

James Jackson President

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8 April 2020

The Hon Gladys Berejiklian MP The Hon John Barilaro MP The Hon Robert Stokes MP The Hon Melinda Pavey MP The Hon Matt Kean MP The Hon Adam Marshall MP 52 Martin Place SYDNEY NSW 2000 **By email**

Dear Premier, Deputy Premier and Ministers

NSW Farmers' submission:

State Environmental Planning Policy (Koala Habitat Protection) 2019 and draft Koala Habitat Guideline

NSW Farmers is Australia's largest state farming body, representing the majority of commercial farm businesses in NSW, ranging from broad acre, meat, dairy, wool and grain producers, to more specialised producers in the horticulture, egg, pork, oyster and goat industries. Responsible management of our precious land and water resources is fundamental to the success of these farm businesses, and the families who own and operate them. Our work in relation to planning and land use policy emphasizes the importance of considered and balanced utilisation of resources which delivers triple bottom line outcomes to the community.

We appreciate the opportunity to provide comment on the *State Environmental Planning Policy (Koala Habitat Protection) 2019* (the SEPP) and the draft *Koala Habitat Protection Guideline* (Guidelines). We have provided detailed comments on the Guidelines in the document attached (as well as general comments below), and we would appreciate a comprehensive response to each of these comments – even those styled as a note rather than a question. We do not believe that the unreasonable impacts on farming enterprises arising from the SEPP are capable of rectification by redrafting the Guidelines. Although the Guidelines certainly require redrafting to respond to the range of issues we have identified, the only way to overcome the majority of our members' concerns will be to amend the SEPP to remove its application to RU1 and RU2 land, and to legislatively uncouple the Land Management Code from the SEPP when there is an opportunity to bring amendments to the *Local Land Service Act 2013* and its Regulation to Parliament.

NSW Farmers' Association

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Consultation and engagement processes have not been satisfactory

While farmers support reasonable protections for Australia's unique flora and fauna, we cannot support a framework that places significant burdens on the farming sector to provide the public benefit of biodiversity conservation while providing no compensation, and provides limited prospects of improving koala conservation. It is very disappointing that the agricultural sector, which manages around 80% of the NSW landscape, were not afforded the opportunity to raise this issue prior to the commencement of the SEPP. We were extremely concerned to discover the SEPP goes significantly beyond the scope outlined in the 2016 'Explanation of Intended Effect' without additional consultation. Since it appears that no regulatory impact modelling of the impacts on farming and regional communities has been carried out, we request that government urgently provide NSW Farmers with funding to commission this impact assessment to feed into future policy development in this area.

The SEPP and the Guidelines are not fit for purpose for regulation of farmland

As Minister Stokes has confirmed, the intention of the SEPP is to limit the loss of habitat caused by large scale land use change that is occurring on the peri-urban fringes of our cities and large regional towns as land is rezoned for urban uses. However, in its present terms, the SEPP overrides the existing Land Management and Biodiversity Conservation Framework to lock up productive farming land and require its ongoing management for conservation, even where no change in land use is proposed, even where no development consent is required for the relevant farming activities.

Where development consent is required for an activity on farm, the SEPP and its Guidelines require extensive, costly and time consuming surveys and the implementation of mitigation infrastructure and management measures over vast areas of land. The type of measures proposed in the Guidelines provide the clearest indication that no thought was given to the impact of the SEPP on the agriculture sector. The Guidelines suggest that landholders should be required to install specialised koala fencing which provides gaps for koalas (and pest predators!) to move through, provide koala 'furniture', fencing for dams, restrain dogs and implement vehicle washing protocols. While these measures may be appropriate where a new suburb is being created on the edge of Sydney, it should have been obvious that they would be unnecessary, completely unworkable and immensely costly on farm. The SEPP is not a suitable mechanism to regulate the conservation of koalas in the farming landscape. Koalas can co-exist with most farming activities and where risks need to be managed this should be achieved through a fit for purpose set of controls under the Land Management Code.

Key concerns of farmers are:

- Designation of extensive areas of farmland as Koala Habitat/Category 2 Sensitive Regulated Land limits lawful existing farming land use, impacting farm values, eroding property rights and hampering the recovery of regional economies already stricken by drought, bushfire and COVID-19. This regulatory impact is not acceptable, given the manifestly defective mapping and discretionary processes provided under the Guidelines used to identify koala habitat.
- The regulatory focus on 'suitable' habitat, regardless of the presence of koalas. As we have previously advised, we have grave concerns about the wide scope of the new definition of 'core koala habitat' under the SEPP and the manner in which it will extend across property boundaries.
- It is even more concerning that the Guidelines now suggest that 'non-core' koala habitat will also be recruited for conservation under the SEPP, if that land is 'strategic', 'suitable', provides 'habitat connectivity', or as a 'precautionary approach' based on unclear, discretionary, non-statutory criteria. We do not think that the SEPP authorises the identification of land that is not 'core koala habitat'

under a KPOM. This appears to be an ambit recruitment of land for biodiversity conservation that goes well beyond the policy intention of protecting 'core koala habitat'.

- If land identified in a KPOM is rezoned as 'Environmental Conservation' as foreshadowed by the DPIE fact sheet published in late 2019 (attached), and as was required under SEPP 44, impacts on landholder rights will be even more significant because of the limitations on land management activities in E Zones. Such an approach would clearly undermine existing use rights for farming and is strenuously opposed by the farming sector.
- The requirement that landholders bear the prohibitive cost of challenging defective mapping and discretionary designation of farming land as 'koala habitat' is an unreasonable imposition on farmers, especially in the light of the unclear and ambit approach to identifying koala habitat described in the Guidelines. The cost of ecological surveys to overturn an erroneous or unlawful designation of land as koala habitat could easily exceed \$10,000 for an average farm, and take years to complete as the draft Guidelines require surveys of multiple transects for koalas and every PCT, and some surveys may only be carried out during certain seasons. It is already known that the Site Investigation Map (SI Map) and the Development Application Map (DA Map) are inaccurate and include plantations, non-native species, individual paddock trees, non-tree vegetation, avocado farms, macadamia plantations, etc. Farmers should not have to pay to correct regulatory maps and incorrect maps should not be used for regulation.
- The idea that farmers should be required to provide expensive koala protection infrastructure and management protocols for koala habitat, including the provision of koala specific fencing, biosecurity controls (such as vehicle washing stations), koala 'furniture' and bushfire refuges is unworkable on a farm scale due to the cost and incompatibility with other farm management practices. We see this as further evidence of the lack of insight into the regulatory impact of this SEPP on farming, which is particularly regrettable since almost all of the land identified for regulation under the SEPP is farming land. There is no doubt that this lack of understanding of farming and the importance of farming to regional economies undermines the effectiveness of the SEPP.
- It is notable that the SEPP does not apply to public lands. In the light of the wholesale habitat loss on public lands due to the recent bushfires our members do not think it unreasonable to demand that government first meet its own obligations to effectively manage the risks to biodiversity caused by bushfire, pest animals and weeds, before they ask more of farmers.

Responses to frequent claims made by DPIE

Over the past month we have met with representatives of DPIE on a number of occasions. During those meetings, some claims have been made repeatedly by DPIE that we think should be corrected.

The SEPP is not a new approach – we have just provided farmers with certainty and limited the land where a council can identify core koala habitat

- The certainty that the new SEPP provides to farmers is that if they have vegetated country there is a high risk that they will be required to manage it for conservation without compensation, regardless of whether there are koalas present.
- SEPP 44 protected areas where koalas were present and breeding because of habitat features such as feed trees and access to water. The new SEPP permits an ambit recruitment of large areas of vegetated private land as 'koala habitat', even where there are no koalas or essential landscape features present.

- For this reason, farmers see the SEPP as a thinly veiled ploy to require them to reserve and manage their land for biodiversity conservation outside the agreed Land Management and Biodiversity Conservation / Biodiversity Offset Scheme (BOS) framework limiting the productive potential of their land, undermining their property rights and devaluing their landholding without compensation
- Furthermore, because of the linkage between koala habitat identified under a KPOM and Category 2 Sensitive Regulated Land under the Land Management and Biodiversity Conservation framework, the SEPP de-facto prohibits the land management activities that are otherwise permissible under the Land Management Code, notwithstanding that no development consent is required for these land management activities. Farmers would have raised very significant opposition to the creation of this linkage between KPOMs and the Land Management Codes during the 2016 reforms if the Government had made clear its intention to dramatically widen the definition of land that could be declared as koala habitat under a KPOM.

The SEPP will not have the impact that we say it will

- Category 2 Sensitive Regulated Land (under the Land Management and Biodiversity Conservation Framework legislation) includes such koala habitat identified in a KPOM that the Environment Agency Head (EAH) (not the local Council) decides is core koala habitat. The Land Management Codes that were the centrepiece of the 2016 Land Management reforms are dis-applied from Sensitive Regulated Land.
- The wide definition of koala habitat under the SEPP, coupled with the discretion of the EAH to identify the extent of the koala habitat that comprises core koala habitat (so this extent will not necessarily be the same land that is core koala habitat under a KPOM), makes it likely that the newly legislated land management reforms will be overridden by this SEPP for most vegetated land in NSW identified on the SI Map and the DA Map.
- Farmers are required to manage Category 2 Sensitive Regulated Land for environmental conservation. The activities regulated under the Land Management Code and most of the 'allowable' land management activities permitted under the *Local Land Services Act 2013* are not permitted on Category 2 Sensitive Regulated Land.
- If the land is rezoned for Environmental Protection (as foreshadowed by DPIE) the limited range of permissible development types will restrict the establishment or expansion of farming enterprises on farming land and land management activities are effectively prohibited (the Routine Agricultural Management Activities presently available under the *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2016* (Vegetation SEPP) will sunset later this year).
- Complying Development otherwise permitted under an EPI is not permitted on land designated as Environmentally Sensitive land, imposing a further restriction on farming development.
- The Guidelines suggest that a development consent on any part of a farm lot that includes koala habitat (many farms are comprised of only one lot in a DP, though these are very large lots) is likely to enliven conditions of development consent that will require the farmer to provide koala conservation infrastructure for all areas of koala habitat on the lot, even if there is minimal impact on the habitat.
- Koala habitat extends beyond lot boundaries, and development applications on one farm may trigger mitigation measures on a neighbouring farm if both farms are in the same ownership (as is common).

It does not matter if the maps are not accurate, because they are not regulatory

• The SI Map identifies the only land in NSW that is capable of being regulated as 'core koala habitat' under a KPOM. The SI Map thereby limits the exercise of the function of the council to identify land as core koala habitat to the land identified on SI Map. This is the regulatory function of the SI Map, and it has significant impacts for landholders whose land is identified on the SI Map.

- For example, our members have advised us that identification of land on the SI Map or the DA Map will instantly devalue that land. The identification on the map will be a matter that will need to be disclosed to potential purchasers of land, and to banks and other insurers and will likely affect access to finance. There is no mechanism for a landholder to contest or rectify the map, despite its regulatory impact.
- Furthermore, the SEPP does not include process by which a landholder can dispute or correct a defective map, except in the context of the making of a KPOM or a development assessment.
- The predictive mapping approach is coercive and is likely to promote perverse outcomes. An effective regulatory scheme depends on proactive compliance from the regulated community.
- Affected landholders should have been provided with the opportunity to comment on the regulatory impact before the SEPP was made and there should have been an opportunity to verify and ground truth the maps, as well as opportunity to rectify the maps at no cost the landholder.

There's nothing in the SEPP that requires land to be rezoned for Environmental Protection

- The Department's own FAQs indicate that the plan making provisions from SEPP 44 have been moved into a Ministerial Direction that requires councils preparing planning proposals to identify areas of core koala habitat and zone the land Environmental Protection (an 'E zone') or include provisions that control the development of the land to consider impact on koalas and their habitat. NSW Farmers strongly opposes the making of such a Ministerial Direction and is calling on government to allow the public to comment on this Ministerial Direction before it is made.
- Native vegetation in Environmental zones is now managed under the Vegetation SEPP. The Vegetation SEPP requires clearing of native vegetation on land that is part of koala habitat to be approved by the Native Vegetation Panel and offset in accordance with the Biodiversity Offset Scheme (BOS) (because all clearing of koala habitat determined to be core koala habitat by the EAH exceeds the BOS thresholds). PNF is not regulated under the Vegetation SEPP, but because of the linkage between core koala habitat and the PNF Code of Practice, PNF on land designated as core koala habitat by the EAH is effectively prohibited.
- The BOS would involve very significant expenses for farmers simply attempting to manage land in their existing farming enterprises including the requirement to seek approval for all land management activities such as thinning and native weed management, commission biodiversity assessments in accordance with the Biodiversity Assessment Methodology, and if the clearing is approved, purchase offset credits or establish and manage a perpetual offset site on their own land at the offset ratio calculated by the BOS.
- If land is not moved into an Environmental zone, farmers will be able to continue to obtain the benefit of the limited suite of 'allowable activities' permitted under Schedule 5A of the *Local Land Services Act 2013*. But the majority of these 'allowable activities' are not permitted on land that has been identified as 'Category 2 Sensitive Regulated Land' (which includes land identified as koala habitat under a KPOM).

