, was examined

- Dr Mathew Crowther, School of Life and Environmental Sciences, University of Sydney

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr John Trotter, Environment Manager, Shenhua Watermark.

The evidence concluded and the witnesses withdrew.

The public hearing concluded at 2:52 pm.

The public and media withdrew.

6. Adjournment

The Committee adjourned at 3:13 pm, until 7:30 am, 3 February 2020, Sydney Airport (Port Macquarie hearing)

Laura Ismay

Clerk to the Committee

Minutes no. 19

Monday 3 February 2020

Portfolio Committee No. 7

Glasshouse, Port Macquarie at 2.00 pm

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack

Mr Franklin

Mr Mallard

Ms Sharpe

2. Previous minutes

Resolved, on the motion of Mr Pearson: That draft minutes no. 12 and no. 18 be confirmed

3. Correspondence

The Committee noted the following items of correspondence:

Received:

- 21 October 2019 – Email from Sue Arnold, Coordinator, Australians for Animals NSW Inc, to the secretariat, requesting their submission (134) and attachments be withdrawn from the inquiry.
- 27 November 2019 – Letter from Ms Anissa Levy, Coordinator General, Environment Energy and Science Group, Department of Planning, Industry and Environment to the Chair, providing clarification to her evidence at the supplementary hearing for Energy and Environment on 31 October 2019.
- 10 December 2019 – Email from Ms Cheyne Flanagan, to the committee, providing a document entitled 'To the committee – to go on the record'.
- 17 December 2019 – Documents provided by Ms Anna Christie, Wando Conservation and Cultural Centre, to the committee, following the hearing in Gunnedah on 13 December 2019.
- 20 December 2019 – Email from Dr Alison Matthews, Manager Research Professional Development, Charles Sturt University, to the secretariat, declining invitation to appear as a witness at the Coffs Harbour hearing on 4 February 2020.
- 24 December 2019 – Email from Mr Vic Jurskis, Ecological historian, to the committee, providing additional evidence following koala populations hearing on 9 December 2019, including document entitled 'Requested Corrections to Transcript – Vic Jurskis'.
- 5 January 2020 – Email from Dr Daniel Lunney, Independent koala expert, to the committee, providing copies of published papers relating to fire and fauna.
- 8 January 2020 – Email from Ms Roselyn Druce, Environment and Agricultural Officer, Maules Creek Branch of the Country Women's Association of NSW, to the committee, providing additional information regarding the subject of koala management plans.
- 13 January 2020 – Email from Ms Martine Moran, WIRES, to the committee, providing additional information following the hearing in Gunnedah on 13 December 2019.
- 24 January 2020 – Email from Mr Chris Moon, to the committee, providing documents entitled 'Koala inquiry statement Chris Moon' and 'Chris Moon publications and reports'.
- 28 January 2020 – Email from Dr Daniel Lunney, Independent koala expert, to the committee, providing document entitled 'Additional statement by Dan Lunney for the Inquiry into koala populations and habitat in New South Wales (for 4.2.2020 in Coffs Harbour)'.
- 28 January 2020 – Email from Dr Daniel Lunney, Independent koala expert, to the committee, providing copies of published papers relating to koala populations in Coffs Harbour.
- 28 January 2020 – Email from Mr Ashley Love, Bellingen Environment Centre, to the committee, providing documents entitled 'Opening statement by Ashley Love for the Bellingen Environment Centre', 'Table 1 Fire impacts on koala populations in the GKNP' and 'Conserving Koala Populations on the Upper Mid-North Coast'.
- 29 January 2020 – Letter from the Hon Matt Kean MP, Minister for Energy and Environment, to the Chair, providing the Government's proposed response to the bushfires.

Sent:

- 5 November 2019 – Email from the secretariat to Mr Richard Hodge, Office of the Hon Matt Kean MP, Minister for Environment and Energy, attaching transcript of evidence with questions on notice highlighted, supplementary questions and instructions on how to correct the transcript and return answers to questions.
- 5 November 2019 – Email from the secretariat to Ms Jane Boag, Office of the Hon Shelley Hancock MP, Minister for Local Government, attaching transcript of evidence with questions on notice

highlighted, supplementary questions and instructions on how to correct the transcript and return answers to questions.

- 5 November 2019 – Email from the secretariat to Mr Tom Loomes, Office of the Hon Rob Stokes MP, Minister for Planning and Public Spaces, attaching transcript of evidence with questions on notice highlighted, supplementary questions and instructions on how to correct the transcript and return answers to questions.
- 19 December 2019 – Letter from the Chair to Andrew and Cindy Pursehouse, thanking them for hosting the committee at their property at Breeza Station on 13 December 2019 (*attached*).
- 19 December 2019 – Letter from the Chair to Hon Rob Stokes MP, Minister for Planning and Public Spaces requesting that relevant departments respond to issues raised in the hearing on Friday 13 December 2019 at Gunnedah relating to Maules Creek coal mine and associated offsets.
- 21 January 2020 – Letter from the Chair to Hon Matt Kean MP, Minister for Energy and Environment, requesting a written briefing on the government's proposed response to the summer bushfire.
- 21 January 2020 – Letter from the Chair to Hon David Elliott MP, Minister for Police and Emergency Services, seeking information on how state agencies such as the RFS and NSW National Parks & Wildlife Service are working with local wildlife groups to rescue animals from firegrounds.
- 22 January 2020 – Letter from the Chair to Hon Rob Stokes MP, Minister for Planning and Public Spaces, requesting that the Government urgently investigate how the Department of Planning approved the Maules Creek Coal Mine despite its failure to secure like-for-like offsets.

4. ***

5. Inquiry into koala populations and habitat in New South Wales

5.1 Site visit

The committee visited the Port Macquarie Koala Hospital, Port Macquarie from 11.14 am to 12.20 pm.

The committee observed a procedure involving an injured koala and was briefed on the work of the hospital by the expert stakeholders:

- Ms Sue Ashton, President, Port Macquarie Koala Hospital.
- Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital.

5.2 Public submissions

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 1-2, 5-6, 8, 10-13, 15-18, 21-25a, 27, 31-32, 34-35, 38-40, 43 and 45-49.

5.3 Partially confidential submissions

The following submissions were partially published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 3-4, 7, 9, 14, 19, 28-29, 33, 41-42 and 44.

Resolved, on the motion of Mr Mallard: That the committee authorise the publication of submission nos. 3-4, 7, 9, 14, 19, 28-29, 33, 41-42 and 44 with the exception of the author's name, which is to remain confidential, as per the request of the author.

5.4 Tended documents – 13 December 2019

Resolved, on the motion of Mr Pearson: That the committee accept and publish the following documents tendered during the public hearing on 13 December 2019:

- 'Protecting all koala habitat trees near watercourses and on footslopes or floodplains', tendered by Ms Lynne Hosking
- 'Additional information for committee members', tendered by Ms Anna Christie
- Table of documents obtained as a result of GIPA application, tendered by Ms Anna Christie
- 'Presentation to NSW Parliament Portfolio Committee No. 7 – Planning and Environment', tendered by Ms Nicola Chirlan

- 'Lots of loss with little scrutiny: The attrition of habitat critical for threatened species in Australia', tendered by Ms Nicola Chirlian.