NSW Farmers' Association is calling for:

- All land zoned RU1 and RU2 to be excluded from the Koala SEPP until the changes to the *Local Land Services Act 2013* and its Regulation required to uncouple the SEPP from the Land Management Code are brought to Parliament, amendment of the SEPP is the best way of mitigating its impact on farmers
- Development of a fit for purpose approach to managing impacts on koalas in the farming landscape under the Land Management Code
- A process for landholders to review or appeal regulatory maps without cost

- An agreed upon verification process for identifying koala presence
- Limitation of the scope of regulation to land where koalas are present
- A halt on the operationalisation of the new SEPP until landholders are provided with the opportunity to review and ground-truth the mapping.

NSW Farmers' members have asked me to convey the genuine dismay that the SEPP has caused in farming communities. Our members think that this intervention in routine farming activities and the limitations it will place on producing the clean, sustainable and reliable food and fibre that the NSW community depends are simply unfair, given that many farmers are still recovering from the drought and the bushfires and must now also deal with the COVID-19 crisis. I would be happy to meet with you to discuss our concerns in more detail.

Yours sincerely

James Jackson PRESIDENT

Cc: Marcus Ray, Group Deputy Secretary, Department of Planning, Industry and Environment **By email**



Koala Habitat Protection Guideline

Implementing State Environmental Planning Policy (Koala Habitat Protection) 2019



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Introduction

The koala (*Phascolarctos cinereus*) is an iconic Australian marsupial. In NSW koala populations are in decline and vulnerable to extinction. As with many threatened species, koalas and their habitat are managed under a variety of legislation and policy. In the NSW planning system, a dedicated state environmental planning policy was introduced in 1995 to protect koala habitat.

State Environmental Planning Policy (Koala Habitat Protection) 2019 (the SEPP) encourages the conservation and management of koala habitat to ensure populations remain in their present range and the trend of population decline is reversed. The SEPP is made under the *Environmental Planning and Assessment Act 1979* (EP&A Act) and replaces the previous State Environmental Planning Policy No 44 - Koala Habitat Protection.

This Guideline is made in accordance with the SEPP. It aims to guide consent authorities, professionals and the community to understand and implement the requirements of the SEPP. Its principal functions are to set out the requirements for the protection of koala habitat through the:

- preparation of Koala Plans of Management (KPoMs).
- preparation and assessment of development applications which the SEPP applies to.

This Guideline has three parts with supporting appendices.

Part 1 – Background

Provides background information and an introduction to the application of the SEPP and this Guideline.

Part 2 – Koala Plans of Management

Provides guidance on how to make koala plans of management.

Part 3 – The Development Assessment Process under the SEPP

Establishes the development assessment process and requirements, including criteria to be followed by applicants and considered by consent authorities assessing the development.

Part 1. Background

1.1 Aim of the SEPP

SEPP (Koala Habitat Protection) 2019 seeks to address the declining status of koalas in NSW through better conservation and management of koala habitat as part of the planning and assessment process. The overarching aim of the SEPP is to:

"... encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline."

The aim of the policy will be achieved through this Guideline by:

- defining what constitutes core koala habitat.
- outlining the circumstances where a consent authority must have regard to the matters set out in the guideline.
- encouraging the development of Koala Plans of Management (KPoMs). These plans provide the best opportunity to deliver strategic conservation outcomes for koala populations in NSW. They play a critical role in helping to understand koala values at a landscape scale and avoiding the types of issues that can arise through site-based, incremental impacts, such as the loss of important habitat linkages, or intensifying land use within areas that are likely to lead to population decline.
- requiring that a consent authority's determination of a development application is consistent with a KPoM or Part 3 of this Guideline where there is no KPoM.

1.2 Purpose of this Guideline

The purpose of this Guideline is to support the SEPP's aim by:

- Guiding councils on how to prepare KPoMs, including what they should contain and how they can be structured.
 - This information aims to make the process of developing and approving KPoMs more efficient and to provide councils with a clear understanding about how a KPoM can operate.
- Defining criteria and requirements for applicants to follow and consent authorities to implement when preparing and assessing development applications when a council KPoM does not apply to that land.
 - This information aims to simplify the development assessment process and establish a standard for how these applications can meet the requirements of the SEPP.
 - They outline a set of requirements to ensure that development on land identified on the Koala Development Application Map adequately avoid, minimise and manage potential impacts to koalas and their habitat.
 - They outline the minimum survey effort required to establish whether 'core koala habitat' is present where a land owner/proponent chooses to undertake a fauna and flora survey.
- Guiding councils on how to implement the Ministerial Direction 2.6 Koala Habitat Protection.
- Informing the wider community about the role of the SEPP in the planning system to help protect koalas and their habitat.

1.3 Principles of this Guideline

This Guideline recognises that what is needed to protect koala habitat differs across the State. As a result, they are intended to allow some flexibility. Seven key planning principles have been developed to help define the criteria and requirements set out in this Guideline. They are:

- 1. Understand and identify koala habitat values including landscape connectivity (such as habitat extent and habitat linking areas).
- 2. Avoid inappropriate land uses or intensifying land uses in koala habitat areas through appropriate landscape planning and site selection.
- 3. Encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas.
- 4. Minimise potential impacts to koalas and their habitat through design that avoids fragmentation or direct loss of koala habitat, and maintains the function of the koala habitat.
- 5. Implement best practice measures to manage identified threats to koalas and their habitat (such as those listed in Part 3).
- 6. Use compensatory (i.e., offsetting) measures only where they can be shown to meet the aim of the SEPP.
- 7. Use adaptive management strategies to monitor, evaluate and deliver appropriate planning outcomes for koalas in their local setting.

1. Understand koala habitat	2. Avoid impacts	3. Minimise impacts	4. Threat management	5. Apply comensatory measures	6. Adaptive management	
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1.4 Where does this Guideline apply?

The Guideline applies wherever the SEPP applies.

The development control provisions of the SEPP apply to development applications relating to land within a council area listed below and:

- 1. Where there is an approved Koala Plan of Management for the land
 - a. the development application must be consistent with the approved koala plan of management that applies to the land.
- 2. Where there is no approved Koala Plan of Management for the land, if the land
 - a. is identified on the Koala Development Application Map, and
 - b. has an area of more than 1 hectare, or
 - c. has, together with any adjoining land in the same ownership, an area of more than 1 hectare, whether or not the development application applies to the whole, or only part, of the land.

The SEPP (as per Clause 5(1) and Schedule 1) applies to land within the following council areas:

Armidale Regional, Ballina, Bathurst Region, Bega Valley, Bellingen, Berrigan, Blayney, Blue Mountains, Bourke, Brewarrina, Byron, Cabonne, Campbelltown, Central Coast, Central Darling, Cessnock, Clarence Valley, Coffs Harbour, Coonamble, Dungog, Edward River, Eurobodalla, Federation, Forbes, Gilgandra, Glen Innes Severn, Goulburn Mulwaree, Greater Hume, Gunnedah, Gwydir Shire, Hawkesbury, Hilltops, Hornsby, Inverell, Kempsey, Ku-ring-gai, Kyogle, Lake Macquarie, Leeton, Lismore, Lithgow, Liverpool, Liverpool Plains, Lockhart, Maitland, Mid-Coast, Mid-Western Regional, Moree Plains, Murray River, Muswellbrook, Nambucca, Narrabri, Narrandera, Narromine, Newcastle, Northern Beaches, Oberon, Parkes, Port Macquarie-Hastings, Queanbeyan-Palerang, Port Stephens, Richmond Valley, Shoalhaven, Singleton, Snowy Monaro Regional, Snowy Valleys, Tamworth Regional, Tenterfield, Tweed, Upper Hunter, Upper Lachlan, Uralla, Wagga Wagga, Walcha, Walgett, Warren, Warrumbungle, Weddin, Wentworth, Wingecarribee, Wollondilly, Wollongong, Yass Valley.

However, the SEPP does not apply to land dedicated, reserved or acquired under the *National Parks and Wildlife Act 1974* or to land dedicated under the *Forestry Act 1916* as a State forest or flora reserve.

1.5 Koala Habitat Definitions

Definition of Core Koala Habitat under the SEPP

The definition of core koala habitat is specified in clause 4 of the SEPP (see below).

core koala habitat means-

- (a) an area of land where koalas are present, or
- (b) an area of land—
 - (i) which has been assessed by a suitably qualified and experienced person in accordance with the Guideline as being highly suitable koala habitat, and
 - (ii) where koalas have been recorded as being present in the previous 18 years.

Notes about the definition:

- "An area of land" includes both a development footprint and the broader area of land on which the development is proposed (i.e. the subject lot). The controls within the SEPP apply to both direct and indirect impacts and all habitat on the site area. Therefore, the entire lot needs to be considered even if no vegetation is to be cleared.
- Appendix C to this Guideline outlines the survey methodologies to be applied to establish whether an area contains core koala habitat (for councils when preparing KPOMs and development application proponents wishing to undertake a survey to demonstrate their land does not contain core koala habitat). Appendix C also defines *highly suitable habitat and* details the procedure for identifying it.

1.6 SEPP Maps

The **Koala Development Application Map** identifies areas that have highly suitable koala habitat and that are likely to be occupied by koalas. Landholdings captured by the map (whether the whole lot or only a portion is covered) need to consider the impact of their development on koalas or need to undertake a survey if they believe the map has been incorrectly applied to their land (in accordance with Appendix C). The Koala Development Application Map applies where there is no approved Koala Plan of Management for the land and identifies which areas trigger the development assessment requirements for core koala habitat.

The **Site Investigation Area Map for Koala Plans of Management** identifies areas that are likely to have koala use trees and excludes areas with a low probability of koala habitat. This map identifies areas councils should investigate when identifying core koala habitat in Koala Plans of Management and the extent to which core koala habitat can be identified.

The maps can be viewed at

https://webmap.environment.nsw.gov.au/Html5Viewer291/index.html?viewer=KoalaSEPP.htm5

How core koala habitat is treated under the SEPP

Core koala habitat

Core koala habitat as defined in the SEPP informs the plan of management and development assessment process. When core koala habitat is mapped through approved KPoMs, the GIS data for any core koala habitat identified under the plan must be submitted to the Department. This data will be used to update the Native Vegetation Regulatory Map under the *Local Land Services Act 2013* and the Biodiversity Values Map made under the Biodiversity Conservation Regulation 2017.

KPoMs identify core koala habitat through applying the survey methodology at Appendix C.

Councils will establish provisions for core koala habitat in their KPoMs which relevant development applications must comply with in order to be approved.

Alternatively, on land where there is no approved KPoM, if a landholder wishes to conduct a survey in accordance with Appendix C, rather than using the Koala Development Application Map, the survey will examine the land for the presence of core koala habitat.

1.7 Legislative Framework

In addition to the SEPP, koalas and their habitat are protected by an interrelated framework of legislation. The legislation includes the *Biodiversity Conservation Act 2016* (BC Act), where koalas are protected as one of many threatened species, and by the State planning policy framework under the *Environmental Planning and Assessment Act 1979* (EP&A Act). Their habitat is indirectly protected by the *Local Land Services Act 2013* (LLS Act) and by *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017* (Vegetation SEPP).

It is important to note that compliance with this Guideline and the SEPP does not affect a person's obligation to separately consider the requirements of other related legislation.