5.5 Answers to questions on notice and supplementary questions

Resolved, on the motion of Mr Franklin: That the committee authorise the publication of the following answers to questions and their attachments:

- answers to questions on notice from Ms Virginia Seymour, Environmental Strategies Officer, Lismore City Council, received on 13 December 2019
- answers to questions on notice from Mr Vic Jurskis, Ecological historian, received on 24 December 2019
- answers to questions on notice from Ms Roselyn Druce, Environment and Agricultural Officer, Maules Creek Branch of the Country Women's Association of NSW, received on 8 January 2020
- answers to questions on notice from Ms Kate Boyd, National Parks Association of NSW, on behalf of Ms Lynne Hosking, President, National Parks Association Armidale Branch with attachment, received on 9 January 2020
- answers to questions on notice from Ms Michaela Friedman, Manager Strategic Projects – Ministerial Services, Department of Planning, Industry and Environment, on behalf of Ms Michelle Dumazel, Executive Director, Policy - Environment, Energy and Science Group, Department of Planning, Industry and Environment, Mr Atticus Fleming, Deputy Secretary, National Parks and Wildlife Service, and Ms Naomi Stephens Executive Director, Park Operations, National Parks and Wildlife Service, received on 10 January 2020
- answers to questions on notice from Dr Kellie Leigh, Executive Director, Science for Wildlife, received on 12 January 2020
- answers to questions on notice from Ms Heather Ranclaud, Committee member, Upper Mooki Landcare, received on 12 January 2020

5.6 Clarification to evidence

Resolved, on the motion of Mr Franklin: That the committee note the correspondence and authorise the secretariat to change the title of the photo as per the request of Mr Jurskis.

5.7 Hearing schedules and site visit itineraries

Resolved, on the motion of Mr Mallard: That the committee note the distribution of the following documents by the Chair to the committee on Friday 13 December 2019, entitled:

- 'Draft hearing schedule, Port Macquarie, 3 February 2020'
- 'Draft site visit itinerary, Port Macquarie, 3 February 2020'
- 'Draft hearing schedule, Coffs Harbour, 4 February 2020'
- 'Draft site visit itinerary, Coffs Harbour, 4 February 2020'

5.8 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The Chair reminded the following witness that they did not need to be sworn, as they had been sworn at another hearing for the same inquiry:

- Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital.

The following witness was sworn:

- Dr Rebecca Montague-Drake, Koala Ecologist and President of Koala Recovery Partnership

The witnesses were examined by the committee

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Frank Dennis, Local resident and koala activist

Mr Frank Dennis tendered the following documents:

- 'Additional information: Introductory remarks'
- 'Our local forests flattened and woodchipped? You can help stop this!'
- 'Changes to NSW logging rules in our public forests'

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Ms Blayne West, Natural Resources Manager, Port Macquarie-Hastings Council
- Mr Steve Schwartz, Coordinator Strategic & Environmental Planner, Kempsey Shire Council
- Mr Daniel Bennett, Senior Strategic Planner, Bellingen Shire Council

The evidence concluded and the witness withdrew.

The public hearing concluded at 4.17 pm.

The public and media withdrew.

6. **Adjournment**

The committee adjourned at 4.17 pm until 9.00 am, Tuesday 4 February 2020 at the Great Koala National Park Headquarters Bellingen St, Urunga.

Laura Ismay

Clerk to the Committee

Minutes no. 20

Tuesday 4 February 2020

Portfolio Committee No. 7

Rainbow Room, C.Ex Coffs, Coffs Harbour 12.18 pm

1. **Members present**

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack

Mr Franklin

Mr Mallard

Ms Sharpe

2. *******

3. **Inquiry into koala populations and habitat in New South Wales**

3.1 Site visit

The committee visited the headquarters of the Great Koala National Park's Steering Committee, Urunga from 9.00 am to 10.30 am.

The committee was briefed on the proposal for the park by the expert stakeholders:

- Ms Paula Flack, Member, Great Koala National Park Steering Committee
- Mr Kevin Evans, President, NSW National Parks Association, Coffs Coast Branch

The committee also visited the proposed entrance to the Great Koala National Park at Mailmans Track Road, Repton from 10:45 am to 10:55 am. The committee was briefed on the proposal for the entrance by Mr Ashley Love, Member, Bellingen Environment Centre.

3.2 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The Chair reminded the following witness that they did not need to be sworn, as they had been sworn at another hearing for the same inquiry:

- Dr Dan Lunney, Koala academic and co-author of Coffs Harbour Koala Plan of Management

The following witnesses were sworn:

- Mr Chris Moon, Koala academic and co-author of Coffs Harbour Koala Plan of Management
- Mr John Turbill, Koala academic and co-author of Coffs Harbour Koala Plan of Management

The witnesses were examined by the committee

Dr Dan Lunney tendered the following documents:

- 'Additional statement by Dan Lunney for the Inquiry into koala populations and habitat in New South Wales (for 4.2.2020 in Coffs Harbour)'

Mr John Turbill tendered the following documents:

- 'Koala Habitat Study, Coffs Harbour City Council, Local Government Area, August 2019'
- 'Office of Environment and Heritage. Koala Habitat Study, Bellingen Shire Council Coastal Area, Report to Bellingen Shire Council, June 2014'
- 'NSW Government. Framework for the spatial prioritisation of koala conservation actions in NSW. Saving our Species Iconic. Koala Project'
- 'Koala spatial dataset audit. To support the spatial prioritisation of lands for investment across NSW. A report prepared for the Office of Environment and Heritage. Brendan Rennison. January 2017'
- 'Koala habitat study for the Nambucca Shire Council Coastal Area. December 2015'

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Paula Flack, Member, Great Koala National Park Steering Committee
- Ms Lyn Orrego, Committee member, Nambucca Valley Conservation Association
- Ms Leonie Blain, Honorary Secretary, Clarence Valley Conservation Coalition

Ms Paula Flack tendered the following documents:

- 'Parliamentary Inquiry into Koalas and Koala Habitat in NSW, Visit to The Great Koala National Park IVC 4 February 2020'
- 'The Great Koala National Park, Protecting our National Icon'
- 'The Great Koala National Park, Long Distance Walking Track'
- 'Trails of The Great Koala National Park, A proposal for mountain bike investment in the Great Koala National Park'
- 'The Great Koala National Park, Horseshoe Trail'

Ms Lyn Orrego tendered the following documents:

- 'Statement to Inquiry into koala populations and habitat in New South Wales'

Ms Leonie Blain tendered the following documents:

- 'Update on recent Clarence Valley developments likely to impact koalas – Two case studies. Compiled by Leonie Blain'
- 'Clarence Valley Council Flier: Reporting koalas in the Clarence Valley'
- 'NSW Koala Strategy 2018. Priority actions. Highlights of the Plan. Status of 24 Strategy Actions as they affect Clarence Valley koalas. To November 2019. Compiled by Patricia Edwards'

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Ashley Love, Member, Bellingen Environment Centre
- Mr Kevin Evans, President, NSW National Parks Association, Coffs Coast Branch

- Mr John Edwards, Honorary Secretary, Clarence Environment Centre
- Mr Michael Donovan, Gumbaynggirr Nation Representative

Mr Ashley Love tendered the following documents:

- 'NSW Upper House Koala Inquiry hearing in Coffs Harbour 4 Feb 2020, Opening statement by Ashley Love for the Bellingen Environment Centre', with attachments 'Proposed GKNP summary of impacts of 2019 Fires on Koala subpopulations' and map 'Regional Koala Populations in SE Queensland and NSW North Coast IBRA Bioregions'
- 'Conserving Koala Populations of the NSW Upper Mid-North Coast, Preliminary mapping of populations as a basis for further survey, research and planning, January 2013'

Mr John Edwards tendered the following documents:

- 'Deputation to JRPP on Hickey St development. Sept. 2019'

Mr Michael Donovan tendered the following documents:

- Letter dated 15 June 2019, from traditional custodians of the Gumbaynggirr Nation to the Great Koala National Park Steering Committee.
- Letter dated 18 July 2019, from the Directors of Wanggaan (Southern) Gumbaynggirr Nation Aboriginal Corporation RNTBC to the Great Koala National Park Steering Committee

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Sally Whitelaw, Team Leader Biodiversity, Coastal and Flooding, Local Planning, Coffs Harbour City Council
- Ms Karen Love, Research Officer, Byron Shire Council
- Mr Ben Grant, Planner, Byron Shire Council

The evidence concluded and the witnesses withdrew.

The public hearing concluded at 3.41 pm.

The public and media withdrew.

3.3 Tendered documents – 3 February 2020

Resolved, on the motion of Ms Cusack: That the committee accept and publish the following documents tendered during the public hearing:

- 'Additional information: Introductory remarks', tendered by Mr Frank Dennis, Local resident and koala activist
- 'Our local forests flattened and woodchipped? You can help stop this!', tendered by Mr Frank Dennis, Local resident and koala activist
- 'Changes to NSW logging rules in our public forests', tendered by Mr Frank Dennis, Local resident and koala activist.

3.4 Tendered documents – 4 February 2020

Resolved, on the motion of Ms Cusack: That the committee accept and publish the following documents tendered during the public hearing:

- 'Additional statement by Dan Lunney for the Inquiry into koala populations and habitat in New South Wales (for 4.2.2020 in Coffs Harbour)', tendered by Dr Dan Lunney.
- 'Office of Environment and Heritage. Koala Habitat Study, Bellingen Shire Council Coastal Area, Report to Bellingen Shire Council, June 2014', tendered by Mr John Turbill.
- 'NSW Government. Framework for the spatial prioritisation of koala conservation actions in NSW. Saving our Species Iconic. Koala Project', tendered by Mr John Turbill.
- 'Koala spatial dataset audit. To support the spatial prioritisation of lands for investment across NSW. A report prepared for the Office of Environment and Heritage. Brendan Rennison. January 2017', tendered by Mr John Turbill.

- 'Koala habitat study for the Nambucca Shire Council Coastal Area. December 2015', tendered by Mr John Turbill.
- 'Parliamentary Inquiry into Koalas and Koala Habitat in NSW, Visit to The Great Koala National Park IVC 4 February 2020', tendered by Ms Paula Flack.
- 'The Great Koala National Park, Protecting our National Icon', tendered by Ms Paula Flack.
- 'The Great Koala National Park, Long Distance Walking Track', tendered by Ms Paula Flack.
- 'Trails of The Great Koala National Park, A proposal for mountain bike investment in the Great Koala National Park', tendered by Ms Paula Flack.
- 'The Great Koala National Park, Horseshoe Trail', tendered by Ms Paula Flack.
- 'Statement to Inquiry into koala populations and habitat in New South Wales', tendered by Ms Lyn Orrego.
- 'Update on recent Clarence Valley developments likely to impact koalas – Two case studies. Compiled by Leonie Blain', tendered by Ms Leonie Blain.
- 'Clarence Valley Council Flier: Reporting koalas in the Clarence Valley', tendered by Ms Leonie Blain.
- 'NSW Koala Strategy 2018. Priority actions. Highlights of the Plan. Status of 24 Strategy Actions as they affect Clarence Valley koalas. To November 2019. Compiled by Patricia Edwards', tendered by Ms Leonie Blain.
- 'NSW Upper House Koala Inquiry hearing in Coffs Harbour 4 Feb 2020, Opening statement by Ashley Love for the Bellingen Environment Centre', with attachments 'Proposed GKNP summary of impacts of 2019 Fires on Koala subpopulations' and map 'Regional Koala Populations in SE Queensland and NSW North Coast IBRA Bioregions', tendered Mr Ashley Love.
- 'Conserving Koala Populations of the NSW Upper Mid-North Coast, Preliminary mapping of populations as a basis for further survey, research and planning, January 2013', tendered Mr Ashley Love.
- 'Deputation to JRPP on Hickey St development. Sept. 2019', tendered by Mr John Edwards.
- Letter dated 18 July 2019, from the Directors of Wanggaan (Southern) Gumbaynggirr Nation Aboriginal Corporation RNTBC to the Great Koala National Park Steering Committee, tendered by Mr Michael Donovan.

4. Adjournment

The committee adjourned at 3.50 pm until 9.15 am, Thursday 6 February 2020 in the Macquarie Room, Parliament House, Sydney (Territorial Limits hearing)

Laura Ismay

Clerk to the Committee

Minutes no. 21

Thursday 6 February 2020

Portfolio Committee No. 7 – Planning and Environment

Macquarie Room, Parliament House, Sydney, 9.17 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Ms Boyd (participating)

Mr Buttigieg (participating)

Ms Cusack

Mr Franklin

Mr Mallard

Mr Searle (substituting for Mr Buttigieg)

Ms Sharpe

2. Correspondence

The Committee noted the following items of correspondence:

Received:

- Various correspondence received from individuals through the online submission portal.
- 6 December 2019 – Email from Geoff Pettett, objection submission letter to secretariat regarding the inquiry.
- 12 December 2019 – Email from Ms Sue Abbott, forwarding email sent to local member regarding objections to the proposed Bill.
- 16 December 2019 – Email from Hon Mark Buttigieg MLC, participating member notification for Hon Adam Searle MLC for the duration of the inquiry.
- 17 December 2019 – Email from D Williamson, opposing the proposed bill.
- 30 January 2020 – Email from Mr Nestor Tambor, Executive Planning Officer, Office of the Group Deputy Secretary, Planning & Assessment, to the committee, attaching a document entitled 'Environmental Planning and Assessment Amendment (Territorial Limits) Bill 2019: Department Submission'.
- 6 February 2020 – Email from Ms Trish Marinozzi, office of the Hon Mark Buttigieg MLC, Opposition Whip, advising the Hon Adam Searle MLC will be substituting for the Hon Mark Buttigieg MLC for the duration of the inquiry into the provisions of the Environmental Planning and Assessment Amendment (Territorial Limits) Bill 2019 and that Mr Buttigieg will be a participating member.

Sent:

- 27 November 2019 – Email from Director of Committees to individuals advising that they can submit their views in responses to questions in an online submission process.
- 20 January 2020 – Email from Senior Council Officer to Dr Andrew Norton advising that a summary report of online submission responses will be published on the committee's website.

Resolved, on the motion of Mr Pearson: That the committee publish the correspondence from Mr Nestor Tsambos, Executive Planning Officer, Office of the Group Deputy Secretary, Planning & Assessment, dated 30 January 2020, which was provided as pre-hearing briefing material.

3. ***

4. Inquiry into koala populations and habitat in New South Wales

4.1 Amended hearing schedule

The committee noted the amended draft hearing schedule for the hearing on Tuesday 18 February 2020.

Resolved, on the motion of Ms Cusack: That the secretariat amend the draft hearing schedule, taking into consideration members' feedback, and recirculate it on Friday 7 February 2020 for the committee's approval.

5. Adjournment

The committee adjourned at 5:23pm until Tuesday 18 February 2020.

Ms Laura Ismay
Clerk to the Committee

Minutes no. 22

Tuesday 18 February 2020

Portfolio Committee No. 7

Jubilee Room, Parliament of NSW, Sydney at 8.49 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)
 Mr Buttigieg
 Ms Cusack
 Mr Franklin
 Mr Mallard
 Ms Sharpe (*from 10.00 am*)

2. Previous minutes

Resolved, on the motion of Mr Pearson: That draft minutes no. 19 and no. 20 be confirmed.

3. Correspondence

The Committee noted the following items of correspondence:

Received:

- 20 December 2019 – Email from Mr John Lemon, local koala researcher, to the secretariat requesting corrections be made to the transcript for the hearing in Gunnedah on 13 December 2019
- 5 January 2020 – Email from Dr Daniel Lunney, koala researcher, to the secretariat, attaching document entitled 'Report of proceedings before Portfolio Committee No. 7 Corrections Lunney 2.1.20'
- 3 February 2020 – Email from the Office of the Hon. Matt Kean MP, Minister for Energy and Environment, attaching Minister's media release relating to the release of the wildlife and conservation bushfire recovery immediate response plan
- 5 February 2020 – Email from Ms Lyn Orrego, committee member, Nambucca Valley Conservation Association, to the committee, providing additional information following her appearance at the Coffs Harbour hearing on 4 February 2020
- 6 February 2020 – Email from Mr John Edwards, Honorary Secretary, Clarence Environment Centre, to the committee, raising concern that there was a misrepresentation of his evidence at the Coffs Harbour hearing on 4 February 2020
- 9 February 2020 – Email from Dr David Lindenmayer, Professor, Fenner School of Environment and Society, Australian National University College of Science, to the committee, declining invitation to appear as a witness at the Sydney hearing on 18 February 2020
- 12 February 2020 – Email from Ms Joanna Bodley, Manager Communications and Media, Forestry Corporation of NSW, to the secretariat, declining invitation for Mr Dean Kearney to appear as a witness at the Sydney hearing on 18 February 2020
- 17 February 2020 - Email from Ms Joanne Bodley, Manager Communications and Media, Forestry Corporation of NSW, to the secretariat, declining second invitation on behalf of Forestry Corporation to nominate a witness and indicating willingness to appear at a future hearing
- 18 February 2020 – Letter from Hon Rob Stokes MP, Minister for Planning and Public Spaces, to the Chair, responding to letters dated 19 December 2019 and 22 January 2020 relating to Maules Creek coal mine and associated offsets.

Sent:

- 14 February 2020 – Letter from the Chair, to Ms Sue Ashton, President and Ms Cheyne Flanagan, Clinical Director, Port Macquarie Koala Hospital, thanking them for hosting the committee on 3 February 2020
- 14 February 2020 – Letter from the Chair, to Ms Paula Flack and Mr Kevin Evans, Great Koala National Park Steering Committee, thanking them for hosting the committee on 4 February 2020
- 14 February 2020 – Letter from the Chair to Mr Dean Kearney, Senior Manager, Planning, Hardwood Forests Division, requesting that Forestry Corporation of NSW reconsider the invitation for a representative to appear at the Sydney hearing on 18 February 2020.

4. Inquiry into koala populations and habitat in New South Wales

4.1 Public submissions

Resolved, on the motion of Mr Pearson: That the committee authorise the publication of submission no. 327 and submission no. 328.

4.2 Tendered documents – Site visit, 25 October 2019

Resolved, on the motion of Mr Franklin: That the committee accept and publish the following document tendered during the site visit on 25 October 2019:

- A collection of six maps relating to the proposed development on the Gilead site, tendered by Ms Virginia Kim, National Manager, Government & Industry Affairs, Lendlease.

4.3 Tendered documents – 4 February 2020

Resolved, on the motion of Mr Buttigieg: That the committee accept, and keep confidential, the following document tendered during the public hearing on 4 February 2020, as per the request of the author:

- Document tendered by Mr John Turbill, Koala academic and co-author of Coffs Harbour Koala Plan of Management.

Resolved, on the motion of Mr Franklin: That the committee authorise the publication of the following document tendered during the public hearing on 4 February 2020, with the exception of identifying information which are to remain confidential, as per the recommendation of the secretariat:

- Letter dated 15 June 2019, from traditional custodians of the Gumbaynggirr Nation to the Great Koala National Park Steering Committee, tendered by Mr Michael Donovan, Gumbaynggirr Nation Representative.

4.4 Transcript corrections

- The committee noted the correspondence received 20 December 2019 from Mr John Lemon, local koala researcher, in relation to a correction of the transcript of 13 December 2019.

Resolved, on the motion of Mr Buttigieg: That the requested correction to the transcript of 13 December 2019 be made.

- The committee noted the correspondence received 5 January 2020 from Dr Daniel Lunney, koala researcher, in relation to a correction of the transcript of 9 December 2019

Resolved, on the motion of Mr Buttigieg: That the requested correction to the transcript of 9 December 2019 be made.

4.5 Final hearing

Resolved, on the motion of Mr Pearson: That the committee meet on Wednesday 8 April 2020 from 9:00 am until 12:30 pm on for the final hearing for the inquiry.

4.6 Upcoming hearing

Resolved, on the motion of Mr Franklin: That the committee conduct a hearing on Wednesday 26 February 2020 from 9:00 am until 10:30 am; and invite a representative of the Forestry Corporation of NSW to appear as a witness.