Commonwealth Environment Protection and Biodiversity Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act), the Australian Government's central piece of environmental legislation, lists the NSW, Queensland and ACT populations of koalas as vulnerable species. This means that approval is needed under this Act for proposed actions that will have, or are likely to have, significant impact on koalas. According to the 'EPBC Act referral guidelines for the vulnerable koala,' the loss of 20 hectares or more of high-quality habitat critical to the survival of the species is highly likely to have a significant impact for the purposes of the EPBC Act while proposals relating to loss a lesser amount or lesser quality habitat are less likely to need an approval under this Act.

Environmental Planning and Assessment Act 1979

The EP&A Act provides the framework for the NSW planning system, including the creation of policies for specific matters of state significance called State Environmental Planning Policies (SEPPs). It also requires consent authorities such as local councils to take into consideration a range of factors when determining whether to approve a development including the likely environmental impacts of a development on natural and built environments. The EP&A Act interacts with the BC Act in that the threatened species 'test of significance' required under the BC Act and the Biodiversity Assessment Method must be considered in assessing relevant development applications or activities.

Biodiversity Conservation Act 2016

The purpose of the BC Act is to maintain a healthy, productive and resilient environment, consistent with the principles of ecologically sustainable development. The Act provides a range of protection measures for threatened species in NSW, including the koala.

These protection measures primarily operate through the development assessment process managed under the EP&A Act. The BC Act makes provision for a Biodiversity Values (BV) Map that is developed by the Environment Agency Head. Core koala habitat identified in a KPOM approved under the SEPP is one of the types of land that is included on the BV Map. The BV Map can be viewed in the Biodiversity Values Map and Threshold (BMAT) Tool. The BC Act requires the applicant to undertake a biodiversity impact assessment in accordance with a methodology known as a Biodiversity Assessment Method (BAM) for a range of development proposals including any development proposal that:

- involves clearing any native vegetation on land mapped as having biodiversity values.
- exceeds the clearing area thresholds (cl. 7.2 BC Regulation) on any land.
- is otherwise likely to significantly affect threatened species (or their habitats).

This assessment must set out measures to (preferentially) avoid, minimise, or (lastly) offset any impacts to biodiversity value (any offsets are measured as credits and managed through the Biodiversity Offsets Scheme). Development approvals must include a condition that requires the offsets to be met prior to the development proceeding. Where the impacts of a proposal are 'serious and irreversible', a consent or determining authority must refuse consent for development (except for state significant projects where it is a consideration before determining the proposal). Impacts to koalas and their habitat generally do not qualify as 'serious and irreversible' impacts. The requirements under the BC Act are in addition to those required under the SEPP.

Local Land Services Act 2013

The LLS Act provides a new regulatory framework for the management of native vegetation in NSW. It applies to rural land outside the Sydney metropolitan area and Newcastle LGA.

The amendment to the LLS Act also introduced a Land Management Code which enables codebased clearing of vegetation on regulated land. Vegetation on certain regulated land cannot be cleared under this code. This land is classified 'Sensitive Regulated Land' on the NVR Map and is based on a variety of factors, including whether the land is core koala habitat in a plan of management made under the SEPP. Where code-based clearing is not allowed, an approval is required from the newly established Native Vegetation Panel through the BAM process.

Land which has been identified as 'core koala habitat' (consistent with the corresponding definition in the SEPP) is designated Category 2 - Sensitive Regulated Land and therefore cannot be cleared under the exempt code. In addition, Private Native Forestry cannot be conducted on this land (as set out in the PNF Codes of Practice). However, there are a range of allowable activities that can occur without consent, and consent for other works can be sought from the Native Vegetation Panel.

Vegetation in Non-Rural Areas SEPP

The State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 (Vegetation SEPP) sets up a framework for the clearing of vegetation not associated with a development application in certain areas. It generally applies where Part 5A 'Land management (native vegetation)' of the LLS Act does not apply: the Sydney metropolitan area and Newcastle LGA, as well as all other land in NSW that is zoned for urban or environmental purposes, except national parks). The two pieces of legislation perform comparable functions in relation to regulating native vegetation clearing. Where

development consent is not required for the clearing of native vegetation, the Vegetation SEPP requires that clearing above specified thresholds is approved by the Native Vegetation Panel constituted under the LLS Act. Below these thresholds, the Vegetation SEPP allows councils to regulate clearing through a permit system

1.8 Monitoring and Review

This Guideline will be reviewed within 24 months of publication on the Department's website and may be updated if necessary. The SEPP's maps may also be updated (through a SEPP amendment process) from time to time as new information becomes available.

Part 2. Koala Plans of Management

A plan of management for koalas that covers an entire LGA (or part of an LGA) is referred to as a koala plan of management (KPoM). The purpose of KPoMs is to encourage and enable councils to take a strategic approach to the identification and protection of koala habitat.

There are several key assumptions underpinning the approach adopted in this part:

- Priority should be given to protecting areas that meet the definition of core koala habitat as these areas are known to be used by koalas and are therefore considered the most important in delivering on the overall aim of the SEPP.
- Consideration of areas with other habitat values may still be important. These areas may serve certain functions necessary for the long-term survival of koala populations; for instance, habitat linkages, impact buffers or sites that contribute sufficient habitat areas for population expansion and recovery.
- Development controls should be tightest within areas of core koala habitat, with a focus on avoiding direct loss of habitat, corridors and other refugia.

Effect of Koala Plans of Management

Clause 8 of the SEPP specifies that where there is an approved KPoM for land to which a development application applies, the council's determination of the development application must be consistent with the approved KPoM. This includes all land, not only land over 1 hectare within core koala habitat as per the repealed SEPP 44.

Land that is identified as 'core koala habitat' in the KPoM, consistent with the definition in the SEPP will be:

- identified as category-2 sensitive regulated land on the Native Vegetation Regulatory Map under the Local Land Services Act 2013 (LLS Act) once approved by DPIE. This means the LLS Act's Land Management (Native Vegetation) Code does not apply and clearing native vegetation must be approved by the Native Vegetation Panel unless it is associated with a limited range of allowable activities set out in the LLS Act.
- included on the Biodiversity Values Map under the Biodiversity Conservation Regulation 2017. This means that a development proposal in core koala habitat or the clearing of native vegetation in areas where SEPP (Vegetation in Non-Rural Areas) 2017 applies triggers the Biodiversity Offset Scheme Threshold and will require Native Vegetation Panel approval.

The adoption of a plan of management of either type does not affect the applicant's or council's responsibility to consider the requirements of any other related legislation.

2.1 Process for Koala Plans of Management

KPoMs are prepared under Part 3 of the SEPP and must be developed in accordance with this Guideline. The Coordinator General of the Environment, Energy and Science Division of the Department of Planning, Industry and Environment must be consulted during the process of developing a KPoM. Council should also identify and consult with key stakeholders, such as community groups and relevant agencies such as Local Land Services, while developing the KPoM. Council is required to exhibit the proposed KPoM for a minimum period of 28 days. A letter or email must be sent to all landholders in proposed core koala habitat, outlining any impacts such a designation would have on their ability to undertake activity on their land and the exhibition period during which they might make a submission.

The plan, and all required documents, will then be referred to the Chief Executive Officer of Local Land Services and the Coordinator General of the Environment, Energy and Science Division of the Department. The plan must be approved by the Secretary of the Department of Planning, Industry and Environment (DPIE) before it takes effect.

If a council is interested in preparing a KPoM, DPIE and the Environment, Energy and Science Group of the DPIE should be contacted. Councils are also required to liaise closely with the Environment, Energy and Science Group of the DPIE while developing the KPoM (as per clause 12 of the SEPP), particularly with respect to the adequacy of studies and survey, prior to proceeding to the development of management strategies. Councils are also encouraged to liaise with Local Land Services when preparing a KPoM to ensure the views of all stakeholders are considered throughout the process.

2.2 Definitions of Koala Habitat in Broader Landscape Terms

Councils may identify core koala habitat consistent with the definition in the SEPP if it is also on land identified on the Site Investigation Area for Koala Plans of Management Map.

Councils are encouraged to identify other types of koala habitat which do not meet the definition of core koala habitat. These other types of koala habitat do not need to occur within the bounds of the Site Investigation Area for Koala Plans of Management. This is important since the definition of core koala habitat may be limiting at a landscape level, where the following issues arise:

- Identification of habitat at a landscape level generally requires different types of data available at a scale that can be reasonably gathered and applied to broad-scale areas. The state-wide Koala Habitat Information Base provides data to help councils identify koala habitat in their local government area and can help to guide local mapping efforts.
- KPoMs aim to deliver strategic conservation outcomes which require consideration of a broader set of attributes than species presence (noting that some areas which may not currently be occupied by koalas may be important in terms of connectivity, dispersal, seasonal movement, drought or fire refuge, or recovery). KPoMs provide the most effective means of preventing the types of impacts and levels of population declines that are more likely to result from site-based, incremental or cumulative impacts.

At a landscape scale, habitat assessments should identify all habitat of importance or potential importance to koalas in terms of several factors, not limited to those used to define core koala habitat under the SEPP.

Further discussion of habitat mapping for koala plans of management is provided in Appendix B.

2.3 Part LGA Koala Plans of Management

In some circumstances it may be appropriate to prepare a KPoM for a portion of an LGA rather than for the entire LGA. Plans should focus on those areas where threats to koalas and their habitat are greatest, for example where land uses are expanding or intensifying. Accordingly, whilst councils are encouraged to consider the entire LGA when developing a KPoM, part LGA plans may be appropriate where the study area:

• is of a sufficient size to identify koala habitat, threats, management recommendations and habitat protection mechanisms in a regional context.

- incorporates known koala populations in their entirety.
- utilises both ecological and physical characteristics to determine an appropriate study area boundary rather than relying on cadastral boundaries.
- enables a strategic planning approach to be developed for the management and restoration of koala habitat and the abatement of threats, which meet the aim of the SEPP.

Council should seek advice from the Secretary of DPIE and the Coordinator General of the Environment, Energy and Science Division of the Department of Planning, Industry and Environment to determine if a part LGA KPoM is appropriate for the proposed area. The procedures for preparing a part LGA KPoM should follow those detailed for a whole LGA plan.

The Coordinator General of the Environment, Energy and Science Division of the Department of Planning, Industry and Environment must still be consulted when preparing a KPoM for part of an LGA. Council is encouraged to also consult with Local Land Services. The remaining part of the LGA would remain subject to any other legislative requirements for individual development applications.

2.4 What must be included in a Koala Plan of Management

KPoMs must (at a minimum):

- 1. Identify and map present koala populations and (if possible) past populations from historical records (from BioNet).
- 2. Identify and map koala habitat based on the principles in this guideline. Care should be taken to ensure 'core koala habitat' is mapped consistent with the definition in the SEPP to ensure protection in the broader legislative framework. For KPoMs this means the area must also be identified on the Site Investigation Area for Koala Plans of Management Map.
- 3. Identify threatening processes and aim for no net loss of koala habitat within the area covered by the plan over the long-term.
- 4. Establish procedures to secure and manage koala populations into the future.
- 5. Specify any requirements in addition to those required by the Biodiversity Assessment Method for development applications in core koala habitat, and in areas with other habitat types and values.
- 6. Specify requirements for activity assessments and planning proposals in core koala habitat, and in areas with other habitat types and values.

In meeting the requirements listed above, a KPoM should address the seven key planning principles identified in Section 1.3 of this Guideline.

When the council provides the KPoM for the Secretary's approval, GIS data of any core koala habitat identified in the plan must also be supplied. This is so the core koala habitat can be mapped on the Native Vegetation Regulatory map under the LLS Act and the Biodiversity Values Map made under the Biodiversity Conservation Regulation 2017. Data must be supplied in accordance with the GIS data requirements of the DPIE as published on its website (https://www.planning.nsw.gov.au/Plans-for-your-area/Local-Planning-and-Zoning/Mapping-standards-and-requirements).

In addition to GIS data, council must also provide the Department with the submissions report, the results of any surveys, and any other documents which informed the preparation of the KPoM.

More detail regarding the information that should be included in a KPoM is included in Appendix B. Councils can set out development application criteria in the KPOM or choose to apply the development application criteria in Part 3 to mapped areas of koala habitat in the KPoM.

2.5 Consultation requirements for KPoMs

Council is required to exhibit the proposed KPoM for a minimum period of 28 days. During this time, government agencies, local residents and members of the public can comment on the proposed KPoM. It may be appropriate for council to make changes to the KPoM in response to feedback to the exhibition. These changes must be detailed and justified in the submissions report. In addition, council must notify by post or email, all landholders within proposed core koala habitat in the draft KPoM.