4.7 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Ms Wendy Hawes, Director and Ecologist, The Enviro Factor (*via teleconference*)
- Dr John Hunter, Director and Ecologist, The Enviro Factor (*via teleconference*)

The evidence concluded and the witnesses withdrew.

The Chair reminded the following witnesses that they did not need to be sworn, as they had been sworn at another hearing for the same inquiry:

- Dr Stuart Blanch, Australian Forest and Woodland Conservation Policy Manager, World Wildlife Fund (WWF) Australia
- Ms Rachel Walmsley, Director of Policy and Law Reform, Environmental Defenders Office NSW

- Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW

The witnesses were examined by the committee.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Dr Kara Youngentob, Research Fellow, Research School of Biology, Australian National University (*via teleconference*)

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Jeff Lucas, Director Planning and Environment Services, Operations Directorate, NSW Rural Fire Service (Hotspots Fire Project) (*via teleconference*)

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Paul Noack, Assistant Secretary, Australian Workers' Union NSW
- Mr Nick Kamper, National Economist, Australian Workers' Union NSW

The evidence concluded and the witnesses withdrew.

The Chair reminded the following witness that they did not need to be sworn, as they had been sworn at another hearing for the same inquiry:

- Dr Kellie Leigh, Executive Director, Science for Wildlife

The following witness was sworn:

- Mr James Fitzgerald, Founder, Two Thumbs Wildlife Trust

The witnesses were examined by the committee

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Paul Elton, Chief Executive Officer, Biodiversity Conservation Trust

The evidence concluded and the witness withdrew.

The public hearing concluded at 3.34 pm.

The public and media withdrew.

5. Adjournment

The committee adjourned at 3:34 pm until 8.45 am, Wednesday 26 February 2020, in Macquarie Room, Parliament House, Sydney (Koala populations hearing).

Laura Ismay

Clerk to the Committee

Minutes no. 23

Wednesday 26 February 2020

Portfolio Committee No. 7

Macquarie Room, Parliament of NSW, Sydney at 8.49 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack (*from 9.10 am*)

Mr Franklin

Mr Mallard

Ms Sharpe

2. Previous minutes

Resolved, on the motion of Mr Franklin: That draft minutes no. 22 be confirmed.

3. Correspondence

The Committee noted the following items of correspondence:

Received:

- 17 February 2020 – Correspondence from Dr Kara Youngentob, Research Fellow, Research School of Biology, Australian National University, to the secretariat, attaching two peer-related articles and one report that provide support to her submission

4. Inquiry into koala populations and habitat in New South Wales

4.1 Correspondence from Hon Rob Stokes MP, Minister for Planning and Public Spaces

Resolved, on the motion of Ms Sharpe: That the committee authorise the publication of the following correspondence:

- 17 December 2019 – Letter from the Chair to Hon Rob Stokes MP, Minister for Planning and Public Spaces requesting that relevant departments respond to issues raised in the hearing on Friday 13 December 2019 at Gunnedah relating to Maules Creek coal mine and associated offsets.
- 22 January 2020 – Letter from the Chair to Hon Rob Stokes MP, Minister for Planning and Public Spaces, requesting that the Government urgently investigate how the Department of Planning approved the Maules Creek Coal Mine despite its failure to secure like-for-like offsets.
- 18 February 2020 – Letter from Hon Rob Stokes MP, Minister for Planning and Public Spaces, to the Chair, responding to letters dated 17 December 2019 and 22 January 2020 relating to Maules Creek coal mine and associated offsets.

4.2 Allocation of questioning

Resolved, on the motion of Mr Franklin: That the time for questions be allocated as follows: cross bench, opposition and government allocated 20 minutes of questioning each and any time remaining divided evenly.

4.3 Public hearing

The witness, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The Chair reminded the following witness that he did not need to be sworn, as he had been sworn at another hearing for the same inquiry:

- Mr Dean Kearney, Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW

The witness was examined by the committee

The evidence concluded and the witness withdrew.

The public hearing concluded at 10.30 am.

The public and media withdrew.

5. Adjournment

The committee adjourned at 10.30 am until 8.00 am, Thursday 27 February 2020, in Room 1136, Parliament House, Sydney (*report deliberative for the Environmental Planning and Assessment Amendment (Territorial Limits) Bill 2019*).

Laura Ismay

Clerk to the Committee

Minutes no. 28

Thursday 19 March 2020

Portfolio Committee No. 7 – Planning and Environment
via teleconference, Redfern, at 11.03 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*) (from 11.06 am) *via teleconference*

Mr Buttigieg *via teleconference*

Ms Cusack *via teleconference*

Mr Franklin *via teleconference*

Mr Mallard (until 11.08 am) *via teleconference*

Ms Sharpe *via teleconference*

2. ***

3. Inquiry into koala populations and habitat in New South Wales

Resolved, on the motion of Mr Pearson: That the Committee cancel the final hearing scheduled for 8 April 2020.

4. Adjournment

The committee adjourned at 11.14 am, *sine die*.

Stewart Smith

Clerk to the Committee

Draft minutes no. 30

Wednesday 24 June 2020

Portfolio Committee No. 7 – Planning and Environment
Macquarie Room, Parliament House, Sydney, at 10.01 am

1. Members present

Ms Faehrmann (*Chair*)

Mr Pearson (*Deputy Chair*)

Mr Buttigieg

Ms Cusack (*via teleconference*)

Mr Franklin

Mr Mallard

Ms Sharpe

2. Previous minutes

Resolved, on the motion of Ms Sharpe: That draft minutes nos 23 and 29 be confirmed.

3. Correspondence

The committee noted the following items of correspondence:

Received:

- 18 February 2020 – Email from Mr Robert Bertram, individual submission author, to the committee, attaching a letter from the NSW Threatened Species Scientific Committee regarding dieback.
- 20 February 2020 – Email from Mr John Edwards, Honorary Secretary, Clarence Environment Centre, to the secretariat, providing additional information following his appearance at the Coffs Harbour hearing.
- 24 February 2020 – Correspondence from Ms Cerin Loane, Senior Policy and Law Reform Solicitor, Environmental Defenders Office, to the committee, providing a legal analysis of the *State Environmental Planning Policy (Koala Habitat Protection) 2019* entitled 'Koalas: New laws, old tricks'.
- 1 March 2020 – Email from Mr David Wood, Save Lot 2 Sawtell Road, to the secretariat, providing information on 'citizen science' initiatives in Coffs Harbour.
- 10 March 2020 – Email from Mr Vic Jurskis, ecological historian, to the Chair, requesting leave to appear before the committee to tender further photographs of koala habitat in his local area.
- 3 June 2020 – Email from Mr Vic Jurskis, ecological historian, to the Chair, providing letter and photographs of the situation in his local area after the fires.

4. Inquiry into koala populations and habitat in New South Wales

4.1 Extension of report deliberative and report tabling dates

The committee noted that that it had previously agreed to extend the report deliberative and report tabling dates to the following new dates:

- Wednesday 24 June 2020 – Report deliberative
- Tuesday 30 June 2020 – Report tabling.

4.2 Public submissions

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos. 231a, 329 and 330.

4.3 Answers to questions on notice and supplementary questions

The committee noted that the following answers to questions on notice, answers to supplementary questions and additional information were published by the committee clerk under the authorisation of the resolution appointing the committee:

- Dr Stephen Phillips, Managing Director/Principal Research Scientist, Biolink, received 2 March 2020
- Mr Frank Dennis, Local resident and koala activist, received 9 March 2020
- Ms Blayne West, Natural Resources Manager, Port Macquarie-Hastings Council, received 6 March 2020
- Mr Steve Schwartz, Coordinator Strategic and Environmental Planning, Kempsey Shire Council, received 6 March 2020
- Ms Sally Whitelaw, Team Leader Biodiversity, Coastal and Flooding, Local Planning, Coffs Harbour City Council, received 27 February 2020
- Ms Karen Love, Project Officer, Climate Action and Ecology, Byron Shire Council, received 2 March 2020
- Ms Paula Flack, Member, Great Koala National Park Steering Committee, received 5 March 2020
- Mr John Turbill, Koala academic and author of Coffs Harbour Koala Plan of Management, received 18 March 2020
- Ms Lyn Orrego, Committee Member, Nambucca Valley Conservation Association, received 18 March 2020
- Mr Paul Elton, Chief Executive Officer, Biodiversity Conservation Trust, received 17 March 2020
- Mr Jeff Lucas, Director Planning and Environment Services, Operations Directorate, NSW Rural Fire Service, received 18 March 2020
- Mr Paul Noack, Assistant Secretary Australian Workers' Union NSW, received 19 March 2020
- Mr Dean Kearney, Senior Manager, Planning, Hardwood Forests Division, Forestry Corporation of NSW, received 26 March 2020.

4.4 Documents circulated with Chair's draft report

Resolved, on the motion of Ms Sharpe: That the committee accept the documents referred to in the Chair's draft report.

4.5 Attachment to correspondence from Dr Dan Lunney to committee

Resolved, on the motion of Ms Sharpe: The committee accept the following attachment to correspondence from Dr Dan Lunney: Daniel Lunney et al, 'Extinction in Eden: identifying the role of climate change in the decline of the koala in south-eastern NSW' (2014) 41 Wildlife Research 22.

4.6 Consideration of Chair's draft report

Mr Mallard moved: That Finding 2 be amended by omitting 'become extinct' and inserting instead 'experience local extinctions'.

Question put.

The committee divided.

Ayes: Ms Cusack, Mr Franklin, Mr Mallard.

Noes: Mr Buttigieg, Ms Faehrmann, Mr Pearson, Ms Sharpe.

Question resolved in the negative.

Resolved, on the motion of Ms Sharpe: That Recommendation 1 be amended by inserting 'Forestry Corporation of NSW' after 'NSW Koala Advisory Panel'.

Resolved, on the motion of Ms Sharpe: That Recommendation 4 be amended by omitting 'not allow any further development on the Figtree Hill site' inserting instead 'and Campbelltown City Council ensure the protection of the koala colony and habitat on the Figtree Hill site before allowing any further development'.

Mr Buttigieg moved: That Recommendation 7 be amended by:

- (a) omitting 'impose a moratorium on' and inserting instead 'consider the impacts of'
- (b) omitting 'to enable' and inserting instead 'in the context of enabling'
- (c) inserting ', where appropriate' after 'Forest Management Zone 2'.

The committee divided.

Ayes: Mr Buttigieg, Ms Cusack, Mr Franklin, Mr Mallard, Ms Sharpe.

Noes: Ms Faehrmann, Mr Pearson.

Question resolved in the affirmative.

Ms Sharpe moved: That Recommendation 8 be amended by:

- (a) omitting 'phase out native forest logging on public land and transition to plantations for wood supply and establishing' and inserting instead 'establish'
- (b) inserting 'to reduce future reliance on native forest logging' after 'low biodiversity importance'.

The committee divided.

Ayes: Mr Buttigieg, Ms Cusack, Mr Franklin, Mr Mallard, Ms Sharpe.

Noes: Ms Faehrmann, Mr Pearson.

Question resolved in the affirmative.

Resolved, on the motion of Ms Sharpe: That Recommendation 9 be amended by omitting 'prohibit' and inserting instead 'ensure the protection of the koala colony and habitat before allowing'.

Resolved, on the motion of Ms Sharpe: That Finding 5 be amended by omitting 'acts' and inserting instead 'takes stronger action'.

Resolved, on the motion of Ms Cusack: That Recommendation 10 be amended by inserting 'and explore mechanisms to protect these corridors in-perpetuity' after 'koala and wildlife corridors'.

Resolved, on the motion of Mr Mallard: That Recommendation 11 be amended by inserting 'relevant' after 'all'.

Resolved, on the motion of Mr Pearson: That Finding 10 be amended by:

- (a) omitting 'overwhelming' and inserting instead 'substantial'
- (b) inserting at the end: 'An estimated 24% of koala habitat on public land has been severely impacted across the State, but in some parts there has been a devastating loss of up to 81%'.

Resolved, on the motion of Ms Cusack: That Recommendation 15 be amended by inserting 'the utilisation of' after 'investigate'.

Resolved, on the motion of Mr Mallard: That Recommendation 18 be amended by

- (a) omitting 'establish publicly-funded well-resourced' and inserting instead 'support the establishment of a well-resourced network of'
- (b) inserting at the end: 'including funding where appropriate'.

Resolved, on the motion of Mr Franklin: That Recommendation 19 be amended by inserting at the end 'and support wildlife rescue groups in completing fire awareness training'.

Resolved, on the motion of Mr Franklin: That Recommendation 21 be omitted: 'That the NSW Government amend the *Wildlife and Conservation Bushfire Recovery – Immediate Recovery Strategy* to support wildlife rescue groups in completing fire awareness training'.

Mr Franklin moved: That Finding 11 be omitted: 'That the NSW Koala Strategy falls short of the NSW Chief Scientist's recommendation of a whole-of-government koala strategy with the objective of stabilising and then increasing koala numbers'.

The committee divided.

Ayes: Ms Cusack, Mr Franklin, Mr Mallard.

Noes: Mr Buttigieg, Ms Faehrmann, Mr Pearson, Ms Sharpe.

Question resolved in the negative.

Mr Franklin moved: That Finding 12 be omitted: 'That the NSW Koala Strategy fails to prioritise and resource the urgent need to protect koala habitat across all tenures'.

The committee divided.

Ayes: Ms Cusack, Mr Franklin, Mr Mallard.

Noes: Mr Buttigieg, Ms Faehrmann, Mr Pearson, Ms Sharpe.

Question resolved in the negative.

Resolved, on the motion of Mr Pearson: That Finding 13 be amended by omitting 'is insufficient to allow it to achieve its stated actions' and inserting instead 'has been important but additional funding and support is required in order for it to achieve its stated aims'.