Councils must notify landholders of the proposal to designate their land core koala habitat, and clearly detail the implications of core koala habitat should the KPoM be approved (e.g. that the land would become Category-2 Sensitive Regulated Land under the Local Land Services Act 2013, and that private native forestry would be prohibited). The correspondence must clearly state the procedure for landholders who wish to contest the core koala habitat designation. Councils are encouraged to consult with Local Land Services on preparing such correspondence and engaging with landholders.

Landholders who wish to contest proposed core koala habitat on their land must provide evidence to council's satisfaction that the land is not core koala habitat. This is to involve a survey of the land, conducted in accordance with Appendix C, undertaken by a suitably qualified and experienced person (as defined in the SEPP). Alternatively, the landholder may allow council to conduct such a survey. Such objections and any evidence submitted should be detailed in the submissions report, along with council's response which clearly details the action taken (e.g. removing or maintaining the core koala habitat designation) and a justification for the decision.

The submissions report should detail the sentiment and content of submissions, as well as council's response, and must be prepared and provided when the KPoM is submitted for approval, along with any other documents relevant to the plan (such as survey results or local koala studies).

Part 3. The Development Assessment Process Under the SEPP

This part of the Guideline outlines the development assessment requirements for any development application to which the SEPP's Koala Development Application Map applies (or alternatively where a survey has identified the land as core koala habitat) and where there is no approved KPoM in place. This is in areas the SEPP applies and where the land has an area of at least 1 hectare, including adjoining land within the same ownership. This guidance is intended to assist both:

- Applicants in understanding how the SEPP applies to their development, the level of information that is needed to support their development application, and the criteria that needs to be addressed.
- Consent authorities in assessing the adequacy of information supporting a development application and the considerations relevant to their determination.

The requirements of this section are structured into two parts, corresponding with the level of impact to koalas and their habitat arising from the development. If Tier 1 proponents are not able to demonstrate that the development has a low or no direct impact on koalas or koala habitat, they must proceed under Tier 2. Tier 2 requires that a suitably qualified and experienced person as defined in the SEPP must be engaged, and a Koala Assessment Report provided with the development application.

If any native vegetation is to be removed, or the development footprint will impede movement between koala habitat the development automatically becomes Tier 2 development.

3.1 Tier 1 - Low or no direct impact development

The Tier 1 process is for development which can be demonstrated to have low or no direct impact on koalas or koala habitat as follows:

- 1. indirect impacts that will not result in clearing of native vegetation within koala habitat
- 2. the development is below the Biodiversity Offsets Scheme threshold under the BC Act
- 3. (there is no native vegetation removal)
- 4. the development footprint will not impede movement between koala habitat
- 5. adequate mitigation measures such as those listed in Table 1 below are implemented as necessary

If the development cannot meet all criteria above, then it exceeds a low level of impact on koalas and/or koala habitat and the Tier 2 process is triggered.

Management measures to address key risks

Table 1 provides guidance around the types of measures that could be adopted as part of a development application to address the key indirect impacts or risks identified through the assessment. The measures in the table are examples only, recognising that development issues need to be assessed on a case-by-case basis and different councils may seek to apply prescriptions that align with broader considerations. Councils are encouraged to develop requirements within their development control plans that specifically deal with koala management issues as this will provide more detailed, tailored information around what is expected.

Impact	Management measures
Dog attack	 Restrictions on the movement of dogs, including use of dog and koala proof fencing that effectively contains dogs and excludes koalas, with the provision of koala furniture that allows koalas to escape yards should they gain entry. Signage and education. Dogs excluded from koala habitat areas and only allowed off leash in areas established as not being habitat.
Vehicle strike	 Traffic speed limited as far as possible. Traffic calming measures and roadside lighting. Use of koala proof exclusion fencing, with the provision of escape mechanisms should koalas gain access to the road. Inclusion of koala land bridges and/or underpasses where appropriate and in combination with koala proof exclusion fencing.
Drowning in pools	 Incorporation of features and koala furniture that allow koalas to escape from pools and the fenced area, such as a shallow ramp or thick, taut rope. Use of pool fencing that effectively excludes koalas. No structures near pool fences that allow koala to gain access over fencing.
Bushfire	 Development and implementation of a bushfire management plan with measures that specifically address risks to koala habitat. Core koala habitat should not form part of the Asset Protection Zone (APZ). The APZ should occur beyond any koala habitat. Develop an emergency response plan that identities key contacts in RFS, local wildlife carers and vets, and list of appropriate Government resources.
Introduction or spread of disease	• Use of biosecurity and hygiene procedures in instances where vegetation pathogens known to affect koala trees might be spread or introduced. For example, strict enforcement of vehicle wash-down points.
Disturbance	 Establishment of tree protection zones around any retained koala trees within the site area and preclusion of any development activities within the tree protection zones. Habitat restoration and strategic plantings to improve connectivity of retained habitat and trees. Where there may be indirect impacts on koala habitat, use of a suitably qualified koala spotter to inspect habitat prior to any development taking place. Where koalas are identified, temporary suspension of works that might disturb the koala and/or prevent it from moving to adjacent undisturbed habitat of its own volition. Koalas should be protected from disturbance and indirect impacts via appropriate exclusion fencing from urban areas and roads. Fencing of urban areas should still allow for koalas to disperse through the koala habitat in the landscape and to connect with other koalas and koala colonies.

Table 1: List of suggested management measures to address key indirect impacts

Impact	Management measures
Impediments to movement	 Retention of koala habitat corridors with the principle of minimising adverse impacts and retaining existing corridors. Infrastructure or development to be designed in a way that is reliably known to not impede safe koala movement. For instance, overpasses or underpasses as part of road design. Infrastructure or development to be designed in a way that facilitates koala movement by incorporating retention and planting of koala trees, where it is safe to do so. For example, retaining and planting paddock trees, trees along fencelines and remnant patches of bushland on properties. In some instances, there may be a need to reduce koala movement into development areas where they are more at risk (e.g. through the use of exclusion fencing).

3.2 Tier 2 - development applications impacting koalas and/or habitat

Development applications which are likely to impact koalas and/or koala habitat and do not meet the criteria for Tier 1 must address the following criteria against each of the seven planning principles. The criteria are summarised below.

A Koala Assessment Report addressing the criteria must accompany any development application to which Tier 2 applies. A suggested template for a Koala Assessment Report is provided in section 3.3 below. The Koala Assessment Report must be prepared by a suitably qualified and experienced person.

Principle 1. Understand koala habitat values

Criteria 1. The site is established as core koala habitat if it occurs on the Koala Development Application Map or by undertaking a site area survey undertaken in accordance with the methods outlined in Appendix C of this Guideline.

Criteria 2. Further analysis is undertaken in order to understand the broader values of the core koala habitat, including information about the koala population using the habitat and any specific ecological functions the habitat might serve.

Key questions which need to be addressed in meeting this criterion include:

- What is known about the size, health and viability of the koala population?
- What is known about the generational persistence of the local koala populations through an analysis of records to determine population trends and persistence over time?
- What is the broader landscape context of the habitat within the site area? For instance, is it contiguous with broader areas of habitat or relatively isolated, and what are the likely regional movement patterns of koalas using the site area?
- Does the site area contain particular values that are likely to serve an important ecological function for koalas? For instance, providing linkage between other habitats, or serving as a habitat buffer to broader areas?
- Could the habitat area and/or koala population using the site area be important to the recovery of the koala? For instance, does the habitat contain features that might provide refuge during droughts, extreme heat, or fire? Or is the population considered to be healthy, robust or showing relatively low incidence of disease?

 Drawing on evidence presented, what significance are the values of the site to preserving the existing koala population and supporting recovering and expanding populations?

Principle 2. Avoid intensifying land use in koala habitat areas through appropriate landscape planning and site selection

Criteria 3. Site selection takes into account koala habitat values.

- In addressing this criterion, the development application needs to show:
- How has the development footprint avoided habitat?
- What feasible alternatives were assessed as part of the process?

Principle 3. Encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas

Criteria 4. Development avoids the direct loss of koala habitat within the site area and avoids fragmentation

Criteria 5. Koala habitat is excluded from the development footprint

Principle 4. Minimise potential direct impacts to koalas through koala sensitive design

Criteria 6. Development avoids direct impacts to koala habitat within the site area.

In addressing this criterion, the development application needs to show:

 How will impacts to koala habitat be minimised so as to not fragment existing koala habitat, impact the ability of koalas to move across the landscape or impact the recovery and expansion of populations?

Criteria 7. Where some loss of habitat cannot be avoided (and providing it is consistent with all other criteria set out here), development is designed in a way that retains higher value areas across the site and avoids fragmentation of habitat within the site area and more broadly within the region.

For instance, this might mean prioritising the retention of koala trees that are greater than 250 mm DBH, or areas of koala habitat that are in better condition, show signs of koala tree recruitment, are better connected with habitat more broadly, or contain features that might be important for refuge.

Criteria 8. Development is undertaken in a way that maintains the potential function of the koala habitat.

For instance, if the koala habitat within the site area has been identified as an important linkage corridor, development should be undertaken in a way that enables the continued movement of koalas.

Principle 4. Implement best practice measures for the management of identified risks to koalas.

Criteria 9. All relevant indirect impacts to koalas and koala habitat associated with the development are identified.

Potential indirect impacts which may be relevant include (but are not limited to): dog attacks, vehicle strikes, drowning in pools, increased risk of fire, introduction or spread of disease, disturbance, and impediments to movement.

It is important when considering potential indirect impacts to look beyond the site area to any additional areas which are likely to be affected by the proposal to take all potential impacts into account.

Criteria 10. Development uses best practice management measures to address the potential impacts considered likely to pose an increased risk to koalas or their habitat.

The types of measures or controls used to address impacts will vary depending on the nature of the development, the relative importance of the site area to koalas, and the extent and magnitude of impacts.

The specific requirements may be guided by development control plans relevant to each council area. Examples of the types of measures that might be used to address the indirect impacts identified here are provided in Table 1 above.

Principle 5. Use compensatory measures only where they can be shown to better promote the aim of the SEPP

Criteria 11. Compensatory measures are only used once it has been demonstrated that options to avoid, minimise and manage impacts to koala habitat have been exhausted.

Criteria 12. Where there is any direct loss of habitat or compromise in the potential function of a koala habitat area (and providing it is consistent with all other criteria outlined here), suitable compensatory measures are provided.

Determining the suitability of any proposed compensatory measures should be guided by the overall aim of the SEPP.

Principle 6. Use adaptive management strategies to monitor, evaluate and deliver appropriate planning outcomes for koalas

Criteria 13. Development application includes a monitoring, adaptive management and reporting component against the key outcomes.

3.3 Template for Koala Assessment Reports

A standard example table of contents for Koala Assessment Reports is provided below. These reports need to include the following information to ensure a standard approach across NSW. These reports must accompany a development application to which the SEPP applies.

Introduction			
Describe the nature of the proposed development.			
Define how the SEPP applies to the proposed development.			
Koala habitat values – addressing criteria 1 and 2			
Describe the site area, including the general environment and condition, location and extent of the development area and any other areas that may be directly or indirectly impacted by the proposed development.			
Provide details of koala survey as undertaken in accordance with Appendix C. This should include details of the results of the koala surveys, including how the site area meets the definition of core koala habitat and mapping that shows habitat areas and koala records within the site area and adjoining areas.			
Describe the site context (including mapping showing habitat that might be associated with vegetation in the adjoining landscape and records within the vicinity of the site area) and provide an analysis of the koala habitat values (including how koalas might use the site area and the relative importance of the site area to a local koala population).			
Measures taken to avoid impacts to koalas – addressing criteria 3, 4, 5, 6, 7 and 8			
Describe the site selection process, including how koala habitat was taken into account and any avoidance outcomes achieved through this process.			
Describe how the proposed development avoids or minimises direct impacts to koala habitat and habitat function within the site area.			
Analysis of potential impacts – addressing criteria 9			
Identify the residual direct impacts to koalas and koala habitat within the site area, including the nature and extent of impacts and the likely implications for the viability of a local koala population.			
Identify the relevant potential indirect impacts to koalas and koala habitat within the site area and adjacent habitat areas, including the nature and extent of potential indirect impacts and the likely implications for the viability of a local koala population.			
Plan to manage and protect koalas and their habitat – addressing criteria 10, 11, 12 and 13			
Describe the management measures that will be implemented as part of proposed construction and operations to manage the direct and indirect impacts identified. These measures should be outcomes focussed and include performance targets.			
Describe any compensatory measures that will be delivered, including an analysis of the suitability of these measures against criteria 9 and 10.			
Outline a plan for monitoring, adaptive management and reporting against the key outcomes and performance targets.			
6. References			
Include a list of all references cited in the report.			

7. Appendices	
Include any additional information or supplementary material pertinent to the DA proposal.	

Appendix A: Koala Tree Species List (as per Schedule 2 of the SEPP)

Central and Southern Tablelands koala management area

Scientific name	Common name
Eucalyptus agglomerata	Blue-leaved Stringybark
Eucalyptus albens	White Box
Eucalyptus amplifolia	Cabbage Gum
Eucalyptus blakelyi	Blakely's Red Gum
Eucalyptus bosistoana	Coast Grey Box
Eucalyptus bridgesiana	Apple Box
Eucalyptus camaldulensis	River Red Gum
Eucalyptus conica	Fuzzy Box
Eucalyptus cypellocarpa	Monkey Gum
Eucalyptus dalrympleana	Mountain Gum
Eucalyptus dealbata	Tumbledown Red Gum
Eucalyptus dives	Broad-leaved Peppermint
Eucalyptus elata	River Peppermint
Eucalyptus eugenioides	Narrow-leaved Stringybark
Eucalyptus fibrosa	Broad-leaved Red Ironbark
Eucalyptus globoidea	White Stringybark
Eucalyptus goniocalyx	Bundy

Eucalyptus macrorhyncha	Red Stringybark
Eucalyptus maidenii	Maiden's Blue Gum
Eucalyptus mannifera	Brittle Gum
Eucalyptus melliodora	Yellow Box
Eucalyptus microcarpa	Western Grey Box
Eucalyptus nortonii	Large-flowered Bundy
Eucalyptus obliqua	Messmate
Eucalyptus oblonga	Stringybark
Eucalyptus paniculata	Grey Ironbark
Eucalyptus pauciflora	White Sally, Snow Gum
Eucalyptus piperita	Sydney Peppermint
Eucalyptus polyanthemos	Red Box
Eucalyptus punctata	Grey Gum
Eucalyptus quadrangulata	White-topped Box
Eucalyptus radiata	Narrow leaved Peppermint
Eucalyptus rossii	Inland Scribbly Gum
Eucalyptus rubida	Candlebark
Eucalyptus sclerophylla	Hard-leaved Scribbly Gum
Eucalyptus sideroxylon	Mugga Ironbark
Eucalyptus sieberi	Silvertop Ash

Eucalyptus tereticornis

Eucalyptus viminalis

Forest Red Gum

Ribbon Gum

Central Coast koala management area

Gentral Goast Roala management area		
Scientific name	Common name	
Allocasuarina littoralis	Black She-oak	
Allocasuarina torulosa	Forest Oak	
Angophora bakeri	Narrow-leaved Apple	
Angophora costata	Smooth-barked Apple	
Angophora floribunda	Rough-barked Apple	
Casuarina glauca	Swamp Oak	
Corymbia eximia	Yellow Bloodwood	
Corymbia gummifera	Red Bloodwood	
Corymbia maculata	Spotted Gum	
Eucalyptus acmenoides	White Mahogany	
Eucalyptus agglomerata	Blue-leaved Stringybark	
Eucalyptus albens	White Box	
Eucalyptus amplifolia	Cabbage Gum	
Eucalyptus beyeriana	Beyer's Ironbark	
Eucalyptus blakelyi	Blakely's Red Gum	
Eucalyptus bosistoana	Coast Grey Box	
Eucalyptus botryoides	Bangalay	
Eucalyptus camaldulensis	River Red Gum	
Eucalyptus camfieldii	Camfield's Stringybark	
Eucalyptus canaliculata	Large-fruited Grey Gum	
Eucalyptus capitellata	Brown Stringybark	
Eucalyptus carnea	Thick-leaved Mahogany	
Eucalyptus consideniana	Yertchuk	

Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus cypellocarpa	Monkey Gum
Eucalyptus deanei	Mountain Blue Gum
Eucalyptus eugenioides	Narrow-leaved Stringybark
Eucalyptus fibrosa	Broad-leaved Red Ironbark
Eucalyptus glaucina	Slaty Red Gum
Eucalyptus globoidea	White Stringybark
Eucalyptus grandis	Flooded Gum
Eucalyptus haemastoma	Broad-leaved Scribbly Gum
Eucalyptus imitans	Eucalyptus imitans
Eucalyptus largeana	Craven Grey Box
Eucalyptus longifolia	Woollybutt
Eucalyptus macrorhyncha	Red Stringybark
Eucalyptus melliodora	Yellow Box
Eucalyptus michaeliana	Brittle Gum
Eucalyptus microcorys	Tallowwood
Eucalyptus moluccana	Grey Box
Eucalyptus oblonga	Stringybark
Eucalyptus paniculata	Grey Ironbark
Eucalyptus parramattensis	Parramatta Red Gum
Eucalyptus pilularis	Blackbutt
Eucalyptus piperita	Sydney Peppermint
Eucalyptus propinqua	Small-fruited Grey Gum
Eucalyptus punctata	Grey Gum
Eucalyptus quadrangulata	White-topped Box

Eucalyptus racemosa	Narrow-leaved Scribbly Gum
Eucalyptus resinifera	Red Mahogany
Eucalyptus robusta	Swamp Mahogany
Eucalyptus saligna	Sydney Blue Gum
Eucalyptus scias	Large-fruited Red Mahogany
Eucalyptus sclerophylla	Hard-leaved Scribbly Gum
Eucalyptus siderophloia	Grey Ironbark
Eucalyptus sideroxylon	Mugga Ironbark
Eucalyptus sieberi	Silvertop Ash
Eucalyptus signata	Scribbly Gum
Eucalyptus sparsifolia	Narrow-leaved Stringybark
Eucalyptus squamosa	Scaly Bark
Eucalyptus tereticornis	Forest Red Gum
Eucalyptus umbra	Bastard White Mahogany
Eucalyptus viminalis	Ribbon Gum
Melaleuca quinquenervia	Broad-leaved Paperbark
Syncarpia glomulifera	Turpentine

Scientific name	Common name
Callitris glaucophylla	White Cypress Pine
Eucalyptus albens	White Box
Eucalyptus camaldulensis	River Red Gum
Eucalyptus chloroclada	Dirty Gum
Eucalyptus conica	Fuzzy Box
Eucalyptus coolabah	Coolibah
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus dealbata	Tumbledown Red Gum
Eucalyptus dwyeri	Dwyer's Red Gum
Eucalyptus largiflorens	Black Box
Eucalyptus melanophloia	Silver-leaved Ironbark
Eucalyptus melliodora	Yellow Box
Eucalyptus microcarpa	Western Grey Box
Eucalyptus pilligaensis	Narrow-leaved Grey Box
Eucalyptus populnea	Bimble Box, Poplar Box
Eucalyptus sideroxylon	Mugga Ironbark

Darling Riverine Plains koala management area

Far West koala management area

Scientific name	Common name
Angophora floribunda	Rough-barked Apple
Callitris glaucophylla	White Cypress Pine
Casuarina cristata	Belah
Eucalyptus albens	White Box
Eucalyptus blakelyi	Blakely's Red Gum
Eucalyptus camaldulensis	River Red Gum
Eucalyptus chloroclada	Dirty Gum
Eucalyptus coolabah	Coolibah
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus dealbata	Tumbledown Red Gum
Eucalyptus intertexta	Gum Coolibah
Eucalyptus largiflorens	Black Box
Eucalyptus melanophloia	Silver-leaved Ironbark
Eucalyptus melliodora	Yellow Box
Eucalyptus microcarpa	Western Grey Box
Eucalyptus moluccana	Grey Box
Eucalyptus pilligaensis	Narrow-leaved Grey Box
Eucalyptus populnea	Bimble Box
Eucalyptus sideroxylon	Mugga Ironbark
Geijera parviflora	Wilga

Scientific name	Common name
Allocasuarina torulosa	Forest Oak
Angophora floribunda	Rough-barked Apple
Corymbia gummifera	Red Bloodwood
Corymbia henryi	Large-leaved Spotted Gum
Corymbia intermedia	Pink Bloodwood
Corymbia maculata	Spotted Gum
Eucalyptus acmenoides	White Mahogany
Eucalyptus amplifolia	Cabbage Gum
Eucalyptus bancroftii	Orange Gum
Eucalyptus biturbinata	Grey Gum
Eucalyptus campanulata	New England Blackbutt
Eucalyptus canaliculata	Large-fruited Grey Gum
Eucalyptus carnea	Thick-leaved Mahogany
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus eugenoides	Naroow-leaved stringybark
Eucalyptus fibrosa	Broad-leaved Red Ironbark
Eucalyptus glaucina	Slaty Red Gum
Eucalyptus globoidea	White Stringybark
Eucalyptus grandis	Flooded Gum
Eucalyptus laevopinea	Silver-top Stringybark
Eucalyptus largeana	Craven Grey Box
Eucalyptus microcorys	Tallowwood

Common name

North Coast koala management area

Scientific name

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Eucalyptus moluccana	Grey Box
Eucalyptus nobilis	Forest Ribbon Gum
Eucalyptus pilularis	Blackbutt
Eucalyptus placita	Grey Ironbark
Eucalyptus planchoniana	Bastard Tallowwood
Eucalyptus propinqua	Small-fruited Grey Gum
Eucalyptus psammitica	Bastard White Mahogany
Eucalyptus punctata	Grey Gum
Eucalyptus resinifera	Red Mahogany
Eucalyptus robusta	Swamp Mahogany
Eucalyptus rummeryi	Steel Box
Eucalyptus saligna	Sydney Blue Gum
Eucalyptus scias	Large-fruited Red Mahogany
Eucalyptus seeana	Narrow-leaved Red Gum
Eucalyptus siderophloia	Grey Ironbark
Eucalyptus signata/Eucalyptus racemosa	Scribbly Gum/Narrow-leaved Scribbly Gum
Eucalyptus tereticornis	Forest Red Gum
Eucalyptus tindaliae	Stringybark
Eucalyptus umbra	Bastard White Mahogany
Melaleuca quinquenervia	Broad-leaved Paperbark

Scientific name	Common name
Angophora floribunda	Rough-barked Apple
Callitris glaucophylla	White Cypress Pine
Casuarina cristata	Belah
Eucalyptus albens	White Box
Eucalyptus blakelyi	Blakely's Red Gum
Eucalyptus bridgesiana	Apple Box
Eucalyptus caleyi	Drooping Ironbark
Eucalyptus caliginosa	Broad-leaved Stringybark
Eucalyptus camaldulensis	River Red Gum
Eucalyptus canaliculata	Large-fruited Grey Gum
Eucalyptus chloroclada	Dirty Gum
Eucalyptus conica	Fuzzy Box
Eucalyptus coolabah	Coolibah
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus dalrympleana	Mountain Gum
Eucalyptus dealbata	Tumbledown Red Gum
Eucalyptus dwyeri	Dwyer's Red Gum
Eucalyptus exserta	Peppermint
Eucalyptus fibrosa	Broad-leaved Red Ironbark
Eucalyptus goniocalyx	Bundy
Eucalyptus laevopinea	Silver-top Stringybark
Eucalyptus largiflorens	Black Box

Northwest Slopes koala management area

Eucalyptus macrorhyncha	Red Stringybark
Eucalyptus mannifera	Brittle Gum
Eucalyptus melanophloia	Silver-leaved Ironbark
Eucalyptus melliodora	Yellow Box
Eucalyptus microcarpa	Western Grey Box
Eucalyptus moluccana	Grey Box
Eucalyptus nobilis	Forest Ribbon Gum
Eucalyptus parramattensis	Parramatta Red Gum
Eucalyptus pauciflora	White Sally, Snow Gum
Eucalyptus pilligaensis	Narrow-leaved Grey Box
Eucalyptus polyanthemos	Red Box
Eucalyptus populnea	Bimble Box/Poplar Box
Eucalyptus prava	Orange Gum
Eucalyptus punctata	Grey Gum
Eucalyptus quadrangulata	White-topped Box
Eucalyptus sideroxylon	Mugga Ironbark
Eucalyptus viminalis	Ribbon Gum