Resolved, on the motion of Mr Mallard: That Finding 14 be amended by:

- (a) omitting 'ineffective' and inserting instead 'unproven'
- (b) inserting at the end 'and should only be used as a last resort. Further research needs to be undertaken to assess its methodology and effectiveness'.

Resolved, on the motion of Ms Sharpe: That Finding 15 be amended by omitting 'The failure by the Department of Planning, Industry and Environment to approve comprehensive koala plans of management made by local councils in a timely and transparent manner is unacceptable' and inserting instead:

'Finding X

Approvals by the Department of Planning, Industry and Environment of comprehensive koala plans of management made by local councils have been too slow. There is an urgent need for them to be approved in a timely and transparent manner'.

Resolved, on the motion of Ms Sharpe: That Recommendation 26 be amended by:

- (a) omitting 'by 31 July 2020' and inserting instead 'urgently' after 'NSW Government'
- (b) inserting at the end 'in a timely and transparent manner'.

Resolved, on the motion of Mr Franklin: That Recommendation 27 be omitted: 'That the NSW Government amend the *State Environmental Planning Policy (Koala Habitat Protection) 2019* so that it may apply to land smaller than one hectare in size'.

Resolved, on the motion of Ms Sharpe: That the following new finding be inserted after paragraph 7.63:

'Finding X

Protecting koala habitat is hampered by the inconsistencies and disconnection between the different planning instruments within the NSW planning system, and there is an urgent need to address this'.

Resolved, on the motion of Ms Sharpe: That Recommendation 28 be amended by omitting 'That the *Environmental Planning and Assessment Act 1979* be amended to prohibit a consent authority from approving a development application for land identified as containing koala habitat under the *State Environmental Planning Policy (Koala Habitat Protection) 2019*' and the following new recommendation be inserted instead:

'That the NSW Government, in finalising the *State Environmental Planning Policy (Koala Habitat Protection) 2019* framework, strengthen the ability of consent authorities to protect koala habitat'.

Resolved, on the motion of Mr Franklin: That Recommendation 30 be amended by omitting '31 July 2020' and inserting instead 'as soon as practicable'.

Resolved, on the motion of Mr Pearson: That Recommendation 31 be amended by omitting 'provide more' and inserting instead 'increase'.

Mr Franklin moved: That Recommendation 32 be amended by omitting:

- Ensure that Private Native Forestry not be allowed to occur in koala habitat
- Require that the objects of Private Native Forestry Codes of Practice be amended to refer to the protection of biodiversity, water quality and soil quality
- Require approved Private Native Forestry Plans to be listed on a public register
- Require landholders to publicly report on private native forestry operations conducted on their land, including volume of timber harvested
- Amend the prescriptions contained within the Private Native Forestry Codes of Practice to strengthen protection for koalas, including the provision of mandatory pre-clearing surveys by an accredited ecologist; and the requirement that if koala feed trees, as defined in the SEPP 2019, are found, private native forestry be prohibited.

Ms Sharpe moved: That the motion of Mr Franklin be amended by omitting 'Require that the objects of Private Native Forestry Codes of Practice be amended to refer to the protection of biodiversity, water quality and soil quality'.

Amendment of Ms Sharpe put and passed.

Original question of Mr Franklin, as amended, put:

The committee divided.

Ayes: Mr Buttigieg, Ms Cusack, Mr Franklin, Mr Mallard, Mr Pearson, Ms Sharpe.

Noes: Ms Faehrmann.

Question resolved in the affirmative.

Resolved, on the motion of Mr Franklin: That Recommendation 33 be amended by inserting 'core' before 'koala habitat'.

Mr Franklin moved: That Recommendation 34 be omitted: 'That the NSW Government provide additional funding to the Environmental Protection Agency to expand its compliance capabilities in the area of private native forestry'.

The committee divided.

Ayes: Mr Franklin.

Noes: Mr Buttigieg, Ms Cusack, Ms Faehrmann, Mr Mallard, Mr Pearson, Ms Sharpe.

Question resolved in the negative.

Mr Franklin moved: That Recommendation 35 be omitted: 'That the NSW Government amend the *Local Land Services Act 2013* to reinstate legal thresholds so that its application improves or maintains environmental outcomes and protects native vegetation of high conservation value'.

The committee divided.

Ayes: Ms Cusack, Mr Franklin, Mr Mallard.

Noes: Mr Buttigieg, Ms Faehrmann, Mr Pearson, Ms Sharpe.

Question resolved in the negative.

Mr Franklin moved: That Recommendation 36 be omitted: 'That the NSW Government amend the *Local Land Services Act 2013* to broaden the type of koala habitat classified as category-2 regulated land'.

The committee divided.

Ayes: Mr Buttigieg, Ms Cusack, Mr Franklin, Mr Mallard, Ms Sharpe.

Noes: Ms Faehrmann, Mr Pearson.

Question resolved in the affirmative.

Mr Franklin moved: That Recommendation 37 be omitted: 'That the NSW Government amend the Land Management (Native Vegetation) Code 2018 to remove the ability for land-holders to self-assess'.

The committee divided.

Ayes: Mr Buttigieg, Ms Cusack, Mr Franklin, Mr Mallard, Ms Sharpe.

Noes: Ms Faehrmann, Mr Pearson.

Question resolved in the affirmative.

Ms Sharpe moved: That the following new recommendation be inserted after paragraph 7.128:

'Recommendation X

That the NSW Government review the impact on koala habitat of the application of regulated land and self-assessment frameworks under the *Local Land Services Act 2013*'.

The committee divided.

Ayes: Mr Buttigieg, Ms Cusack, Ms Faehrmann, Mr Mallard, Mr Pearson, Ms Sharpe.

Noes: Mr Franklin.

Question resolved in the affirmative.

Mr Franklin moved: That Recommendation 38 be omitted: 'That the NSW Government adopt all of the recommendations made by the Natural Resources Commission in its 2019 Report on Land Management'.

The committee divided.

Ayes: Ms Cusack, Mr Franklin, Mr Mallard.

Noes: Mr Buttigieg, Ms Faehrmann, Mr Pearson, Ms Sharpe.

Question resolved in the negative.

Resolved, on the motion of Ms Sharpe: That Recommendation 39 be amended by omitting 'amend' and inserting instead 'review'.

Mr Franklin moved: That Recommendation 39 be amended omitting: 'That the NSW Government amend the *Biodiversity Conservation Act 2016* in relation to the Biodiversity Offsets Scheme to:

- amend its objectives to ensure all offsets meet the standard of 'no net loss or better';
- prohibit the ability to offset high quality koala habitat;
- ensure all offsets are 'like for like';
- impose location restrictions on koala offsets;
- remove the ability to make payments in lieu of offsets; and
- remove the ability of mining companies to delay offsets until project completion'

and the following new recommendation be inserted instead:

'That the NSW Government review the *Biodiversity Conservation Act 2016* in relation to the Biodiversity Offsets Scheme to better ensure the protection of core koala habitat'.