Northern Tablelands koala management area

Callitris glaucophyllaWhite Cypress PineEucalyptus acaciiformisWattle-leaved PeppermintEucalyptus albensWhite BoxEucalyptus amplifoliaCabbage GumEucalyptus biturbinataGrey GumEucalyptus biturbinataBlakely's Red GumEucalyptus bidgesianaApple BoxEucalyptus caleyiDrooping IronbarkEucalyptus caliginosaRiver Red GumEucalyptus caliginosaNew England BlackbuttEucalyptus campanulataNerrow-leaved IronbarkEucalyptus caleyiNarrow-leaved IronbarkEucalyptus dalnympleanaMountain GumEucalyptus dealbataTumbledown Red Gum	Scientific name	Common name
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Eucalyptus acaciiformisWattle-leaved PeppermintEucalyptus albensWhite BoxEucalyptus amplifoliaCabbage GumEucalyptus biturbinataGrey GumEucalyptus biturbinataBlakely's Red GumEucalyptus bidgesianaApple BoxEucalyptus brunneaMountain Blue GumEucalyptus caleyiDrooping IronbarkEucalyptus caliginosaBroad-leaved StringybarkEucalyptus camaldulensisRiver Red GumEucalyptus crebraNew England BlackbuttEucalyptus dailympleanaMountain GumEucalyptus dailympleanaSilver-leaved IronbarkEucalyptus laevopineaSilver-top StringybarkEucalyptus melinodriaSilver-leaved IronbarkEucalyptus melinodriaSilver-leaved Ironbark	Angophora floribunda	Rough-barked Apple
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Eucalyptus melliodora Yellow Box	Eucalyptus macrorhyncha	Red Stringybark
	Eucalyptus melanophloia	Silver-leaved Ironbark
Eucalyptus michaeliana Brittle Gum	Eucalyptus melliodora	Yellow Box
	Eucalyptus michaeliana	Brittle Gum

Eucalyptus microcorys	Tallowwood
Eucalyptus moluccana	Grey Box
Eucalyptus nicholii	Narrow-leaved Black Peppermint
Eucalyptus nobilis	Forest Ribbon Gum
Eucalyptus nova-anglica	New England Peppermint
Eucalyptus obliqua	Messmate
Eucalyptus pauciflora	White Sally, Snow Gum
Eucalyptus prava	Orange Gum
Eucalyptus radiata	Narrow leaved Peppermint
Eucalyptus saligna	Sydney Blue Gum
Eucalyptus sideroxylon	Mugga Ironbark
Eucalyptus stellulata	Black Sally
Eucalyptus subvelutina	Broad-leaved Apple
Eucalyptus tereticornis	Forest Red Gum
Eucalyptus viminalis	Ribbon Gum
Eucalyptus williamsiana	Eucalyptus williamsiana
Eucalyptus youmanii	Youman's Stringybark

South Coast koala management area

Scientific name	Common name
Allocasuarina littoralis	Black She-oak
Angophora floribunda	Rough-barked Apple
Corymbia gummifera	Red Bloodwood
Corymbia maculata	Spotted Gum
Eucalyptus agglomerata	Blue-leaved Stringybark
Eucalyptus baueriana	Blue Box
Eucalyptus bosistoana	Coast Grey Box
Eucalyptus consideniana	Yertchuk
Eucalyptus cypellocarpa	Monkey Gum
Eucalyptus elata	River Peppermint
Eucalyptus eugenioides	Narrow-leaved Stringybark
Eucalyptus fastigata	Brown Barrel
Eucalyptus globoidea	White Stringybark
Eucalyptus longifolia	Woollybutt
Eucalyptus maidenii	Maiden's Blue Gum
Eucalyptus muelleriana	Yellow Stringybark
Eucalyptus obliqua	Messmate
Eucalyptus paniculata	Grey Ironbark
Eucalyptus pilularis	Blackbutt
Eucalyptus piperita	Sydney Peppermint
Eucalyptus punctata	Grey Gum
Eucalyptus saligna	Sydney Blue Gum
Eucalyptus sclerophylla	Hard-leaved Scribbly Gum

Eucalyptus sieberi

Eucalyptus tereticornis

Eucalyptus tricarpa

Eucalyptus viminalis

Silvertop Ash

Forest Red Gum

Mugga (Red) Ironbark

Ribbon Gum

Appendix B: Detailed Criteria for Preparing Koala Plans of Management

This appendix:

- Outlines the steps for developing a koala plan of management (KPoM).
- Provides guidance about the methodology for identifying and mapping koala habitat across the plan area.
- Provides a standard structure for KPoMs that must be followed to ensure plans are robust and consistent across NSW.

Steps for Developing KPoMs

The following steps provide a suggested process for initiating and developing a KPoM. They don't necessarily need to be undertaken in the same order but doing so will help efficiently reach the end point of a finalised KPoM.

The steps are:

- 1. Scope and project plan:
 - a. Determining of the need for a KPoM
 - b. Definition of a proposed plan area and available data/mapping to inform identification of core koala habitat
 - c. Identification of key issues and risks
 - d. Project planning including tasks, resourcing and timeframes
- 2. Discuss with DPIE and the Environment, Energy and Science Group of the DPIE about the proposed KPoM. These discussions are encouraged to occur as early as possible and continue throughout development of the plan. Formal consultation during development of the plan with the Coordinator General of the Environment, Energy and Science Group of the Department of Planning, Industry and Environment is a requirement of the SEPP (Clause 12). In addition, councils are encouraged to consult with Local Land Services throughout the development of the KPoM.
- 3. Background studies and surveys into the habitat and presence of koalas within the plan area. This is discussed further below.
- 4. Establish a koala working group to engage with key stakeholders including the community, researchers and other organisations. This is a critical part of the process and provides the opportunity to gather further information about koalas, and test and develop management approaches. Early engagement with landholders and land managers is encouraged since they may be able to advise on the presence of koalas and/or koala habitat on their land.
- 5. Draft the plan by building on the technical background information and input from key stakeholders. A standard structure for KPoMs is provided below.
- 6. Consult with DPIE regarding the draft plan and its consistency with the SEPP so that any major legal or policy issues can be resolved before public exhibition.
- 7. Public consultation on the draft plan must be undertaken to provide an opportunity to gain community comments and input. Minimum public exhibition period of 28 days. Submissions report detailing results of exhibition to be submitted to the Secretary with the KPoM. Any comments should be collated and considered when drafting the final plan.
- 8. Finalise the plan and seek approval by the Secretary of DPIE, including supplying GIS data of any core koala habitat identified in the plan, and any other documents relevant to the plan including a report on any surveys.
- 9. Implementation of plan once it is in place. This should include monitoring and review.

Identifying and Mapping Koala Habitat

Identifying and mapping koala habitat are the critical foundations of KPoMs (Step 3 in the above process). Thorough scientific survey and research and use of existing mapping products and current imagery will allow the most reliable identification of koala habitat and provide a strong base for management and planning decisions.

As discussed in Part 2 of this Guideline, the definition of core koala habitat under the SEPP is limiting at a landscape level. It is therefore appropriate for KPoMs to identify habitat of importance or potential importance to koalas in terms of a number of factors not limited to those used to define "core koala habitat". These should include:

- the presence of preferred trees (the SEPP's Site Investigation Area for Koala Plans of Management Map can be used).
- the presence of suitable habitat.
- past and present koala records.
- dispersal or seasonal movement requirements.
- corridors important for maintaining connectivity.
- drought or fire refuges.

The Koala Habitat Information Base can be consulted to provide information on koala habitat suitability across a region, the likelihood of koala tree presence, the likelihood of koala occurrence in an area, information on areas of regional koala significance and for historical records of koala sightings in NSW. It can assist in identifying and mapping koala habitat in a KPoM.

What mapping is required?

A KPoM must include a map (or series of maps) which identifies koala habitat and (where possible) categorises that habitat, and identifies corridors and other areas of importance such as drought refuge areas. High quality mapping will facilitate the analysis of koala habitat categories against other factors, such as land tenure and land use zone. This can greatly contribute to the identification of potential areas of conflicting land use (e.g. koala habitat occurring on land currently zoned or proposed to be zoned to permit development), as well as the overall assessment of conservation status of koala habitat within a given LGA.

How should mapping be undertaken?

The methods used for mapping must be fit for purpose and tailored to the region where the plan is being prepared. This is critical so that the approach to mapping accommodates regional variation in koala populations and habitat throughout NSW.

However, it is necessary that a KPoM specify a range of habitat types based on tree species identified in the SEPP as well as the findings of field surveys and record analysis. In order to identify koala habitat for the purpose of a KPoM, the following general procedures should be followed:

- 1. Production of a vegetation map identifying plant community types (PCTs) at a suitable scale and accuracy. The vegetation map should include both floristic and structural characteristics.
- 2. Analysis of existing records providing both recent and historical locations of koalas.
- 3. Field survey to determine koala presence and activity and to identify which tree species and associated plant community types koalas utilise in the study area. This may include tree species additional to those listed on Schedule 2 of the SEPP (replicated in Appendix A of this Guideline).

Mapping can then be produced which identifies categories of koala habitat and identifies corridors and other areas of importance such as drought refuge areas.

Principles to guide the identification of koala habitat

There is no one size fits all approach to the definition of koala habitat at a landscape scale. As for the mapping method, the categories should be tailored to the KPoM region.

Guiding principles

- Given the unprecedented 2019-20 fire season and the impact to koala populations and their habitat across NSW, a precautionary approach should be taken in identifying koala habitat as:
 - o post fire, occupied areas may not be re-occupied until the habitat recovers and provides suitable structure and browse, regardless of survey methods.
 - in terms of historical records, the lack of NSW Bionet records does not mean koalas have not been there, just not recorded.
- The Koala Habitat Information Base (https://datasets.seed.nsw.gov.au/dataset/koalahabitat-information-base) should be used to identify which areas are likely to have suitable koala habitat, koala use trees and which areas are likely occupied by koalas. The information base can also guide where to focus local surveys efforts.
- Koala habitat mapping should be informed by local surveys and fine scale mapping to identify vegetation communities that contain trees that koalas are known to use in that region (see Appendix C).
- Survey sites and effort should be informed by the variability of vegetation communities in the local government area and across all land tenures.
- Survey design must be based on scientifically rigorous methods suitable to the study area
- Categories of mapped koala habitat should use classes appropriate to the region that is informed by recent studies.
- Historical and recent distribution of koalas in the local government area should be identified through an analysis of NSW Bionet records and local field survey of areas that have had low to no survey effort in the past.
- Identify and map habitat that connects areas that are occupied by koalas.
- Identify and map suitable habitat that is currently unoccupied (areas for population expansion or recolonisation).
- Identify and map areas of koala habitat important for providing refuge in a changing climate (i.e. drought and bushfire).
- Identify what is known about the generational persistence of the local koala populations through an analysis of records to determine population trends and persistence over time. The assessment of historical koala records can provide an indication of where koalas are distributed throughout the landscape, where koala populations have persisted over time, and where koalas are no longer being recorded.

Core koala habitat

The final element of the mapping process is to identify areas of core koala habitat (as defined by the SEPP) based on evidence of koala presence or historical records and the presence of highly suitable koala habitat. Any areas of core koala habitat in a KPoM must occur within the SEPP's Site Investigation Area for Koala Plans of Management Map.

Any surveys done at the time of preparing the KPoM must be undertaken using the methods outlined in Appendix C of this Guideline.

Identifying requirements for planning proposals, development applications and activities affecting koala habitat

The KPoM must outline the requirements for:

- planning proposals in core koala habitat and other koala habitat important for maintaining connectivity and function.
- 2. development assessment for any development application on land to which the plan applies. For development applications in mapped core koala habitat, the Biodiversity Offsets Scheme will automatically apply. For developments in other mapped koala habitat these requirements should consider the criteria in section 3.2 of this Guideline.

Standard Structure for KPoMs

A standard structure for KPoMs is provided below (Table 2). At a minimum, KPoMs need to include the following information to ensure a standard approach across NSW. Other information specific to the plan area can also be included as required.