The committee divided.

Ayes: Ms Cusack, Mr Franklin, Mr Mallard.

Noes: Mr Buttigieg, Ms Faehrmann, Ms Pearson, Ms Sharpe.

Question resolved in the negative.

Ms Sharpe moved: That Recommendation 39 be omitted: 'That the NSW Government amend the *Biodiversity Conservation Act 2016* in relation to the Biodiversity Offsets Scheme to:

- amend its objectives to ensure all offsets meet the standard of 'no net loss or better';
- prohibit the ability to offset high quality koala habitat;
- ensure all offsets are 'like for like';
- impose location restrictions on koala offsets;
- remove the ability to make payments in lieu of offsets; and
- remove the ability of mining companies to delay offsets until project completion'

and the following new recommendation be inserted instead:

'That the NSW Government review the *Biodiversity Conservation Act 2016* in relation to the Biodiversity Offsets Scheme with particular regard to:

- amending its objectives to ensure all offsets meet the standard of 'no net loss or better';
- prohibiting the ability to offset high quality koala habitat;
- ensuring all offsets are 'like for like';
- imposing location restrictions on koala offsets;

- removing the ability to make payments in lieu of offsets; and
- removing the ability of mining companies to delay offsets until project completion'.

The committee divided.

Ayes: Mr Buttigieg, Ms Faehrmann, Mr Pearson, Ms Sharpe.

Noes: Ms Cusack, Mr Franklin, Mr Mallard.

Question resolved in the affirmative.

Resolved, on the motion of Ms Sharpe: That the following new paragraph be inserted after paragraph 8.4:

'The Biodiversity Offset Scheme is a market-based scheme that brings together landowners who create biodiversity credits by establishing a biodiversity stewardship site, and purchasers who buy the credits created. Purchasers may be the NSW Biodiversity Conservation Trust or developers wanting to 'offset' biodiversity loss from a new development site. Conservation groups, philanthropists and government departments may also be interested in conserving biodiversity in perpetuity. The Biodiversity Offset Scheme provides funds for landowners to manage their land for conservation. The scheme is voluntary and supports landowners to take care of their bushland forever, and pays for them to do it'.

Resolved, on the motion of Ms Sharpe: That paragraph 8.62 and recommendation 40 be omitted:

'Given the urgent need to conserve more koala habitat, the committee believes the *Biodiversity Conservation Act 2016* should be amended so that the Biodiversity Conservation Trust has the legislative authority to enable all koala species credits to be protected in-perpetuity. Further, that the Biodiversity Conservation Trust be provided with more funding so that the landholder can be compensated accordingly, without any requirement for them to offset the clearing of koala habitat'

Recommendation 40

That the NSW Government amend the *Biodiversity Conservation Act 2016* so that the Biodiversity Conservation Trust has the legislative Authority to enable all existing koala species credits to be protected in-perpetuity, and provide the necessary funding to ensure landholders are compensated accordingly, without any requirement for them to offset clearing of koala habitat'.

and the following new paragraph and recommendation be inserted instead at 8.57:

'The committee is concerned that with 18,565 koala species credits currently available, it indicates an imbalance in the biodiversity credits market. However, it is also encouraged by the fact that it shows there is immense pent up demand from private land owners to conserve koalas on their land. As indicated in paragraph 8.5, species credits can be purchased not just by developers offsetting a new development, but also purchased by the Biodiversity Conservation Trust itself, other government departments or philanthropists. Given the urgent need to conserve more koala habitat, the committee recommends that the NSW Government investigate the cost of purchasing these 18,565 koala species credits, and facilitate their purchase and retirement from the market over the next two years.

Recommendation XX

That the NSW Government investigate the cost of purchasing the 18,565 koala species credits currently available in the biodiversity credit market, and facilitate their purchase and retirement from the market over the next two years'.

Resolved, on the motion of Ms Sharpe: That Recommendation 43 be omitted: 'That the NSW Government identify koala habitat as areas of outstanding biodiversity value under the *Biodiversity Conservation Act 2016*' and the following new recommendation be inserted instead:

'Recommendation XX

That the NSW Government work with willing landholders to identify koala habitat that is of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* in order to facilitate more koala habitat on private land being protected'.

Resolved, on the motion of Mr Mallard: That Recommendation 44 be amended by omitting: 'That the NSW Government establish the Great Koala National Park, according to the current proposal, in conjunction with a timber industry assistance package to help transition timber industry workers into jobs within the newly created national park and in other industries', and inserting instead: 'That the NSW Government investigate the establishment of the Great Koala National Park'.

Resolved, on the motion of Mr Mallard: That Recommendation 45 be amended by omitting 'overwhelming' and inserting instead 'key'.

Resolved, on the motion of Mr Pearson: That:

- The draft report as amended be the report of the committee and that the committee present the report to the House;
- The transcripts of evidence, submissions, tabled documents and correspondence relating to the inquiry be tabled in the House with the report;
- Upon tabling, all unpublished transcripts of evidence, submissions, tabled documents, and correspondence relating to the inquiry, be published by the committee, except for those documents kept confidential by resolution of the committee;
- The committee secretariat correct any typographical, grammatical and formatting errors prior to tabling;
- The committee secretariat be authorised to update any committee comments where necessary to reflect changes to recommendations or new recommendations resolved by the committee;
- Dissenting statements be provided to the secretariat by 24 hours after the circulation of the draft minutes
- That the report be tabled on Tuesday, 30 June 2020.

5. Adjournment

The committee adjourned at 1.13 pm, *sine die*.

Laura Ismay
Clerk to the Committee

Appendix 9 Dissenting statement

Finding 11 and 12

The following Government members disagree with Findings 11 and 12 that the Koala Strategy is not consistent with the former NSW Scientist and Engineer, Mary O'Kane's recommendation to develop a whole of government strategy.

The strategy prioritises actions that address the broad range of threats to koalas across all tenures, including:

- Transfer or creation of new koala reserves
- Fixing road kill hotspots and support for koala hospitals
- Research to reduce the incidence of chlamydia and genetic biobanking
- Development of a cross-tenure koala habitat information base, which has now been used to inform the finalisation of SEPP 44
- Expanded monitoring and citizen science

However, it is important to note that Professor O'Kane herself stated in her report that '[a]n important finding of this review is that it may not be possible to ensure all koala populations continue to persist in all locations'.

Furthermore, the Koala Strategy, as expressed in the document itself, has been developed as a long term strategy with a three-year statewide action plan. This is in recognition of the fact that an adaptive management approach, supported by careful monitoring and evaluation, is the best way to evaluate the performance of the action plan and whether, or what, other actions may be required in the future.

This is supported by an annual report that provides a transparent account of performance, assessed by expert advice from the expert advisory panel. These experts have also provided critical input after the recent catastrophic bushfires.

Put simply, two years into a long term strategy is too soon to draw the conclusion that the strategy is not achieving its long term objectives.

The Hon Shayne Mallard MLC and the Hon Ben Franklin MLC