Standard Structure for KF	PoMs
Section 1	
Purpose	Defines the purpose of the KPoM. In particular this must include meeting the aims of the SEPP which are to "encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline". The secondary purpose of a KPoM should be to address the six planning principles outlined in this Guideline.
Objectives	 Defines the objectives of the KPoM. In the interests of consistency, the following objectives are recommended: Manage the long-term sustainability and recovery of koalas and their habitat. Identify and list the preferred koala food tree species likely to be found in the plan area and map koala habitat. Ensure that there is no net loss of koala habitat and (where appropriate) create, manage and/or restore koala habitat linkages to allow for safe koala movement across the landscape. Minimise and manage threats affecting koalas and their habitat. Provide consistent assessment criteria for the processing of development applications, including guidelines for koala habitat assessment and food tree and koala habitat retention.
Legislative context	Describes the main legislation and planning instruments which are relevant to the operation of the plan and which relate to the management and conservation of koalas and their habitats. Should include a description of the SEPP and how it applies within the planning system.
Who is affected by the plan	Clearly describes who is affected by the plan.
What is the status of koalas in the plan area	Summarises the status of koalas in the plan area. Detailed technical information sitting behind this summary can be provided as appendices.

Table 2: Standard structure for KPoMs

Standard Structure for KPoMs	
What are the threats to koalas in the plan area	Identifies and describes the threatening processes affecting koalas and koala habitat within the plan area. For example, habitat clearing, fragmentation and degradation, feral predators, roads and traffic, disease and natural disasters.

Section 2 – General prov	visions
Land to which the plan applies	Clearly describes the land to which the plan applies.
Land to which the plan does not apply	Clearly describes the land to which the plan does not apply.
Koala habitat mapping	Summarises the koala habitat mapping undertaken as part of developing the plan. Clearly describes that areas mapped as core koala habitat have been mapped consistent with the definition in the SEPP and includes maps of other habitat categories. Detailed technical information sitting behind this summary can be provided as appendices.
Relationship to other koala plans of management	Describes the relationship of the plan to other koala plans of management that may be in place.
Duration of the plan	Defines the duration of the plan. Must include provisions for review as appropriate.

Section 3 – Management and monitoring activities

Standard Structure for K	PoMs
Management / monitoring activities and actions	 Provides a non-regulatory framework for management activities that complement the development assessment framework presented in Section 4 of the Plan. These management activities help: minimise threats to koalas and their habitat that are not related to development activity. increase the amount of koala habitat in the koala planning area. maintain and, where possible, improve the quality of koala habitat in the plan area. ensure effective implementation and monitoring of the Plan. community and landholders to manage and increase koala habitat corridors and habitat.
	 Koala management in the plan area should not be limited to forested areas but should extend over areas of fragmented habitat which support a koala population and identified links between koala habitats. Specific actions should be defined in table format across the following management activities: Implementation and monitoring Regulatory processes Restoration and education Road and traffic management Dog management Koala health and welfare Bushfire management Funding Research For each specific action, the following information should be provided: Clear description of the action Priority (high, medium, low) Target start date Indicative budget Funding source
Section 4 – Developme	ent assessment framework
When is the development	Defines when the development assessment framework is triggered. This must be for any areas identified as core koala habitat in the KPoM and is

development assessment framework triggered?	be for any areas identified as core koala habitat in the KPoM and is recommended for other koala habitat important for maintaining habitat connectivity and function.
Assessment pathways	Defines the assessment pathways that are relevant to the development application. These may be different in different council areas. For development applications in mapped core koala habitat, the Biodiversity Offsets Scheme will automatically apply. Councils should also consider identifying assessment pathways for other categories of koala habitat to help meet the objectives of the KPoM.

Standard Structure for KF	PoMs	
Koala Habitat development applications	Describes the information that needs to be included with development applications.	
Development design measures for the protection of koalas	 Describes the measures that can be put in place during the design of developments to protect koalas. Must include descriptions of measures to: protect koalas from the impacts of development. avoid direct impacts to koala habitat. mitigate and manage potential indirect impacts to koala habitat. offset any unavoidable, residual impacts. These measures should also be consistent with the best practice koala planning guideline being developed under the NSW Koala Strategy.	
Assessment criteria	Defines the criteria that council will consider in assessment development applications. This could take into consideration the criteria in 3.2 of this Guideline.	
Section 5– Planning pro	pposals that affect mapped koala habitat	
Planning proposal in mapped koala habitat	Defines requirements for planning proposals in core koala habitat and other koala habitat important for maintaining connectivity and function consistent with Ministerial Direction 2.6.	
Other		
Glossary		
Technical appendices	Technical appendices should be included as appropriate. For example, the detailed methodology and results of the koala habitat mapping.	
Identification of	The plan should list the authors of the plan as well as any field personnel that	

worked on the plan. The qualifications of these people should be stated in the

authors

document.

Appendix C: Survey Methods for Core Koala Habitat

The following survey methods must be applied:

- in the preparation of a Koala Plan of Management for a part of, or whole of a local government area.
- in the preparation of a development application where the landowner/proponent chooses not to use the "Koala Development Application Map".
- if there is no approved koala plan of management for the land where an individual chooses to conduct both a flora and fauna survey to determine whether their site contains core koala habitat.

The flora and fauna survey must be conducted by a suitably qualified person (consistent with the definition of a suitably qualified person in the SEPP).

For the above instances, a flora and fauna survey must be undertaken in accordance with the below procedure to determine if the area meets the following definition of core koala habitat in the SEPP.

Habitat type	Definition
Core koala habitat	(a) an area of land where koalas are present, or
	(b) an area of land—
	 (i) which has been assessed by a suitably qualified and experienced person in accordance with the Guideline as being highly suitable koala habitat,
	and
	(ii) where koalas have been recorded as being present in the previous 18 years

Notes about the definition:

1. "An area of land" includes both a development footprint and the broader area of land on which the development is proposed (i.e. the subject lot). The controls within the SEPP apply to both direct and indirect impacts and all habitat on the site area therefore needs to be considered even if no vegetation is to be cleared.

Surveys Must be Carried Out by a Suitably Qualified Person

The surveys must be carried out by a suitably qualified person. This is taken to mean a person with a minimum undergraduate qualification in natural sciences, ecology, environmental management, forestry or similar from a university and with a minimum 3 years' experience in environmental assessment, including field identification of plant and animal species and habitat. This includes having as a minimum the following experience in conducting koala surveys:

- Greater than 10 surveys
- Experience in using the koala presence survey methods identified below
- · Can accurately identify preferred koala use trees
- Can distinguish between koala faecal pellets and those from other species that may present similar characteristics

The person's skills in koala survey should be demonstrable by relevant qualifications and the following:

- a history of experience in koala habitat / population assessments and associated survey methods, and/or
- a resume giving details of koala survey projects conducted over the previous 10 years, including employers' names and periods of employment (where relevant).

The experience and qualifications of the surveyor must be documented in the koala assessment report.

<u>PART A</u>

Koala presence

Koala presence must be determined through surveys of the site area.

The survey method should be selected based on which is most appropriate for the site and the conditions at the time of survey. The surveyors should refer to detailed koala survey guidelines where available to determine the appropriate survey method and the scale of the survey.

For all sites, surveys must include:

1. Searches for scats following (Phillips and Callaghan 2011) the Scat Assessment Technique (SAT) at a maximum grid spacing of 250 m.

Further information on using this method:

o Survey must not be undertaken within three days of heavy rainfall.

OR

- 2. Use of detection dogs where:
 - the underlying spatial design considerations of the (Phillips and Callaghan 2011) SAT approach are adhered to.
 - o search times are standardised (min 20 minutes / site).

Further information on using this method:

- Use of conservation detection dogs is preferred on sites with deep leaf litter or very dense understory vegetation.
- Conservation detection dogs should not be used in extreme weather or where feral predator baiting is being or has been undertaken.
- Welfare of the Conservation detection dog must be considered and monitored at all stages.
- Conservation detection dogs and their handlers must meet minimum standards of training and experience and be assessed and accredited as a team. Assessment must include demonstrated competency in:
 - reliably commanding and handling the dog.
 - reliably demonstrating koala odour recognition and response in accordance with nominated and appropriate indication type (e.g. passive, freeze, dig/scratch, etc.).
 - reliably demonstrating non-target disinterest.
 - reliably demonstrating behaviour that does not harm koalas.
 - selecting and applying a search methodology.
- The handler must have the relevant approvals and permits.
- Conservation detection dogs and their handler must have previous field survey experience in koala detection.
- o Accreditation must be provided by an independent party and must be documented.
- The use of Conservation Detection Dogs should be consistent with the DPIE EES Detection Dog Standard Operating Procedures.

and one of the following survey techniques:

- 1. Spotlighting following Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC), 2011, *Survey Guidelines for Australia's Threatened Mammals,* comprising:
 - At least 2 walking transects of 200 metres per 5 hectares, spaced a minimum of 100m apart, in most likely koala habitat on site.
 - At least one transect must be placed in each PCT known to provide habitat for koalas, even if the PCT is less than 100m wide.
 - The survey being undertaken at a walking speed of approximately 10m/ per min
 - o Searches undertaken over 2 consecutive nights.

Further information on using this method:

- Spotlighting can be especially suitable for detecting koalas that occur at low densities.
- Spotlighting should not be used if the site supports dense vegetation (e.g. wet sclerophyll) or in steep terrain (e.g. >30 slope).
- o Spotlighting must not be undertaken during windy or wet conditions.
- 2. Call playback at 2 locations on separate nights per site (only between September and November).
 - Calls should be played at least 3 times followed by 5 minutes of listening, at a minimum of two locations.
 - Locations should be separated by 800m to 1km intervals on larger sites or min of 500m on smaller sites.
 - Locations should be selected to minimise background noise (i.e. away from roads).

Further information on using the method

- Call playback is not suitable for small sites less than 50 ha. Use of the technique on small sites increases the risk of false positives (i.e. koalas calling from locations beyond the site boundary).
- Given the technique relies on male response it must only be used during peak breeding season (September to November).
- o Survey must not be undertaken on wet or windy nights.
- 3. Passive acoustic recording (as per Law et al. 2019), placed at intervals of a minimum of 500m and maximum of 1000m, in a grid pattern, across all suitable habitat on the site (only between September and November).
 - For sites 100ha or less recorders must remain in place for at least 7 nights without rain.
 - For sites with greater than 100ha recorders must remain in place for 14 nights without rain.
 - Scanning recordings for koala calls must be undertaken by a recognised bioacoustics expert or scanned manually by an appropriately experienced person.

Further information on using this method:

- Passive acoustic recording is not suitable for small sites less than 50ha. Use of the technique on small sites increases the risk of false positives (i.e. koalas calling from locations beyond the site boundary).
- Given the technique relies on male response it must only be used during peak breeding season (September to November).
- o Must not be undertaken on wet or windy nights.

Where koalas or evidence of their presence (for example a koala scat) are recorded through surveys and the area is captured by the Site Investigation Area Map for Koala Plans of Management, the habitat is core koala habitat.

Results of investigations, site surveys and justification of survey methods and conclusions must be fully detailed in the survey report. Areas identified as core koala habitat must be clearly defined and mapped.

If the fauna survey shows that there isn't evidence of koala presence, then a survey must be undertaken to determine if the site has highly suitable habitat and records of koala presence (see Part B below).

PART B

i) Presence of highly suitable koala habitat

The native vegetation of the site area must be mapped into Plant Community Types (PCTs) based on a full floristic survey following Sivertsen, 2009, *Native Vegetation Interim Type Standard*.

Each PCT then must be sampled individually for the presence of koala use trees listed for the relevant Koala Management Area (KMA) in Schedule 2 of the SEPP (see Appendix A). A list of which LGAs occurs in each KMA is provided in Schedule 1 of the SEPP.

A suitable sampling method must be used to enable the tree species composition of each PCT (on average) to be calculated. A number of methods can be used dependent on size of the site area, tree density and uniformity of vegetation. These are:

- Quadrats can be selected within each PCT either randomly or along a selected transect. Quadrats need to be of sufficient size to enable a minimum of at least 20 trees to be counted (at least 20 x 20 metres) and of sufficient number to allow a robust statistical determination of the percentage of tree species present in the lower, mid and upper stratum. The number and size of quadrats chosen will depend on the size of the site and the vegetation present and must be justified in the koala assessment report.
- 2. Transects can be randomly selected through each vegetation unit, identifying and counting all trees within a selected distance either side of the transect line (usually 20 either side). Transects need to be of sufficient length to sample enough trees to allow a statistical determination of the percentage of tree species present, with a minimum of 100 trees if present. The number and length of transects chosen will depend on the size of the site area and the vegetation present and must be justified in the koala assessment report.

Results of the sampling within each PCT must be shown separately and not summed for the overall site. Where 15% or greater of the total number of trees within any PCT are the regionally relevant species of those listed in Schedule 2 (see Appendix A), the site meets the definition of highly suitable koala habitat.

If highly suitable koala habitat has been established (via the above survey), the presence or past records of koalas must also be established.

Notes about the vegetation survey:

- A "tree" is taken to be a plant with a diameter at breast height over bark (DBHOB) of 10 cm or greater.
- Appendix A of this Guideline provides a list of the tree species as per Schedule 2 of the SEPP.
- Only the trees listed for the relevant region must be surveyed for.
- The calculation of the percentage of tree species must be completed within each vegetation community present on the site area and not averaged or totalled across the site. A result of 15% or greater in any individual vegetation community meets the definition of highly suitable koala habitat.

ii) Koala records

In addition to site surveys, there must also be a consideration of existing records spanning the previous 18 years (3 koala generations). The site area is considered to contain habitat that meets the definition of core koala habitat, provided the site contains highly suitable koala habitat (identified via the above survey) and where a record or records exist within the last 18 years, within the following maximum distances from the site:

- 2.5 kilometres of the site (for North Coast, Central Coast, Central Southern Tablelands, South Coast KMAs)
- 5 kilometres of the site (for Darling Riverine Plains, Far West, North West Slopes, Riverina, Northern Tablelands KMAs)

These distances reflect the estimated median home ranges of koalas within coastal and inland locations. In NSW, home ranges can vary greatly; some ranges have been recorded as low as 1-1.5 ha (AMBS, 2012), while others over 100 ha (McAlpine et al., 2006). Koalas studied in south-east Queensland moved on average 3.5km (and up to 10.6km) in their first breeding season (Dique et al., 2003), and male koalas translocated to sites across Western Victoria travelled up to 120km (as the crow flies) from where they were released over a six-month period (McIlwee, 2003).

Records within these maximum distances should only be considered after a careful examination of the broader landscape. That is, within areas of contiguous habitat or between areas of habitat with connectivity. For example, a record from 2.5km from the subject site should not be used if natural or artificial landscape features would prevent koalas from the area with the record ever moving to the site (e.g. due to large rivers or built up areas). The suitably qualified and experienced person should consider this carefully and provide evidence for record inclusion (e.g. local studies, surveys, landscape observations, peer reviewed academic literature).

A description of the record (Bionet, SightingKey, or catalogNumber, source, date, accuracy, associated observations) must be provided in the koala assessment report.

Note that Schedule 1 of the SEPP identifies which KMA is applicable to your local government area.

Where core koala habitat is identified, the assessment report and maps of core koala habitat (in a GIS data format) must be provided to the Environment, Energy and Science Division of the Department of Planning, Industry and Environment for updating the Biodiversity Values Map and Category – 2 Sensitive regulated land on the Native Vegetation Regulatory Map and any koala and flora survey records are to be added to the NSW BioNet.

Glossary

Term	Definition		
BC Act	Biodiversity Conservation Act 2016.		
Core koala habitat	 core koala habitat means— (a) an area of land where koalas are present, or (b) an area of land— (i) which has been assessed by a suitably qualified and experienced person in accordance with the Guideline as being highly suitable koala habitat, and (ii) where koalas have been recorded as being present in the previous 18 years. 		
DA	Development application.		
DPI&E	NSW Department of Planning, Industry and Environment.		
EP&A Act	Environmental Planning and Assessment Act 1979.		
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999.		
КМА	Koala Management Area. These are the regions listed in the Schedules of the SEPP and were derived from the Koala Tree Species Index as part of the Koala Habitat Information Base. Sometimes also referred to as Koala Modelling Region (KMR).		
Koala Development Application Map	The Koala Development Application Map in the SEPP.		
КРоМ	Koala plan of management.		
LGA	Local Government Area.		
LLS Act	Local Land Services Act 2013.		
EES Division	Environment, Energy and Science Division of DPIE (formerly Office of Environment and Heritage).		
Site area	Includes both a development footprint and the broader area of land on which the development is proposed (i.e. the subject lot). The controls within the SEPP apply to both direct and indirect impacts and all potential habitat on the site area therefore needs to be considered even if no vegetation is to be cleared.		
Site Investigation Area for Koala Plans for Management Map	The Site Investigation Area for Koala Plans of Management Map in the SEPP.		
Suitably qualified and experienced person	suitably qualified and experienced person means a person who has— (a) a tertiary qualification in ecology, environmental management, forestry or other equivalent qualifications, and (b) experience in flora and fauna identification, survey and management, including experience in conducting koala surveys in accordance with the techniques specified in the Guideline.		

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Frequently asked questions

December 2019

Why is there a new State Environmental Planning Policy (SEPP) for koalas?

The Department reviewed State Environmental Planning Policy No 44 – Koala Habitat Protection (1995) and found the policy could be updated to better protect koala habitat by using the latest science. We have introduced significant improvements in the new SEPP, which will replace the old SEPP 44.

What are the key changes between SEPP 44 and the new SEPP?

- 1. Updated definition of core koala habitat
- 2. Two new SEPP maps
- 3. Expanded list of tree species
- 4. New SEPP Guidelines (to be published before 1 March 2020)
- 5. Streamlined development assessment process
- 6. New consultation and referral requirements for Koala Plans of Management
- 7. Plan-making provisions transferred to a Ministerial Direction

Each of these is explored further below.

How is koala habitat defined in the new SEPP?

In response to stakeholder feedback, the definition of core koala habitat has been updated to make it easier for areas which are highly suitable for koalas and where koalas are present or have been recorded in the past to be identified as core koala habitat.

The introduction of two new maps means councils and landholders are no longer required to identify potential koala habitat and this definition has been removed.

See the table below detailing what has changed.

State Environmental Planning Policy (Koala Habitat Protection) 2019



Frequently asked questions

SEPP 44 Definition	Koala SEPP Definition (new)	Reason for change
Potential koala habitat means an area 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.	N/A	Development application proponents no longer need to commission a survey for potential koala habitat, so the definition is no longer needed. Tree species will still be used by councils and DA proponents wishing to conduct a survey rather than use the map provided part of the SEPP.
Core koala habitat means 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.	Core koala habitat means— (a) an area of land where koalas are present, or (b) an area of land— (i) which has been assessed by a suitably qualified and experienced person in accordance with the Guideline as being highly suitable koala habitat, and (ii) where koalas have been recorded as being present in the previous 18 years.	The definition has been updated to allow areas with demonstrated koala presence in highly suitable habitat to be recognised, without the requirements of the previous definition which were difficult to be met.

The definition of core koala habitat will be used in two situations:

- 1. Where development application proponents' land has been identified on the Koala Development Application Map, but the proponent seeks to demonstrate their land is not koala habitat (through conducting a survey for koala feed trees and presence in accordance with the Guideline).
- 2. Where councils wish to identify core koala habitat in a Koala Plan of Management, within areas identified on the Site Investigation Area for Koala Plans of Management Map.

How are the two new maps used, and what data are they based on?

Two new maps have been introduced and are available in a spatial viewer, as well as on the NSW Legislation Website with the SEPP.



Frequently asked questions

The Koala Development Application Map is informed by the NSW Government's Koala Habitat Information Base which was used to identify areas that have highly suitable koala habitat and that are likely to be occupied by koalas. See Appendix A for further information about how the map was created.

On land where there is no approved Koala Plan of Management, the map will be used to identify land where the council will need to consider the development application requirements in the Guideline.

The **Site Investigation Area for Koala Plans of Management Map** is informed by the NSW Government's Koala Habitat Information Base and identifies the land councils are to focus their survey efforts on, particularly when identifying core koala habitat.

How was the tree species list expanded and what are Koala Management Areas?

The list of 10 koala feed trees in SEPP 44 was based on science from the 1990s, specifically in the North Coast region of NSW. In *A review of koala tree use across New South Wales*, the former Office of Environment and Heritage (now the Environment, Energy and Science division of the Department) identified there were 137 tree species used by koalas. In 2019, consultation with koala experts led to the list being refined to 123 species.

These 123 species were categorised into 9 distinct regions (Koala Management Areas), according to what trees koalas prefer to use in various areas. The number of species used regionally by koalas ranges from 9 in the Riverina region to 65 in the Central Coast region. This represents the most contemporary science and has been incorporated into the new koala SEPP.

What has changed with the Guideline?

SEPP 44 was supported by Circular B35, which provided detail about the SEPP and how certain processes are undertaken (such as developing plans of management). Now that a new koala SEPP has been introduced, a new Guideline is being developed.

The new Guideline will provide detailed information about the process and content of Koala Plans of Management, streamlined criteria for development applications on land with no approved Koala Plan of Management, and a standard, scientifically-robust surveying methodology. The Guideline will be published before the new Koala SPEP commences on 1 March 2010.

What is the 'streamlined' development application process?

Under SEPP 44, development application proponents had to commission a suitably qualified person to conduct an initial flora survey and then a koala survey if potential koala habitat had been established. If the land was found to also be core koala habitat, the proponent had to prepare an Individual Plan of Management to manage any impacts on the resident koala population. Each Plan of Management then required approval from the Secretary of the Department which added further time delays to a council determination of the development

The above process was lengthy and expensive, and resulted in an inconsistent approach across NSW. With the new Koala Development Application Map, there is no longer a need to conduct any

State Environmental Planning Policy (Koala Habitat Protection) 2019



Frequently asked questions

surveys. Instead of preparing an Individual Plan of Management, proponents will be required to prepare their development application in accordance with the criteria in the new Guideline, for council to consider when assessing the application. This will save applicants time and money and achieve a consistent approach across the state.



Frequently asked questions

What are the new consultation and referral requirements?

The new koala SEPP introduces a set of consultation and referral requirements to ensure the community and stakeholders have their say when councils create Koala Plans of Management.

- Councils must:
 - o Consult with EES when preparing the Plan
 - o Exhibit the draft plan for at least 28 days for public comment
 - Notify all landholders in proposed core koala habitat ahead of the exhibition of the Draft Plan of Management (via email or post)
 - Provide a copy of the submissions report, details of survey methodology and any other documents relevant to the plan, when submitting the draft plan for approval to the Department
- Before approving the plan, the Secretary must:
 - Forward a copy of the documents listed above, along with the draft plan to the heads of EES and LLS

What does the new Ministerial Direction do?

SEPP 44 encouraged councils to zone land, that met the definition of potential or core koala habitat in their LGAs for environmental protection or apply development provisions or amend Development Control Plans. These plan making provisions have been transferred to a new Ministerial Direction where they are more appropriately located.

The Ministerial Direction requires councils preparing planning proposals 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.



Frequently asked questions

Appendix A – Information underpinning the map

Koala Development Application Map

The map applies to the local government areas currently listed in schedule 1 of the SEPP (i.e. it captures the local government areas where SEPP 44 applied). As the SEPP explicitly excludes national parks and state forests, these areas were excluded from the map.

The map includes:

areas of the Koala Habitat Information Base's Koala Habitat Suitability Model that meet the following criteria:

- 1. highest quality koala habitat (class 1)
- 2. highly suitable habitat (class 2) that is likely to be occupied by koalas
- provides critical connectivity between class 1 and class 2 habitat in fragmented landscapes (this was applied in regions other than the North Coast). In this regard, it identifies the most preferred vegetation that a koala would use to move between highly suitable patches of habitat

excludes:

- 4. all areas of class 2 habitat where the data shows koalas are not likely to occur
- 5. the LGAs where SEPP 44 does not apply (consistent with Appendix 1 of the proposed SEPP)
- 6. land dedicated or reserved under the *National Parks and Wildlife Act* 1974 (as set in clause 5 of the proposed SEPP)
- 7. land dedicated under the *Forestry Act 1916* as a State forest or flora reserve (as set in clause 5 of the proposed SEPP)
- cleared areas using the NSW Native Vegetation extent map (2018 version) the NSW Native Vegetation extent map provides a high precision (5m) surface that differentiates native tree cover from native grasslands, non-native areas, forestry plantation and water bodies

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